промышленное оборудование
ИНТЕРТУЛМАШ
Комплексные поставки оборудования и инжиниринг

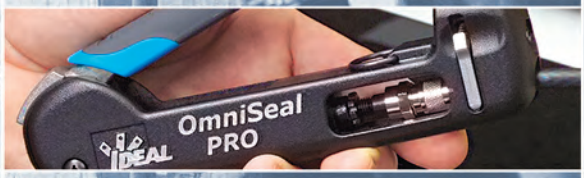
Компания "**ИНТЕРТУЛМАШ**" - официальный поставщик инструмента **IDEAL** в России.

IDEAL Industries, Inc - мировой лидер в области производства электромонтажных инструментов Стрипмастер (Stripmaster), резаки, лезвия и электрооборудования для зачистки проводов, систем и технологий для аэрокосмической, военной и телекоммуникационной отрасли.

Для заказа инструмента и технических консультаций оформите заказ на нашем сайте
www.itmash.ru
Наши сотрудники оперативно свяжутся с Вами.
Вы можете присылать Ваши заявки и вопросы на электронную почту
inbox@itmash.ru
или звоните по телефону
(495) 668-13-58.
Вы также можете воспользоваться *формой заявки на сайте*.

IDEAL®

FULL-LINE CATALOG



VISION. PERFORMANCE. SERVICE.

SINCE 1916

IDEAL, an American Original

We listen, and we deliver products with a purpose.

Entrepreneurial in spirit, grounded in the values of American ingenuity, IDEAL was founded on the basis that every product we make will exceed the value of the price paid for it. Today, we exemplify those values in our products, our customer service and our vision for the future of our business. We are investing in the success and revitalization of American ingenuity and we are committed to manufacturing American Value in every product we make.

Today's global economy demands we look at doing business more creatively, more competitively and more efficiently. IDEAL is on the leading edge of product development and design, integrating those ideas through strategic investment, implementation of lean manufacturing and just-in-time inventory. Field-tested and customer influenced design means we are creating some of the most forward thinking tool designs in the industry.

IDEAL is with you every step of the way

IDEAL #1

From the introduction of the first twist-on wire connector, IDEAL has been a leading force in wire termination and installation technologies. Through ingenuity, proven performance and innovative engineering, IDEAL continues to lead the electrical industry with products that deliver value greater than the price paid for them.

This information is based on 2011 Epicor/Vista data.

TERMINATION TECHNOLOGY

IDEAL is the leader of market share in wire termination. The two nearest competitors combined total less than 25% of market share. For wire termination, IDEAL is industry standard.

WIRE PULLING LUBRICANT

Top market share in lubes belongs to IDEAL. The environmentally safe lubes from IDEAL provide exceptional lubricity for rapid pulls.

FISH TAPE

IDEAL holds the top market share in fish tapes. IDEAL manufactures a variety of fish tapes for all applications, and our durable, impact-resistant cases are the best on the market.

CONDUIT BENDER

IDEAL leads with the majority market share in benders. IDEAL benders are constructed of exceptionally durable materials and reinforced at stress points for extra long life.

WIRE STRIPPER

IDEAL holds the #1 spot in market share of wire strippers. Ergonomically designed in a variety of models for every application, IDEAL manufactures the finest wire strippers on the market.

TABLE OF CONTENTS

A WIRE TERMINATION

Twist-on Wire Connectors A-2
WeatherProof™ & UnderGround™ Wire Connectors A-5
PowerPlug® Luminaire Disconnects A-8
SpliceLine™ In-Line Wire Connectors A-8
In-Sure™ Push-In Wire Connectors A-9
Grounding Accessories. A-10
Crimp Terminals & Splices A-11
Terminal Strips A-14
BUCHANAN Wire Connectors A-19
BUCHANAN Tap Connectors A-21
BUCHANAN Streetlight Kits A-22
BUCHANAN Terminal Blocks A-28

B TOOLS & SUPPLIES

Fish Tapes & Accessories B-2
Fishing Poles B-7
Wire Pulling Lubricants & Accessories B-8
Conduit Benders B-12
Pulling Supplies B-14
Wire Strippers B-16
Pliers B-21
Miscellaneous Hand Tools B-26, B-30
Cable Cutters B-28
Screwdrivers B-32
Industrial Bits & Accessories B-43
Insulated Hand Tools. B-46
Hand Tool Kits B-52
Tool Carriers & Bags B-54
Cutting & Holemaking Tools B-57
Cable Ties. B-68
Cable Staples B-74
Heat Shrink. B-75
Heat Guns B-78
Wire Markers B-79
Switches B-81
Lockout/Tagout B-88
Safety Signs B-97
Safety Tapes B-98
Commutator Maintenance B-109

C STRIPMASTER® WIRE STRIPPERS

Stripmaster® Wire Strippers C-2
Custom Stripmaster® Wire Strippers C-4

D TEST & MEASUREMENT

Clamp Meters D-2
Multimeters D-5
Circuit Tracers D-9
Thermal Imagers D-10
Circuit Analyzers D-12
Power Quality. D-14
Insulation Testers D-15
Voltage Testers. D-16
Electrical Testers D-17
Specialty Testers D-19
Accessories D-20

E DATACOMM/NETWORKS

Testers. E-2
Compression Tools & Connectors E-9
Crimp Tools. E-13
Tools E-15
Strippers. E-18
Kits E-22
Fiber Optics E-26

NEW PRODUCTS FROM IDEAL

Whether you're an industry professional or a DIY weekend warrior, you know that having the right tool for the job cuts your work to a fraction of the investment in time and frustration. The product development team at IDEAL works tirelessly to introduce innovative new products, as well as putting a handy new spin on the tried and true. Time is money, and IDEAL saves you both!

Cap flips open for built-in bit storage

QUICK CHANGE SCREWDRIVER

The Quick Change Screwdriver is the ultimate multi-bit tool. Simply insert any standard bit into the socket or use as a 1/4" nutdriver. To switch to a different bit, pull back the gold knurled collar, remove the bit and snap in another. The tail-end features the E-Z Spin™ high torque rotating flip cap with built in bit storage that holds up to five extra insert bits.

FastFinder™ handle

COMBO HEAD™ CUSHIONED-GRIP SCREWDRIVER

Different sizes of Combination Fasteners mean using different tools, right? Wrong! The Combo Head™ was designed to fit snuggly into multiple sizes of Combo Screws, eliminating the need to buy more bulky tools. Among the competition, the IDEAL Combo Head™ tip features the most touch points, minimizing cam-out and stripping. See and feel the difference for yourself!

INDUSTRIAL SCREWDRIVER BITS

IDEAL Industrial Screwdriver Bits are designed for precision fit and lasting performance. Bits are constructed from S2M tool steel and custom heat treated for strength and durability. All tips are carefully manufactured to tight tolerances to insure accurate fit and full fastener engagement!

Go to **www.idealindustries.com/whatsnew/products/** to learn more about our newest products.

LINEARX COMPRESSION TOOLS

The LinearX Compression Tools are the newest addition to the IDEAL offering of termination tools for coaxial compression connectors. LinearX brings several of the qualities and features of our professional OmniSeal™ Pro Series of tools into a smaller, simpler, value priced tool. These are ideal for installers that are converting from traditional crimping tools or those that only occasionally work with coaxial cable terminations.

LinearX3 adjustable post

SLK™ DISCONNECT FUSE KITS

Used primarily in streetlighting and roadway lighting, the SLK™ is the first Disconnect Fuse Kit listed to UL's ECIS category for special purpose connectors. This new category contains a set of rigorous tests from a host of UL standards, including UL 486D, the standard for submersibility. This means that the SLK™ will stand up to the wet conditions often seen in and around pole bases, junction boxes and hand holes.

UL Listed for submersibility.

HEATSEEKER® THERMAL IMAGERS

Troubleshoot and identify potential problems before they happen with the IDEAL HeatSeeker® Thermal Imagers. What makes HeatSeeker® so useful are the dual cursors that instantly locate the hottest and coldest temperatures on a live screen, and the camera's ability to blend a thermal image on top of a digital image for easy on-the-job decision making. The HeatSeeker® Thermal Imager's easy set-up and operation make it a cost-effective tool for electrical service, industrial maintenance, building inspection and data center evaluation.

Connectors designed for every application

Based on 2011 data available from Epicor/Vista.

Twister®
Wire Connectors

The industry's premier wire connector. Just three models accommodate the majority of common wiring configurations from 22 through 6 AWG. The ribbed cap provides a secure grip and swept wings offer extra leverage. A patented square-wire spring provides safe, secure connections.

Wire-Nut®
Wire Connectors

The original twist-on wire connector features a positive-grip design for easy installation. Five color-coded models cover hundreds of wire combinations from 22 through 6 AWG. The fixed square-wire spring provides a secure connection that won't relax over time.

Wing-Nut®
Wire Connectors

The next step in IDEAL wire connector innovation. Three models accommodate a wide range of circuit and fixture wiring combinations from 18 through 6 AWG. Built-in, contoured wings provide extra leverage on maximum wire combinations. And the live-action spring expands to accept a broader range of wire shapes and sizes.

B-CAP®
Wire Connectors

Contoured Classic Fin™ design provides a secure grip for extra torque. Three models cover a full range of wire sizes from 22 through 6 AWG. The square-wire spring locks onto conductors for fast, secure connections. The low-profile shape allows easy handling and installation.

WeatherProof™ / UnderGround™
Wire Connectors

Twist-on connectors for underground and wet location installations. Covers a wide range of wire sizes from 22 through 6 AWG. Features non-hardening silicone sealant to ensure safe, moisture-free electrical connections. UL Listed and CSA Certified for damp/wet and direct burial applications.

Twister® Al/Cu
Wire Connectors

The only aluminum-to-copper twist-on wire connector. Specially formulated compound reduces corrosion build-up on aluminum conductors for better conductivity and cooler connections. UL Listed and CSA Certified for aluminum-to-copper connections.

Wire Connector Application Guide

Model	RESIDENTAL	Light Switches	Receptacles	Ceiling Fans	Can Lights	Thermostat Controls	HVAC	Smoke/CO Detectors	Garage Door Openers	Door Bells	COMMERCIAL	Multi-Gang Switch Boxes	Security Systems	Intercoms	Recessed Lighting Controls	Illuminated Signage	Receptacles	3-Phase Motors	HVAC
Twister®																			
340® Lt. Blue				●	●			●		●			●	●	●				
341® Tan		●	●				●	●	●				●		●	●			●
344® Red/Yellow		●	●				●		●			●	●			●	●	●	●	●
342® Gray												●				●	●		●	●
Wire-Nut®																			
71B® Gray						●							●	●					
72B® Blue						●	●			●			●	●					
73B® Orange				●	●			●		●			●	●	●				
74B® Yellow		●		●	●			●							●	●			
76B® Red		●	●				●		●			●				●	●	●	●	●
Wing-Nut®																			
451® Yellow		●	●	●	●			●		●					●				
452® Red		●	●				●		●			●				●	●	●	●	●
454® Blue												●				●	●		●	●
B-CAP®																			
B1 Yellow		●		●	●			●		●			●	●	●				
B2 Red		●	●				●		●			●				●	●	●	●	●
B4 Blue												●				●	●		●	●
B-Twist™																			
BT2™ Red		●	●				●		●			●				●	●	●	●	●
WingTwist™																			
WT51 Yellow		●		●	●			●		●			●	●	●				
WT41 Tan		●	●				●	●	●				●		●	●			●
WT52 Red		●	●				●		●			●				●	●	●	●	●
WT54 Blue												●				●	●		●	●
WireTwist™																			
WT1 Gray						●							●	●					
WT2 Blue						●	●			●			●	●					
WT3 Orange				●	●			●		●			●	●	●				
TW4 Yellow		●		●	●			●		●					●	●			
WT6 Red		●	●				●		●			●				●	●	●	●	●

	RESIDENTAL	Landscape Lighting	Pool Filters/Controls	Outdoor Power Outlets	Patio/Deck Lighting	Bathroom/Spa Vent Fans	Security Systems	Basement/Garage	Lawn-Sprinkler Controls	Sump/Well Pumps	COMMERCIAL	Landscape Lighting	Security Systems	Exterior Lighting	Street/Parking Lot Lighting	Car Washes	Processing Plants	Traffic Signals	Ejection Pumps	HVAC
WeatherProof™																				
61 Blue/Orange						●	●		●				●			●	●	●		●
62 Blue/Red			●	●	●			●		●				●		●	●			●
63 Blue/Dk. Blue			●	●	●			●		●				●	●	●	●			
UnderGround™																				
60 Blue/Blue		●			●	●			●	●		●	●		●			●	●	
64 Blue/Dk. Blue		●				●				●		●			●			●	●	
66 Blue/Dk. Blue															●			●		

Wire Range Chart

Model:	Wire Combinations:

	2 #22	3 #22	2 #20	3 #20	2 #18	2 #16	3 #16	2 #14	3 #14	2 #12	4 #14	3 #12	4 #12	3 #10	5 #12	4 #10	2 #6
Twister®																	
340® Lt. Blue	MIN. 2 #22										MAX. 3 #12						
341® Tan		MIN. 3 #22											MAX. 3 #10				
344® Red/Yellow					MIN. 2 #18										MAX. 4 #10		
342® Gray									MIN. 3 #14								MAX. 2 #8 w/ 2 #12
Wire-Nut®																	
71B® Gray (300V)	MIN. 2 #22 Str.					MAX. 2 #16											
72B® Blue (300V)	MIN. 2 #22						MAX. 3 #16										
73B® Orange			MIN. 1 #18 w/ 1 #20				MAX. 2 #14										
74B® Yellow					MIN. 2 #18					MAX. 4 #14 w/1 #18							
76B® Red								MIN. 2 #14				MAX. 4 #12					
Wing-Nut®																	
451® Yellow					MIN. 2 #18						MAX. 3 #12						
452® Red					MIN. 2 #18										MAX. 4 #10		
454® Blue												MIN. 3 #12					MAX. 1 #6 w/ 2 #8
B-CAP®																	
B1 Yellow				MIN. 3 #20							MAX. 3 #12						
B2 Red					MIN. 2 #18										MAX. 5 #12		
B4 Blue										MIN. 2 #12							MAX. 2 #6
B-Twist™																	
BT2™ Red					MIN. 2 #18											MAX. 2 #8	
WingTwist™																	
WT51 Yellow					MIN. 2 #18						MAX. 3 #12						
WT41 Tan			MIN. 2 #20										MAX. 3 #10				
WT52 Red								MIN. 2 #14							MAX. 5 #12		
WT54 Blue												MIN. 3 #12					MAX. 2 #6
WireTwist™																	
WT1 Gray (300V)		MIN. 3 #22				MAX. 2 #16											
WT2 Blue (300V)				MIN. 3 #20			MAX. 3 #16										
WT3 Orange					MIN. 2 #18		MAX. 2 #14										
WT4 Yellow					MIN. 2 #18				MAX. 2 #12								
WT6 Red								MIN. 2 #14				MAX. 4 #12					
WeatherProof™																	
61 Blue/Orange			MIN. 2 #20				MAX. 2 #14										
62 Blue/Red					MIN. 2 #18								MAX. 3 #10				
63 Blue/Dark Blue									MIN. 3 #14							MAX. 5 #10	
UnderGround™/MudBug®																	
60 Blue/Blue			MIN. 1 #20 w/ 1 #18								MAX. 1 #10 w/ 2 #12						
64 Blue/Dark Blue					MIN. 2 #18 Sol.								MAX. 3 #10				
66 Blue/Dark Blue												MIN. 3 #12					MAX. 2 #6 w/ 1 #10
60 Yellow			MIN. 1 #20 w/ 1 #18								MAX. 1 #10 w/ 2 #12						
64 Yellow					MIN. 2 #18 Sol.								MAX. 3 #10				
	2 #22	3 #22	2 #20	3 #20	2 #18	2 #16	3 #16	2 #14	3 #14	2 #12	4 #14	3 #12	4 #12	3 #10	5 #12	4 #10	2 #6

A Wire Termination

Twist-On Wire Connectors A-2

WeatherProof™ & UnderGround™ Wire Connectors A-5

Wire Connector Accessories A-7

Luminaire Disconnects A-8

SpliceLine™ In-Line Wire Connectors A-8

Push-In Wire Connectors A-9

Grounding Accessories A-10

Crimp Terminals, Disconnects, Splices A-11

Terminal Strips A-14

Crimp Connectors A-16

BUCHANAN Wire Connectors A-19

Tap Connectors A-21

Streetlight Kits A-22

Terminal Blocks A-28

Based on 2011 data available from Epicor/Vista.

IDEAL #1 2011 VISTA DATA

WIRE TERMINATION

Wire-Nut® Wire Connectors

- Five color-coded models cover wire sizes from 22 to 6 AWG
- Fixed, square-wire spring creates its own threads – maintains a secure positive grip that will not relax over time
- No pre-twisting required – positive grip design provides fast, easy installation
- Deep skirt helps protect against flash-over
- Reusable for easy circuit changes and additions
- Tough, UL94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA certified to C22.2 #188; comply with Federal Specification W-S-610E

UL LISTED Wire Connector 774A Cu/Cu Only

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
71B®	Gray	300V 22 to 16 AWG Min. 2 #22 – Max. 2 #16	300V ,34mm² to 1,5mm² Min. 2-,34mm² Max. 3-1,5mm²	Box of 100	30-071
				Carton of 1,000	30-171
				Keg of 25,000 (loose pack)	30-271
				Barrel of 150,000	30-871
72B®	Blue	300V 22 to 14 AWG Min. 2 #22 – Max. 3 #16	300V ,34mm² to 2,5mm² Min. 2-,34mm² Max. 3-1,5mm²	Box of 100	30-072
				Carton of 1,000	30-172
				Keg of 10,000 (loose pack)	30-272
				Barrel of 85,000	30-872
73B®	Orange	600V* 22 to 14 AWG Min. 1 #18 & 1 #20 Max. 2 #14	600V* ,34mm² to 2,5mm² Min. 1-,75mm² w/1-,50mm² Max. 4-1,5mm² w/1-,50mm²	Box of 100	30-073
				Jar of 300	30-073J
				Carton of 1,000	30-173
				Keg of 5,000 (10 bags, 500 ea.)	30-273
				Keg of 10,000 (loose pack)	30-673
				Barrel of 50,000	30-873
74B®	Yellow	600V* 18 to 12 AWG Min. 2 #18 Max. 4 #14 & 1 #18	600V* ,75mm² to 4,0mm² Min. 2-,75mm² Max. 4-2,5mm² w/1-,75mm²	Box of 100	30-074
				Jar of 175	30-074J
				Carton of 1,000	30-174
				Keg of 5,000 (10 bags, 500 ea.)	30-274
				Keg of 10,000 (loose pack)	30-674
				Barrel of 35,000	30-874
76B®	Red	600V* 18 to 6 AWG Min. 2 #14 Max. 4 #12	600V* ,75mm² to 16,0mm² Min. 2-2,5mm² Max. 2-4,0mm²	Box of 100	30-076
				Jar of 150	30-076J
				Carton of 1,000	30-176
				Keg of 2,500 (10 bags, 250 ea.)	30-276
				Barrel of 15,000	30-876

*1,000V maximum in fixtures and signs

High Temperature Wire-Nut® Wire Connectors

All of the Wire-Nut® Wire Connector features plus:

- Black, thermoplastic shell designed to withstand extreme heat build-up found in high-wattage light fixtures and signs. UL Listed to 150°C (302°F)
- Four models to cover wire ranges from 22 to 12 AWG

UL LISTED Wire Connector 774A Cu/Cu Only

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
71B®	Black	300V 22 to 16 AWG Min. 2 #22 Str Max. 2 #16	300V ,34mm² to 1,5mm² Min. 2-,34mm² Max. 2-1,5mm²	Box of 100	30-3627
				Carton of 1,000	30-151
				Keg of 25,000 (loose pack)	30-251
				Barrel of 150,000	30-801
72B®	Black	300V 22 to 14 AWG Min. 2 #22 Max. 3 #16	300V ,34mm² to 2,5mm² Min. 2-,34mm² Max. 3-1,5mm²	Box of 100	30-3628
				Carton of 1,000	30-152
				Keg of 10,000 (loose pack)	30-252
				Barrel of 85,000	30-802
73B®	Black	600V* 22 to 14 AWG Min. 1 #18 w/1 #20 Max. 2 #14	600V* ,34mm² to 2,5mm² Min. 1-,75mm² w/1-,50mm² Max. 4-1,5mm² w/1-,50mm²	Box of 100	30-3629
				Carton of 1,000	30-153
				Keg of 10,000 (loose pack)	30-253
				Barrel of 50,000	30-803
59B®	Black	600V* 22 to 12 AWG Min. 2 #20 Max. 3 #14	600V* ,34mm² to 4,0mm² Min. 2-,5mm² Max. 3-2,5mm²	Box of 100	30-059
				Carton of 1,000	30-159
				Keg of 5,000 (loose pack)	30-259
				Barrel of 35,000	30-809

*1,000V maximum in fixtures and signs

Wing-Nut® Wire Connectors

- Three color-coded models cover a full range of wire sizes from 18 to 6 AWG
- Specially designed contoured wings provide a secure grip for extra leverage on maximum wire combinations
- Live-action spring expands to accept wire shape and size with no pre-twisting required
- Square-wire spring threads directly onto conductors for fast, secure connections
- Deep skirt helps protect against flash-over and turned-back strands for maximum dielectric protection
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
451®	Yellow	600V* 18 to 10 AWG Min. 2 #18 Max. 3 #12	600V* ,75mm² to 6,0mm² Min. 2-,75mm² Max. 3-4,0mm²	Box of 100	**30-451**
				Jar of 225	**30-451J**
				Jar of 500	**30-651J**
				Carton of 1,000	**30-551**
				Keg of 5,000 (10 bags, 500 ea.)	**30-651**
				Barrel of 35,000	**30-851**
452®	Red	600V* 18 to 8 AWG **Min. 2 #18** **Max. 4 #10**	600V* ,75mm² to 10,0mm² Min. 2-,75mm² Max. 4-6,0mm²	Box of 100	**30-452**
				Jar of 300	**30-452J**
				Jar of 500	**30-652J**
				Carton of 1,000	**30-552**
				Keg of 5,000 (10 bags, 500 ea.)	**30-652**
				Barrel of 25,000	**30-852**
454®	Blue	600V* 14 to 6 AWG Min. 3 #12 Max. 1 #6 & 2 #8	600V* 2,5mm² to 16,0mm² Min. 3-4,0mm² Max. 2-16,0mm² w/1-4,0mm²	Box of 25	**30-454**
				Carton of 250	**30-554**
				Keg of 1,000 (10 bags, 100 ea.)	**30-654**
				Barrel of 10,000	**30-854**

*1,000V maximum in fixtures and signs

UL Wire Connector 774A LISTED Cu/Cu Only CSA CE

Greenie® Grounding Wire Connectors

- Designed for making ground connections and bonding non-metallic sheathed cable
- Contoured wings for maximum leverage
- Live-action, square-wire spring provides superior grounding connections
- Tough, UL 94V-2 flame-retardant shell
- UL Listed to 467 and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
92®	Green	14 to 10 Min. 2 #14 Max. 4 #12	2,5mm² to 6,0mm² Min. 2-2,5mm² Max. 2-4,0mm² w/1-2,5mm²	Box of 100	**30-092**
				Jar of 150	**30-092J**
				Carton of 1,000	**30-192**
				Keg of 5,000 (10 bags, 500 ea.)	**30-292**
				Barrel of 25,000	**30-992**

Greenie® Grounding Connector fully meets the intent of the N.E.C. and specifically aids in compliance with the following:

UL Ground Connector 951L LISTED Cu/Cu Only CSA

ARTICLE 250: GROUNDING

250-146 Connecting Receptacle Grounding Terminal to Box

250-148 Continuity and Attachment of Equipment Grounding Conductors to Boxes
(B) Grounding continuity
(D) Nonmetallic boxes

See Page A-10 for more IDEAL Grounding Products!

Wire Termination

Twister® Wire Connectors

Small profile of Twister® LT is perfect for recessed lighting applications.

- Exceptional wire-range capacity – three color-coded models handle wire combinations from as small as 22 AWG to as large as 6 AWG
- Ribbed cap provides a secure grip and fast fingertip starts
- Swept wings offer extra leverage and less effort for large wire combinations
- Hexagonal shape accommodates standard nutdriver for tool installation
- Live-action, square-wire spring locks onto wire for safe, secure connections
- Deep skirt helps protect against flash-over and turned-back strands for maximum dielectric protection
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
340®	Lt. Blue	600V* 22 to 10 AWG Min. 2 #22 Max. 3 #12	600V* ,34mm² to 4,0mm² Min. 2-,34mm² Max. 3-4,0mm²	Box of 100	**30-340**
				Jar of 500	**30-640J**
				Barrel of 35,000	**30-840**
341®	Tan	600V* 22 to 8 AWG Min. 3 #22 Max. 3 #10	600V* ,34mm₂ to 10,0mm² Min. 3-,34mm² Max. 3-6,0mm²	Box of 100	**30-341**
				Jar of 400	**30-441J**
				Jar of 750	**30-341J**
				Carton of 1,000	**30-541**
				Keg of 5,000 (10 bags, 500 ea.)	**30-641**
				Barrel of 25,000	**30-841**
342®	Gray	600V* 18 to 6 AWG Min. 3 #14 Max. 2 #8 w/2 #12	600V* ,75mm² to 10,0mm² Min. 3-2,5mm² Max. 2-10,0mm² w/2-4,0mm²	Box of 50	**30-342**
				Keg of 2,500 (10 bags, 250 ea.)	**30-642**
				Barrel of 15,000	**30-842**

*1,000V maximum in fixtures and signs

UL Wire Connector 774A LISTED Cu/Cu Only CSA CE

Twister® PRO Wire Connectors

The Twister® Pro is a high performance connector with the industry's widest wire range of any red/yellow connector.

- The **widest red/yellow wire range** in the industry; min. 2 #18 to max. 4 #10
- SureGrip™ overmolding provides better grip for improved leverage, more torque and faster connections
- Comfortable swept wings designed to help reduce hand fatigue
- Expanding square-wire spring provides a secure connection every time
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

UL Wire Connector 774A LISTED Cu/Cu Only CSA

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
344®	Red/Yellow	600V* 22 to 8 AWG **Min. 2 #18** **Max. 4 #10**	600V* ,34mm² to 10,0mm² Min. 2-,75mm² Max. 4,0-6,0mm²	Box of 50	**30-144**
				Jar of 250	**30-244J**
				Jar of 500	**30-644J**
				Barrel of 20,000	**30-944**

*1,000V maximum in fixtures and signs

WeatherProof™ and UnderGround™ Wire Connectors

- Silicone-based sealant protects against moisture and corrosion
- UL Listed to 486D for use in damp/wet locations or direct burial
- Easy to apply, pre-filled twist-on wire connectors
- Handles wire sizes from 22 to 6 AWG copper conductors
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

WeatherProof™ – suitable for interior and exterior electrical connections exposed to rain or damp conditions.

UnderGround™ – suitable for use in a wide variety of direct burial and wet location electrical connections.

Cu/Cu Only

LISTED
Sealed Wire Connector System 5N35

WeatherProof™ Wire Connectors

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
61	Blue/Orange	600V* 22 to 14 AWG Min. 2 #20 Max. 2 #14	600V* ,34mm² to 4,0mm² Min. 2-,5mm² Max. 2-2,5mm²	Card of 6	**30-061**
				Card of 25	**30-161**
				Box of 100	**30-261**
				Box of 1,000	**30-361**
62	Blue/Red	600V* 18 to 8 AWG Min. 2 #18 Max. 3 #10	600V* ,75mm² to 10,0mm² Min. 2-,75mm² Max. 3-6,0mm²	Card of 5	**30-062**
				Card of 20	**30-162**
				Box of 100	**30-262**
				Box of 1,000	**30-362**
63	Blue/Dk. Blue	600V* 16 to 6 AWG Min. 3 #14 Max. 5 #10	600V* 1,5mm² to 16,0mm² Min. 2-2,5mm² Max. 2-10,0mm² w/1-6,0mm²	Card of 3	**30-063**
				Card of 15	**30-163**
				Box of 100	**30-263**
				Box of 1,000	**30-363**

UnderGround™ Wire Connectors

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
60	Blue/Blue	600V* 20 to 10 AWG Min. 1 #20 w/1 #18 Max. 1 #10 w/2 #12	600V* ,5mm² to 6,0mm² Min. 1-,5mm² w/1,75mm² Max. 1-6,0mm² w/2-4,0mm²	Card of 2	**30-060**
				Card of 10	**30-760**
				Box of 25	**30-160**
				Box of 100	**30-260**
				Box of 1,000	**30-360**
64	Blue/Dk. Blue	600V* 18 to 8 AWG Min. 2 #18 Sol. Max. 3 #10	600V* ,75mm² to 10,0mm² Min. 2-,75mm² Sol. Max. 3-6,0mm²	Card of 2	**30-064**
				Card of 10	**30-764**
				Box of 50	**30-264**
				Box of 1,000	**30-364**
66	Blue/Dk. Blue	600V* 14 to 6 AWG Min. 3 #12 Max. 2 #6 w/1 #10	600V* 2,5mm² to 16,0mm² Min. 3 - 4,0mm² Max. 2 - 16,0mm² w/1-6,0mm²	Card of 2	**30-066**
				Card of 6	**30-766**
				Box of 50	**30-266**

Cu/Cu Only

LISTED
Sealed Wire Connector System 5N35

Wire Termination

mudbug® Utility Wire Connectors

Cu/Cu Only

LISTED
Sealed Wire Connector System 5N35

- Connects underground gas tracer lines providing superior protection
- Moisture and corrosion resistant, pre-filled with non-hardening, 100% silicone
- 20 - 8 AWG wire range capacity
- UL Listed to direct burial test standard 486D up to 600V maximum voltage

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity	Cat. No.
60	Yellow	600V* 20 to 10 AWG Min. 1 #20 w/1 #18 Max. 1 #10 w/2 #12	600V* ,5mm² to 6,0mm² Min. 1-,5mm² w/1 ,75mm² Max. 1-6,0mm² w/2-4,0mm²	Box of 25	**30-160Y**
				Box of 1,000	**30-360Y**
64	Yellow	600V* 18 to 8 AWG Min. 2 #18 Sol. Max. 3 #10	600V* ,75mm² to 10,0mm² Min. 2-,75mm² Sol. Max. 3-6,0mm²	Box of 25	**30-164Y**
				Box of 1,000	**30-364Y**

Twister® Al/Cu Wire Connectors

- Only aluminum-to-copper twist-on connector specifically designed to guarantee a secure connection while preventing aluminum corrosion
- Specially formulated corrosion-resistant compound penetrates corrosion build-up on aluminum conductors for increased conductivity and cooler connections
- Compact, one-piece design features ribbed cap, swept wings and hexagonal head for easy installation by hand or with standard nutdriver
- Live-action, square-wire spring expands and contracts with aluminum wire
- Deep skirt provides maximum dielectric strength
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- Complies with N.E.C. Section #110-14(b) for aluminum-to-copper connections; UL Listed to 486C and CSA Certified to C22.2 #188; complies with Federal Specification W-S-610E
- Listed to UL467 for grounding and bonding

Model	Color	Wire Combination Ranges		Quantity	Cat. No.
65	Purple	1 #10 Al solid w/1 or 2 #10 Cu solid 1 #10 Al w/1 or 2 #12 Cu 2 #10 Al solid w/1 #12 Cu 1 #10 Al w/1 or 2 #14 Cu 2 #10 Al solid w/1 #14 Cu 2 #12 Al solid w/1 #10 Cu 1 #12 Al solid w/1 or 2 #10 Cu 1 #12 Al stranded w/1 or 2 #10 Cu solid 1 #12 Al w/1 or 2 #12 Cu 2 #12 Al solid w/1 #12 Cu	1 #12 Al w/1 or 2 #14 Cu 2 #12 Al solid w/1 #14 Cu 1 #10 Al w/1 or 2 #18 Cu 2 #10 Al solid w/1 #18 Cu 1 #12 Al w/1 or 2 #16 Cu 2 #12 Al solid w/1 #16 Cu 1 #10 Al w/1 or 2 #16 Cu 2 #10 Al solid w/1 #16 Cu 1 #12 Al w/1 or 2 #18 Cu 2 #12 Al solid w/1 #18 Cu	Card of 2	**30-065**
				Card of 10	**30-765**
				Card of 25	**30-165**
				Box of 100	**30-265**
				Carton of 1,000	**30-365**

600V maximum building wire; 1,000V signs or light fixtures

Wire Connector 774A
LISTED

Wire Connector also listed as grounding equipment

WARNING:
1. **One time use only. Do not reuse connector.**
2. **Do not use on aluminum to aluminum wire combinations.**
3. **Wiring must comply with all applicable electrical codes.**
4. **Contact IDEAL or visit IDEAL website for a complete list of UL Listed wire combinations.**

Spin-Twist® Wire Connector Socket

- Speeds installation of IDEAL and BUCHANAN Wire Connectors
- For use with electric corded or cordless drill drivers
- 1/4 in. chuck fits most drills or drive sockets

For Connector Models	Cat. No.
Wire-Nut®, Wing-Nut®, Twister®, B-CAP® & WingTwist™ Wire Connectors	30-902

Nutmaster™ Nutdriver

- Speeds installation of Twister® Wire Connectors
- Nickel/chrome plated to resist rust and corrosion
- Cushioned rubber grip

For Connector Models	Cat. No.
341®, 5/16 in. Driver	35-292
342®, 7/16 in. Driver	35-295

Twist-a-Nut® Pro Electrician's Screwdrivers

- Convenient Wire-Nut® Wrench in end of handle
- Wire-looping hole in handle
- Vapor-blasted tip prevents plate chipping
- Tough, chrome vanadium steel shank
- Precision ground tip provides secure fit in screw slot

Description	Cat. No.
#2 x 6 Robertson	30-330
1/4 in. x 4 in. Slotted	30-331
#2 x 4 in. Phillips	30-332
1/4 in. x 6 in. Slotted Cabinet Tip	30-333

7-in-1 Twist-a-Nut™ Screwdriver

- Facilitates installation of connectors
- Universal Wire-Nut® Wire Connector Wrench in handle
- Accepts most twist-on connectors

Description	Cat. No.
7-in-1 Twist-a-Nut™ Screwdriver	35-908

9-in-1 Ratch-a-Nut™ Screwdriver

- Ratcheting wire connector wrench speeds installation of wire connectors
- Premium screwdriver ratchet mechanism can handle high torque without fatigue

Description	Cat. No.
9-in-1 Ratch-a-Nut™ Screwdriver	35-988

21-in-1 Twist-a-Nut™ Screwdriver

- Wire Connector wrench prevents finger fatigue and gets in tight spaces
- Premium screwdriver ratchet mechanism can handle high torque without failure
- Ergonomic, slip-free comfort grip
- Multiple bit storage unit and wire-looping hole in handle
- Includes:
  (3) Phillips tips – #1, #2 & #3
  (3) Slotted tips – 3/16 in., 1/4 in. & 5/16 in.
  (2) Square tips – #1 & #2
  (4) Star tips – #15, #20, #25 & #30
  (4) Hex tips – 3/32 in., 1/8 in., 3/16 in. & 5/32 in.
  (3) Nutdriver tips – 1/4 in., 5/16 in. & 7/16 in.

Description	Cat. No.
21-in-1 Twist-a-Nut™ Screwdriver	35-688

WIRE TERMINATION

Based on 2011 data available from Epicor/Vista.

IDEAL #1 2011 VISTA DATA

powerplug® Luminaire Disconnects

- Meets new NEC and CEC code changes for non-residential fluorescent luminaires
- Perfect for OEM new lighting installations or retrofit lighting applications
- Meets UL and CSA finger-probe safety requirements
- Allows safe disconnect of hot and neutral ballast wiring

PowerPlug® Selection Chart

Application	New Installations	Retrofits
For 1-ballast fixtures	102	102, 182
For 2-ballast, dimming and switching fixtures	103	103, 183

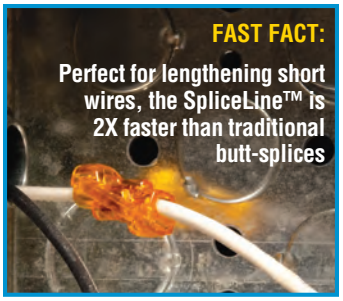
LISTED Luminaire Disconnect 3HME

Model	Color	Electrical Rating	Wire Range	Line Side	Ballast Side	Quantity	Cat. No.
102 2-wire	Orange	6 Amps/600 Volts Max.	Solid	#12 – #18		Card of 25	**30-372**
			Stranded	#12 – #14 (≤19 str.)		Jar of 75	**30-382J**
			Stranded Tin-Bonded	#12 – #14 (≤19 str.) #16 (≤26 str.) #18 (≤16 str.)		Jar of 150	**30-352J**
						Box of 1,000	**30-102**
103 3-Wire	Orange	6 Amps/600 Volts Max.	Solid	#12 – #18	#18	Card of 20	**30-383X**
			Stranded	#12 – #14 (≤19 str.)	None	Jar of 50	**30-383XJ**
			Stranded Tin-Bonded	#12 – #14 (≤19 str.) #16 (≤26 str.) #18 (≤16 str.)	#18 (≤16 str.)	Jar of 100	**30-353XJ**
						Box of 1,000	**30-103X**
182 2-wire	Orange	3 Amps 120V 1.3 Amps 277V 1 Amps 347V 0.75 Amps 480V 0.60 Amps 600V	Solid	#18		Box of 100	**30-082**
						Box of 2,500	**30-682**
						Box of 1,000 w/6" leads	**30-682L**
183 3-Wire						Box of 100	**30-083**
						Box of 2,500	**30-683**

1,000V maximum fixtures and signs.

SpliceLine® In-Line Wire Connectors

The SpliceLine® is a crimp-free, push-in wire connector that installs in half the time of a traditional butt splice. Perfect for lengthening a short wire in a box, for pre-fab operation or for surface raceway wiring. SpliceLine® accepts solid and stranded wire, is UL Listed and is made in the U.S.A.



- Crimp-free, push-in butt splice
- Easily passes through 1/2 in. knockouts
- End-to-end connection ideal for pre-fab operations
- Transparent polycarbonate window for visual inspection of connection
- Wide wire range of: 12 – 20 AWG solid & 12 – 16 AWG stranded

Model	Color	Rating	Wire Range	Quantity	Cat. No.
42	Orange	600V/20A 105°C	Solid: #12 – #20 Stranded: #12 – #16 (≤19 str.) Stranded Tin-Bonded: #14 – #18 (≤19 str.)	Card of 10	**30-1742**
				Box of 100	**30-1042**
				Jar of 300	**30-1042J**
				Box of 2,500	**30-1642**

LISTED Wire Connector 774A

Cu/Cu Only

In-Sure™ Push-In Wire Connectors

- No-twist connection reduces repetitive motion fatigue
- Low insertion force for fast and easy connections
- Compact size makes installation easy
- Clear shell gives visual verification of connection
- UL Listed to 486C and CSA Certified to C22.2 #188
- UL 467 Listed for grounding and bonding applications
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)

UL LISTED Wire Connector 774A Cu/Cu Only

Specifications

	Model 32 Red 2-Port	Model 33 Orange 3-Port	Model 34 Yellow 4-Port	Model 87 Gray 5-Port	Model 88 Blue 6-Port Stacked	Model 90 Black 8-Port	Model 39 Blue 3-Port
Solid	#20 - #12			#20 - #12			#14 - #10
Stranded	#16 - #12 (≤ 19 Strand) #18 (7 Strand)			#16 - #14 (≤ 19 Strand) #18 (≤ 7 Strand)			#12 - #10 (≤ 19 Strand)
Stranded (Tin Bonded)	#18 - #14 (≤ 19 Strand)			#14 - #12 (≤ 19 Strand) #16 (≤ 26 Strand) #18 (≤ 16 Strand)			#14 - #10 (≤ 19 Strand)

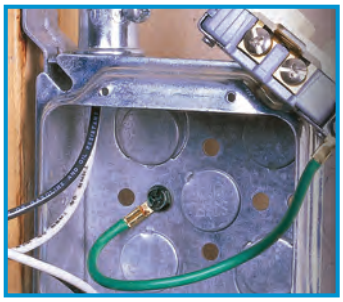
Ordering Information

Model	Color	Ports	Length		Width		Height		Quantity	Cat. No.
			In.	mm	In.	mm	in.	mm		
32	Red	2	0.78	19.81	0.52	13.21	0.38	9.65	Box of 100	**30-1032**
									Jar of 300	**30-1032J**
									Box of 5,000	**30-1632**
33	Orange	3	0.78	19.81	0.69	17.53	0.38	9.65	Box of 100	**30-1033**
									Jar of 250	**30-1033J**
									Box of 5,000	**30-1633**
34	Yellow	4	0.78	19.81	0.82	20.83	0.38	9.65	Box of 100	**30-1034**
									Jar of 200	**30-1034J**
									Box of 5,000	**30-1634**
87	Gray	5	.355	9.02	.907	23.03	.729	18.52	Jar of 150	**30-087J**
									Box of 1,000	**30-187**
									Box of 5,000	**30-687**
88	Blue	6 Stacked	.607	15.42	.603	15.32	.729	18.52	Jar of 100	**30-088J**
									Box of 1,000	**30-188**
									Box of 5,000	**30-688**
90	Black	8	.355	9.02	1.38	35.03	.717	18.21	Jar of 100	**30-090J**
									Box of 1,000	**30-190**
									Box of 2,000	**30-690**
39	Blue	3	0.78	19.81	.086	21.84	0.45	11.43	Box of 50	**30-1039**
									Jar of 150	**30-1039J**
									Box of 2,500	**30-1639**

COPPER TO COPPER ONLY. Do not use on aluminum. Temperature rating: 105°C (221°F) maximum. 600V maximum building wire, 1000V maximum signs or lighting fixtures

Wire Termination

Grounding Accessories



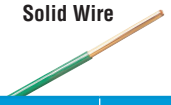
- Solid and stranded pigtail lead wires are convenient for device grounding applications
- Grounding screws offer a unique thread-forming, hole-finding feature plus combination hex, Phillips, slotted and Robertson head
- Safe, fast and efficient for cost-effective grounding jobs
- Ensures compliance with Article 250 of the National Electrical Code

Non-Grounding Pigtails

- 8 in. 12 AWG Stranded Pigtails – White or Black, #10 Fork & Stripped end

Stranded Wire

Solid Wire



Pigtail Wire Connectors

Grounding Screws / Clips

Solid Wire Grounding Tails	Quantity/Pkg.	Cat. No.
14 AWG solid, 8 in. tail w/loop & ground screw and stripped end	Box of 50	**30-3390**
12 AWG solid, 6.5" tail w/loop & ground screw and stripped end	Box of 50	**30-3404**
12 AWG solid, 6.5" tail w/loop & ground screw and stripped end	Bulk Pack of 1,000	**30-3402**
12 AWG solid, 8 in. tail w/loop & ground screw and stripped end	Box of 50	**30-3392**
12 AWG solid, 8 in. tail w/loop & ground screw and stripped end	Plastic Box of 100	**30-3399**
12 AWG solid, 8 in. tail w/loop & ground screw and stripped end	Bulk Pack of 1,000	**30-3496**
12 AWG solid, 10 in. tail w/loop & ground screw and stripped end	Bag of 50	**30-3410**
12 AWG solid, 10 in. tail w/loop & ground screw and stripped end	Bulk Pack of 500	**30-3394**
12 AWG solid, 12 in. tail w/loop & ground screw and stripped end	Box of 50	**30-3498**
12 AWG solid, 12 in. tail w/loop & ground screw and stripped end	Bulk Pack of 1,000	**30-3396**
Stranded Wire Grounding Tails	**Quantity/Pkg.**	**Cat. No.**
14 AWG stranded, 8 in. tail w/#10 fork & #10 ring and ground screw	Bag of 25	**30-3183**
12 AWG stranded, 8 in. tail w/#10 fork & #10 ring and ground screw	Bag of 25	**30-3184**
12 AWG stranded, 8 in. tail w/#10 ring & ground screw and stripped end	Bulk Pack of 1,000	**30-3201**
12 AWG stranded, 8 in. tail w/#10 fork & #10 ring and ground screw	Bulk pack of 1,000 (bundle of 50)	**30-3284**
12 AWG stranded, 8 in. tail w/#10 fork & #10 ring and ground screw	Plastic box of 50	**30-3385**
12 AWG stranded, 8 in. tail w/#10 fork & #10 ring	Bulk pack of 1,000	**30-3285**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end	Bag of 25	**30-3480**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end	Bulk pack of 1,000	**30-3580**

Stranded Wire Grounding Tails (cont.)	Quantity/Pkg.	Cat. No.
12 AWG stranded, 10 in. tail w/#10 fork & #10 ring and ground screw	Box of 50	**30-3310**
12 AWG stranded, 10 in. tail w/#10 fork & #10 ring and ground screw	Bulk pack of 500	**30-3311**
12 AWG stranded, 12 in. tail w/#10 fork & #10 ring and ground screw	Box of 50	**30-3412**
12 AWG stranded, 12 in. tail w/#10 fork & #10 ring and ground screw	Bulk pack of 1,000	**30-3413**
Combo Tails	**Quantity/Pkg.**	**Cat. No.**
2-wire combo: 12 AWG solid tail, one stripped end, one end w/ground screw; joined to 12 AWG stranded tail at a ring terminal, w/fork terminal on second end	Box of 500	**30-3286**
2-wire combo: 12 AWG stranded w/#10 ring & ground screw, one stripped-end tail and one #10 fork tail	Bag of 25	**30-3287**
2-wire combo: 12 AWG stranded w/#10 ring and ground screw and two #10 fork tails	Bag of 25	**30-3288**
3-wire combo: 12 AWG stranded w/#10 ring & ground screw, one stripped-end tail and two #10 fork tails	Bag of 25	**30-3289**
Miscellaneous Grounding Products	**Quantity/Pkg.**	**Cat. No.**
Ground screw, thread-forming, hole-finding, combination hex, Phillips, slotted and Robertson tip	Jar of 100	**30-3594**
Grounding clip – accepts 10, 12 or 14 AWG wire	Pack of 100	**30-3395**
Non-Grounding Stranded Wire Pigtails	**Quantity/Pkg.**	**Cat. No.**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end, white	Bag of 25	**30-3470**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end, white	Bulk pack of 1,000	**30-3570**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end, black	Bag of 25	**30-3471**
12 AWG stranded, 8 in. tail w/#10 fork and stripped end, black	Bulk pack of 1,000	**30-3571**

Crimp Terminals – Rings, Forks, Disconnects and Splices

- Butted seam-construction prevents splitting under maximum pressure
- Internal barrel serrations grip wires tightly to resist pull-out and reduce electrical resistance
- Tin-plated brass construction for corrosion resistance
- Shouldered barrel insulation quickly positions terminal for proper crimping
- Expanded insulation entry accomodates a wide variety of insulation diameters and provides additional insulation support
- Color-coded insulation and wire range stamped on terminal for easy identification
- See product packaging for recommended crimp tools

Vinyl Insulated Ring Terminals

Wire Range Combination	Stud Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5–1,0mm²)	6 (3.7mm)	0.157 (4.0mm)	25	**83-2121**	—	—
	8 (4.3mm)		25	**83-2131**	—	—
	10 (5.3mm)		25	**83-2141**	—	—
	1/4 (6.4mm)		25	**83-2151**	—	—
16 – 14 AWG (1,5–2,5mm²)	6 (3.7mm)	0.177 (4.5mm)	25	**83-2221**	—	—
	8 (4.3mm)		25	**83-2231**	—	—
	10 (5.3mm)		25	**83-2241**	1,000	**84-2241**
	1/4 (6.4mm)		25	**83-2251**	—	—
12 – 10 AWG (4,0–6,0mm²)	8 (4.3mm)	0.248 (6.3mm)	25	**83-2331**	—	—
	10 (5.3mm)		25	**83-2341**	1,000	**84-2341**
	1/4 (6.4mm)		25	**83-2351**	—	—
	5/16 (8.4mm)		25	**83-2361**	—	—
	3/8 (10.5mm)		25	**83-2371**	—	—

75° C/600 Volts max.

Non-Insulated Ring Terminals

Wire Range	Stud Size In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	8 (4.3mm)	25	**83-0131**	—	—
	10 (5.3mm)	25	**83-0141**	—	—
16 – 14 AWG (1,5-2,5mm²)	6 (3.7mm)	25	**83-0221**	—	—
	8 (4.3mm)	25	**83-0231**	—	—
	10 (5.3mm)	25	**83-0241**	1,000	**84-0241**
12 – 10 AWG (4,0-6,0mm²)	8 (4.3mm)	25	**83-0331**	—	—
	10 (5.3mm)	25	**83-0341**	1,000	**84-0341**
	1/4 (6.4mm)	25	**83-0351**	—	—
8 AWG (8,0mm²)	10 (5.3mm)	25	**83-0421**	—	—
	1/4 (6.4mm)	25	**83-0431**	—	—
	5/16 (8.4mm)	25	**83-0441**	—	—
	3/8 (10.5mm)	25	**83-0451**	—	—
6 AWG (14,0mm²)	10 (5.3mm)	20	**83-0511**	—	—
	1/4 (6.4mm)	20	**83-0521**	—	—
	5/16 (8.4mm)	20	**83-0531**	—	—
	3/8 (10.5mm)	20	**83-0541**	—	—
4 AWG (22,0mm²)	1/4 (6.4mm)	20	**83-0611**	—	—
	5/16 (8.4mm)	20	**83-0621**	—	—
	3/8 (10.5mm)	20	**83-0631**	—	—

105°C/600 Volts max.
*Plus or minus .020 in.
**Plus or minus .51mm

Vinyl Insulated Spade Terminals

Wire Range	Stud Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	6 (3.7mm)	0.157 (4.0mm)	25	**83-7111**	1,000	**84-7111**
	8 (4.3mm)		25	**83-7121**	—	—
	10 (5.3mm)		25	**83-7131**	—	—
16 – 14 AWG (1,5-2,5mm²)	6 (3.7mm)	0.177 (4.5mm)	25	**83-7151**	—	—
	8 (4.3mm)		25	**83-7161**	1,000	**84-7161**
	10 (5.3mm)		25	**83-7171**	1,000	**84-7171**
12 – 10 AWG (4,0-6,0mm²)	6 (3.7mm) 8 (4.3mm) 10 (5.3mm) 1/4 (6.4mm)	0.248 (6.3mm)	25	**83-7201**	—	—
			25	**83-7211**	—	—
			25	**83-7221**	500	**84-7221**
			25	**83-7231**	—	—

75° C/600 Volts max.

Vinyl Insulated Snap Spade Terminals

Wire Range	Stud Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	6 (3.7mm)	0.134 (4.0mm)	25	**83-7011**	—	—
	8 (4.3mm)		25	**83-7021**	—	—
	10 (5.3mm)		25	**83-7031**	—	—
16 – 14 AWG (1,5-2,5mm²)	6 (3.7mm)	0.161 (4.5mm)	25	**83-7051**	—	—
	8 (4.3mm)		25	**83-7061**	—	—
	10 (5.3mm)		25	**83-7071**	—	—
12 – 10 AWG (4,0-6,0mm²)	8 (4.3mm)	0.248 (6.3mm)	25	**83-7081**	—	—
	10 (5.3mm)		25	**83-7091**	—	—
	1/4 (6.4mm)		25	**83-7101**	—	—

75° C/600 Volts max.

UL LISTED Wire Connector 774A Cu only c UL

WIRE TERMINATION

Non-Insulated Spade Terminals

Wire Range	Stud Size In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	6 (3.7mm)	25	**83-6111**		
	8 (4.3mm)	25	**83-6121**	—	—
	10 (5.3mm)	25	**83-6131**	—	—
16 – 14 AWG (1,5-2,5mm²)	8 (4.3mm)	25	**83-6161**	—	—
	10 (5.3mm)	25	**83-6171**	1,000	**84-6171**
12 – 10 AWG (4,0-6,0mm²)	8 (4.3mm)	25	**83-6211**	—	—
	10 (5.3mm)	25	**83-6221**	—	—
	1/4 (6.4mm)	25	**83-6231**	—	—

105° C/600 Volts max.

Vinyl Insulated Multi-Stack Disconnects

Wire Range	Tab Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.15 (3.8mm)	25	**83-9611**
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35mm x 0.8mm)	0.185 (4.7mm)	25	**83-9621**
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9631**

75° C/300 Volts max.

Vinyl Insulated Bullet Disconnects

Wire Range	Max. Wire Ins. Dia. In.	Quantity	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	0.150 (3.8mm)	25	**83-8001**
16 – 14 AWG (1,5-2,5mm²)	0.185 (4.7mm)	25	**83-8011**

75° C/300 Volts max.

Vinyl Insulated Male Disconnects

Wire Range	Tab Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.150 (3.8mm)	25	**83-9971**
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35mm x 0.8mm)	0.185 (4.7mm)	25	**83-9981**
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9991**

75° C/300 Volts max.

*Not UL Listed

Vinyl Insulated Female Disconnects

Wire Range	Tab Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.110 x .020 (2.8mm x 0.5mm)	0.150 (3.8mm)	25	**83-9511**	—	—
	.187 x .020 (4.75mm x 0.5mm)	0.150 (3.8mm)	25	**83-9541**	—	—
	.250 x .032 (6.35mm x 0.8mm)	0.150 (3.8mm)	25	**83-9571**	—	—
16 – 14 AWG (1,5-2,5mm²)	.110 x .020 (2.8mm x 0.5mm)	0.185 (4.7mm)	25	**83-9521**	—	—
	.187 x .020 (4.75mm x 0.5mm)	0.185 (4.7mm)	25	**83-9551**	—	—
	.250 x .032 (6.35mm x 0.8mm)	0.185 (4.7mm)	25	**83-9581**	500	**84-9581**
14 – 12 AWG (2,5-4,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9591**	—	—
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9601**	—	—

75° C/300 Volts max.

Non-Insulated Female Disconnects*

Wire Range (AWG)	Stud Size (In.)	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.110 x .020 (2.8mm x 0.5mm)	25	**83-9411**
16 – 14 AWG (1,5-2,5mm²)	.110 x .020 (2.8mm x 0.5mm)	25	**83-9421**
22 – 18 AWG (0,5-1,0mm²)	.187 x .020 (4.75mm x 0.5mm)	25	**83-9441**
16 – 14 AWG (0,5-1,0mm²)	.187 x .020 (4.75mm x 0.5mm)	25	**83-9451**
22 – 18 AWG (0,5-1,0mm²)	.250 x .032 (6.35mm x 0.8mm)	25	**83-9471**
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35mm x 0.8mm)	25	**83-9481**
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	25	**83-9501**

105° C/300 Volts max.

Nylon Fully-Insulated Male Disconnects

Wire Range	Tab Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.150 (3.8mm)	25	**83-9911**
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35mm x 0.8mm)	0.185 (4.7mm)	25	**83-9921**
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9931**

105° C/300 Volts max.

UL LISTED Wire Connector 774A Cu only c UL

Nylon Fully-Insulated Female Disconnects

Wire Range	Tab Size In.	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.15 (3.8mm)	25	**83-9771**	1,000	**84-9771**
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35mm x 0.8mm)	0.185 (4.7mm)	25	**83-9781**	1,000	**84-9781**
12 – 10 AWG (4,0-6,0mm²)	.250 x .032 (6.35mm x 0.8mm)	0.244 (6.2mm)	25	**83-9791**	500	**84-9791**

105° C/300 Volts max.

Vinyl Fully-Insulated Receptacle Disconnects

Wire Range	Max. Wire Ins. Dia. In.	Quantity	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	0.150 (3.8mm)	25	**83-8101**
16 – 14 AWG (1,5-2,5mm²)	0.185 (4.7mm)	25	**83-8111**

75° C/300 Volts max.

Non-Insulated Flag Female Disconnect*

Wire Range	Tab Size In.	Quantity	Cat. No.
16 – 14 AWG (1,5-2,5mm²)	.250 x .032 (6.35 x 0.8mm)	25	**83-9401**

105° C/300 Volts max.

Disconnect Adapter - Male to Female (2-1)*

Tab Size (In.)	Quantity	Cat. No.
.250 x .032 (6.35mm x 0.8mm)	25	**83-9801**

105° C/300 Volts max.

Non-Insulated Parallel Splices*

Wire Range	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	25	**83-9071**	—	**—**
16 – 14 AWG (1,5-2,5mm²)	25	**83-9081**	1,000	**84-9081**
12 – 10 (4,0-6,0mm²)	25	**83-9091**	1,000	**84-9091**

105° C/600 Volts max.

**Not UL Listed*

Non-Insulated Butt Splices*

Wire Range	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	25	**83-9001**	—	**—**
16 – 14 AWG (1,5-2,5mm²)	25	**83-9011**	1,000	**84-9011**
12 – 10 (4,0-6,0mm²)	25	**83-9021**	500	**84-9021**
8 (8,0mm²)	25	**83-9031**	250	**84-9031**
6 (14,0mm²)	20	**83-9041**	—	**—**
4 (22,0mm²)	20	**83-9051**	—	**—**

105° C/600 Volts max.

Vinyl Insulated Butt Splices

Wire Range	Max. Wire Ins. Dia. In.	Qty.	Cat. No.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.157 (4.0mm)	25	**83-9281**	1,000	**84-9281**
16 – 14 AWG (1,5-2,5mm²)	.177 (4.5mm)	25	**83-9291**	1,000	**84-9291**
12 – 10 (4,0-6,0mm²)	.248 (6.3mm)	25	**83-9301**	500	**84-9301**

75° C/600 Volts max.

Vinyl Insulated Parallel Splices

Wire Range	Max. Wire Ins. Dia. In.	Qty.	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	.157 (4.0mm)	1,000	**83-9351**
16 – 14 AWG (1,5-2,5mm²)	.177 (4.5mm)	1,000	**83-9361**
12 – 10 (4,0-6,0mm²)	.248 (6.3mm)	500	**83-9371**

75° C/600 Volts max.

Tap Splice Connectors

Wire Range	Color	Quantity	Cat. No.
22 – 18 AWG (0,5-1,0mm²)	Red	25	**83-3261**
16 – 14 AWG (1,5-2,5mm²)	Blue	25	**83-3271**
12 – 10 (4,0-6,0mm²)	Yellow	25	**83-3281**

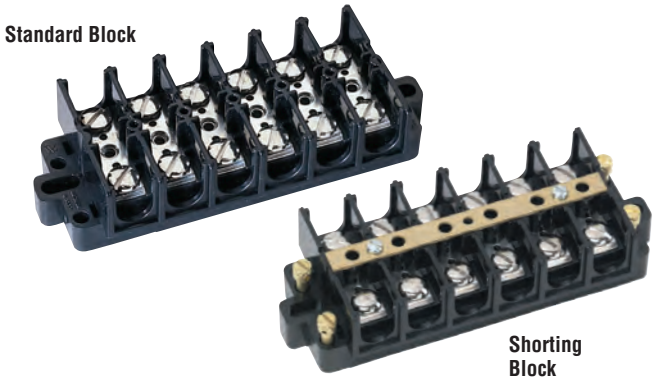
75° C/600 Volts max.

UL LISTED Wire Connector 774A Cu only c UL

Wire Termination

Terminal Strips

- Heavy-duty, corrosion-resistant screws, surface plates and optional hardware
- Accessory hardware provides a variety of termination options
- Available cover helps prevent contact with live terminals
- Rugged polyester thermoplastic base (UL Rated 94V-0)
- Operating temperature rated from 130°C (260°F) to -40°C (-40°F)
- UL Recognized (E82048) and CSA Certified (LR15364)



No. of Poles	Center Spacing	Wire Range (AWG Cu)	Recommended Torque	Terminal Screw Size	Cat. No.
89-200 Series, 30A/600V UL/CSA (Max. electrical rating 30A/250V when used with optional quick connects)					
2	.562 in. (14.28mm)	22 – 10	16 in. - lb.	#8-32 PhilsIot Zinc-Plated Steel	**89-202**
3					**89-203**
4					**89-204**
6					**89-206**
8					**89-208**
10					**89-210**
12					**89-212**
89-300 Series, 30A/300V UL/CSA (Max. electrical rating 15A/125V when used with optional quick connects)					
2	.375 in. (9.52mm)	22 – 14	9 in. - lb.	#6-32 PhilsIot Zinc-Plated Steel	**89-302**
4					**89-304**
6					**89-306**
8					**89-308**
10					**89-310**
12					**89-312**
89-400 Series, 30A/300V UL/CSA					
2	.437 in. (11.10mm)	22 – 12	9 in. - lb.	#6-32 PhilsIot Zinc-Plated Steel	**89-402**
4					**89-404**
6					**89-406**
8					**89-408**
10					**89-410**
12					**89-412**

No. of Poles	Center Spacing	Wire Range (AWG Cu)	Recommended Torque	Terminal Screw Size	Standard Black Cat. No.	Shorting Block Cat. No.
89-500 Series, 60A/600V UL/CSA (Max. electrical rating 60A/600V achieved only when used with #6 AWG copper wire crimped to ring terminal)						
4	.625 in. (15.88mm)	22 – 6	20 in. - lb.	#10-32 Slotted Nickle-Plated Brass	**89-504**	**89-505**
6					**89-506**	**89-507**
8					**89-508**	**89-509**
12					**89-512**	**89-513**

Covers

- Helps prevent contact with live terminals

No. of Circuits	For Use with 89-200 Clear Cat. No.	89-300 Clear Cat. No.	89-400 Clear Cat. No.	89-500 Clear Cat. No.
2	**89-233**	**89-334**	**89-434**	—
3	**89-234**	—	—	—
4	**89-235**	**89-335**	**89-435**	**89-514**
6	**89-236**	**89-336**	**89-436**	**89-516**
8	**89-237**	**89-337**	**89-437**	**89-518**
10	**89-238**	**89-338**	**89-438**	—
12	**89-239**	**89-339**	**89-439**	**89-520**

Quick Connects

- Allows fast, flexible circuit changes

For Use with Terminal Strip Series	Tab Size (Inches)	Qty.	Flat -None Cat. No.	Flat - Flat Cat. No.
89-300	.187 x .020	10	**89-314**	**89-317**
89-200 & 89-400	.250 x .031	10	**89-414**	**89-417**

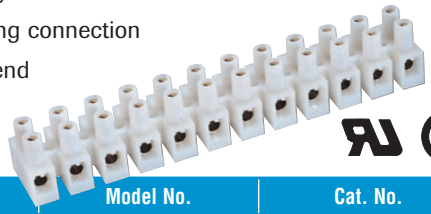
Jumpers

- Provides easy connection of multiple circuits

For Use with Terminal Strip Series	Center Spacing (In.)	Quantity	Flat Slip-on Cat. No.	Over Barrier Slip-on Cat. No.	Flat 12-Circuit Cat. No.
89-200	.562	10	**89-229**	**89-224**	—
		100	**89-230**	—	—
89-300	.375	10	**89-323**	**89-324**	—
		100	**89-330**	—	—
89-400	.437	10	**89-423**	**89-424**	—
		100	**89-430**	—	—
89-500	.625	2	—	—	**89-525**

Barrier Strips

- Recessed screws and tubular contacts provide added safety and help prevent short circuits
- Tubular contacts connect stripped, un-terminated solid or stranded wire directly to each contact
- Integrated wire protectors prevent twisting and breakage of stranded wire during connection
- Modular 12-circuit design can be cut into smaller sections, or stacked end-to-end
- Rugged nylon construction, UL 94V2
- Operating temperature rated to 105°C (221°F)



Electrical Ratings	Wire Range (AWG)	No. of Circuits	Torque in.- lb.	Model No.	Cat. No.
20A/300V UL	22 - 12	12	3.5	PA8DS	**89-608**
10A/400V CSA	20 - 18				
30A/300V UL	22 - 10	12	4.4	PA10DS	**89-610**
20A/400V CSA	18 - 14				
35A/300V UL/CUL	22 - 10	12	7.0	PA12DS	**89-612**
50A/300V UL/CUL	20 - 8	12	12.0	PA14DS	**89-614**

Wire Termination

Steel Crimp Connectors

- Designed for making fast, permanent, pressure-type connections
- Long, zinc-plated steel sleeves maximize contact area with conductors
- Will not vibrate loose when securely crimped
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E.

Model	Wire Combination Range	Quantity	Cat. No.
410	600V 18 thru 10 AWG Min. 1 #14 & 1 #18 Max. 2 #10 & 2 #14	Box of 100	**30-410**
		Carton of 1,000	**30-510**
		Keg of 10,000	**30-610**
411	600V 18 thru 8 AWG Min. 3 #12 Max. 4 #10	Box of 40	**30-401**
		Box of 50	**30-411**
		Carton of 1,000	**30-511**
412	600V 18 thru 4 AWG Min. 1 #14 & 1 #16 Max. 2 #8 & 1 #6	Box of 20	**30-402**
		Box of 50	**30-412**
		Carton of 1,000	**30-512**

IDEAL hand crimp tools U.L. listed for Model 410, 411, 412: 30-425, 30-429, 30-430.

UL LISTED Wire Connector — Cu/Cu Only — CSA

Wrap-Cap® Insulators

- Provide high dielectric and physical protection for UL Listed, non-insulated pressure-type wire connectors
- Cap and loop design eliminates need for tape
- Unique design completely covers splice – insulates both around and between wires
- Reusable and easy to install
- UL Listed to 486C and CSA Certified for 600V maximum building wiring (1,000V maximum for fixtures and signs); temperature rated at 75°C (167°F) maximum

Model	Description	Quantity	Cat. No.
415	Insulator Model 410 Connectors can also be used on Buchanan 2006S & 2011S Copper Crimps	Box of 50	**30-445**
		Carton of 1,000	**30-515**
		Keg of 10,000	**30-615**
417	Insulator for Model 411 & 412 Connectors can also be used on Buchanan 2011S Copper Crimps	Box of 25	**30-447**
		Carton of 1,000	**30-517**

UL LISTED Wire Connector — CSA

Pre-Insulated Crimp Connectors

- Three models cover a wide range of wire combinations from 22 AWG stranded through 8 AWG stranded
- Compact design fits easily into tight locations
- Flared skirt protects against turned-back strands
- Beveled opening eases wire entry
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)

Model	Wire Combination Range	Quantity	Cat. No.
48	600V* Min. 2 #22 Max. 1 #14 w/2 #18	1,000	**30-245**
		10,000	**30-645**
49	600V* Min. 1 #22 w/1 #18 Max. 1 #12 w/1 #16	1,000	**30-249**
		10,000	**30-649**
NC-8	600V* Min. 4 w/#16 Max. 1 #12 w/4 #14	1,000	**30-148**
		5,000	**30-648**

*1,000V maximum in fixtures and signs.

UL LISTED Wire Connector — Cu/Cu Only — CSA

Set Screw Wire Connectors

- Eliminates need for restripping wire each time connection is disturbed
- Solid brass sleeves in three sizes handle 22 through 10 AWG wires
- Set-screw easily and securely applies maximum compression to conductors to ensure a vibration-resistant splice
- Permits fast visual inspection of splice
- Tough, flame-retardant shell rated at 150°C (302°F)
- UL Listed to 486C and CSA Certified to C22.2 #188 ; comply with Federal Specification W-S-610E

Model	Wire Combination Range	Quantity	Cat. No.
10	300V 22 thru 10 AWG Min. 1 #20 w/1 #22 Max. 2 #14 w/1 #16	Box of 100	**30-210**
		Carton of 1,000	**30-310**
11	600V 22 thru 10 AWG Min. 1 #14 w/1 #20 Max. 3 #14 w/2 #18	Box of 100	**30-211**
		Carton of 1,000	**30-311**
22	600V 20 thru 10 AWG Min. 1 #16 w/3 #18 Max. 2 #10 w/1 #12	Box of 100	**30-222**
		Carton of 1,000	**30-322**

LISTED
Wire Connector
Cu/Cu Only

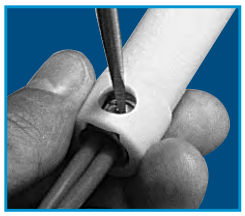
Noalox® Anti-Oxidant

- Anti-oxidant compound improves efficiency and service life of aluminum electrical applications
- Suspended zinc particles penetrate and cut aluminum oxide
- Provides additional inner-strand and inner-conductor current paths for improved conductivity and cooler connections
- Carrier material excludes air to minimize further oxidation
- For use with pressure-type wire connectors including lugs, taps, service entrances and split bolts
- Reduces galling and seizing when applied to aluminum conduit joints – promotes good ground continuity

Description	Cat. No.
1/2-oz. Tube	**30-024**
4-oz. Squeeze bottle	**30-026**
8-oz. Squeeze bottle	**30-030**
8-oz. Brush cap	**30-031**
1-gal. Bucket	**30-032**
5-gal. Bucket	**30-040**

LISTED

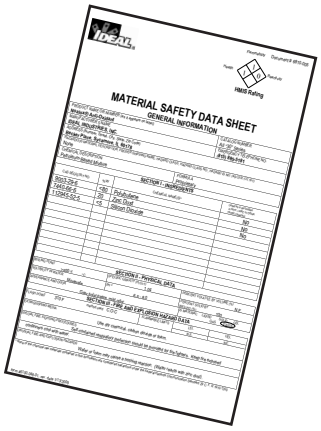
Set Screw Holder



- Convenient tool for holding and tightening set-screw connectors
- Accepts IDEAL Models 11 and 22 set-screw connectors

For Connector Models	Cat. No.
11 & 22	**K-2422**

For a Material Safety Data Sheet on Noalox® and all other products visit us at www.idealindustries.com

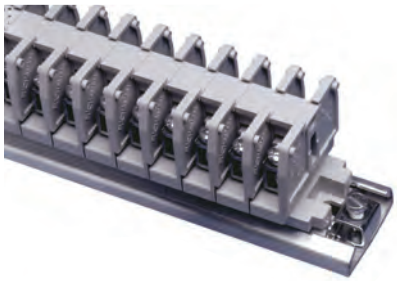

MATERIAL SAFETY DATA SHEET
GENERAL INFORMATION

CONSTRUCTION PRODUCTS BUCHANAN

Wire Termination

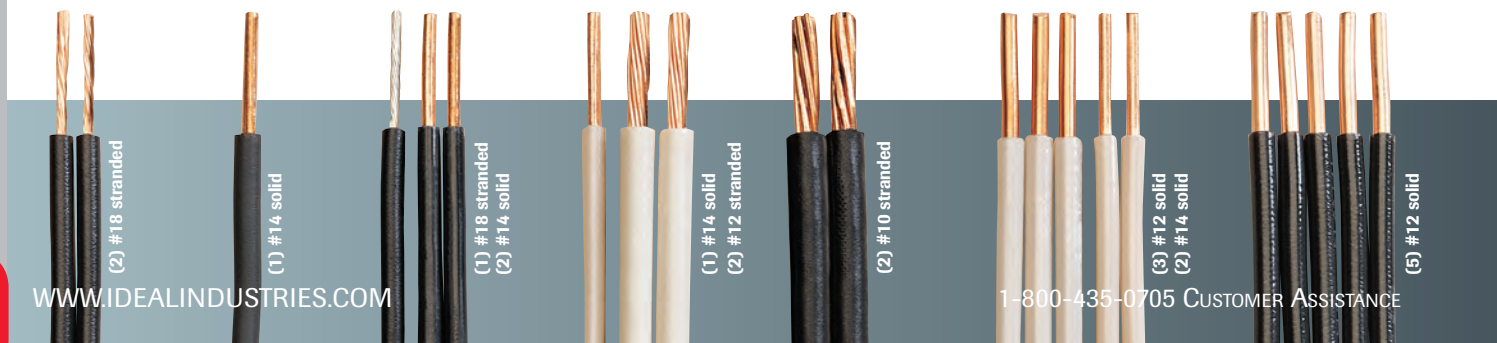
The **BUCHANAN C-24** Crimp Tool has an iron-clad reputation that's up to every job, every time. A patented four-way crimp ensures reliable connections, while the spring-loaded, cam-actuated design fits a wide range of connectors.

Our **wedge-edge** expanding spring is specially designed for faster pull-up and quick connections. It also accommodates a wide range of wire gauges.



The comprehensive line of **BUCHANAN** sectional terminal blocks offers a wide range of block configurations, mounting options and contact styles accommodating wire sizes from 30 AWG to 250 MCM.

The **B2 B-CAP**® Wire Connector is the universal connector that accepts the widest range of wire combinations. Plus, the Classic Fin™ ergonomic design fits easily in tight electrical boxes.



B-CAP® Wire Connectors

- Four color-coded models cover a full range of wire sizes from 22 AWG to 6 AWG
- Classic Fin™ design provides secure grip for extra leverage on maximum wire combinations
- Live-action spring expands to accept wire shape and size – no pre-twisting required
- Square-wire spring threads directly onto conductors for fast, secure connections
- Deep skirt protects against flash-over and turned-back strands for maximum dielectric protection
- Easily removed for repeat usage on same size or larger wire combinations
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- Green-B® designed for making ground connections and bonding non-metallic sheathed cable
- UL 486C Listed (Green-B® UL 467 Listed) and CSA 22.2 #188 Certified; comply with Federal Specification -S-610E

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity/Package	Cat. No.
B1	Yellow	600V* 22 to 10 AWG Min. 3 #20 Max. 3 #12	600V* ,34mm² to 6,0mm² Min. 3-,5mm² Max. 3-4,0mm²	Box of 100	**B1-1**
				Jar of 250	**B1-250JR**
				Jar of 500	**B1-500JR**
				Keg of 5,000 (10 bags, 500 ea.)	**B1-B**
				Barrel of 25,000	**B1-SK**
B2	Red	600V* 22 to 8 AWG Min. 2 #18 Max. 5 #12	600V* ,34mm² to 10,0mm² Min. 2-,75mm² Max. 5-4,0mm²	Box of 100	**B2-1**
				Jar of 350	**B2-350JR**
				Jar of 500	**B2-500JR**
				Keg of 5,000 (10 bags, 500 ea.)	**B2-B**
				Barrel of 25,000	**B2-SK**
B4	Blue-Gray	600V* 14 to 6 AWG Min. 2 #12 Max. 2 #6	600V* 2,5mm² to 16,0mm² Min. 2-4,0mm² Max. 2-16,0mm²	Box of 25	**B4-1**
				Keg of 2,500 (10 bags, 250 ea.)	**B4-B**
BGR	Green	14 to 10 AWG Min. 2 #14 Max. 5 #12	2,5mm² to 6,0mm² Min. 2-2,5mm² Max. 5-4,0mm²	Box of 50	**BGR-1**
				Keg of 2,500 (10 bags, 250 ea.)	**BGR-B**

*1,000V maximum in fixtures and signs

UL Wire Connector 774A LISTED · Cu/Cu Only · CSA LR9706 · CE

B-TWIST Wire Connectors

- Wide red/yellow wire range; min. 2 #18 to max. 2 #8
- Rounded dial-top provides fast fingertip starts
- Square-wire spring provides quick, secure connections
- Comfortable swept-wing design with deep skirt to help protect over-stripped wires
- Tough, UL 94V-2 flame-retardant shell rated at 105°C (221°F)
- UL Listed to 486C and CSA Certified to C22.2 #188; comply with Federal Specification W-S-610E

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity/ Package	Cat. No.
BT2™	Red	600V* 18 to 8 AWG Min. 2 #18 Max. 2 #8	600V* ,75mm² to 10mm² Min. 2-,75mm² Max. 2-10,0mm²	Box of 100	**BT2-1**
				Jar of 500	**BT2-500JR**
				Barrel of 25,000	**BT2-SK**

*1,000V maximum in fixtures and signs

UL Wire Connector 774A LISTED · Cu/Cu Only · CSA LR9706

CONSTRUCTION PRODUCTS BUCHANAN

Wire Termination

WireTwist™ Wire Connectors

- Five color-coded models cover common wire ranges
- Ribbed cap provides positive grip for fast, easy installation
- Expanding, square-wire spring creates secure connections
- Deep skirt protects against flash-over
- Tough, UL 94V-2 flame-retardant shell (105°C/221°F)
- UL 486C Listed and CSA 22.2 #188 Certified

WingTwist™ Wire Connectors

- Five color-coded models cover common construction wire ranges and combinations, including grounding
- Contoured wing design provides maximum torque
- Expanding, square-wire spring creates secure connections
- Deep skirt protects against flash-over
- Tough, UL 94V-2 flame retardant shell (105°C/221°F)
- UL 486C Listed (WGR UL 467 Listed) and CSA C22.2 #188 Certified

WireTwist™ Wire Connectors

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity / Package	Cat. No.
WT1	Gray	300V 22 to 14 AWG Min. 3 #22 Max. 2 #16	300V ,34mm² to 2,5mm² Min. 3-,34mm² Max. 2-1,5mm²	Box of 100	WT1-1
				Bag of 500	WT1-B
				Barrel of 50,000	WT1-SK
WT2	Blue	300V 22 to 14 AWG Min. 3 #20 Max. 3 #16	300V ,34mm² to 2,5mm² Min. 3-,50mm² Max. 3-1,5mm²	Box of 100	WT2-1
				Bag of 500	WT2-B
				Barrel of 50,000	WT2-SK
WT3	Orange	600V* 22 to 14 AWG Min. 2 #18 Max. 2 #14	600V* ,34mm² to 2,5mm² Min. 2-,75mm² Max. 2-2,5mm²	Box of 100	WT3-1
				Bag of 500	WT3-B
				Barrel of 50,000	WT3-SK
WT4	Yellow	600V* 22 to 10 AWG Min. 2 #18 Max. 2 #12	600V* ,75mm² to 6,0mm² Min. 2-,75mm² Max. 2-4,0mm²	Box of 100	WT4-1
				Bag of 500	WT4-B
				Barrel of 25,000	WT4-SK
WT6	Red	600V* 20 to 8 AWG Min. 2 #14 Max. 4 #12	600V* ,50mm² to 10,0mm² Min. 2-2,5mm² Max. 4-4,0mm²	Box of 100	WT6-1
				Bag of 250	WT6-B
				Barrel of 25,000	WT6-SK

WingTwist™ Wire Connectors

Model	Color	Wire Combination Range	Wire Combination Range (mm)	Quantity / Package	Cat. No.
WT51	Yellow	600V* 18 to 10 AWG Min. 2 #18 Max. 3 #12	600V* ,75mm² to 6,0mm² Min. 2-,75mm² Max. 3-4,0mm²	Box of 100	WT51-1
				Bag of 500	WT51-B
				Jar of 500	WT51-500JR
				Barrel of 25,000	WT51-SK
WT41	Tan	600V* 22 to 10 AWG Min. 2 #20 Max. 3 #10 Solid	600V* ,34mm² to 6,0mm² Min. 2-0,5mm² Max. 3-6,0mm²	Box of 100	WT41-1
				Bag of 500	WT41-B
				Jar of 500	WT41-500JR
				Barrel of 25,000	WT41-SK
WT52	Red	600V* 18 to 10 AWG Min. 2 #14 Max. 5 #12	600V* ,75mm² to 6,0mm² Min. 2-2,5mm² Max. 5-4,0mm²	Box of 100	WT52-1
				Bag of 500	WT52-B
				Jar of 500	WT52-500JR
				Barrel of 25,000	WT52-SK
WT54	Blue	600V* 14 to 6 AWG Min. 3 #12 Max. 2 #6	600V* 2,5mm² to 16,0mm² Min. 3-4,0mm² Max. 2-16,0mm²	Box of 50	WT54-1
				Bag of 100	WT54-B
WGR	Green	14 to 10 AWG Min. 2 #14 Max. 5 #12	2,5mm² to 6,0mm² Min. 2-2,5mm² Max. 5-4,0mm²	Box of 50	WGR-1
				Bag of 250	WGR-B
				Jar of 500	WGR-500JR
				Barrel of 25,000	WGR-SK

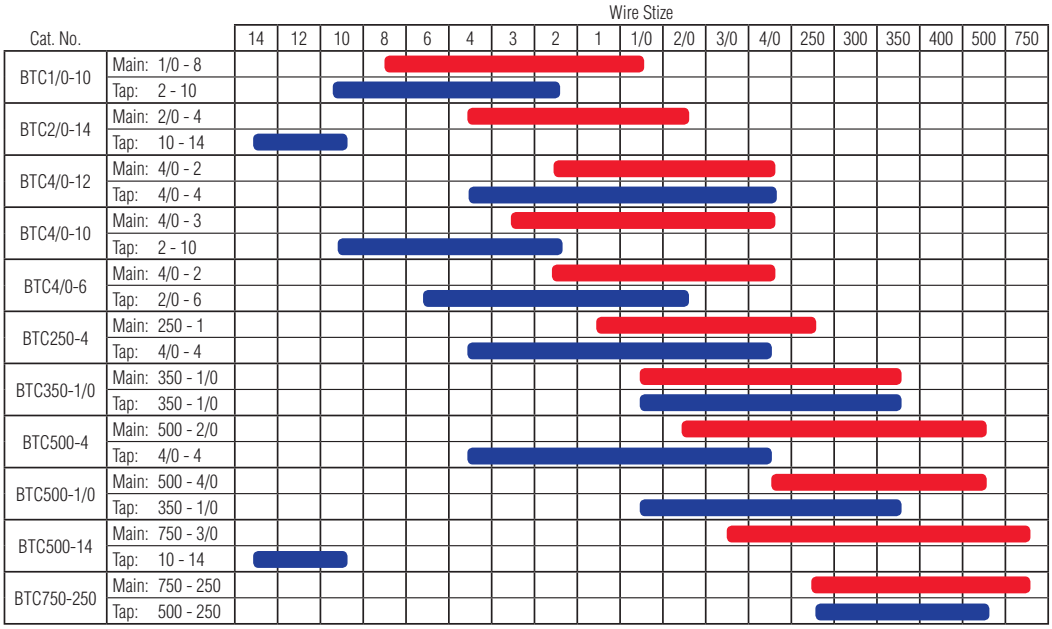
*1,000V maximum in fixtures and signs

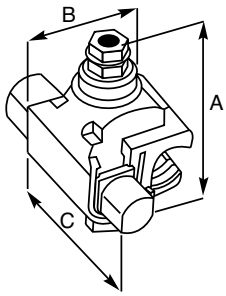
UL Wire Connector 774A LISTED Cu/Cu Only CSA LR9706

B-TAP® Insulation-Piercing Tap Connectors

- Eliminates split bolts and tape
- Easy two-minute installation requires only box/socket wrench
- Installs on energized systems eliminating costly power shutdowns
- Self-sealing, grease-filled end-cap ensures safe, weather-tight connection
- Unique turbo spacer keeps connector wide open for quick and easy installation
- Torque-regulating nut breaks off when proper tension is reached
- Full-line is 600V dual-rated,194˚F (90˚C)

B-Tap® Wire Range Chart





Conductor Range		Voltage Rating	Dimensions (Inches)			Socket Size (Inches)	Torque (In. Lbs.)	No. of Bolts	Cat. No.
Run	Tap		A	B	C				
1/0-8	2-10[1]	600V	3.1	1.8	2.2	1/2	80	1	**BTC1/0-10**
2/0-4	10-14[2]	600V	3.1	1.8	2.2	1/2	80	1	**BTC2/0-14**
4/0-2	4/0-4	600V	4.4	2.4	3.2	1/2	160	1	**BTC4/0-2**
4/0-3	2-10[3]	600V	3.1	1.8	2.2	1/2	125	1	**BTC4/0-10**
4/0-2	2/0-6	600V	3.5	2.2	2.5	1/2	160	1	**BTC4/0-6**
250-1	4/0-4	600V	3.5	2.2	2.5	1/2	160	1	**BTC250-4**
350-1/0	350-1/0	600V	4.5	3	3.9	5/8	330	2	**BTC350-1/0**
500-2/0	4/0-4	600V	4.5	3	3.9	5/8	330	2	**BTC500-4**
500-4/0	350-1/0	600V	4.5	3	3.9	5/8	330	2	**BTC500-1/0**
750-3/0	10-14[4]	600V	3.7	2.5	2.2	1/2	80	1	**BTC500-14**
750-250	500-250	600V	4.7	3.4	4.75	5/8	330	2	**BTC750-250**

[1] Tap #2 - #10 Cu solid/stranded; #2 - #10 Al stranded
[2] Tap #10 - #14 Cu solid/stranded; #10 - #14 Al stranded
[3] Tap #2 - #10 Cu solid/stranded; #2 - #8 Al stranded
[4] Tap #10 - #14 Cu solid/stranded; #10 - #12 Al stranded

UL LISTED

SLK™ Disconnect Fuse Kits

SLK™ DISCONNECT FUSE KIT

- Waterproof breakaway fuseholder for use in:
  - Roadway & street lighting
  - Parking lot & area lighting
  - Free-standing electric vehicle charging stations
- UL Listed for submersible installations
- Bright orange color for ease of visibility
- Large selection of configurations
- Set screw or crimp terminations available

The IDEAL SLK™ Disconnect Fuse Kit is a waterproof breakaway safety device that de-energizes roadway lights, streetlights, parking lot lights, and other freestanding electrical fixtures in the event of a knockdown, or when the fixtures need maintenance. This helps protect first responders, bystanders, and service personnel from potentially life-threatening electrical shock hazards.

IDEAL worked directly with roadway installation electricians, DOT maintenance crews, and specifying engineers to find out what features would really make a difference. The result is an entirely new product that not only performs better but is easier to install and more robust than any other disconnect fuse kit on the market today.

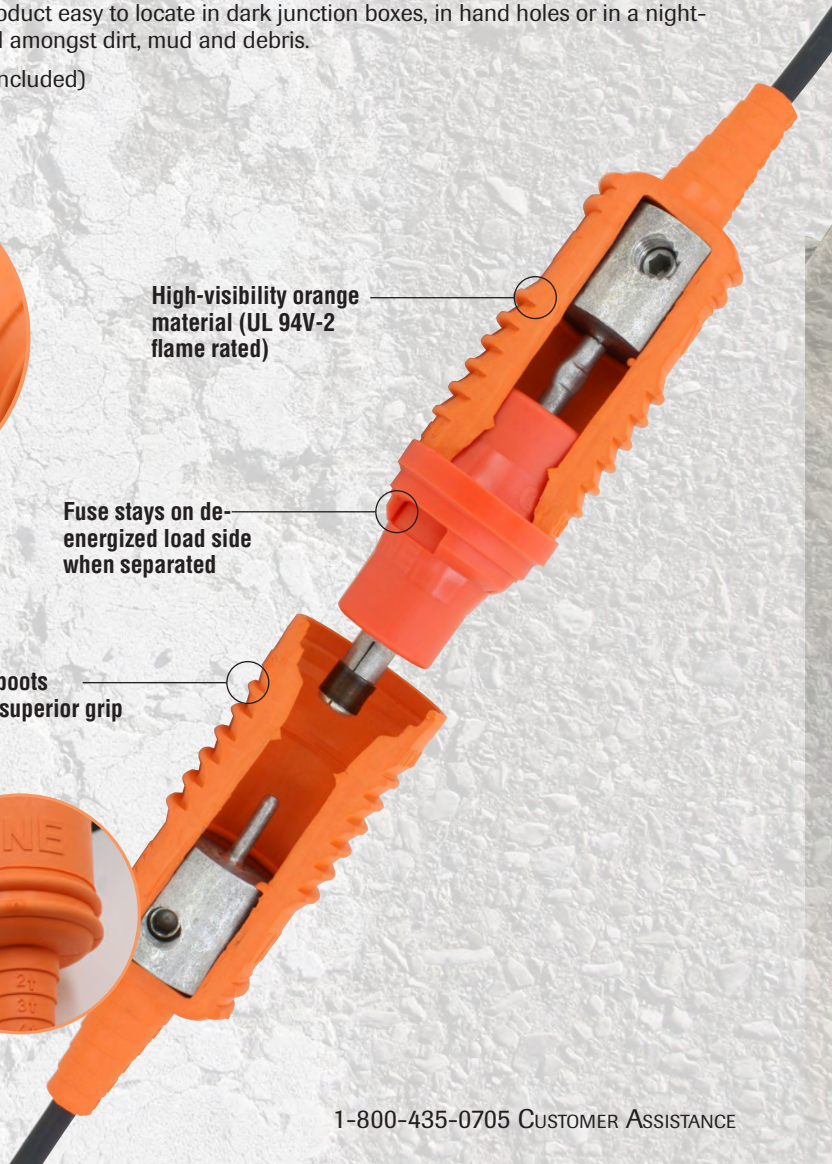
The SLK™ is the first Disconnect Fuse Kit listed to UL's ECIS category for special purpose connectors. This new category contains a set of rigorous tests from a host of UL standards, including UL 486D, the standard for submersibility. This means that the SLK™ will stand up to the wet conditions often seen in and around pole bases, junction boxes and hand holes.

In addition, the bright orange color of the SLK™ makes the product easy to locate in dark junction boxes, in hand holes or in a night-time knockdown situation, when the connector is often buried amongst dirt, mud and debris.

- Accepts 13/32" x 1-1/2" midget-style fuse (Note: Fuse not included)
- Wire Range: 2-14 AWG (Cu & Al rated)
- Ratings: 30A, 600V, 105°C

Neutral configurations come with white fuseholder and dummy fuse

Paired (hot/neutral) configurations are keyed to prevent reverse polarities



High-visibility orange material (UL 94V-2 flame rated)

Fuse stays on de-energized load side when separated

Ribbed boots provide superior grip

Large, clear markings

Scan QR Code for Demo Video!

Ordering Information

To Determine which Kit to Use:

1. Select the base part number, based on crimp termination (TABLE 1) or set screw termination (TABLE 2), number of wires on line/load side, and wire size.
2. If necessary, modify the base part number according to neutral, dual, paired, or tap (i.e., non-breakaway) configurations. Use TABLE 3 for crimp variations and TABLE 4 for set screw variations.
3. For examples, see the bottom of this page.

Note: For fuseholder-only or combination (set screw line side, crimp load side) applications, please see the second column of the table on the next page.

Table 1: Crimp Base Part numbers

Line		Load: 1 Wire 2 AWG	4 AWG	6 AWG	8 AWG	10 AWG	12 AWG	14 AWG	Load: 2 Wire 2 AWG	4 AWG	6 AWG	8 AWG	10 AWG	12 AWG	14 AWG
1 Wire	2 AWG	30-C1212	30-C1212	30-C1216	30-C1216	30-C1216	30-C1216	30-C1216			30-C1222	30-C1222	30-C1226	30-C1226	30-C1226
	4 AWG		30-C1212	30-C1216	30-C1216	30-C1216	30-C1216	30-C1216			30-C1222	30-C1222	30-C1226	30-C1226	30-C1226
	6 AWG			30-C1616	30-C1616	30-C1616	30-C1616	30-C1616			30-C1622	30-C1622	30-C1626	30-C1626	30-C1626
	8 AWG				30-C1616	30-C1616	30-C1616	30-C1616				30-C1622	30-C1626	30-C1626	30-C1626
	10 AWG					30-C1616	30-C1616	30-C1616					30-C1626	30-C1626	30-C1626
	12 AWG						30-C1616	30-C1616						30-C1626	30-C1626
	14 AWG							30-C1616							30-C1626
2 Wire	2 AWG	30-C2012	30-C2012	30-C2016	30-C2016	30-C2016	30-C2016	30-C2016			30-C2022	30-C2022	30-C2026	30-C2026	30-C2026
	4 AWG		30-C2012	30-C2016	30-C2016	30-C2016	30-C2016	30-C2016			30-C2022	30-C2022	30-C2026	30-C2026	30-C2026
	6 AWG			30-C2216	30-C2216	30-C2216	30-C2216	30-C2216			30-C2222	30-C2222	30-C2226	30-C2226	30-C2226
	8 AWG				30-C2216	30-C2216	30-C2216	30-C2216				30-C2222	30-C2226	30-C2226	30-C2226
	10 AWG					30-C2616	30-C2616	30-C2616					30-C2626	30-C2626	30-C2626
	12 AWG						30-C2616	30-C2616						30-C2626	30-C2626
	14 AWG							30-C2616							30-C2626

Table 2: Set Screw Base Part numbers

Line		Load: 1 Wire 2 AWG	4 AWG	6 AWG	8 AWG	10 AWG	12 AWG	14 AWG	Load: 2 Wire 2 AWG	4 AWG	6 AWG	8 AWG	10 AWG	12 AWG	14 AWG
1 Wire	2 AWG	30-S1212	30-S1212	30-S1212	30-S1212	30-S1212	30-S1212	30-S1212	30-S1222	30-S1222	30-S1222	30-S1222	30-S1222	30-S1222	30-S1222
	4 AWG		30-S1212	30-S1212	30-S1212	30-S1212	30-S1212	30-S1212		30-S1222	30-S1222	30-S1222	30-S1222	30-S1222	30-S1222
	6 AWG			30-S1212	30-S1212	30-S1212	30-S1212	30-S1212			30-S1222	30-S1222	30-S1222	30-S1222	30-S1222
	8 AWG				30-S1212	30-S1212	30-S1212	30-S1212				30-S1222	30-S1222	30-S1222	30-S1222
	10 AWG					30-S1212	30-S1212	30-S1212					30-S1222	30-S1222	30-S1222
	12 AWG						30-S1212	30-S1212						30-S1222	30-S1222
	14 AWG							30-S1212							30-S1222
2 Wire	2 AWG	30-S2212	30-S2212	30-S2212	30-S2212	30-S2212	30-S2212	30-S2212	30-S2222	30-S2222	30-S2222	30-S2222	30-S2222	30-S2222	30-S2222
	4 AWG		30-S2212	30-S2212	30-S2212	30-S2212	30-S2212	30-S2212		30-S2222	30-S2222	30-S2222	30-S2222	30-S2222	30-S2222
	6 AWG			30-S2212	30-S2212	30-S2212	30-S2212	30-S2212			30-S2222	30-S2222	30-S2222	30-S2222	30-S2222
	8 AWG				30-S2212	30-S2212	30-S2212	30-S2212				30-S2222	30-S2222	30-S2222	30-S2222
	10 AWG					30-S2212	30-S2212	30-S2212					30-S2222	30-S2222	30-S2222
	12 AWG						30-S2212	30-S2212						30-S2222	30-S2222
	14 AWG							30-S2212							30-S2222

Table 3: Crimp Variations

Base Part Number (Hot)	Variation (If applicable) Neutral	Dual	Paired	Non-Breakaway
30-C1212	30-C1212N	30-C1212D	30-C1212P	
30-C1216	30-C1216N	30-C1216D	30-C1216P	
30-C1616	30-C1616N	30-C1616D	30-C1616P	
30-C1222	30-C1222N			
30-C1226	30-C1226N			
30-C1622	30-C1622N			
30-C1626	30-C1626N			
30-C2012	30-C2012N			30-C2012T
30-C2016	30-C2016N			30-C2016T
30-C2216	30-C2216N			30-C2216T
30-C2616	30-C2616N			30-C2616T
30-C2022	30-C2022N	30-C2022D	30-C2022P	
30-C2026	30-C2026N	30-C2026D	30-C2026P	
30-C2222	30-C2222N	30-C2222D	30-C2222P	
30-C2226	30-C2226N	30-C2226D	30-C2226P	
30-C2626	30-C2626N	30-C2626D	30-C2626P	

Note: For combination 2 wire line (2-14 AWG Set Screw) and 1 wire load (6-14 AWG Crimp), use 30-B2216.

Table 4: Set Screw Variations

Base Part Number	Variation (If applicable) Neutral	Dual	Paired	Non-Breakaway
30-S1212	30-S1212N	30-S1212D	30-S1212P	
30-S1222	30-S1222N			
30-S2212	30-S2212N			30-S2212T
30-S2222	30-S2222N	30-S2222D	30-S2222P	

Examples:

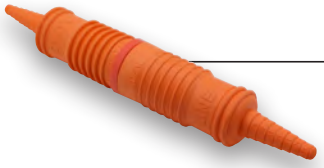
1. An in-line fused breakaway kit with crimp terminations, one 10 AWG wire on the line side and one 10 AWG wire on the load side is ordered as a 30-C1616.
2. An in-line non-fused (i.e., neutral) breakaway kit with set screw terminations,one 6 AWG wire on the line side and one 10 AWG wire on the load side is ordered as a 30-S1212N.
3. A Y-tap fused breakaway kit with crimp terminations, two 6 AWG wires on the line side and one 10 AWG wire on the load side is ordered as a 30-C2216.
4. A Dual in-line breakaway (hot/hot ganged together) with crimp terminations, one 10 AWG wire on each line side and one 10 AWG wire on each load side is ordered as a 30-C1616D.
5. A Paired in-line breakaway (hot/neutral ganged together) with set screw terminations, one 6 AWG wire on each line side and one 10 AWG wire on each load side is ordered as a 30-S1212P.

Available Part Numbers

Catalog Number	Description
30-S1212	In-Line Breakaway, set screw; fused; 1 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-S1222	In-Line Breakaway, set screw; fused; 1 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-S1212N	In-Line Breakaway, set screw; non-fused; 1 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-S1222N	In-Line Breakaway, set screw; non-fused; 1 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-C1212	In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C1216	In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C1616	In-Line Breakaway, crimp; fused; 1 wire line side, 6-14 AWG; 1 wire load side, 6-14 AWG
30-C1222	In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C1226	In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C1622	In-Line Breakaway, crimp; fused; 1 wire line side, 6-14 AWG; 2 wire load side, 6-8 AWG
30-C1626	In-Line Breakaway, crimp; fused; 1 wire line side, 6-14 AWG; 2 wire load side, 10-14 AWG
30-C1212N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C1216N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C1616N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 6-14 AWG; 1 wire load side, 6-14 AWG
30-C1222N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C1226N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C1622N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 6-14 AWG; 2 wire load side, 6-8 AWG
30-C1626N	In-Line Breakaway, crimp; non-fused; 1 wire line side, 6-14 AWG; 2 wire load side, 10-14 AWG
30-S2212	Y-Tap Breakaway, set screw; fused; 2 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-S2222	Y-Tap Breakaway, set screw; fused; 2 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-S2212N	Y-Tap Breakaway, set screw; non-fused; 2 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-S2222N	Y-Tap Breakaway, set screw; non-fused; 2 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-C2012	Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C2016	Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C2216	Y-Tap Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 1 wire load side, 6-14 AWG
30-C2616	Y-Tap Breakaway, crimp; fused; 2 wire line side, 10-14 AWG; 1 wire load side, 6-14 AWG
30-C2022	Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C2026	Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C2222	Y-Tap Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 2 wire load side, 6-8 AWG
30-C2226	Y-Tap Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 2 wire load side, 10-14 AWG
30-C2626	Y-Tap Breakaway, crimp; fused; 2 wire line side, 10-14 AWG; 2 wire load side, 10-14 AWG
30-C2012N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C2016N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C2216N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 6-8 AWG; 1 wire load side, 6-14 AWG
30-C2616N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 10-14 AWG; 1 wire load side, 6-14 AWG
30-C2022N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C2026N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C2222N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 6-8 AWG; 2 wire load side, 6-8 AWG
30-C2226N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 6-8 AWG; 2 wire load side, 10-14 AWG
30-C2626N	Y-Tap Breakaway, crimp; non-fused; 2 wire line side, 10-14 AWG; 2 wire load side, 10-14 AWG
30-S2212T	Y-Tap Non-Breakaway, set screw; fused; 2 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-C2012T	Y-Tap Non-Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C2016T	Y-Tap Non-Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C2216T	Y-Tap Non-Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 1 wire load side, 6-14 AWG
30-C2616T	Y-Tap Non-Breakaway, crimp; fused; 2 wire line side, 10-14 AWG; 1 wire load side, 6-14 AWG
30-S1212D	Dual In-Line Breakaway, set screw; fused; 1 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-C1212D	Dual In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C1216D	Dual In-Line Breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C1616D	Dual In-Line Breakaway, crimp; fused; 1 wire line side, 6-14 AWG; 1 wire load side, 6-14 AWG
30-S2222D	Dual Y-Tap Breakaway, set screw; fused; 2 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-C2022D	Dual Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C2026D	Dual Y-Tap Breakaway, crimp; fused; 2 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C2222D	Dual Y-Tap Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 2 wire load side, 6-8 AWG
30-C2226D	Dual Y-Tap Breakaway, crimp; fused; 2 wire line side, 6-8 AWG; 2 wire load side, 10-14 AWG
30-C2626D	Dual Y-Tap Breakaway, crimp; fused; 2 wire line side, 10-14 AWG; 2 wire load side, 10-14 AWG
30-S1212P	Paired In-Line Breakaway, set screw; one fused, one non-fused; 1 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-C1212P	Paired In-Line Breakaway, crimp; one fused, one non-fused; 1 wire line side, 2-4 AWG; 1 wire load side, 2-4 AWG
30-C1216P	Paired In-Line Breakaway, crimp; one fused, one non-fused; 1 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-C1616P	Paired In-Line Breakaway, crimp; one fused, one non-fused; 1 wire line side, 6-14 AWG; 1 wire load side, 6-14 AWG

Catalog Number	Description
30-S2222P	Paired Y-Tap Breakaway, set screw; one fused, one non-fused; 2 wire line side, 2-14 AWG; 2 wire load side, 2-14 AWG
30-C2022P	Paired Y-Tap Breakaway, crimp; one fused, one non-fused; 2 wire line side, 2-4 AWG; 2 wire load side, 6-8 AWG
30-C2026P	Paired Y-Tap Breakaway, crimp; one fused, one non-fused; 2 wire line side, 2-4 AWG; 2 wire load side, 10-14 AWG
30-C2222P	Paired Y-Tap Breakaway, crimp; one fused, one non-fused; 2 wire line side, 6-8 AWG; 2 wire load side, 6-8 AWG
30-C2226P	Paired Y-Tap Breakaway, crimp; one fused, one non-fused; 2 wire line side, 6-8 AWG; 2 wire load side, 10-14 AWG
30-C2626P	Paired Y-Tap Breakaway, crimp; one fused, one non-fused; 2 wire line side, 10-14 AWG; 2 wire load side, 10-14 AWG
30-HS2	Fuseholder only, non-breakaway, set screw; fused; 1 wire line side, 2-14 AWG; 1 wire load side, 2-14 AWG
30-HC2	Fuseholder only, non-breakaway, crimp; fused; 1 wire line side, 2-4 AWG; 1 wire load side, 6-14 AWG
30-HC6	Fuseholder only, non-breakaway, crimp; fused; 1 wire line side, 6-14 AWG; 1 wire load side, 6-14 AWG
30-B2216	Combination Y-Tap Breakaway, fused: 2 wire line side, set screw, 2-14 AWG; 1 wire load side, crimp, 6-14 AWG

Example Configurations



In-Line Fused (Hot)

One wire line, one wire load

In-Line Non-Fused (Neutral)

One wire line, one wire load

Y-Tap Fused (Hot)

Two wire line, one wire load

Y-Tap Non-Fused (Neutral)

Two wire line, one wire load

Dual In-Line Fused (Both Hot)

One wire line, one wire load

Paired In-Line Fused (One Hot, One Neutral)

One wire line, one wire load

Waterproof Breakaway Streetlight Connector & Splice Insulating Kits

- Safe and easy installation in five minutes or less
- No special equipment necessary – requires only a knife, wire stripper and crimp tool
- Unique wire entry port, cut-off design accommodates industry's widest range of insulation diameters
- Fewer parts than competitive brands for better waterproof protection
- Built-in break-away design eliminates de-energization of complete circuits
- Safely separates upon impact without breaking wires – eliminates potential danger and electrical shock (breakaway models)
- Unique 2-in-1 one-piece crimp barrel accommodates industry's widest range of conductors (breakaway models)
- Spring-loaded contacts compensate for thermal expansion to maintain integrity of waterproof connection (breakaway models)

Application Guide

Examples of Several Kit Configurations

For Poles with Transformer Bases, Standard Bases and Junction Boxes

Underground Feed Phase to Phase

Configurations	*Comments*
• D65 dual in-line for phases and two 84 or 84S kits for taps	Recommended
• Two 82 or 82S Y-Tap Kits for phases and taps	Cost-effective
• Two BTS4 B-CAP® Twist & Seal Wire Connectors	Non-breakaway, small gauge (8 AWG and above). See Wire Connector section.

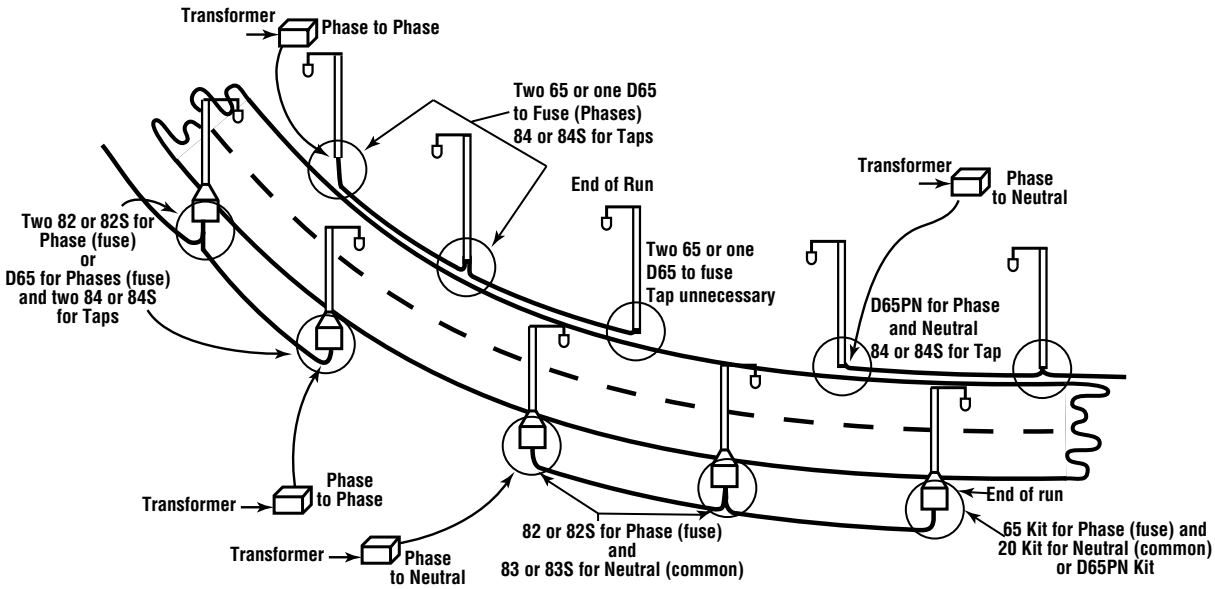
Underground Feed Phase to Neutral

Configurations	*Comments*
• D65PN dual in-line for phase and neutral and Two 84 or 84S kits for tap	Recommended configuration
• One 82 or 82S Y-Tap Kit for phase and tap and one 83 or 83S Y-Tap Kit for neutral and tap	Cost-effective
• Two BTS4 B-CAP® Twist and Seal Wire Connectors	Non-breakaway, small gauge (8 AWG and above). See Wire Connector section.

For Lights Mounted to Utility Poles, etc…

Overhead Feed

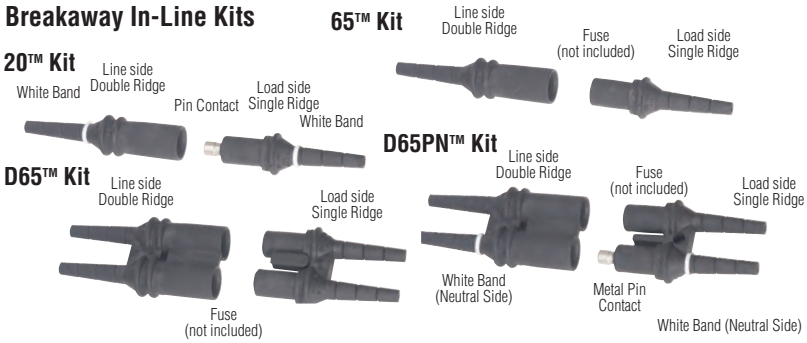
• Two B-Tap® Insulation Piercing Connectors for phase and/or tap (for insulated conductors only)	Recommended configuration, see B-Tap® Insulation Piercing Connectors in this catalog.



Ordering Information

Use the following chart and table to determine the correct part number by choosing model, line side, and load side ordering codes from the shaded columns. See example below, right (Page A-27).

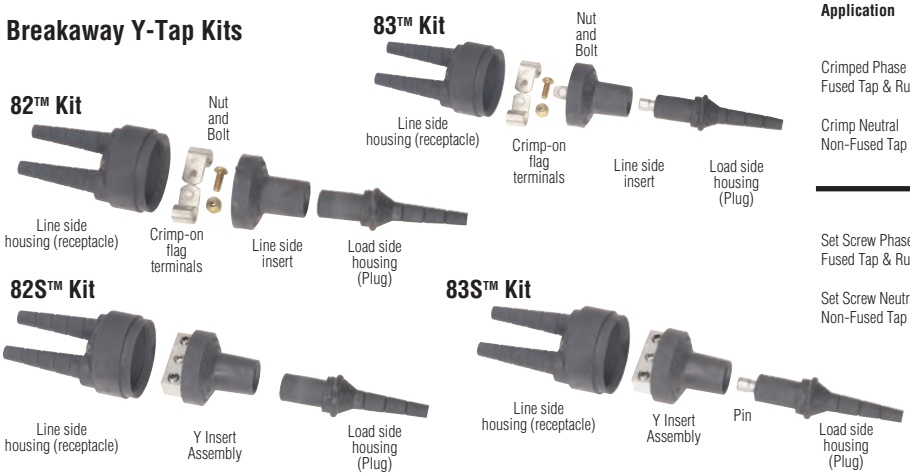
Breakaway In-Line Kits



MODEL

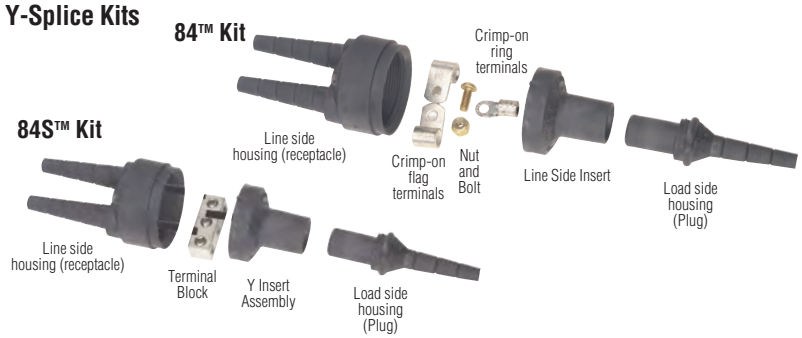
Application	Electrical Rating	Ordering Code
In-Line Neutral Non-Fused Breakaway	30 Amp 600 Volt	20 –
In-Line Phase Fused Breakaway	1/10-30 Amp 600 Volt	65 –
Dual In-Line Phase Fused Breakaway	1/10-30 Amp 600 Volt	D65 –
Dual In-Line Phase & Neutral Fused Breakaway	1/10-30 Amp Phase 30 Amp Neutral 600 Volt	D65PN –

Breakaway Y-Tap Kits



Application	Electrical Rating	Ordering Code
Crimped Phase Fused Tap & Run	1/10-30 Amp 600 Volt	82 –
Crimp Neutral Non-Fused Tap & Run	125 Amp Line 30 Amp Load 600 Volt	83 –
Set Screw Phase Fused Tap & Run	1/10-30 Amp 600 Volt	82S –
Set Screw Neutral Non-Fused Tap & Run	70 Amp Line 30 Amp Load 600 Volt	83S –

Y-Splice Kits



Application	Electrical Rating	Ordering Code
Crimp Splice Tap & Run	150 Amp 600 Volt	84 –
Set Screw Splice Tap & Run	70 Amp 600 Volt	84S –

Excerpts of the 1996 NEC Tables 5 & 5A
Dimensions of Insulated Conductors and Fixture Wires

Size	Approx. Diameter in Inches for Insulation Types:						Approx. Diameter in Inches for Compact AL with Insulation Types:		
(AWG)	RH	RHH, RHW-2, RHW	TW	THHW THW, THW-2	THHN THWN, THWN-2	XHH XHHW, XHHW-2	THW, THHW	THHN	XHHW
14	0.163	0.193	0.133	0.163	0.111	0.133	–	–	–
12	0.182	0.212	0.152	0.182	0.130	0.152	–	–	–
10	0.236	0.236	0.176	0.206	0.164	0.176	–	–	–
8	0.326	0.326	0.236	0.266	0.216	0.236	0.255	–	0.224
6	0.364	0.364	0.304	0.304	0.254	0.274	0.290	0.240	0.260
4	0.412	0.412	0.352	0.352	0.324	0.322	0.335	0.305	0.305
3	0.440	0.440	0.380	0.380	0.352	0.350	–	–	–
2	0.472	0.472	0.412	0.412	0.384	0.382	0.390	0.360	0.360
1	0.582	0.582	0.492	0.492	0.446	0.442	0.465	0.415	0.415
1/0	0.622	0.622	0.532	0.532	0.486	0.482	0.500	0.450	0.450

LINE SIDE

Insulation Diameter Range (Inches)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120-.430	12-6	Copper Crimp	U –
	12-6	Aluminum Crimp	UA –
	4 or 2	Copper Crimp	LC –
	4 or 2	Aluminum Crimp	LA –

LOAD SIDE

Insulation Diameter Range (Inches)	Equivalent Conductor (See Table)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120-.430	1	12-6	Copper Crimp	U
		12-6	Aluminum Crimp	UA
		4 or 2	Copper Crimp	LC
		4 or 2	Aluminum Crimp	LA

NOTE: It is not necessary to use the load side ordering code if it is the same as the line side code, i.e., a 65U-U is ordered as a 65U.

Insulation Diameter Range (Inches)	Ordering Code (CHOOSE 1)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.155-.430	ADB	10	Copper Crimp	6 –
		8	Copper Crimp	4 –
		6	Copper Crimp	3 –
		4	Copper Crimp	2 –
.420-.785	EAFB	2	Copper Crimp	1 –
		1	Copper Crimp	0 –
		1/0	Copper Crimp	10 –

Insulation Diameter Range (Inches)	Equivalent Conductor (See Table)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120 -.430	1	12-6	Copper Crimp	C
		12-6	Aluminum Crimp	A
		4 or 2	Copper Crimp	LC

Insulation Diameter Range (Inches)	Ordering Code (CHOOSE 1)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.155-.430	ADB	10		1 –
		8		1 –
		6	Terminal Block	1 –
		4	with Set Screws	1 –
		2	Copper or Alum.	1 –
.420-.785	EAFB	1	Conductors	10 –
		1/0		10 –

Insulation Diameter Range (Inches)	Equivalent Conductor (See Table)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120 -.430	1	12-6	Copper Crimp	C
		12-6	Aluminum Crimp	A
		4 or 2	Copper Crimp	LC
		4 or 2	Aluminum Crimp	LA

Insulation Diameter Range (Inches)	Ordering Code (CHOOSE 1)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.155-.430	ADB	10	Copper Crimp	6 –
		8	Copper Crimp	4 –
		6	Copper Crimp	3 –
		4	Copper Crimp	2 –
.420-.785	EAFB	2	Copper Crimp	1 –
		1	Copper Crimp	0 –
		1/0	Copper Crimp	10 –

Insulation Diameter Range (Inches)	Equivalent Conductor (See Table)	Conductor Size Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120 -.430	1	10	Copper Crimp	6
		8	Copper Crimp	4
		6	Copper Crimp	3
		4	Copper Crimp	2
		2	Copper Crimp	1
		1	Copper Crimp	0

Insulation Diameter Range (Inches)	Ordering Code (CHOOSE 1)	Stranded* Conductor Size (AWG)	Type	Ordering Code (CHOOSE 1)
.155-.430	ADB	10		1 –
		8		1 –
		6	Terminal Block	
1 –				
		4	with Set Screws	1 –
		2	Copper or Alum.	1 –
.420-.785	EAFB	1	Conductors	10 –
		1/0		10 –

Insulation Diameter Range (Inches)	Equivalent Conductor (See Table)	Conductor Size Size (AWG)	Type	Ordering Code (CHOOSE 1)
.120 -.430	1	10-2	Terminal Block Copper or Aluminum Conductors	N/A

75°C / 600 Volts Max.

LR32565

NOTE:
Fused kits require a 13/32" x 1 1/2" fuse. **DO NOT USE GLASS OR INDICATING TYPES.**
Waterproof or direct burial wire is recommended. **THHN is NOT recommended.**

* For solid wire: 14-4 AWG, use codes U, UA, C, or A. 2 AWG, use codes LC or LA.

Example:
A Y-Tap Kit with set screws for a 2 AWG phase line side conductor with a diameter of .472" and a 10 AWG copper load side conductor is ordered as an 82S-EAFB1-C.

CONSTRUCTION PRODUCTS BUCHANAN

WIRE TERMINATION

100 Series Terminal Blocks – Miniature (High Density)

These miniature terminal blocks fit on a much smaller channel to save valuable panel space or can be surface mounted directly to the panel. Miniature blocks accept wire as large as 12 AWG.

- No wire crimping required – clamp contacts hold wire from 30 AWG to 12 AWG better than crimp-on terminals
- Saves installation time and cost – tubular clamp contacts supplied with captive screws backed out
- Nylon housing for rugged applications
- Positive stop prevents wire from being inserted too far and prevents screw from being tightened on insulation; easy access contact provides safe, reliable and cost-effective connection
- Quick installation and change – additional sections may be added or removed without removing channel mounting screw
- Matte-finish area for marking directly on block

Catalog Number - 100 Series	125	115	End Section	
			130	120
Mounting Style	Direct Mount (Flat Base)	Channel Mount (Dovetail Base)	Direct Mount (Flat Base)	Channel Mount (Dovetail Base)

WIRE RANGE: Solid or Stranded
Tubular Clamp
1 #12 AWG, 1 #14 AWG, 1 to 3 #16 AWG, 1 to 5 #18 AWG, 1 to 6 #20 AWG, 1 to 7 #22 AWG

Housing Material	Nylon
Maximum Service Temperature	125°C (257°F)
Flammability	UL94V2
Wire Strip Length (in.)	5/16
Torque (in-lbs.)	6-9
UL Rating	28A @ 300V
Wire Range (AWG) Solid & Stranded	30-12
Pitch (in.)	0.25
Terminals per foot	48

900 Series Terminal Blocks – MEDIUM Duty

This family of polyester blocks is ideal for high temperature applications. The rugged material withstands temperatures up to 302°F (150°C)

- Three contact styles cover broad wire range – accept single wire or combinations from 22 AWG to 8 AWG solid or stranded
- Rated at 15A to 50A per circuit
- Flat base models mount directly to surfaces; dovetail base models mount on standard channel
- Only one end section needed per block assembly
- Readily identifiable circuits - write directly on matte surface of block
- Sections snap-fit with Heavy Duty, Intermediate Heavy Duty and Fuse blocks

Catalog Number	921	0921	924	0924	925	0925	930	0930
Mounting Style	Direct Mount (Flat Base)	Channel Mount (Dovetail Base)	Direct Mount (Flat Base)	Channel Mount (Dovetail Base)	Direct Mount (Flat Base)	Channel Mount (Dovetail Base)	End Section (Direct Mount)	End Section (Channel Mount)
Ampacity	15A		50A		30A		—	—
Contact Type	Strap Screw		Tubular Screw		Tubular Clamp		—	—
Screw Type	6-32 Combo Head		10-32 Combo Head		10-32 Combo Head		—	—
Screw Torque	12 in-lbs.		8 in-lbs.		8 in-lbs.		—	—
Wire Range (AWG)	#14 to #22		#8 to #22		#10 to #22		—	—

Specifications

Center-to-Center Spacing: .375 in.

Voltage Rating: 600 Volt max., Current: 50 Amp max.

Housing Material	Polyester (gray)
Contact Material	Copper Alloy, Zinc Plated
Screw Material	Steel, Zinc Plated
Maximum Service Temperature	150°C (302°F)
Flammability	UL94V-0 Rated

WIRE RANGE: Solid or Stranded
Strap Screw – 1 #22 to 1 #14 AWG
Tubular Screw – 1 #8 AWG, 1 #10 AWG, 1 to 3 #12 AWG, 1 to 4 #14 AWG, 1 to 4 #16 AWG, 1 to 5 #18 AWG, 1 to 10 #22 AWG
Tubular Clamp – 1 #10 AWG, 1 or 2 #12 AWG, 1 to 3 #14 AWG, 1 to 4 #16 AWG, 1 to 5 #18 AWG, 1 to 10 #22 AWG

200 Series Terminal Blocks

- Three contact styles conservatively rated to 35A to 85A
- Only one end section needed per block assembly
- Readily identifiable circuits – mark directly on painted marking surface or use removable marking strip

Nylon Heavy Duty

This compact design, heavy-duty line accepts single wire or combinations up to 4 AWG, solid or stranded; 600V

- 138 circuits per 6 foot length
- Two-way flat-base models surface mount directly to the panel or snap-on miniature channel; dovetail base models mount on standard channel
- Sections snap-fit with Phenolic Heavy Duty, Intermediate Heavy Duty and Fuse blocks

Specifications

Center-to-Center Spacing: .50 in. CL: 24 circuits per foot.

WIRE RANGE: Solid or Stranded
Strap Screw – 1 #22 to 1 #10 AWG
Tubular Screw – 1 #4 AWG, 1 #6 AWG, 1 or 2 #8 AWG, 1 to 4 #10 AWG, 1 to 5 #12 AWG, 1 to 6 #14 AWG, 1 to 6 #16 AWG, 1 to 8 #18 AWG
Tubular Clamp – 1 #6 AWG, 1 or 2 #8 AWG, 1 to 3 #10 AWG, 1 to 4 #12 AWG, 1 to 4 #14 AWG, 1 to 6 #16 AWG, 1 to 8 #18 AWG

Phenolic Heavy Duty

Phenolic heavy duty blocks are ideal for high temperature, high current applications.

- Sturdy block accepts single wire or combinations up to 4 AWG solid or stranded
- 122 circuits per 6 foot length
- Sections snap-fit with Nylon Heavy Duty, Intermediate Heavy Duty and Fuse Blocks

Specifications

Center-to-Center Spacing: .56 in. CL: 20 circuits per foot.

WIRE RANGE: Solid or Stranded
Strap Screw – 1 #18 to 1 #8 AWG
Tubular Screw – 1 #4 AWG, 1 #6 AWG, 1 or 2 #8 AWG, 1 to 4 #10 AWG, 1 to 5 #12 AWG, 1 to 6 #14 AWG, 1 or 6 #16 AWG, 1 to 8 #18 AWG
Tubular Clamp – 1 #6 AWG, 1 or 2 #8 AWG, 1 to 3 #10 AWG, 1 to 4 #12 AWG, 1 to 4 #14 AWG, 1 to 6 #16 AWG, 1 to 8 #18 AWG

Voltage Rating: Blocks meet 600V creepage and clearance requirements of NEMA, UL and CSA for general industrial control equipment and panelboards. Withstands voltages greatly in excess of IEEE switchgear standards for 750V.

LR25557 E63810

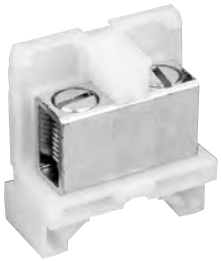
Catalog Number		Mounting Style	Ampacity	Contact Type	Screw Type	Wire Range (AWG)	Wire Strip Length
241	Unpainted	Direct Mount (Flat Base)	35A	Strap Screw	10-32 Slotted Binding Head	#22 to #10	—
0241	Painted	Channel Mount (Dovetail Base)					
242	Unpainted	Direct Mount (Flat Base)	85A	Tubular Screw	1/4-28 Slotted Headless	#18 to #4	1/2 in.
0242	Painted	Channel Mount (Dovetail Base)					
243	Unpainted	Direct Mount (Flat Base)	65A	Tubular Clamp	1/4-28 Slotted Headless	#18 to #6	1/2 in.
0243	Painted	Channel Mount (Dovetail Base)					
250	—	End-Section (Direct Mount)	—	—	—	—	—
0250	—	End Section (Channel Mount)	—	—	—	—	—
221	Painted	Direct Mount (Flat Base)	35A	Strap Screw	10-32 Slotted Binding Head	#22 to #10	—
0221	Painted	Channel Mount (Dovetail Base)					
222	Painted	Direct Mount (Flat Base)	85A	Tubular Screw	1/4-28 Slotted Headless	#18 to #4	1/2 in.
0222	Painted	Channel Mount (Dovetail Base)					
223	Painted	Direct Mount (Flat Base)	65A	Tubular Clamp	1/4-28 Slotted Headless	#18 to #6	1/2 in.
0223	Painted	Channel Mount (Dovetail Base)					
230	—	End-Section (Direct Mount)	—	—	—	—	—
0230	—	End-Section (Channel Mount)	—	—	—	—	—

	Nylon Heavy Duty	Phenolic Heavy Duty
Housing Material	Nylon, Type 6/6 unfilled	Phenolic, Filled, Flame retardant
Contact Material	Copper / Copper Alloy	Copper / Copper Alloy
Screw Material	Steel Plated	Steel Plated
Maximum Service Temperature	125°C (257°F)	150°C (302°F)
Breakdown Voltage AC, 60 Hz	7000V	7000V
Dielectric Strength (RH40% at sea level)	470-385 V/mil thickness (per ASTM D149)	300V/mil thickness (per ASTM D149)
UL High Voltage Arc Testing (in./min.)	0.1 - .35	.49 - .59
Water Absorption (24 hrs. % weight gain)	1.5%	45% (per ASTM D570)
Flammability	94V-2 (per UL94)	94V-1 (per UL94)
Chemical Resistance	Resistant to aromatic hydrocarbons, strong alkalies	Resistant to acids, alkalies, aliphatic hydrocarbons and ketones (per ASTM D5343)
Radiation Resistance (ergs g¹ C)	8×10^7	2×10^8 min.

CONSTRUCTION PRODUCTS BUCHANAN

WIRE TERMINATION

800 Series Nylon Intermediate Heavy Duty Terminal Blocks



The **800 Series** line of 600V blocks is conservatively rated up to 150A for a single 1/0 AWG copper wire.

- Exceptionally compact block accepts single wire or combinations up to 1/0
- 92 circuits per 6 foot length
- Tubular screw contact style accepts AWG sizes from 12 to 1/0, solid or stranded
- Two-way mounting base fits standard channel or mounts directly to flat surfaces
- Only one end section needed per block assembly
- Readily identifiable circuits – write directly on painted marking surface or use removable vinyl marking strip
- Nylon housing for rugged applications, 7/16 -20 slotted headless screws
- Snap-fit with Heavy-Duty Nylon and Phenolic and Fuse Blocks

Specifications

Center-to-Center Spacing: .75 in. CL: 16 circuits per foot.

WIRE RANGE: Solid or Stranded
Tubular Screw – 1 #1/0, 1 #1 AWG, 1 #2 AWG, 1 or 2 #4 AWG, 1 to 3 #6 AWG, 2, 3 or 5 #8 AWG, 1 to 6 #10 AWG, 1 to 7 #12 AWG

400 Series Phenolic Ultra Heavy Duty – 250 KCMIL (MCM) Terminal Blocks

This **Ultra Heavy Duty** line is rated up to 255A with a single 250 MCM conductor.

- Compact block accepts wire sizes up to 2/0 or 250 KCMIL (MCM)
- 57 circuits per 6 foot length
- Tubular screw contact style for maximum electrical rating
- Block mounts directly on flat surface or standard channel
- Only one end section needed per block assembly
- Readily identifiable circuits – write directly on painted marking area or use removable vinyl marking strip
- Hex socket screws allow maximum torque when using large wire sizes
- High current capacity snap-fit sectional blocks do not snap-fit with other block styles

Specifications

Center-to-Center Spacing: 1.19 in. CL: 9 circuits per foot.

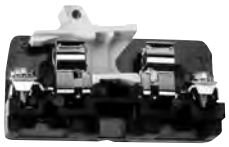
WIRE RANGE: Solid or Stranded
Tubular Screw – 1 #2/0, 1 #1/0, 1 #1 AWG, 1 or 2 #2 AWG, 1 to 3 #4 AWG, 1 to 3 #6 AWG, 1 to 4 #8 AWG, 1 to 6 #10 AWG, 2 to 8 #12 AWG
Tubular Screw – 1 #250 KCMIL, 1 #4/0, 1 #3/0, 1 or 2 #2/0, 1 or 2 #1/0, 1 or 2 #1 AWG, 1 to 3 #2 AWG, 1 to 4 #4 AWG, 1 to 5 #6 AWG

Ordering Information - pgs. A-30 & A-31

Catalog Number		Mounting Style	Ampacity	Contact Type	Screw Type	Wire Range (AWG)	Wire Strip Length
824	Painted	Two-Way Mounting Base	150A	Tubular Screw	7/16-20 Slotted Headless	12 to 1/0	11/16 in.
830	—	End-Section	—	—	—	—	—
426	Painted	Two-Way Mounting Base	175A	Tubular Screw	1/2-30 Hex Socket	#12-2/0	1 in.
427	Painted	Two-Way Mounting Base	255A	Tubular Screw	3/4-16 Hex Socket	#6-250 KCMIL/MCM	1 in.
430	—	End-Section	—	—	—	—	—
351	—	Direct Mount (Flat Base)	30A	Strap Screw	10-32 Binding Head	#22 to #8	—
0351	—	Channel Mount (Dovetail Base)					
358	—	Direct Mount (Flat Base)	30A	Strap Clamp	8-32 Pan Head w/Clamp	#18 to #8	1/2 in.
0358	—	Channel Mount (Dovetail Base)					
352	—	Direct Mount (Flat Base)	30A	Tubular Screw	1/4-28 Set Screw	#18 to #8	1/2 in.
0352	—	Channel Mount (Dovetail Base)					
330	—	End-Section (Direct Mount)	—	—	—	—	—
0330	—	End-Section (Channel Mount)	—	—	—	—	—

Catalog Number	Number of Circuits	Ampacity	Contact Type	Screw Type	Wire Range (AWG)
B102	2	50A	Strap Screw (Steel)	10-32 Slotted Binding Head	#18 to #8
B104	4				
B106	6				
B108	8				
B112	12				

300 Series Phenolic Fuse Blocks



- Provide in-line circuit protection for any circuit or group of circuits
- Three contact styles for terminated or unterminated wire are conservatively rated to 30A
- Remove, check and replace fuses safely and quickly – switch-action fuse blocks open circuits before fuse can be removed or installed
- Good circuit density when mounted adjacently – 91 circuits per 6 foot length
- Use in high temperature applications – phenolic housing withstands temperatures up to 302°F (150°C)
- Flat base models for surface mounting, dovetail base models for standard channel
- Only one end section needed per block assembly
- Open or close several circuits simultaneously – holes in puller handles allow use of nylon "ganging" rods
- Readily identifiable circuits – mark directly on white, matte-surface puller assembly, marking tab on block or use removable marking tape
- Sections snap-fit with Heavy Duty and Intermediate Heavy Duty Blocks

Specifications

Center-to-Center Spacing: .75 in. CL: 16 circuits per foot.

Fuse Size: Any 13/32 in. x 1-1/2 in. ferrule-type cartridge fuse up to 30A, indicating or non-indicating, which meets MIL. Spec. F-15160 is recommended.

WIRE RANGE: Solid or Stranded
Tubular Screw – Cat. No. 362 and 0362 – 1 #4 AWG, 1 #6 AWG, 1 or 2 #8 AWG, 1 to 4 #10 AWG, 1 to 5 #12 AWG, 1 to 6 #14 AWG, 1 to 6 #16 AWG, 1 to 8 #18 AWG

100 Series Phenolic One Piece Terminal Blocks

Traditional standard in the heavy industrial, rail transport, utility and traffic control industries. The rugged, one-piece construction finds wide application in dirty and vibration-prone environments.

- Two, four, six, eight and twelve circuit models
- Strap screw contacts accept wire 8 AWG and smaller and are rated to 50 Amps
- Pilot point screws with strap screw contacts speed installation time
- Easily identifiable circuits with use of plain white marking strip
- No assembly required - each block is a single, easily installed unit

Specifications

Center-to-Center Spacing: .63 in. CL

WIRE RANGE: Solid or Stranded
Strap Screw – 1 #18 AWG through 1 #8 AWG

Specification Chart - pgs. A-30 & A-31

	800 Series Nylon	400 Series Phenolic	300 Series Phenolic	100 Series Phenolic
Housing Material	Nylon, Type 6/6 Unfilled	Phenolic, Filled, Flame retardant	Phenolic, Filled, Flame retardant	Phenolic, Filled, Flame retardant
Contact Material	Copper	Copper	Copper Alloy	Copper / Copper Alloy
Screw Material	Steel, Zinc-Plated	Steel Plated	Steel Plated	Steel Plated
Maximum Service Temperature	125°C (257°F)	150°C (302°F)	150°C (302°F)	150°C (302°F)
Breakdown Voltage AC, 60 Hz	8800V	1000V	8400V	—
Dielectric Strength (RH40% at sea level)	470-385V/mil thickness (per ASTM D149)	300V/mil thickness (per ASTM D149)	300V/mil thickness (per ASTM D149)	300V/mil thickness (per ASTM D149)
UL High Voltage Arc Testing (in./min.)	.01 - .35	.49 - .58	.49 - .58	.49 - .58
Water Absorption (24 hrs. % weight gain)	1.5%	0.45% (per ASTM D570)	0.45% (per ASTM D570)	0.45% (per ASTM D570)
Flammability	94V-2	94V-1 (per UL94)	94V-1 (per UL94)	94V-1 (per UL94)
Chemical Resistance	Resistant aromatic hydrocarbons,strong alkalies	Resistant to acids, alkalies, aliphatic hydrocarbons and ketones (per ASTM D5343)	Resistant to acids, alkalies, aliphatic hydrocarbons and ketones (per ASTM D5343)	Resistant to acids, alkalies, aliphatic hydrocarbons and ketones (per ASTM D5343)
Radiation Resistance (ergs g^1 C)	8 X 10^7 min.	2.7 X 10^8 min.	2.7 X 10^7 min.	2.7 X 10^7 min.

Voltage Rating: Blocks meet 600V creepage and clearance requirements of NEMA, UL and CSA for general industrial control equipment and panelboards. Withstands voltages greatly in excess of IEEE switchgear standards for 750V.

LR25557 E63810

Wire Termination

Splice Cap Crimp Connectors

- Designed for making fast, permanent, pressure-type connections
- Solid copper sleeves require less crimping pressure
- Resist corrosion in harsh environments
- Tin-plated steel sleeves also available
- UL 486C Listed and CSA C22.2 #188 Certified; comply with Federal Specification W-S-61D

Description	Wire Combination Range	Quantity	Cat. No.
Copper Crimp Connector	600V* 18 to 10 AWG Min. 2 #18 Max. 4 #12	Box of 100	**2006S**
		Bag of 1,000	**2006SB**
Copper Crimp Connector	600V* 14 to 4 AWG Min. 2 #10 Max. 2 #6	Box of 50	**2011S**
		Bag of 500	**2011SB**

*1,000V maximum in fixtures and signs

LISTED Wire Connector

Cu/Cu Only

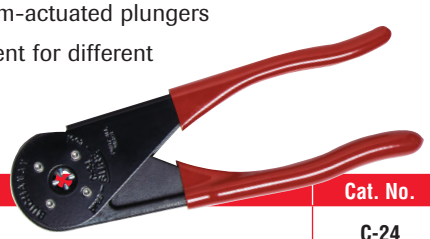
Splice Cap Insulators

- Convenient, safe and fast installation
- Snap-on nylon construction
- Rated at 105°C (221°F) – 600V (1,000V maximum in fixtures and signs)

For Connector Model	Quantity	Cat. No.
2006S	Box of 100	**2007**
	Bag of 1,000	**2007B**
2011S	Box of 50	**2014**
	Bag of 500	**2014B**

Four-Way Crimp Tool

- Patented design ensures even compression and reliable connectors
- Spring-loaded, cam-actuated plungers
- Fingertip adjustment for different connector sizes



Description	Cat. No.
Four-Way Crimp Tool	**C-24**

Mounting Channels

Mounting Channels	Length	Cat. No.	For use with:
Miniature Channel	3 ft.	**12**	Heavy-Duty (200 Series) Miniature (100 Series)
Steel Channel	6 ft. 3 ft.	**60** **63**	Medium Duty (900 Series) Heavy Duty (200 Series) Intermediate Heavy Duty (800 Series) Ultra Heavy Duty (400 Series) Fuse Blocks (300 Series)
Aluminum Channel (Pre-punched)	6 ft. 3 ft.	**64** **67**	Medium Duty (900 Series) Heavy Duty (200 Series) Intermediate Heavy Duty (800 Series) Ultra Heavy Duty (400 Series) Fuse Blocks (300 Series)

Channel Clamps

Mounting Channels	Cat. No.	For use with:
Miniature Clamp	**11**	High Density Miniature (100 Series) Heavy-Duty (200 Series)
Universal Clamp	**68**	High Density Miniature (100 Series) Medium Duty (900 Series) Heavy Duty (200 Series) Intermediate Heavy Duty (800 Series) Ultra Heavy Duty (400 Series) Fuse Blocks (300 Series)
Screw Clamp	**61**	High Density Miniature (100 Series) Medium Duty (900 Series) Heavy Duty (200 Series) Intermediate Heavy Duty (800 Series) Ultra Heavy Duty (400 Series) Fuse Blocks (300 Series)

Jumpers

Description	Cat. No.	Available for:
Jumpers for Tubular Contacts	**41**	Heavy-Duty Phenolic (200 Series)
	42	Heavy Duty (200 Series)
	70	Medium Duty (900 Series)
	43	Heavy-Duty Phenolic (200 Series)

B Tools & Supplies

Fish Tapes B-2
Wire Pulling Lubricants B-8
Conduit Benders B-12
Pulling Supplies B-14
Wire Strippers B-16
Wire Cutters B-19
Pliers B-21
Miscellaneous Tools B-26, B-30
Cable Cutters B-28
Screwdrivers / Nutdrivers B-32
Industrial Bits & Accessories B-43
Insulated Tools B-46
Tool Kits B-52
Tool Bags B-54
Cutting Supplies B-57
Cable Ties B-68
Cable Staples B-74
Thermo-Shrink® B-75
Wire Marker Booklets B-79
Switches B-81
Lockout/Tagout B-88
Commutator Maintenance B-109

Tuff-Grip™ Pro . . . Industry's Leading Fish Tape!

Etched in 12" increments to provide instant conduit length.

Tuff-Cuff™ tape retaining feature keeps tape properly positioned in the opening.

Full-perimeter handle band helps keep dirt and moisture out, prolonging life.

Speed-Grip™ Handle
Large, comfortable ergonomically-designed, grasp from the top or side. Allows for use with gloves.

Available in:
- Blued Steel™
- Stainless Steel
- Zoom™ Jacketed Stainless Steel
- Gold-Fish® Brass Plated Steel Coil
- S-Class® Nylon Jacketed
- Fiberglass
- Volt-Guard™ 1000V Non-Conductive Fiberglass

Exceptionally Durable Case

Length marked! Now laser etched in 12" increments to provide instant conduit length.

WARNING

Always use approved safety glasses when using this product. Do not use near energized equipment. Electrical shock may occur. Make sure all power is off. Do not use pliers or other tools that may kink, damage, or weaken any round fish tapes such as S-Class®, Nylon or Zoom™. Use only a fish tape puller designed for this purpose. While fish tapes made of fiberglass, nylon or other composite materials are non-conductive, they may have a metal eyelet that is conductive and could be grounded against conduit. Do not use on live electrical circuits. Do not attempt to use fish tape that is fractured or has multiple ends. Keep the fish tape wound in the reel to prevent damage to the tape. Use this product in a safe work position to prevent loss of balance. Never remove the screws from case while fish tape is coiled inside the reel. Failure to follow instructions may result in severe bodily harm or damage to property.

Fish Tape Cases & Handles

Tuff-Grip™ Pro

- Tuff-Cuff™ tape retaining feature keeps tape properly positioned in the opening
- Full-perimeter handle band helps keep dirt and moisture out.
- Superior pull-out and rewind characteristics.
- Exceptionally durable case and handle

Rapid-Pak®

- Inner rotating reel with winding knob retrieves tape faster than traditional fish tapes for increased labor savings
- Funneled tape opening reduces kinking and tape breakage
- Reversible, hinged knob for right or left handed rewinds
- Stationary handle for extra durability
- Impact-resistant plastic case

SPEED-GRIP™ Pro Handle

- New vertical grip allows for faster payout and rewind
- Ergonomically designed handle puts less strain on your wrist
- Large hand opening allows for use with gloves
- Attached to the exceptionally durable Tuff-Grip™ Pro Case*

**On select S-Class® and Zoom™ Fish Tape Models.*

Thumb Winder™

- Convenient 7 in. size can be stored in tool bag
- Durable, impact resistant ABS case
- Easy-to-use thumb-operated rewind
- Great for datacomm and small-sized conduit applications

Fish Tape Materials

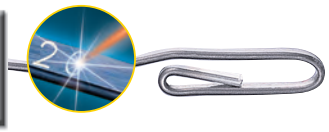
Blued Steel™

- Laser etched in 12" increments to provide instant conduit length
- Unique finish is non-oily and resists rust
- Multiple options in width, length and eyelet for ease of use
- Industry's straightest wire
- Stiffer for long runs
- Highest grade carbon steel
- Tensile strength 1,600 lbs.

Gold-Fish®

- Brass-plated coiled steel resists rust
- No "memory" – hangs straight after being coiled for long periods
- Kink proof
- Excellent for multiple bends

Stainless Steel

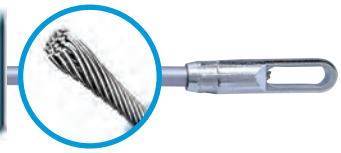


- Laser etched in 12" increments to provide instant conduit length
- Won't rust or corrode in damp locations or humid environments
- Super clean finish prevents marks on walls or carpets
- Great for wet or corrosive work environment
- Smoother pay-out
- Tensile strength 1,600 lbs.

S-Class®

- Non-conductive tape designed for use around live circuits
- Strong S-Class® core for longer life and greater pushing power
- Smooth nylon jacket provides great handling around bends
- Omni-directional pushing
- Pulling strength 500 lbs.

Zoom™



- 19 strands of stainless steel
- Ultra hard nylon jacket adds slipperiness, protects cables and user's hands
- Excellent for corrugated plastic conduit

19 strand twisted radial steel core encased in high molecular density outer jacket.

- Excellent for multiple bends or wet/corrosive work environment
- Pulling strength 1,000 lbs.

Volt-Guard™

- Non-conductive to 1000V
- Rectilinear profile for superior pushing power
- Designed for use around live circuits
- Pulling strength 350 lbs.

Blued-Steel™ Fish Tapes

- Laser etched in 12" increments to provide instant conduit length
- High column strength for longer runs
- Non-oily finish resists rust

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Thumb-Winder™	Replacement Tapes
Blued Steel™						
25	1/8 in. x .045 in.	7 in.	Formed hook	–	**31-012**	–
50	1/8 in. x .045 in.	7 in.	Formed hook	–	**31-010**	–
50	1/8 in. x .060 in.	9 in.	Formed hook	**31-033**	–	**31-004**
60	1/8 in. x .060 in.	12 in.	Formed hook	**31-055**	–	**31-035**
120	1/8 in. x .060 in.	12 in.	Formed hook	–	–	–
120	1/8 in. x .060 in.	12 in.	Formed hook	**31-056**	–	**31-036**
240	1/8 in. x .060 in.	12 in.	Formed hook	–	–	–
240	1/8 in. x .060 in.	12 in.	Formed hook	**31-057**	–	**31-038**
50	1/4 in. x .060 in.	12 in.	Formed hook	**31-059**	–	**31-051**
100	1/4 in. x .060 in.	12 in.	Formed hook	**31-058**	–	**31-050**
200	1/4 in. x .060 in.	None	Formed hook	–	–	**31-052**
400	1/4 in. x .060 in.	None	Formed hook	–	–	**31-2128**
15,000	1/4 in. x .060 in.	None	Formed hook	–	–	**31-2982**

Stainless Steel Fish Tapes

- Laser etched in 12" increments to provide instant conduit length
- Won't rust or corrode in humid environments
- Stainless steel design provides a smooth pay-out

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Replacement Tapes
Stainless Steel					
120	1/8 in. x .060 in.	12 in.	Formed hook	**31-066**	**31-073**
240	1/8 in. x .060 in.	12 in.	Formed hook	**31-067**	**31-074**

IDEAL #1 2011 VISTA DATA

IDEAL is #1 in market share for Fish Tapes!

Based on 2011 data available from Epicor/Vista.

S-Class® Fish Tapes

- Non-conductive tape for use around live circuits
- Structural glass core gives you a more durable fiberglass tape

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Rapid-Pak®	Replacement Tapes
S-Class® Nylon Jacketed Fiberglass						
50	3/16 in. diameter	12 in.	Leader	**31-060**	**31-187**	**31-150**
50	3/16 in. diameter	12 in.	Eyelet	**31-062**	**31-190**	**31-160**
100	3/16 in. diameter	12 in.	Leader	**31-061**	**31-186**	**31-152**
100	3/16 in. diameter	12 in.	Eyelet	**31-063**	**31-189**	**31-162**
200	3/16 in. diameter	16 in.	Leader	**31-064**	**31-207**	**31-155**
200	3/16 in. diameter	16 in.	Eyelet	**31-065**	**31-208**	**31-165**

Zoom™ Fish Tapes

- Great for hard to navigate conduit with multiple bends
- Nylon jacket protects the stainless steel core while adding to the slipperiness of Zoom™

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Replacement Tapes
Zoom™ Nylon Jacketed Stainless Steel					
50	3/16 in. diameter	12 in.	Eyelet	**31-090**	**31-091**
100	3/16 in. diameter	12 in.	Eyelet	**31-092**	**31-093**
200	3/16 in. diameter	16 in.	Eyelet	**31-096**	**31-097**

Volt-Guard™ Fish Tapes

- Non-conductive up to 1000V
- Elliptical design gives the Volt-Guard™ greater pushing power

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Replacement Tapes
Fiberglass Nylon Jacket					
60	.1875 in. x .094 in.	12 in.	Eyelet	**31-542**	**31-552**
120	.1875 in. x .094 in.	12 in.	Eyelet	**31-544**	**31-554**

Gold-Fish® Fish Tapes

- Ultra-flexible tape for hard-to-navigate areas
- Brass-plated coils resist rust

Length (ft.)	Width & Thickness	Case Diameter	End Type	Tuff-Grip™ Pro	Replacement Tapes
Gold-Fish® Brass Plated Steel Coil					
50	3/16 in. diameter	12 in.	Eyelet	**31-144**	**31-141**

S-Class® Fiberglass & Zoom™ Fish Tape Field Application Kits

- Crimps on new eyelet or leader in minutes
- Dies can be used with Crimpmaster™ Crimp Tool
- Connection guaranteed to withstand 500 lbs.

Description	Cat. No.
Field Application Kit includes: Crimpmaster™ Crimp Tool frame, die set, S-Class® eyelets (2), S-Class® leaders (2), Zoom™ eyelets (2) & instant adhesive	31-156
Die Set Kit* includes: eyelets (2), leaders (2) & instant adhesive	31-164
Replacement eyelets (4) for S-Class® Fish Tapes	31-158
Replacement eyelets (2) for Zoom™ Fish Tapes	31-094
Replacement leaders (4) for S-Class® Fish Tapes	31-159
Die Set Only	31-166

*For those who already have a Crimpmaster™ Crimp Tool.

Fish Tape Leaders

- Guides fish tape around bends in conduit
- Handles up to six 10 AWG bare wires
- Pulls up to 500 lbs.

Description	Cat. No.
Fish Tape Leader for steel or stainless steel tapes	31-148
Fish Tape Leader for S-Class® Fiberglass Fish Tape	31-159

Fish Tape Swivel Ball

- Swivels to prevent wires from twisting during pull
- Designed for use on 1/8 in. steel or stainless steel tapes
- Eyelet holds up to four 10 AWG bare wires

Description	Cat. No.
Fish Tape Swivel Ball	31-085

Tuff-Grip™ Pro Accessories

Description	Cat. No.
Fish Tape Parts Kit	KB-0173
K-8985 Includes	
Fish Tape Case (2 fish tape case halves)	—
(1) Handle	—
(4) Screws	—

Volt-Guard™ Repair Kit

- Includes two eyelets and adhesive
- Easy to apply

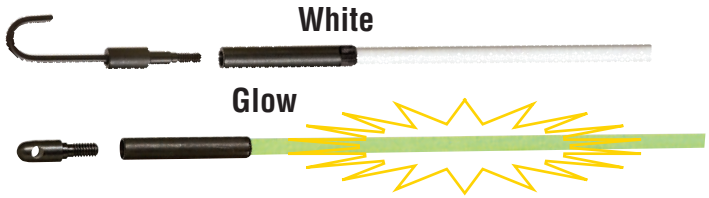
Description	Cat. No.
Volt-Guard™ Repair Kit	31-541

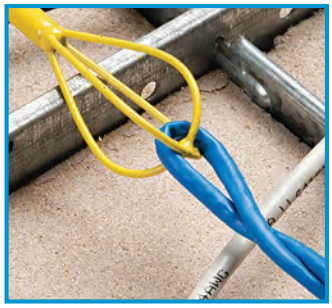
IDEAL is #1 in market share for Fish Tapes!

Based on 2011 data available from Epicor/Vista.

Tuff-Rod™ Fishing Poles

- Strong, lightweight, flexible extendable fiberglass rod kits
- Use to reach and pull wires over suspended ceilings, in cable trays or through interior walls
- Packaged in clear tubes for protection and long-term storage





Tuff-Rod™ Regular Flex

- 1/4 in. white fiberglass
- Extra stiffness for added control when maneuvering wires

Description	Cat. No.
12 ft. kit with fixed bullet nose and threaded J hook (3 ea. 4 ft. sections)	**31-611**
24 ft. kit with fixed bullet nose and threaded bullet nose (4 ea. 6 ft. sections)	**31-612**
12 pack of 1/4 in. x 4 ft. Regular Flex Replacement Rods	**31-643**
12 pack of 1/4 in. x 6 ft. Regular Flex Replacement Rods	**31-644**

Tuff-Rod™ Extra Flex Glow

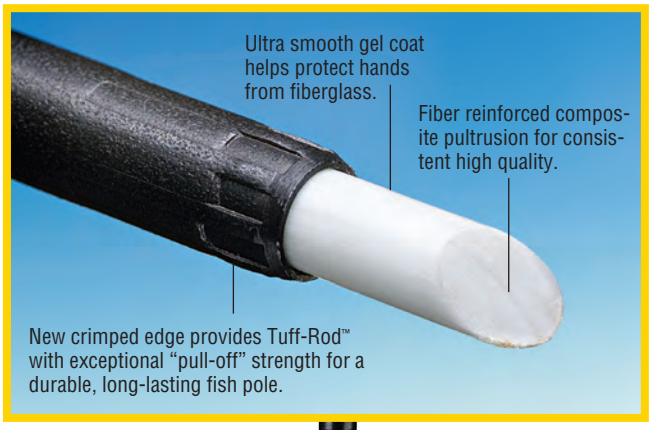
- 3/16 in. pale green luminescent fiberglass
- Glow-in-the-dark material for easy use in attics, basements and other dim lit areas

Description	Cat. No.
12 ft. kit with fixed bullet nose and threaded J hook (3 ea. 4 ft. sections)	**31-631**
30 ft. kit with fixed bullet nose and threaded bullet nose (5 ea. 6 ft. sections)	**31-633**
12 pack of 3/16 in. x 4 ft. Extra Flex Glow Replacement Rods	**31-647**
12 pack of 3/16 in. x 6 ft. Extra Flex Glow Replacement Rods	**31-648**

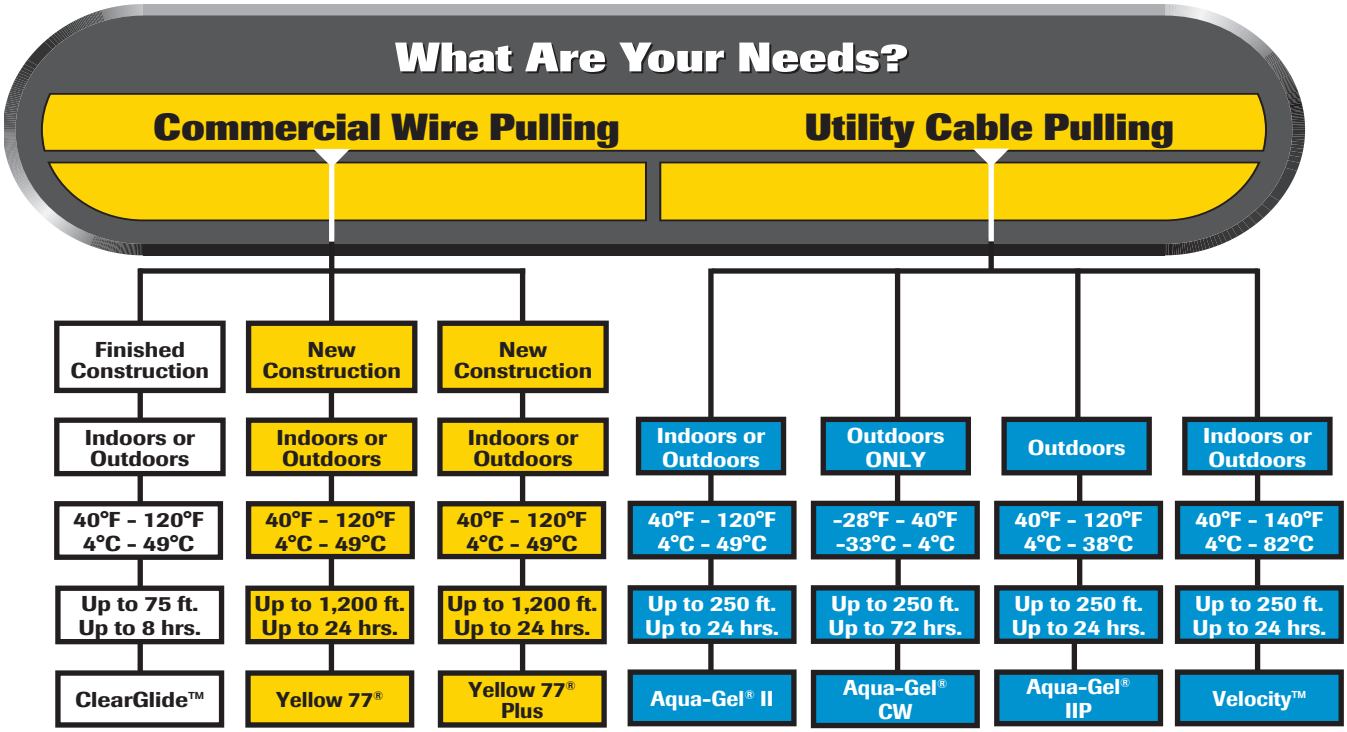
Accessory Kits

- Includes replacement heads, one threaded bullet nose, one threaded J hook and one threaded wisk

Description	Cat. No.
3/16 in. Accessory kit	**31-651**
1/4 in. Accessory kit	**31-652**



Select-a-Lubricant



Wiring Pulling Lubricant Selection Guide

	ClearGlide™ Wire Pulling Lubricant	Yellow 77® Wire Pulling Lubricant	Yellow 77® Plus Wire Pulling Lubricant	Aqua-Gel® II Wire Pulling Lubricant	Aqua-Gel® CW Wire Pulling Lubricant	Aqua-Gel® IIP Wire Pulling Lubricant	Velocity™ Wire Pulling Lubricant
Color	Clear	Yellow	Yellow	Blue	Pink	Blue	Cream
Base	Polymer	Wax	Wax	Polymer	Polymer	Polymer	Polymer
Average Coefficient of Friction*	.23	.17	.16	.19	.19	.19	.16
Safe Storage	32°F – 180°F (0°C – 82°C)	32°F – 130°F (0°C – 54°C)	32°F – 190°F (0°C – 88°C)	32°F – 180°F (0°C – 82°C)	-28°F – 190°F (-33°C – 82°C)	32°F – 180°F (0°C – 82°C)	40°F – 140°F (4°C – 82°C)
Application Temperature Range	40°F – 100°F (4°C – 38°C)	40°F – 100°F (4°C – 38°C)	40°F – 100°F (4°C – 38°C)	40°F – 100°F (4°C – 38°C)	-28°F – 40°F (-33°C – 4°C)	40°F – 100°F (4°C – 38°C)	25°F – 140°F (-3.9°C – 60°C)
COMPATIBILITY (Cable Types):							
Rubber	•	•	•	•	•	•	•
Neoprene	•	•	•	•	•	•	•
Nylon	•	•	•	•	•	•	•
PVC	•	•	•	•	•	•	•
High-density or cross-linked polyethylene	•	•	•	•	•	•	•
Low-density polyethylene	•		•	•	•	•	•
Semiconducting jacket	•		•	•	•	•	•
Hypalon	•	•	•	•	•	•	•

Results from NEETRAC, an independent testing laboratory affiliated with The Georgia Institute of Technology.

Yellow 77® Plus Wire Pulling Lubricant

- Rapid Glide™ polytetrafluoroethylene additive provides greater lubricity than other wax-based lubricants – great for tough pulls
- Safe to use with all cable types
- Clings to cable throughout long runs, even where moisture is present
- Remains stable in high temperatures – usable from 30°F to 190°F (-1°C to 88°C)
- Dries slowly to a thin, non-conductive film that won't harden in conduit
- Easy to apply by hand or brush
- Creamy texture applies easily and uniformly
- Homogeneous blend requires no mixing
- Won't dry out – surface coat forms to control evaporation
- Environmentally safe – non-toxic, non-flammable and non-corrosive

UL LISTED

Description	Cat. No.
1-qt. Squeeze bottle	31-398
1-gal. Bucket	31-391
5-gal. Bucket	31-395

ClearGlide™ Wire Pulling Lubricant

- Clear and colorless for quick and easy clean-up – great for indoor and retrofit pulls
- Exceptional lubricity for super-fast pulls
- Polymer-based formula is perfect for all electrical and datacomm applications
- Safe to use with all cable types
- Controlled evaporation rate is ideal for shorter runs
- Remains stable over wide temperature ranges – usable from 30°F to 180°F (-1°C to 82°C)
- Dries to a semi-fluid film that won't clog conduit
- Easy to apply by hand, brush or pump
- Environmentally safe – non-toxic, non-flammable and non-corrosive

UL LISTED

Description	Cat. No.
1-qt. Squeeze bottle	31-388
1-gal. Bucket	31-381
5-gal. Bucket	31-385
55-gal. Drum	31-2143

Yellow 77® Wire Pulling Lubricant

- The #1 brand of wire pulling lubricant since 1959 – the perfect general purpose lube
- Wax-based formula provides superior lubricity
- Safe to use with most cable types except low-density polyethylene and semi-conducting jackets
- Clings to cable throughout long pulls, even where moisture is present
- Won't break down or separate after repeated exposure to freezing temperatures
- Dries to a thin, non-conductive film
- Easy to apply by hand or brush
- Creamy texture applies easily and uniformly
- Homogeneous blend requires no mixing
- Won't dry out – surface coat forms to control evaporation
- Environmentally safe – non-toxic, non-flammable and non-corrosive

UL LISTED

Description	Cat. No.
1-qt. Squeeze bottle	31-358
1-gal. Bucket	31-351
5-gal. Bucket	31-355
55-gal. Drum	31-365

Aqua-Gel® II Cable Pulling Lubricant

- Polymer-based formula provides maximum tension reduction in high-stress electrical and communication cable-pulling operations
- Compatible with all cable types except composite rubber
- Cleans up easily with soap and water
- Clings to cable throughout long pulls
- Remains stable over wide temperature range – usable from 28°F to 180°F (-2°C to 88°C)
- Dries to a semi-fluid film that won't clog conduit
- Easy to apply by hand, brush or pump
- Environmentally safe – non-toxic, non-flammable and non-corrosive
- For outdoor use only

UL LISTED

Description	Cat. No.
1-qt. Squeeze bottle	31-378
1-gal. Bucket	31-371
5-gal. Bucket	31-375
55-gal. Drum	31-3855

Velocity™ Wire Pulling Lubricant

- High cling factor
- Maximum friction reduction
- Specification grade
- Compatible with all popular cable types
- Temperature stable
- Non-combustible residue
- Environmentally safe – non-toxic, non-flammable and non-corrosive

UL LISTED

Description	Cat. No.
1-qt. Squeeze bottle	31-276
1-gal. Bucket	31-277
5-gal. Bucket	31-278

Aqua-Gel® IIP Cable Pulling Lubricant

- Features the same excellent qualities as Aqua-Gel® II Cable Pulling Lubricant with a lower viscosity for easy pouring and pumping
- Pourable formula clings to cable – eliminates hand application for a cleaner and safer job
- Compatible with all cable types
- Cleans up easily with soap and water
- Environmentally safe – non-toxic, non-flammable and non-corrosive

UL LISTED

Description	Cat. No.
1-gal. Jug	31-421
5-gal. Bucket	31-425
55-gal. Drum	31-435

Aqua-Gel® CW Cable Pulling Lubricant

- Features the same excellent qualities as Aqua-Gel® II Cable Pulling Lubricant with a lower temperature range for use outdoors in cold weather
- Polymer-based, cold-weather formula remains stable in storage from -28°F to 190°F (-33°C to 82°C)
- Formulated for exterior use in cold weather conditions
- Cleans up easily with soap and water
- Clings to cable throughout long pulls
- Well-suited for hand or poured applications
- Environmentally safe – non-toxic, non-flammable and non-corrosive

Description	Cat. No.
1-qt. Squeeze bottle	31-298
1-gal. Jug	31-291
5-gal. Bucket	31-295

Recommended Qty. of Lubricant Formula

Q = .0015 x L x D

Q = Quantity of recommended lube in gallons
L = Length of pull in feet
D = Nominal ID of conduit in inches

The formula listed above is used as a guideline on estimating the quantity of lube needed for various jobs. Many factors go into a cable pull, however this formula is just based on length of the pull and diameter of the conduit.

Increase quantities for the following troubles:

- Stiff, heavy cable
- Rough, old or dirty conduits
- High percent conduit fill
- Pulls with several bends
- High temperatures

Selection & Application Guide

Web Based Selection & Application Guide:
http:ideal.sdafiles.com

Description	Cat. No.
Lubricant Selection Slide Rule	**P-2710**

Duct Seal

- Seals around junction boxes, flashings and service entrances
- Permanently soft, non-toxic compound can be painted immediately after application
- Won't adversely affect other plastic materials or corrode metals

UL LISTED

Description	Cat. No.
1 lb. Block (10/carton)	**31-601**
5 lb. Block (10/carton)	**31-605**

Noalox® Anti-Oxidant

- Anti-oxidant compound improves efficiency and service life of aluminum telectrical applications
- Suspended zinc particles penetrate and cut aluminum oxide
- Provides additional inner-strand and inner-conductor current paths for improved conductivity and cooler connections

- Carrier material excludes air to minimize further oxidation
- For use with pressure-type wire connectors including lugs, taps, service entrances and split-bolts
- Reduces galling and seizing when applied on aluminum conduit joints promoting good ground continuity

UL LISTED

Description	Cat. No.
1/2-oz. Tube	**30-024**
4-oz. Squeeze bottle	**30-026**
8-oz. Squeeze bottle	**30-030**
8-oz. Brush cap	**30-031**
1-gal. Bucket	**30-032**
5-gal. Bucket	**30-040**

For a Material Safety Data Sheet on Noalox® and all other products visit us at www.idealindustries.com

Conduit Benders

- Exceptional, durable, materials for extra strength
- Reinforced at stress points for longer life
- Markings are raised and cast into the bender body on both sides for easy visibility
- Deeply serrated step helps prevent slippage when applying force
- Grooved internal hook surface helps prevent conduit from slipping
- Flat hook surface provides stable starting point
- Desirable Benfield bending system

IDEAL #1 2011 VISTA DATA

Based on 2011 data available from Epicor/ Vista.

Ductile Iron

- Withstands a lifetime of heavy use
- Ductile iron material is stronger than malleable iron or aluminum

LIFETIME IDEAL GUARANTEE

Ductile Iron Head & Handle Complete

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-026**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-027**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-028**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-034**

Ductile Iron Head Only

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-001**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-002**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-003**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-006**

Aluminum

- Lightweight aluminum for easy handling
- Strong enough for every day use

Aluminum Head & Handle Complete

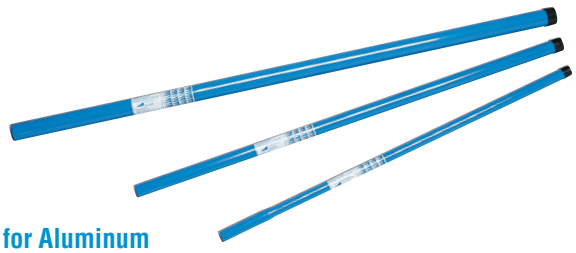
Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-046**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-047**

Aluminum Head Only

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-031**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-032**

Handles For Benders

- Rugged, steel construction for long-term durability
- Baked-on blue enamel finish resists corrosion and enhances visibility
- Convenient bending guide for offset bends



Handles for Ductile Iron

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-019**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-019**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-020**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-021**

Handles for Aluminum

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-019**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-019**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-020**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-021**

Hickeys

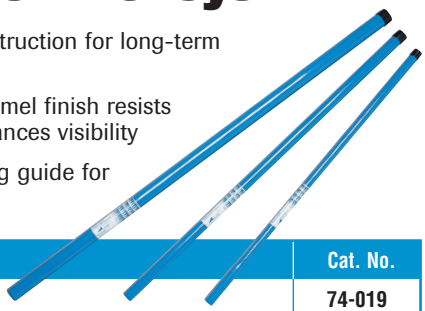
- Exceptional, durable, heat treated materials for extra strength
- Reinforced at stress points for longer life
- Grooved internal hook surface helps prevent conduit from slipping

Ductile Iron Hickeys

- High-strength ductile iron construction
- Grooved internal hook helps prevent conduit from slipping
- Lifetime replacement guarantee

Conduit Type and Size	Hickey Only Cat. No.
1/2 in. EMT	**74-010**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-011**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-012**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-013**

Handles for Hickeys



- Rugged, steel construction for long-term durability
- Baked-on blue enamel finish resists corrosion and enhances visibility
- Convenient bending guide for offset bends

Conduit Type and Size	Cat. No.
1/2 in. EMT	**74-019**
3/4 in. EMT, 1/2 in. Rigid & 1/2 in. IMC	**74-019**
1 in. EMT, 3/4 in. Rigid & 3/4 in. IMC	**74-020**
1-1/4 in. EMT, 1 in. Rigid & 1 in. IMC	**74-021**

Pocket Bender Guide

- Convenient pocket-sized reference guide
- Includes simple, concise bending techniques for precision stubs, back-to-back, offset and saddle bends

Description	Cat. No.
Pocket Bender Guide	**P-100**

BenderBoot™

- Santoprene® tread and hand grip provides support for saddle and offset bends
- Easy push-on assembly to 1/2 in. and 3/4 in. Bender handles

Description	Cat. No.
BenderBoot™	**74-037**

Santoprene® is a registered trademark of Exxon Mobil.

Heavy-Duty Hacksaw

- Use as conventional hacksaw or as jab saw to enlarge holes
- Rugged frame provides lightweight rigidity and exceptional control
- Stores up to nine extra blades
- Blades can be adjusted to 55° angle for flush cutting and tensioned to 25,000 psi
- Includes 12 in. x 24T bi-metal blade

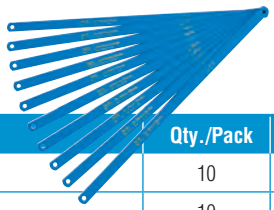
Description	Cat. No.
Heavy-Duty Hacksaw	**35-260**

Ergonomic Hacksaw

- Angled handle for easier cutting
- Blade can easily be adjusted for flush cutting
- Easy tensioning wing-nut keeps blades tight for straighter cuts
- Cushioned ergonomic grip for performance and comfort
- Includes 12 in. x 24T bi-metal blade

Description	Cat. No.
Ergonomic Hacksaw	**35-261**

Hacksaw Blades



- Bi-metal blades provide strength, flexibility and longer life

Description	Qty./Pack	Cat. No.
12 in. x 18T Blades	10	**35-271**
12 in. x 24T Blades	10	**35-272**
12 in. x 32T Blades	10	**35-273**
12 in. x 18T Blades	100	**35-262**
12 in. x 24T Blades	100	**35-263**
12 in. x 32T Blades	100	**35-264**

Valu-Line™ Pull-Line

- White with gray tracer for easy identification
- Continuous-fiber polyline great for blowing directly into conduit
- Will not rot or mildew
- Can be left in conduit for future use

Description	Tensile Strength	Cat. No.
Valu-Line™ Pull-Line – 6,500 ft. (bucket)	190 lbs.	**31-338**

Powr-Fish® Pull-Line

- White with blue tracer for easy identification
- Continuous-fiber polyline great for blowing directly into conduit
- Will not rot or mildew
- Can be left in conduit for future use

Description	Tensile Strength	Cat. No.
Powr-Fish® Pull-Line – 6,500 ft. (bucket)	210 lbs.	**31-340**
Powr-Fish® Pull-Line – 500 ft. (canister)	210 lbs.	**31-348**

Powr-Fish® Pull-Line

- White with red tracer for easy identification
- 500 lb. tensile, our highest tensile-rated pull-line
- Continuous-fiber polyline great for blowing directly into conduit
- Will not rot or mildew
- Can be left in conduit for future use

Description	Tensile Strength	Cat. No.
Powr-Fish® Pull-Line – 2,200 ft. (bucket)	500 lbs.	**31-344**

Pro-Pull™ Rope

- Low-friction polypropylene rope slides easily through conduit
- Non-sliver surface can be handled without gloves
- Will not rot or mildew
- Rugged, lightweight construction

Description	Tensile Strength	Cat. No.
1/4 in. x 250 ft. Reel	1,125 lbs.	**31-839**
1/4 in. x 600 ft. Reel	1,125 lbs.	**31-840**
1/4 in. x 1,000 ft. Reel	1,125 lbs.	**31-841**
3/8 in. x 250 ft. Reel†	2,430 lbs.	**31-844**
3/8 in. x 600 ft. Reel†	2,430 lbs.	**31-845**
3/8 in. x 1,200 ft. Reel†	2,430 lbs.	**31-846**
1/2 in. x 250 ft. Reel†	3,780 lbs.	**31-849**
1/2 in. x 600 ft. Reel†	3,780 lbs.	**31-850**
1/2 in. x 1,200 ft. Reel†	3,780 lbs.	**31-851**
5/8 in. x 600 ft. Reel†	5,580 lbs.	**31-853**
5/8 in. x 1,200 ft. Reel†	5,580 lbs.	**31-854**
3/4 in. x 300 ft. Reel†	7,650 lbs.	**31-855**
3/4 in. x 600 ft. Reel†	7,650 lbs.	**31-856**
3/4 in. x 1,200 ft. Reel†	7,650 lbs.	**31-857**

† Eye splice on working end.

3-in-1 Premise MULETAPE®

- Reduces installation time and saves money on premise jobs
- Thread, measure and pull with single product
- Imprinted with sequential footage or meter markings
- Fewer installation steps, significant material and labor savings

Description	Pulling Strength	Tape Width	Length	Cat. No.
3-in-1 Premise MULETAPE®	400 lb.	1/4 in.	4,500 ft./ bucket	**31-314**
	1,800 lb.	1/2 in.	1,300 ft./ bucket	**31-315**

MULETAPE® is a registered trademark of NEPTCO.

Conduit Measuring Tape

- Provides quick and accurate measurement of conduit runs
- Easy-to-read markings in sequential one-foot increments
- 160 lb. tensile strength
- Pulls rope through raceways without stretching
- Dispenser features built-in cutter, handle, non-skid base and adjustable reel tension
- Will not rot or mildew

Description	Cat. No.
Conduit Measuring Tape – 3,000 ft.	**31-347**

Foam Carriers

- Attach to a suitable line to serve as a piston – clears out water or debris as they travel through conduit
- Durable foam construction for repeated use and long life
- For use with any type of blower or vacuum system

Description	Qty.	Cat. No.
1/2 in. Foam Carrier	5/bag	**31-466**
3/4 in. Foam Carrier	5/bag	**31-467**
1 in. Foam Carrier	5/bag	**31-468**
1-1/4 in. Foam Carrier	3/bag	**31-469**
1-1/2 in. Foam Carrier	2/bag	**31-470**
2 in. Foam Carrier	1/bag	**31-471**
2-1/2 in. Foam Carrier	1/bag	**31-322**
3 in. Foam Carrier	1/bag	**31-323**
3-1/2 in. Foam Carrier	1/bag	**31-324**
4 in. Foam Carrier	1/bag	**31-325**
5 in. Foam Carrier	1/bag	**31-326**
6 in. Foam Carrier	1/bag	**31-327**

Line Packages

- One-piece pull line and foam tip unwind as they move through conduit
- One-piece construction for faster, easier use with no knots or foam carriers to retrieve
- Line tensile strength of 17 lbs.
- For use with any type of blower or vacuum system

Description	Color	Qty.	Cat. No.
Line Package, 1/2 in. x 75 ft.	Red	10/bag	**31-472**
Line Package, 1/2 in. x 150 ft.	Red	10/bag	**31-473**
Line Package, 3/4 in. x 200 ft.	Yellow	5/bag	**31-475**
Line Package, 3/4 in. x 300 ft.	Yellow	5/bag	**31-476**
Line Package, 3/4 in. x 450 ft.	Yellow	5/bag	**31-477**
Line Package, 1 in. x 200 ft.	White	5/bag	**31-479**
Line Package, 1 in. x 300 ft.	White	5/bag	**31-480**
Line Package, 1 in. x 450 ft.	White	5/bag	**31-481**

Invented and manufactured at our Sycamore, Illinois facility, the T®-Stripper Wire Stripper line is the leading brand name in the world.

IDEAL #1 2011 VISTA DATA

Based on 2011 data available from Epicor/ Vista.

Kinetic™ Reflex™ T®-Stripper Wire Stripper

Ergonomic handles with Santoprene® grip and Thumb Valley™ make this the premier wire stripper in the market.

- *Thumb Valley™ Protection*
- *Pocket Locket Locking Hasp*
- *Shear Cut Bolt Cutters*
- *Santoprene®*
- *Ergo Handles*

Kinetic™ Super Wire Stripper

The ergonomic design and patented Santoprene® grip wicks away perspiration and reduces muscle fatigue. The Thumb Valley™ guide and precision stripping holes promote the highest accuracy in the industry.

- *Thumb Valley™ Protection*
- *Pocket Locket Locking Hasp*
- *Shear Cut Bolt Cutters*
- *Santoprene®*
- *Curved Handles*

Reflex™ Super T®-Stripper Wire Stripper

The ergonomic design with curved handles reduces wrist fatigue. Features 6/32 and 8/32 self-chasing, bolt cutting holes and a locking pawl for safe storage.

- *Locking Pawl*
- *Bolt Cutting*
- *Extended Textured Comfort*
- *Ergo Handles*

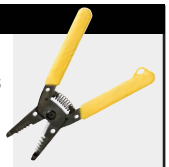
Reflex™ Premium T®-Stripper Wire Stripper

Designed for total-comfort and wire stripping. Ergonomic handles fit an electrician's natural grip and reduces hand fatigue. Textured, slip-resistant sleeves cushion thumb and fingers.

- *Extended Textured*
- *Ergo Handles*

T®-Stripper Wire Stripper

The industry standard for almost 50 years. Compact, lightweight and easy to use. Features precision-ground, knife-type blades, built-in looping holes, wire cutters and a convenient plier nose.



- *Straight Handles*

T®-Stripper Wire Stripper Selection Guide

Hole Size	Solid	Stranded	#45-100's	#45-400's	#45-600's	#45-700's	#45-900's
6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32	22, 24, 26, 28, 30	24, 26, 28, 30, 32	45-125	45-417	—	—	—
14, 16, 18, 20, 22, 24	14, 16, 18, 20, 22, 24	16, 18, 20, 22, 24, 26	45-121	45-416	—	45-716	—
10, 12, 14, 16, 18	10, 12, 14, 16, 18	12, 14, 16, 18, 20	45-120	45-415	—	45-715	45-915
8, 10, 12, 14, 16	8, 10, 12, 14, 16	10, 12, 14, 16, 18	—	—	45-615	—	—
6, 8, 10, 12, 14	6, 8, 10, 12, 14	8, 10, 12, 14, 16	45-124	45-418	45-618	45-718	45-918
T®-Cutter			45-123	—	—	—	—

Santoprene® is a registered trademark of Exxon Mobil.

Kinetic™ Super Wire Strippers

- Non-slip Santoprene® textured grips
- Plier nose for holding and twisting wires
- Slide lock for safety and storage
- Thumb and finger valley makes stripping easier and more accurate
- Shear-Cut™ bolt cutters

Description	Solid	Stranded	Cat. No.
Kinetic Super™ Wire Stripper	10-18	12-20	**45-715**
	14-24	16-26	**45-716**
	6-14	8-16	**45-718**

Santoprene® is a registered trademark of Exxon Mobil.

Kinetic™ Reflex™ T®-Stripper Wire Strippers

- Non-slip Santoprene® textured grips and thumb rest
- Plier nose for holding and twisting wires
- Slide lock for safety and storage
- Thumb and finger valley makes stripping easier and more accurate
- Shear-Cut™ bolt cutters

Description	Solid	Stranded	Cat. No.
Kinetic™ Reflex™ T®-Stripper Wire Stripper	10-18	12-20	**45-915**
	6-14	8-16	**45-918**

Santoprene® is a registered trademark of Exxon Mobil.

Reflex™ Premium T®-Stripper Wire Strippers

- Ergonomic design for maximum comfort
- Curved handles reduce wrist fatigue
- Sleeves extend to stripping head to cushion thumb and fingers
- Textured, no-slip sleeves provide a sure, easy grip

Description	Solid	Stranded	Cat. No.
Reflex™ Premium T®-Stripper Wire Stripper	10-18	12-20	**45-415**
	14-24	16-26	**45-416**
	22-30	24-32	**45-417**
	6-14	8-16	**45-418**
Reflex™ Premium T®-Stripper – Metric	0.5mm²-4.0mm²		**45-425-341**

Reflex™ Super T®-Stripper Wire Strippers

- 6/32 and 8/32 self-chasing screw-cutting holes
- Locking pawl for safe storage
- Ergonomic design for maximum comfort
- Curved handles reduce wrist fatigue
- Sleeves extend to stripping head to cushion thumb and fingers
- Textured sleeves with extra cushioning for added comfort

Description	Solid	Stranded	Cat. No.
Reflex™ Super T®-Stripper Wire Stripper	8-16	10-18	**45-615**
	8-14	8-16	**45-618**
Reflex™ Super 12/2 & 14/2 NM Cable T®-Stripper Wire Stripper	12-2 and 14-2	—	**45-621**

Engineered to strip every wire right!

T®-Stripper Wire Strippers

- Form-ground, knife-type blades for accurate, easy stripping without nicking insulation
- Built-in wire cutter and looping holes
- Convenient plier nose for extra gripping strength
- Laser-etched wire gauge for easy-to-read visibility
- Spring-loaded automatic opening
- Corrosion-resistant, black oxide finish
- Tough steel construction

Description	Solid	Stranded	Cat. No.
T®-5 T®-Stripper Wire Stripper	10-18	12-20	**45-120**
T®-6 T®-Stripper Wire Stripper	14-24	16-26	**45-121**
T®-7 T®-Stripper Wire Stripper	22-30	24-32	**45-125**
T®-8 T®-Stripper Wire Stripper	6-14	8-16	**45-124**
T®-Stripper Wire Stripper – Metric	0.75-6mm²		**45-120-341**
T®-Stripper Wire Stripper – Metric	0.5-4mm²		**45-125-341**

Lil' Ripper Stripper™

- Rips Romex® wire outer jacket cleanly and quickly
- Clips outer sheathing to remove excess Romex® wire jacket
- Strips inner conduit wires
- Looping holes loop wire for screw-on connections
- Twist-Assist™ tightens most popular sizes of winged twist-on connectors
- Injection molded elastomer grip provides a comfortable, slip resistant grip
- Strip length measuring scale allows for quick and easy measurements
- Conveniently fits in your pocket

Description	Cat. No.
Lil' Ripper Stripper™	**45-025**

Romex® is a registered trademark of Southwire Company.

NM Cable T®-Stripper Wire Strippers

- Easy, one-step stripping of outer jacket of NM cable – no slitting required
- Versatility to strip, cut and loop conductor wires with precision and ease
- Stripping holes for 12 or 14 AWG solid wire
- Locking pawl for safe storage

Description	Cat. No.
14/2 NM Cable T®-Stripper Wire Stripper	**45-248**
12/2 NM Cable T®-Stripper Wire Stripper	**45-249**

Reflex™ Super T®-Stripper Wire Stripper

- 6/32 and 8/32 self-chasing screw-cutting holes
- Locking pawl for safe storage
- Ergonomic design for maximum comfort
- Curved handles reduce wrist fatigue
- Sleeves extend to stripping head to cushion thumb and fingers
- Textured sleeves with extra cushioning for added comfort

Description	Solid	Stranded	Cat. No.
Reflex™ Super 12/2 & 14/2 NM Cable T®-Stripper Wire Stripper	12-2 and 14-2	—	**45-621**

NM Cable Dual-Hole T®-Stripper Wire Stripper

- Stripping holes for stripping two 2 AWG or two 14 AWG wires simultaneously
- Ability to strip both conductor wires of NM cable at one time

Description	Wire Range	Cat. No.
Premium T®-14 T®-Stripper Wire Stripper	12 or 14 AWG solid	**45-247**

V-Notch Stripper

- Cuts copper or aluminum wire, solid or stranded
- Rotating cam wheel adjusts to strip 10-24 AWG wire
- Looping holes for solid wire
- Locking hasp

Description	Cat. No.
V-Notch Stripper	45-101

7-in-1 Stripper

- Versatile, seven-function tool features precision-ground stripping blades, cushioned grips and plier nose
- Strips 8–16 AWG solid and 10–18 AWG stranded wire
- Crimps bare and insulated terminals for 10–22 AWG wire, RG-59 coax connectors and 7 to 8mm auto ignition connectors
- Cuts unhardened wire, bolts and screws (4-40, 6-32, 8-32, 10-24 and 10-32) and reforms threads
- Cuts stranded, solid, Romex® wire and U.F. wire to 8 AWG
- Reams and de-burrs conduit
- Gauges and loops wire

Description	Cat. No.
7-in-1 Stripper	45-777

Romex® is a registered trademark of Southwire Company.

Data T®-Cutter Wire Cutter

- Cuts round communication cable and maintains cable geometry for better cable performance
- Cuts multi-pair cable up to .500 in. (12.7mm) and coaxial cable up to RG-9/U
- Suitable for soft cables (not ACSR)
- Steel reinforced center conductors can be trimmed with bolt cutting holes
- Cushioned comfort grip handles
- Locking latch keeps tool closed in pouch

Description	Cat. No.
Data T®-Cutter	45-074

Combo Tool

- Convenient, four-function tool features precision-ground stripping holes and knife-to-anvil cutting blades
- Crimps bare and insulated terminals
- Strips 8–20 AWG solid and 10–22 AWG stranded wire
- Cuts unhardened bolts (4-40, 6-32, 8-32, 10-24 and 10-32) and reforms threads

Description	Cat. No.
Combo Tool	30-428

Multi-Crimp Strip Tool

- Cuts wire
- Crimps insulated and non-insulated wires
- Cuts bolts
- Strips 10-22 AWG wire

Description	Cat. No.
Multi-Crimp Strip Tool	45-778

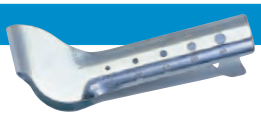
T®-Cutter Wire Cutter

- Hardened steel, sheer-type blades
- Spring-loaded automatic opening
- Convenient plier nose for extra gripping strength
- Corrosion-resistant, black oxide finish
- Tough steel construction
- Locking tab keeps spring in place

Description	Wire Range	Cat. No.
T®-Cutter Wire Cutter	Up to 1/2 in. O.D. fine-stranded wire and 10 AWG solid wire	45-123

Cable Ripper

- Slits Romex® wire sheathing before stripping wires
- Quick, clean and easy end or mid-run removal of jacket
- Convenient built-in wire gauge

Description	Cat. No.
Side Entry Cable Ripper 	45-118RS

Romex® is a registered trademark of Southwire Company.

T®-Cutter Lite Wire Cutter

In today's cutting-edge electronic production and assembly operations, the T®-Cutter Lite is a "must-have." Stranded or solid, copper or aluminum, this wire cutter cuts cleanly and accurately.

- Knife-type blade provides a shear-type cut
- Lightweight, compact design
- Perfect for copper and aluminum wire

Description	Cat. No.
T®-Cutter Lite Wire Cutter	45-260

Coax Strip and Crimp Tool

- Precision, form-ground stripping holes remove outer jacket and insulation from RG-59 and RG-6 coaxial cable
- Durable blades cut copper-coated steel conductors
- Three crimping nests for crimping F-connectors and ring terminals

Description	Cat. No.
Coax Strip & Crimp Tool	30-433
Coax Strip & Crimp Tool w/ten RG-6 F-Connectors	30-433F

Underground Feeder (UF) Cable Stripper

- Self-adjusting stripping blades automatically select proper position
- Strips 12/2 AWG solid to 14/2 AWG Underground Feeder (UF) Cable
- Strips Twin and Earth cable
- Open-throat construction allows unlimited strip length
- Neatly removes outer cable sheath and inner wire sheathing to desired lengths
- Lightweight, ergonomic design reduces user fatigue

Description	Cat. No.
Underground Feeder Cable Stripper	45-235

Grip-N-Strip™ End Stripper

- Self-adjusting stripping blades automatically select proper position
- Strips 12 AWG solid to 20 AWG stranded PVC insulated wire
- Strip-length gauge
- Cuts up to 12 AWG solid wire
- Lightweight, ergonomic design reduces user fatigue
- Reinforced fiberglass construction
- Hardened steel blades for extra strength and longer life

Description	Cat. No.
Grip-N-Strip™ End Stripper	45-227

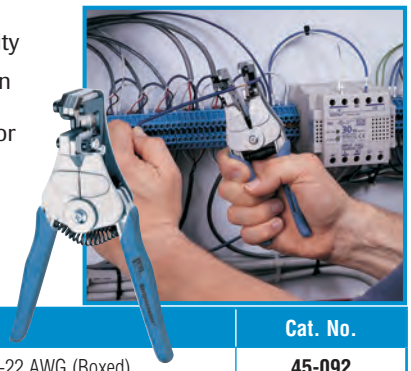
Round Cable Slitting and Ringing Tools

- Cuts around cable jacket as well as slits the length of jacket for easy removal
- Use with single or multiple conductor cable up to 1.75 in. O.D.
- Blade adjusts for jacket thicknesses up to .125 in.
- Spare blade in handle base

Description	Cat. No.
Cable Stripper for 1/4 in. to 3/4 in. O.D.	45-128
Cable Stripper for 3/4 in. to 1-1/2 in. O.D.	45-129
Replacement Blades for 45-128 and 45-129 (2/pkg.)	L-7486

Stripmaster® Wire Strippers

- One-step stripping enhances productivity
- Spring-action motion increases leverage and reduces operator fatigue
- Precision-ground, knife-type blades provide clean, accurate stripping



Description	Cat. No.
Stripmaster® Wire Stripper, 10-22 AWG (Boxed)	45-092
Stripmaster® Wire Stripper, 10-22 AWG (Clamshell)	45-292
Stripmaster® Wire Stripper, Coax RG-6	45-262

See Section C for complete Stripmaster® Wire Stripper line.

Smart-Grip™ Pliers

- Custom hardened chrome vanadium steel for durability
- Textured slip-resistant grip

Dipped Grip Pliers

- Slip Joint Pliers have a flush rivet design for easier access
- Dipped comfort-grip handles for a secure grip

Insulated Grip Pliers

- Permanently bonded, double insulated handles for added safety
- IDEAL insulated pliers are the first UL tested and listed insulated pliers available

Side-Cutting Pliers

- Drop-forged, high-carbon steel construction withstands toughest applications
- Knife-to-anvil blades never need resharpening
- Cuts hardened wire, bolts and ACSR
- Laser-hardened blades and serrated jaws for long-term durability
- High-leverage design provides 40% more cutting power
- Unique reverse rivet protects smooth action of plier movement
- Vinyl-coated, comfort-grip handles for a secure grip

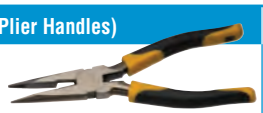
LIFETIME IDEAL GUARANTEE

Description (Smart-Grip™ Plier Handles)	Cat. No.
9-1/4 in. New England nose high-leverage w/fish tape puller	35-3012
9-1/4 in. New England nose high-leverage w/crimping die	30-3430
Description (Dipped Handles)	**Cat. No.**
9-1/4 in. New England nose high-leverage w/fish tape puller	35-012
9-1/4 in. New England nose high-leverage w/crimping die	30-430

Long-Nose Pliers

- Narrow profile head designed for working in tight areas
- Serrated jaws provide secure gripping surface
- Drop-forged, high-carbon steel construction
- Knife-to-anvil blades never need resharpening
- Laser-hardened blades cut hardened wire, bolts and ACSR
- Vinyl-coated, comfort-grip handles for a secure grip

LIFETIME IDEAL GUARANTEE

Description (Smart-Grip™ Plier Handles)	Cat. No.
8-1/2 in. Long Nose w/Cutter 	35-3038
Description (Dipped Handles)	**Cat. No.**
6 in. Long Nose w/Cutter	35-036
7-3/4 in. Long Nose w/Cutter	35-037
8-1/2 in. Long Nose w/Cutter	35-038
8-1/2 in. w/Cutter & stripping holes for 12 & 14 AWG wire	35-039

Tongue & Groove Pliers

- Patented undercut tongue and groove design ensures solid grip
- Patented reinforced flange protects against breakage
- Laser-hardened teeth remain sharp longer
- Drop-forged, high-carbon steel construction
- Vinyl-coated, comfort-grip handles for a secure grip

LIFETIME IDEAL GUARANTEE

Description (Smart-Grip™ Plier Handles)	Jaw Opening (Inches)	Cat. No.
10 in. Tongue & Groove Pliers	2	35-3430
Description (Dipped Handles)	**Jaw Opening (Inches)**	**(Inches)**
10 in. Tongue & Groove Pliers	2	35-430
12 in. Tongue & Groove Pliers	2-1/4	35-440

Cable Cutters

- Drop-forged, high-carbon steel construction
- Precision-ground, hardened cutting edges provide accurate cuts without cable distortion
- Designed for maximum leverage with minimum effort
- Cuts 2/0 copper and 4/0 aluminum (not for use on ACSR)
- Vinyl-coated, comfort-grip handles

LIFETIME IDEAL GUARANTEE

Description (Smart-Grip™ Plier Handles)	Cat. No.
9-1/2 in. Cable Cutter	35-3052
Description (Dipped Handles)	**Cat. No.**
9-1/2 in. Cable Cutter	35-052

Side-Cutting

Long Nose

Diagonal-Cutting Pliers

- Drop-forged, high-carbon steel construction withstands toughest applications
- Knife-to-anvil blades never need resharpening
- Laser-hardened blades cut hardened wire, bolts and ACSR
- Vinyl-coated, comfort-grip handles for a secure grip
- High-leverage design provides 40% more cutting power
- Models 35-029 and 35-3029 feature a convenient angled head for hard-to-reach areas and rocking out nails

Description (Smart-Grip™ Plier Handles)	Cat. No.
8 in. High-leverage Diagonal	35-3028
8 in. High-leverage Diagonal w/angled head	35-3029
Description (Dipped Handles)	**Cat. No.**
8 in. High-leverage Diagonal	35-028
8 in. High-leverage Diagonal w/angled head	35-029

Split-Joint Pliers

- Two position slip joints fit large and small jobs
- Dipped comfort-grip handles for a secure grip
- Flush rivet

Description	Cat. No.
6 in. Slip Joint Pliers	35-100
Description (Dipped Handles)	**Cat. No.**
8 in. Slip Joint Pliers	35-102

Multi-Crimp Tools

- Crimps bare or insulated terminals and splices on 10–22 AWG wire
- Knife-to-anvil blades never need resharpening
- Excellent leverage for easy crimping and cutting
- Drop-forged, high-carbon steel construction
- Vinyl-coated handles provide a solid, comfortable grip

Description (Smart-Grip™ Plier Handles)	Cat. No.
9-3/4 in. Multi-Crimp Tool	30-3429
Description (Dipped Handles)	**Cat. No.**
9-3/4 in. Multi-Crimp Tool	30-429

Crimp Tool

- Crimps all IDEAL crimp sleeves
- Excellent leverage for right-angle, double-indent crimps
- Cuts and twists wire
- Vinyl-coated handles provide a solid, comfortable grip

Description (Smart-Grip™ Handles)	Cat. No.
10-1/4 in. Crimp Tool	30-425

Tenite® Grips

- Fits LASERedge™ and WireMan™ Pliers
- Not insulated from electrical shock
- Boil in water to soften for easy installation onto handles

Description	Cat. No.
Replacement grips for 8 in. or 9 in. pliers (one pair)	35-008

Tenite® is a registered trademark of Eastman Chemical Company.

For all your plier needs...

Tongue & Groove

Cable Cutter

Diagonal

Crimper

Side-Cutting Pliers

- Custom chrome vanadium steel for durability
- High leverage pivot requires less cutting force
- Sharp, knife-to-knife blades for easy cutting
- Induction hardened teeth for long life
- Cross-hatched jaws so wires won't slip when pulling
- Ergonomic handles for comfortable, all-day use

Description (Smart-Grip™ Plier Handles)	Cat. No.
9-1/4 in. Side-Cutting Pliers	35-4012
9-1/4 in. Side-Cutting Pliers w/crimp and fish tape puller	30-4430
Description (Dipped Handles)	**Cat. No.**
9-1/4 in. Side-Cutting Pliers	35-5012
9-1/4 in. Side-Cutting Pliers w/crimp and fish tape puller	30-5430

Long-Nose Pliers

- Custom chrome vanadium steel for durability
- High leverage pivot requires less cutting force
- Sharp, knife-to-knife blades for easy cutting
- Induction hardened teeth for long life
- Cross-hatched jaws so wires won't slip when pulling
- Ergonomic handles for comfortable, all-day use

Description (Smart-Grip™ Plier Handles)	Cat. No.
6 in. Long-Nose Pliers	35-4036
8 in. Long-Nose Pliers	35-4038
Description (Dipped Handles)	**Cat. No.**
6 in. Long-Nose Pliers	35-5036
8 in. Long-Nose Pliers	35-5038

Tongue & Groove Pliers

- Custom chrome vanadium steel for durability
- Ergonomic handles for comfortable, all-day use

Description (Smart-Grip™ Plier Handles)	Cat. No.
10 in. Tongue & Groove Pliers	35-4430
Description (Dipped Handles)	**Cat. No.**
10 in. Tongue & Groove Pliers	35-5430

Cable Cutters

- Custom chrome vanadium steel for durability
- High-leverage pivot requires less force
- Sharp, knife-to-knife blades for easy cutting
- Induction hardened teeth for long life
- Ergonomic handles for comfortable, all-day use

Description (Smart-Grip™ Plier Handles)	Cat. No.
9 in. 2/0 Cable Cutter	35-4052
Description (Dipped Handles)	**Cat. No.**
9 in. 2/0 Cable Cutter	35-5052

Diagonal Cutting Pliers

- Custom chrome vanadium steel for durability
- High leverage pivot requires less cutting force
- Sharp, knife-to-knife blades for easy cutting
- Induction hardened teeth for long life
- Ergonomic handles for comfortable, all-day use

Description (Smart-Grip™ Plier Handles)	Cat. No.
8 in. Diagonal-Cutting Pliers	35-4028
8 in. Diagonal-Cutting Pliers w/angled head	35-4029
Description (Dipped Handles)	**Cat. No.**
8 in. Diagonal-Cutting Pliers	35-5028
8 in. Diagonal-Cutting Pliers w/angled head	35-5029

Multi-Crimp Tools

- Custom chrome vanadium steel for durability
- High-leverage pivot requires less force
- Ergonomic handles for comfortable, all-day use
- Cuts, crimps and splices 10 – 22 AWG wire for insulated and non-insulated crimp connectors

Description (Smart-Grip™ Plier Handles)	Cat. No.
9-1/4 in. Multi-Crimp Tool	30-4429
9-1/4 in. Multi-Crimp Tool - Bare Terminals	35-4431
Description (Dipped Handles)	**Cat. No.**
9-1/4 in. Multi-Crimp Tool	30-5429
9-1/4 in. Multi-Crimp Tool - Bare Terminals	35-5431

Color-coding and FastFinder™ letter markers on SmartGrip™ handles provide quick tool identification, even by touch!

Smart-Grip™
Our Smart-Grip™ pliers provide the latest innovation in material, comfort design, durability and long life.

IDEAL Grips

LaserEdge™ Dipped Grips
LaserEdge™ Dipped Grips are smooth and easy to wipe clean.

WireMan™ Dipped Grips
WireMan™ Dipped Grips are textured for comfort and control.

Side-Cutting

Long Nose

Tongue & Groove

Cable Cutter

Diagonal

Crimper

Sir Nickless™ Cutter

TO SEVER AND PROTECT ARMORED CABLE

- Handles all common BX, MCAP®, MC and Flex cables
- Blade cuts armor without damage to internal conductors
- Splices cleanly through casings with only a few turns
- Handle knob stores up to six replacement blades

Description	Qty.	Cat. No.
Rotary Armored Cable Cutter	—	35-782
Replacement blades	5/pack	35-781
	1/pack	35-781-1

MCAP® is a registered trademark of Southwire Company.

Mechanical Indentor and Crimp Tool

- Use with aluminum (6 AWG to 4/0) and copper (8 AWG to 250 KCMIL) wires
- Adjustable crimping nests with clearly marked gauges
- Lightweight and easy to operate
- Rugged cast steel construction for long-term durability
- Connections are UL Listed when using this tool with IDEAL Non-Insulated Terminals (#8 - #4 AWG).

Description	Cat. No.
Mechanical Indentor	88-843

Crimp Tool

- Crimps all IDEAL crimp sleeves
- Excellent leverage for right-angle, double-indent crimps
- Cuts and twists wire
- Vinyl-coated handles provide a solid, comfortable grip

LIFETIME IDEAL GUARANTEE

Description	Cat. No.
10-1/4 in. Crimp Tool	30-425

BUCHANAN 4-Way Crimp Tool

- Patented design ensures even compression and reliable connections
- Spring-loaded, cam-actuated plungers
- Fingertip adjustment for different connector sizes

Description	Cat. No.
Four-Way Crimp Tool	C24

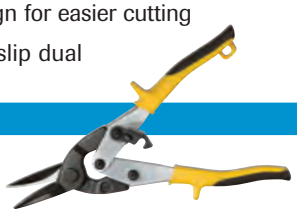
Ratchet Crimp Tool

- Crimps insulated or bare terminals and splices on 10–22 AWG wire
- Ratchet action prevents release prior to crimp connection – helps ensure uniform crimps
- Vinyl-coated handles provide a solid, comfortable grip

Description	Cat. No.
Ratchet Crimp Tool	83-001

Aviation Tin Snips

- Cuts straight, left and right, with one tool!
- Chrome-molybdenum steel forged blades for greater strength and durability
- Serrated edges provide a stable hold when cutting
- Labor-saving design for easier cutting
- Comfortable non-slip dual durometer grips

Description	Cat. No.
Aviation Tin Snips 	35-001

Adjustable Wrenches

- Narrow profile head reaches into tight spaces
- Tight tolerance on thumbscrew won't loosen or wobble with use
- Extra wide jaw capacity with standard and metric markings
- Forged steel construction
- Tempered and hardened for lifetime service

Description	Jaw Capacity	Cat. No.
6 in. Adjustable Wrench	7/8 in.	**35-019**
8 in. Adjustable Wrench	1-1/8 in.	**35-020**
10 in. Adjustable Wrench	1-5/16 in.	**35-021**

IDEAL Wipes™ The Multi-Purpose Towel

- Pre-moistened wipes require no water
- Cleans dirt, grease, lube and grime
- Durable fabric scrubs without tearing
- Infused with natural hand moisturizers and Vitamin E
- Orange citrus scent

Description	Cat. No.
IDEAL Wipes™, 12 in. x 9 in. (82/can)	**38-500**

Drop-Forged Hammer

- One-piece drop-forged, tempered-steel polished head and handle
- Long, straight claws simplify removal of electrical fixtures
- Comfortable, perforated anti-vibe grips
- Elongated neck for hitting inside boxes

Description	Cat. No.
18 oz. x 12-1/2 in. Drop-Forged Handled Hammer	**35-210**

25' Automatic Blade Lock Measuring Tape

- Blade automatically stays out when extended
- Push button for smooth blade retraction
- Comfortable, shock-resistant rubber grip
- Double-sided tape

Description	Cat. No.
Auto-Lock™ Tape Measure - 25 ft.	**35-242**

30' Automatic Blade Lock Measuring Tape with Magnetic-Tip

- 30' length for commercial conduit installation use
- Measurement marks on both sides of tape
- Strong magnets on tip for one-person measurement
- Blade automatically stays out when extended
- Push button for smooth blade retraction
- Comfortable, shock-resistant rubber grip

Description	Cat. No.
Mag-Tape™ Tape Measure - 30 ft. w/Magnetic Tip	**35-238**

Electric Engraving Tools

- Low-cost, industrial-quality marker quickly and easily engraves metal, glass, stone, ceramics, plastics, hard rubber, wood and many other hard materials
- Unique design reduces bouncing and provides smooth, easy writing
- Operates at 7,200 strokes per minute
- Stroke adjusts to vary depth of mark
- Includes carbide-tipped point for normal markings
- Diamond point available for engraving extra-hard materials (50 to 64 Rockwell, scale C)

Description	Cat. No.
Engraver w/carbide-tipped point — 120V, 60 Hz	**11-111**
Engraver w/carbide-tipped point & 3-conductor grounded cord & plug — 120V, 60 Hz	**11-113**
Carbide-Tipped replacement point	**11-200**
Diamond replacement point	**11-201**

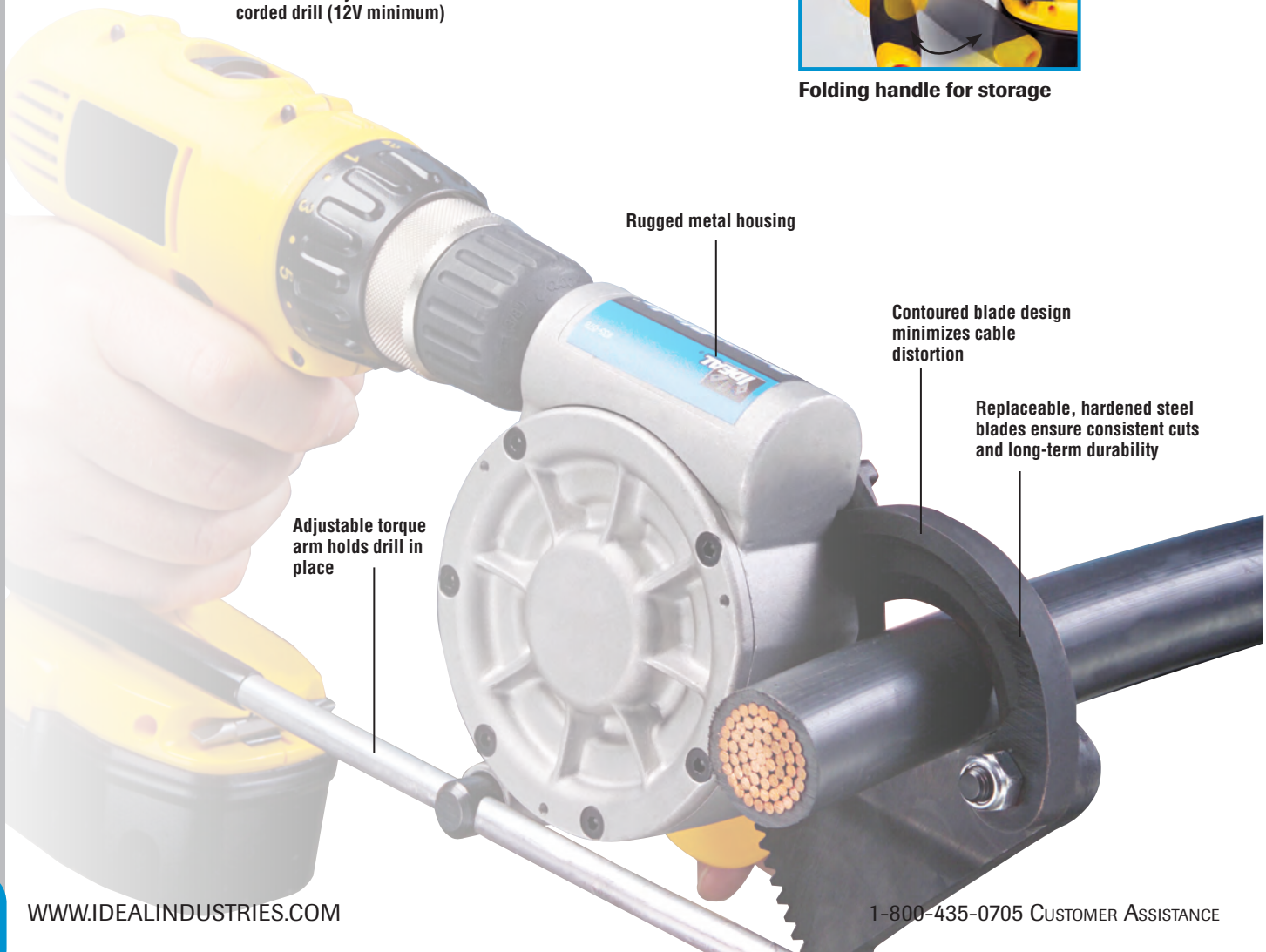
PowerBlade™ Cable Cutter

- Extremely versatile: fits almost any drill (12V minimum)
- Cuts copper up to 2 in. diameter or 750 MCM or aluminum up to 2 in. diameter or 1000 MCM
- Heavy-duty gears and specially hardened blades for professional quality
- Rounded blade design minimizes cable distortion during cutting
- No need to mess with battery packs or special chargers; this tool works with the drill you already carry!

Description	Cat. No.
PowerBlade™ Cable Cutter	35-078
PowerBlade™ Replacement Handle	K-8947R
PowerBlade™ Replacement Blades (pair)	K-8906R
PowerBlade™ Replacement Torque Arm Assembly	K-8909
PowerBlade™ Replacement Carrying Case	K-8926

*Max. Jaw Opening - 2 in. Not for cutting steel or ACSR.

Folding handle for storage



Ratcheting Cable Cutter

- Cuts hard drawn copper up to 400 KCMIL (MCM) and soft copper, aluminum and multiple conductor cable up to 600 KCMIL (MCM)
- Hardened steel blades ensure consistent cuts and long-term durability
- Rounded blade design minimizes cable distortion during cutting
- Quick release mechanism simplifies blade back-out
- Locking mechanism keeps handles closed for easy storage

Description	Cat. No.
400 KCMIL (MCM) Ratcheting Cable Cutter*	**35-056**
Replacement blade (moveable side only)	**35-085**

*Max. Jaw Opening - 2 in. Not for cutting steel or ACSR.

Long-Arm Cable Cutters

- High strength forged blades for ultimate durability
- Precision-ground jaws make clean cuts with minimal cable distortion
- Replaceable blades
- For copper and aluminum only. Not designed for steel or ACSR.

Description	Length	Cat. No.
250 MCM Long-Arm Cable Cutter	14	**35-031**
500 MCM Long-Arm Cable Cutter	22	**35-032**
1000 MCM Long-Arm Cable Cutter	32	**35-033**
Replacement Head - 250 MCM (for 35-031)	—	**35-031B**
Replacement Head - 500 MCM (for 35-032)	—	**35-032B**
Replacement Head - 1000 MCM (for 35-033)	—	**35-033B**

CAUTION: Comfort-grip handles are not designed to for protection against electrical shock. Do not use on live circuits.

Ratcheting Cable Cutter

- 750 KCMIL Ratcheting Cable Cutter is designed to cut 750 KCMIL (MCM) and smaller hard-drawn copper and aluminum cables
- Hardened steel blades ensure consistent cuts and long-term durability
- Rounded blade design minimizes cable distortion during cutting
- Quick release mechanism simplifies blade back-out
- Locking mechanism keeps handles closed for easy storage
- Molded-in foot provides stability and leverage when making multiple cuts

Description	Cat. No.
750 KCMIL (MCM) Ratcheting Cable Cutter*	**35-053**
Replacement blade (moveable side only)	**35-057**

*Max. Jaw Opening - 2 in. Not for cutting steel or ACSR.

Torpedo Level

- 9 in. aluminum frame with magnetic and V-grooved edges
- Windows provide easy reading of plumb level and 45° mitre in dim lighting
- Three rare earth magnets for strong cling to conduit

Description	Cat. No.
9 in. Torpedo Level	35-205

Center Punch

- Accurately start drilling holes on steel surfaces
- One-piece construction
- Hardened and tempered for long life

Description	Cat. No.
Center Punch	35-192

Cold Chisel

- Used for cutting cold metals
- One-piece construction
- Hardened and tempered for long life

Description	Cat. No.
Cold Chisel	35-187

Wood Chisel

- Makes fitting J-boxes to wood studs easier
- Use by hand or mallet
- Hardened and tempered for long life

Description	Cat. No.
Wood Chisel	35-189

Hex-Key Sets

- 8650 steel construction
- Dual-durometer, slip-resistant grip

Description	Cat. No.
4 in. handle w/nine 3-in. keys (5/64 in., 7/64 in., 1/8 in., 9/64 in., 5/32 in., 3/6 in., 7/32 in. & 1/4 in.)	35-146
5-1/4 in. handle w/five 5-in. keys (3/16 in., 7/32 in., 1/4 in., 5/16 in. & 3/8 in.	35-147

Utility Knife

- Quick-change retractable blade system – no disassembly required
- Built in pull-line cutter
- Includes three blades in storage compartment

Description	Cat. No.
Utility Knife	35-300
Replacement blades - Universal (5/pack)	35-301

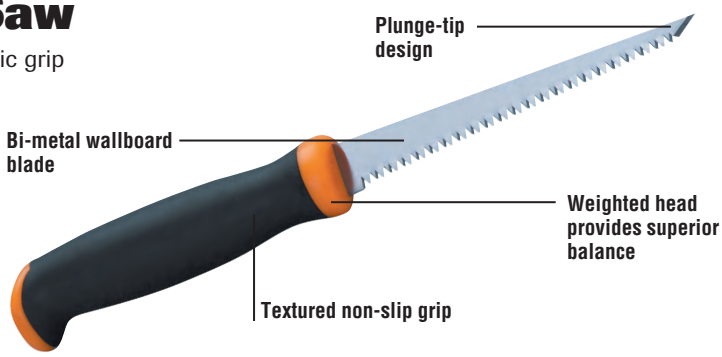
Pocket Knives

- 2-1/4 in. blade locks in position
- High-carbon stainless steel blade construction for extra strength and durability
- Durable non-slip handle
- Brass liners

Description	Cat. No.
Electrician's Knife w/spearpoint and screwdriver blade	35-285
Hawkbill Knife w/curved blade	35-286
Lineman's Jack Knife w/sheepfoot blade	35-287

Jab Saw

- Ergonomic grip



Description	Cat. No.
Jab Saw	35-275

Folding Saw

- Light-weight, heavy-duty die cast construction
- Ergonomic rubber comfort grip
- Blade safely and conveniently folds down in handle
- Accepts all standard 6 in. recip blades

Description	Cat. No.
Folding Saw	35-274

Heavy-Duty Hacksaw

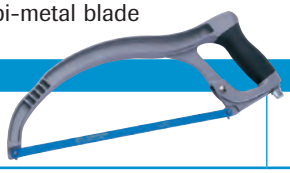
- Cushioned ergonomic grip for performance and comfort
- Rugged frame provides lightweight rigidity and exceptional control
- Stores up to nine extra blades
- Blades can be adjusted to 55° angle for flush cutting and tensioned to 30,000 psi
- Includes 12 in. x 24T bi-metal blade

Description	Cat. No.
Heavy-Duty Hacksaw	35-260

Ergonomic Hacksaw

- Angled handle for easier cutting
- Blade can easily be adjusted for flush cutting
- Easy tensioning wing-nut keeps blades tight for straighter cuts
- Cushioned ergonomic grip for performance and comfort

- Includes 12 in. x 24T bi-metal blade



Description	Cat. No.
Ergonomic Hacksaw	35-261

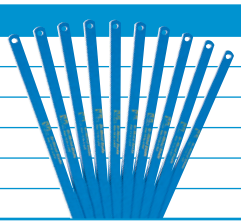
Mini Hacksaw

- Heavy-duty die cast frame
- Non-slip rubber comfort grip
- Accepts all standard hacksaw blades

Description	Cat. No.
Mini Hacksaw	35-259

Hacksaw Blades

- Bi-metal blades provide strength, flexibility and longer life



Description	Qty./Pack	Cat. No.
12 in. x 18T Blades	10	35-271
12 in. x 24T Blades	10	35-272
12 in. x 32T Blades	10	35-273
12 in. x 18T Blades	100	35-262
12 in. x 24T Blades	100	35-263
12 in. x 32T Blades	100	35-264

Screwdrivers

Specialty Screwdrivers

- Top quality screwdrivers designed especially for the professional electrician
- Multi-functional drivers that can tackle all your fastening needs
- Durable tools with lifetime warranties

Cushioned-Grip Screwdrivers

- Cushioned-gripped for comfort and maximum torque
- Custom tip blasted for precise fit
- Nickel Chrome steel shank for maximum strength and durability

Industrial Screwdriver Bits

- Made from rugged S2M tool steel
- All bits are 100% made in the U.S.A.
- Custom heat treated for strength and durability

Mini Cushioned-Grip Screwdrivers

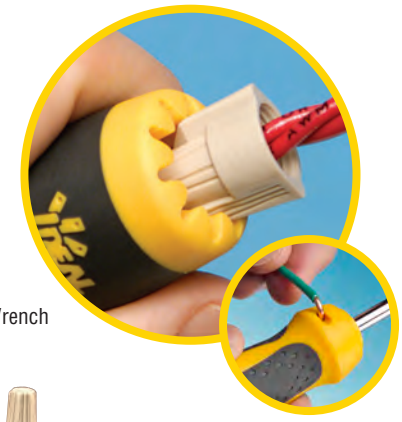
- Tightens small fasteners easily and accurately
- Custom tip blasted for precise fit
- Cushioned-gripped for comfort and maximum torque

Nutdrivers

- Long, hollow shanks handle longer bolts
- Cushioned-gripped for comfort and maximum torque

Twist-a-Nut™ Screwdrivers & Nutdrivers

Patented Wire-Nut® Wire Connector Wrench accepts a wide variety of connectors.



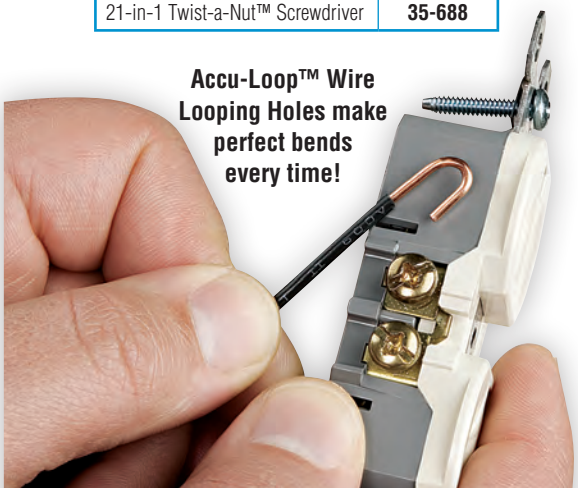
Accu-Loop™ Wire Looping Holes

B-Cap® Wing-Nut® Wire-Nut® Twister®

21-in-1 Twist-a-Nut™ Screwdriver

- Wire connector wrench prevents finger fatigue and gets in tight spots
- All metal ratchet, pro-quality, 28 tooth double action, twin-tooth ratchet
- Premium screwdriver ratchet mechanism can handle high torque without failure
- 225 lbs. of torque (stronger than human wrist can torque)
- Ergonomic, slip-free comfort grip
- Multiple bit storage unit and wire-looping hole in handle
- Includes: #1 Phillips, #2 Phillips, #3 Phillips, 3/16" Slotted, 1/4" Slotted, 5/16" Slotted, #1 Square, #2 Square, #15 Star, #20 Star, #25 Star, #30 Star, 3/32" Hex, 1/8" Hex, 3/16" Hex, 5/32" Hex, 1/4" Nut, 5/16" Nut and 7/16" Nut

Description	Cat. No.
21-in-1 Twist-a-Nut™ Screwdriver	35-688



Accu-Loop™ Wire Looping Holes make perfect bends every time!

Multiple bit storage unit

(Lifetime warranty excludes bits)

CHECK OUT THE DEMO VIDEO

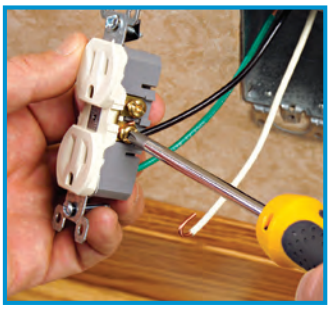
9-in-1 Ratch-a-Nut™ Screwdriver

- Ratcheting Wire Connector Wrench prevents finger fatigue and gets in tight spots
- Premium screwdriver ratchet mechanism can handle high torque without failure
- Ergonomic, slip-free comfort grip
- Accepts Twist-a-Nut™ replacement bits
- Includes: 1/4 in. and 3/16 in. Slotted, #1 & #2 Phillips, 1/4 in., 5/16 in., 7/16 in. nutdrivers, ratcheting screwdriver end, ratcheting wire connector wrench and wire-looping hole in handle

(Lifetime warranty excludes bits)

Description	Cat. No.
9-in-1 Ratch-a-Nut™ Screwdriver	35-988

Twist-a-Nut™ Pro Electrician's Screwdrivers



- Convenient Wire-Nut® Wire Connector Wrench in end of handle
- Wire-looping hole in handle
- Vapor-blasted tip prevents plate chipping
- Tough, chrome vanadium steel shank
- Precision ground tip provides secure fit in screw slot

Description	Cat. No.
#2 x 6 in. Square	30-330
1/4 in. x 4 in. Slotted	30-331
#2 x 4 in. Phillips	30-332
1/4 in. x 6 in. Slotted Cabinet Tip	30-333

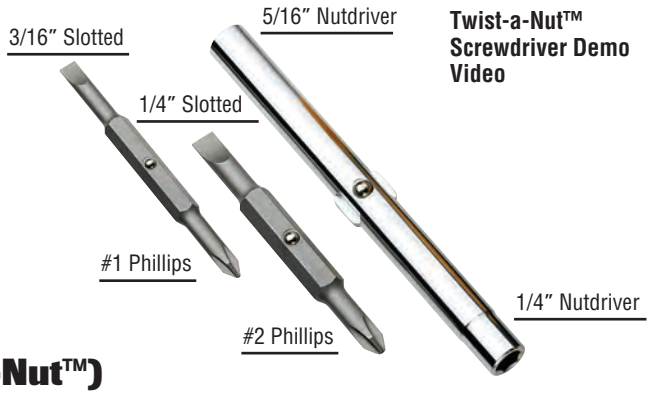
7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver

- Includes patented Wire-Nut® Wire Connector Wrench in handle to help install twist-on wire connectors
- Includes wire-looping hole in handle
- Includes #1 & #2 Phillips, 1/4 in. & 3/16 in. Slotted, 1/4 in. & 5/16 in. Nutdriver
- #35-909 includes #1 & #2 Square Recess in place of #1 & #2 Phillips
- Handle is interchangeable with conduit deburrer head (#35-096) and 6-in-1 Tap Tool (#35-922)

CHECK OUT THE DEMO VIDEO

(Lifetime warranty excludes bits)

Description	Cat. No.
7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver	35-908
7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver with Square tip	35-909



Twist-a-Nut™ Screwdriver Demo Video

Replacement Tips
(for both Ratch-a-Nut™ and Twist-a-Nut™)

Description	Cat. No.
1/4 in. slotted – #2 Phillips	35-911
3/16 in. slotted – #1 Phillips	35-912
1/4 in. slotted – #2 Square	35-913

Description	Cat. No.
3/16 in. slotted – #1 Square	35-914
#15 & #10 Star	35-915

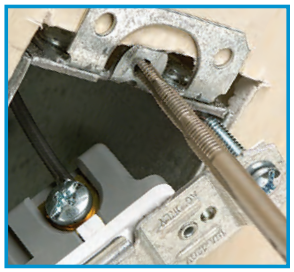
6-in-1 Twist-a-Nut™ Tap Tool

- Forms new threads, re-forms burred threads and cleans out obstructions
- Reversible, high-carbon tap with three clearly marked thread sizes on each end
- Handle is interchangeable with 7-in-1 Screwdriver (#35-908) and Conduit Deburrer (#35-083)

(Lifetime warranty excludes taps)

Description	Cat. No.
Twist-a-Nut™ Tapping Tool includes: 6-32, 8-32 & 10-32 on one tapping side, 10-24, 12-24 & 1/4-20 on the other	35-922
Replacement collar and six taps	35-923

3-in-1 Twist-a-Nut™ Tap Tool



- Forms new threads, re-forms burred threads and cleans out obstructions
- Reversible, high-carbon tap with three clearly marked thread sizes on each end
- Handle is interchangeable with 7-in-1 Screwdriver (#35-908) and Conduit Deburrer (#35-083)
- Patented Wire-Nut® Wire Connector wrench in handle helps install twist-on wire connectors

(Lifetime warranty excludes taps)

Description	Cat. No.
3-in-1 Tap Tool includes handle and three taps	35-412

Twist-a-Nut™ Conduit Deburring Tools

- Deburrs inside and outside edges of 1/2 in., 3/4 in. and 1 in. thin wall conduit
- Hooded tip tightens EMT fitting set screws without slipping
- Square tip "seats" much more quickly on fitting screws than slotted version
- Head removes and is interchangeable with IDEAL 7-in-1 Twist-a-Nut™ Screwdriver shaft (#35-908)
- Head can be used in drill or cordless screwdriver
- Patented Wire-Nut® Wire Connector Wrench in handle end eases installation of twist-on connectors

(Lifetime warranty excludes bits & blades)

Description	Cat. No.
Conduit Deburring Tool, Slotted tip	35-083
Conduit Deburring Tool - #2 Square tip	35-075
Conduit Deburring Tool - head only, Slotted tip	35-096
Conduit Deburring Tool - head only, #2 Square tip	35-098
Replacement Blades (2/pack)	35-097

Twist-a-Nut™ Conduit Wiring Kit

- Includes
  - Twist-a-Nut™ Screwdriver (35-908)
  - Twist-a-Nut™ Deburring Head - Square Tip (35-098)
  - Twist-a-Nut™ Tap Tool Shaft (35-923)
  - Three Spare Bits (1/4 in. Slotted & #2 Square, 3/16 in. Slotted & #1 Square, #10 & #15 Star)
  - 8-Pocket Carrying Pouch (35-927)
- Nylon carrying pouch holds all three Twist-a-Nut™ tools plus room for four replacement bits or taps
- Strong easy-slide metal belt clip

(Lifetime warranty excludes bits & taps)

Description	Cat. No.
Twist-a-Nut™ Combo Pack	35-926
Twist-a-Nut™ Carrying Pouch only	35-927

6-in-1 Screwdriver/ Nutdriver

- Includes: 5/16 in. Nutdriver, #1 Phillips, #2 Phillips, 9/32 in. Slotted and 3/16 in. Slotted
- Cushioned grip for performance and comfort
- Patented Accu-Loop™ Wire looping holes

Patented Wire-Nut® Wire Connector Wrench in handle

Description	Cat. No.
6-in-1 Screwdriver/Nutdriver	**35-905**

Replacement Bits (for 6-in-1 Screwdriver)

Description	Cat. No.
#1 Phillips - 3/16 in. Slotted	**LA-4123**
#2 Phillips - 9/32 in. Slotted	**LA-4124**

11-in-1 Screwdriver/ Nutdriver

- Includes: 1/4 in. Slotted, #2 Phillips, 3/16 in. Slotted, #1 Phillips, #1 & #2 Square, #15 and #10 Star and 5/16 in. & 1/4 in. 3 Nutdriver
- Cushioned grip for comfort and performance
- Patented Accu-Loop™ Wire looping holes

Patented Wire-Nut® Wire Connector Wrench in handle

Description	Cat. No.
11-in-1 Screwdriver/Nutdriver	**35-910**

Replacement Bits (for 11-in-1 Screwdriver)

Description	Cat. No.
1/4 in. Slotted - #2 Phillips (2/pack)	**35-940**
3/16 in. Slotted - #1 Phillips (2/pack)	**35-941**
#1 & #2 Square (2/pack)	**35-942**
#15 & #10 Star (2/pack)	**35-943**

NEW

(Lifetime warranty excludes bits)

NEW

(Lifetime warranty excludes bits)

Cushioned-Grip Screwdrivers

FastFinder™ handle shows tip type on end of handle

5-Piece Screwdriver Set

Description				Cat. No.
5-Piece Screwdriver Set				**35-297**
35-297 Includes	**Blade Length**	**Handle Length**	**Overall Length**	**Cat. No.**
Phillips	4 in.	4-5/16 in.	8-5/16 in.	**35-194**
Heavy-Duty Keystone	4 in.	4-5/16 in.	8-5/16 in.	**35-154**
Cabinet	6 in.	3-3/4 in.	9-3/4 in.	**35-186**
Heavy-Duty Keystone	6 in.	4-5/16 in.	10-5/16 in.	**35-151**
Phillips	6 in.	5-11/32 in.	11-11/32 in.	**35-166**

7-Piece Screwdriver Set

Description				Cat. No.
7-Piece Screwdriver Set				**35-1298**
35-1298 Includes	**Blade Length**	**Handle Length**	**Overall Length**	**Cat. No.**
Phillips	3 in.	3-3/4 in.	6-3/4 in.	**35-193**
Heavy-Duty Cabinet	4 in.	4-5/16 in.	8-5/16 in.	**35-150**
Phillips	4 in.	4-5/16 in.	8-5/16 in.	**35-194**
Heavy-Duty Keystone	4 in.	4-5/16 in.	8-5/16 in.	**35-154**
Slotted Cabinet	3 in.	3-3/4 in.	6-3/4 in.	**35-183**
Keystone	6 in.	5-11/32 in.	11-11/32 in.	**35-156**
Cabinet	6 in.	3-3/4 in.	9-3/4 in.	**35-186**

8-Piece Screwdriver Set

Description				Cat. No.
8-Piece Screwdriver Set				**35-298**
35-298 Includes	**Blade Length**	**Handle Length**	**Overall Length**	**Cat. No.**
Phillips	3 in.	3-3/4 in.	6-3/4 in.	**35-193**
Slotted	3 in.	3-3/4 in.	6-3/4 in.	**35-183**
Phillips	4 in.	4-5/16 in.	8-5/16 in.	**35-194**
Heavy-Duty Keystone	4 in.	4-5/16 in.	8-5/16 in.	**35-164**
Heavy-Duty Keystone	4 in.	4-5/16 in.	8-5/16 in.	**35-154**
Cabinet	6 in.	3-3/4 in.	9-3/4 in.	**35-186**
Heavy-Duty Cabinet	6 in.	4-5/16 in.	10-5/16 in.	**35-151**
Keystone	6 in.	5-11/32 in.	11-11/32 in.	**35-166**

Phillips

- Vapor-blasted tip prevents plate chipping
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Nickel Chrome plating for corrosion resistance
- Tough, chrome vanadium steel shank with cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
#1 Phillips	3 in.	3-3/4 in.	6-3/4 in.	**35-193**
#2 Phillips	1-1/2 in.	1-15/16 in.	3-7/16 in.	**35-191**
#2 Phillips	4 in.	4-5/16 in.	8-5/16 in.	**35-194**
#2 Phillips	6 in.	4-5/16 in.	10-5/16 in.	**35-195**
#3 Phillips	6 in.	5-23/64 in.	11-23/64 in.	**35-196**

Square

- Precise tip for square-recess screws
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Nickel Chrome plating for corrosion resistance
- Tough, chrome vanadium steel shank with cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
#0 Square	4 in.	4-5/16 in.	8-5/16 in.	**35-690**
#1 Square	4 in.	4-5/16 in.	8-5/16 in.	**35-691**
#1 Square	8 in.	4-5/16 in.	12-5/16 in.	**35-692**
#2 Square	4 in.	4-5/16 in.	8-5/16 in.	**35-693**
#2 Square	8 in.	4-5/16 in.	12-5/16 in.	**35-694**
#3 Square	4 in.	4-5/16 in.	8-5/16 in.	**35-695**
#3 Square	8 in.	4-5/16 in.	12-5/16 in.	**35-696**

Cabinet

- Vapor-blasted tip prevents plate chipping
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Precision ground tip provides secure fit in screw slot
- Nickel Chrome plating for corrosion resistance
- Tough, vanadium steel shank with cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
3/16 in. shank and tip	3 in.	3-3/4 in.	6-3/4 in.	**35-183**
3/16 in. shank and tip	4 in.	3-3/4 in.	7-3/4 in.	**35-184**
3/16 in. shank and tip	6 in.	3-3/4 in.	9-3/4 in.	**35-186**
3/16 in. shank and tip	8 in.	3-3/4 in.	11-3/4 in.	**35-188**
3/16 in. shank and tip	10 in.	3-3/4 in.	13-3/4 in.	**35-190**

Heavy-Duty Cabinet

- Large diameter shank for tough applications
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Vapor-blasted tip prevents plate chipping
- Precision ground tip provides secure fit in screw slot
- Nickel Chrome plating for corrosion resistance
- Tough, chrome vanadium steel shank with cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
1/4 in. shank and tip	4 in.	4-5/16 in.	8-3/8 in.	**35-150**
1/4 in. shank and tip	6 in.	4-5/16 in.	10-3/8 in.	**35-151**
1/4 in. shank and tip	8 in.	4-5/16 in.	12-3/8 in.	**35-152**

Heavy-Duty Round Shaft Keystone

- Larger shank for heavy-duty applications
- Identification mark on ends
- Vapor-blasted tip prevents plate chipping
- Precision ground tip provides secure fit in screw slot
- Large diameter shank for tough applications
- Tough, chrome vanadium steel shank with cushioned-grip handle

Round Shank	Blade Length	Handle Length	Overall Length	Cat. No.
1/4 in. shank and tip	1-1/2 in.	1-15/16 in.	3-7/16 in.	**35-161**
1/4 in. shank and tip	4 in.	4-5/16 in.	8-5/16 in.	**35-164**
5/16 in. shank and tip	6 in.	5-11/32 in.	11-11/32 in.	**35-166**
3/8 in. shank and tip	8 in.	5-11/32 in.	13-11/32 in.	**35-168**

Heavy-Duty Square Shaft Keystone

- Larger shank for heavy-duty applications
- Identification mark on ends
- Vapor-blasted tip prevents plate chipping
- Precision ground tip provides secure fit in screw slot
- Square-shank models offer wrench-assisted turning
- Tough, chrome vanadium steel shank with cushioned-grip handle

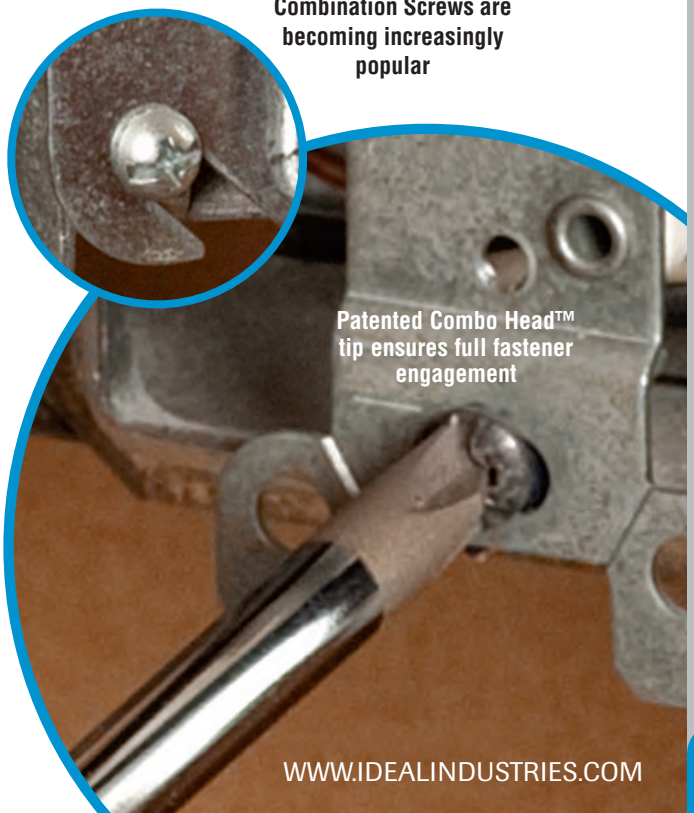
Square Shank	Blade Length	Handle Length	Overall Length	Cat. No.
1/4 in. shank and tip	4 in.	4-5/16 in.	8-5/16 in.	**35-154**
5/16 in. shank and tip	6 in.	5-11/32 in.	11-11/32 in.	**35-156**
3/8 in. shank and tip	8 in.	5-11/32 in.	13-11/32 in.	**35-158**

Combo Head™

- Designed to accurately and securely fit most Combination Fasteners
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Patented design
- Cushioned-Grip Cellulose Acetate handle provides maximum comfort and grip

Description	Blade Length	Handle Length	Overall Length	Cat. No.
Combo Head™ Cushioned-Grip Screwdriver	4 in.	4-5/16 in.	8-5/16 in.	**35-204**

Combination Screws are becoming increasingly popular



Recessed Light Kit

- All the tools needed to install recessed lights
- Long spring tool easily installs and removes spring
- Compact Nutdriver is 2-1/4 in. - providing added clearance in recess lighting
- Cushioned-grip handle for added comfort

Description	Cat. No.
Recessed Light Kit	35-698

Quick-Rotating

- Ideal for threading screws in switches, fixtures and anchors
- Identification mark on ends
- One-handed crank action for quick and easy use
- Vapor-blasted tip prevents plate chipping
- Precision-ground tip provides secure fit in screw slot
- Nickel Chrome plating for corrosion resistance
- Tough, chrome vanadium steel shank with cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
Cabinet	5-9/16 in.	3-3/4 in.	9-3/8 in.	35-200
Phillips	5-5/8 in.	4-5/16 in.	9-15/16 in.	35-203

Awl

- Heavy-duty construction for piercing, punching and scribing
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Cushioned-grip handle

Description	Blade Length	Handle Length	Overall Length	Cat. No.
Awl	3 in.	3-3/4 in.	6-3/4 in.	35-202

Grip-n-Screw™ Screwdriver

- Holds screw when collar is extended
- Non-magnetic screw-holding screwdriver
- Tough, chrome vanadium steel shank and cushioned-grip handle

Description	Blade Length	Handle Length	Total Length	Cat. No.
3/16 Slotted	5-7/8 in.	3-3/4 in.	9-5/8 in.	35-406
#2 Phillips	6-7/8 in.	4-15/16 in.	11-1/4 in.	35-404

Off-Set Screwdriver Set

NEW

- 4 in. length
- 1/4 in. x 1/4 in. Slotted tips
- #1 Phillips x #2 Phillips tips
- Designed to tighten fasteners in hard to reach places

Description	Overall Length	Cat. No.
Off-Set Screwdriver Set – 1/4 in. x 1/4 in. Slotted and #1 & #2 Phillips	4 in.	35-219

NEW

Quick Change Screwdriver

- Patented Sure-Loc™ Quick Change chuck eliminates debris pick up as well as dropped bits
- Built-in bit storage container in handle holds up to five extra insert bits
- Bits fit all standard multi-bit screwdrivers
- E-Z Spin™ high torque rotating flip cap
- Patented design

CHECK OUT THE DEMO VIDEO

LIFETIME IDEAL GUARANTEE

(Lifetime warranty excludes bits)

See website for complete listing of bits in blocks.

Description	Blade Length	Handle Length	Overall Length	Cat. No.
33-Piece Quick Change Screwdriver Set - Quick Change Screwdriver and 32-Piece Tamper-Proof Bit Block	3-1/16 in.	4-3/16 in.	7-1/4 in.	**35-933**
32-Piece Tamper-Proof Bit Block				**35-933TP**
32-Piece Standard Bit Block				**35-933STD**

4-Piece Mini Cushioned-Grip Screwdriver Set

SOLD ONLY AS A SET

LIFETIME IDEAL GUARANTEE

Description	Blade Length	Handle Length	Overall Length	Cat. No.
Phillips, #0	2-31/32 in.	2-3/4 in.	5-23/32 in.	–
Keystone, 1/16 in.	1-31/32 in.	2-3/4 in.	4-23/32 in.	–
Cabinet, 3/32 in.	2-31/32 in.	2-3/4 in.	5-23/32 in.	–
Cabinet, 1/8 in.	2-31/32 in.	2-3/4 in.	5-23/32 in.	–
4-Piece Set				**35-1301**

2-Piece Stubby Screwdriver Set

LIFETIME IDEAL GUARANTEE

Description	Blade Length	Handle Length	Overall Length	Cat. No.
2-Piece Screwdriver Set	1-1/2 in.	2-1/8 in.	3-5/8 in.	**35-1300**

Slim Electronics

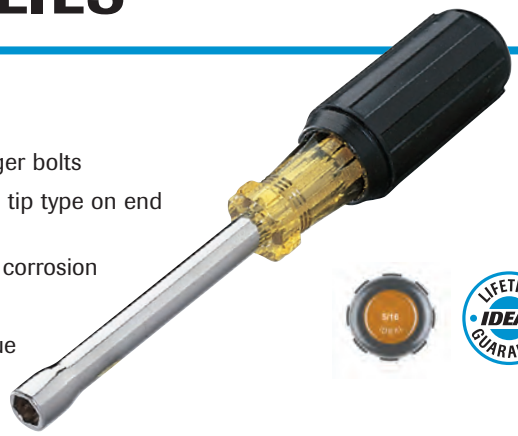
- Designed for maximum handling comfort when working in tight areas
- Tough, chrome vanadium steel shank
- Phosphate tip for longer wear life
- Rotating cap for optimum control for precise centering
- Color-coded cap for easy identification

LIFETIME IDEAL GUARANTEE

Description	Blade Length	Handle Length	Overall Length	Cat. No.
Cabinet, 3/32 in.	2-1/2 in.	3-9/16 in.	6-1/16 in.	**36-240**
Cabinet, 3/32 in.	3 in.	3-9/16 in.	6-9/16 in.	**36-241**
Cabinet, 1/8 in.	4 in.	3-9/16 in.	7-9/16 in.	**36-242**
Cabinet, 1/8 in.	6 in.	3-9/16 in.	9-9/16 in.	**36-243**
Cabinet, 5/32 in.	4 in.	3-9/16 in.	7-9/16 in.	**36-244**
Cabinet, 5/32 in.	6 in.	3-9/16 in.	9-9/16 in.	**36-245**
Phillips, #0	2-1/2 in.	3-9/16 in.	6-1/16 in.	**36-246**
7-Piece Set includes one each of 36-240 thru 36-246				**36-248**
4-Piece Set includes one each of 36-240, -241, -242, & -246				**36-249**

Nutmaster® Nutdrivers

- Long, hollow shank accommodates longer bolts
- Easy-to-read FastFinder™ handle shows tip type on end of handle
- Nickel Chrome plated to resist rust and corrosion
- Cushioned grips
- Models 35-292 and 35-295 fit Tan & Blue Twister® Wire Connectors



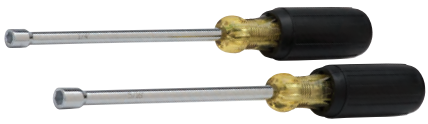
Description	Shank Length	Handle Length	Overall Length	Cat. No.
3/16 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-290**
1/4 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-291**
5/16 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-292**
11/32 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-293**

Description	Shank Length	Handle Length	Overall Length	Cat. No.
3/8 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-294**
7/16 in. x 4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-295**
1/2 in. x 4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-296**

7-Piece Nutdriver Set

Description				Cat. No.
7-Piece Nutdriver Set				**35-299**
35-299 Includes	**Shank Length**	**Handle Length**	**Overall Length**	**Cat. No.**
3/16 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-290**
1/4 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-291**
5/16 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-292**
11/32 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-293**
3/8 in. x 3-1/4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-294**
7/16 in. x 4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-295**
1/2 in. x 4 in.	3 in.	4-5/16 in.	7-5/16 in.	**35-296**

2-Piece Hollow-Shaft Nutdriver Set



- Includes 1/4 in. & 5/16 in.
- Long, hollow shank accommodates longer bolts
- Nickel Chrome plated to resist rust and corrosion
- Long shanks useful in deep electrical boxes

Description	Shank Length	Handle Length	Overall Length	Cat. No.
2-Piece Nutdriver Set	5-15/16 in.	4-5/16 in.	10-1/4 in.	**35-1302**

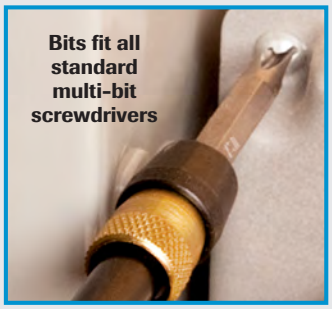
2-Piece Stubby Nutdriver Set

- For use in tight spaces

Description	Blade Length	Handle Length	Overall Length	Cat. No.
2-Piece Nutdriver Set	1-1/2 in.	2-1/8 in.	3-5/8 in.	**35-1299**

Industrial Screwdriver Bits & Accessories

NEW

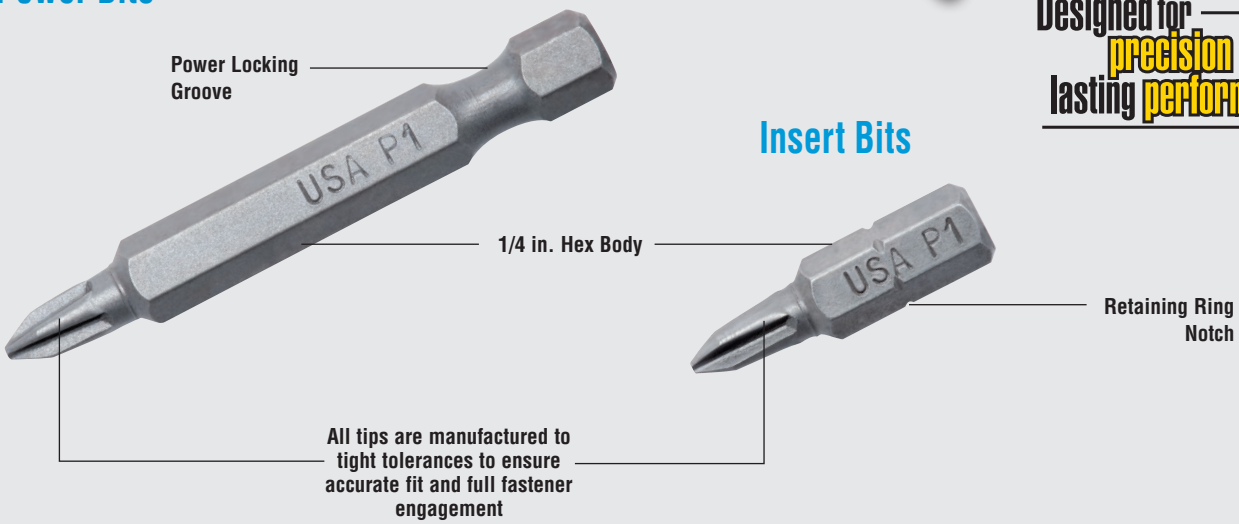


- S2M tool steel, custom heat treated for strength and durablity
- All tips are manufactured to tight tolerances to ensure accurate fit and full fastener engagement
- Custom heat treated for strength and durablity
- Insert bits have a retaining ring notch
- Power bits have a power locking groove
- 1/4 in. hex body
- Fit all standard multi-bit screwdrivers
- The patented Combo Head™ bit is an IDEAL exclusive

Power Bits

Insert Bits

Designed for precision fit and lasting performance.



Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Combo Head™

- Patented design tip fits most combination screws

Description	Cat. No.
Combo Drive #2, 1 in. Insert Bit (Bulk)	78-0105-25
Combo Drive #2, 2 in. Power Bit (Bulk)	78-0106-25

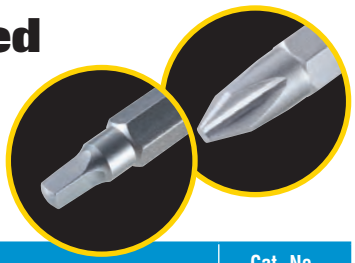
Slotted

- Insert bits have a retaining ring notch, power bits have a power-locking groove

Description	Cat. No.
Slotted 1/4 in., 1 in. Insert Bit (Carded)	78-0209
Slotted 1/4 in., 2 in. Power Bit (Carded)	78-0210
Slotted 1/8 in., 1 in. Insert Bit (Carded)	78-0211
Slotted 1/8 in., 2 in. Power Bit (Carded)	78-0212
Slotted 3/16 in., 1 in. Insert Bit (Bulk)	78-0213-25
Slotted 3/16 in., 1 in. Insert Bit (Carded)	78-0213
Slotted 3/16 in., 2 in. Power Bit (Bulk)	78-0214-25
Slotted 3/16 in., 2 in. Power Bit (Carded)	78-0214
Slotted 7/32 in., 1 in. Insert Bit (Bulk)	78-0215-25
Slotted 7/32 in., 2 in. Power Bit (Bulk)	78-0216-25

Double Ended

- 2 bits in 1!



Description	Cat. No.
DE Slotted 1/4 in. x #2 Phillips (Carded)	78-0102
DE Slotted 1/4 in. x #2 Phillips (Bulk 25)	78-0102-25
DE Slotted 1/4 in. x #2 Square (Carded)	78-0103
DE Square #2 Square x #2 Phillips (Bulk 25)	78-0104-25

Phillips

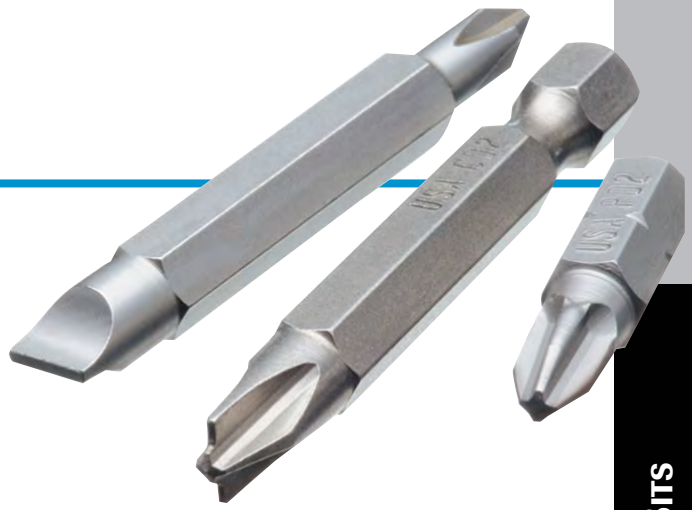
- All bits 100% Made in the U.S.A.!

Description	Cat. No.
Phillips #1, 1 in. Insert Bit (Bulk)	78-0200-25
Phillips #1, 1 in. Insert Bit (Carded)	78-0200
Phillips #1, 2 in. Power Bit (Bulk)	78-0201-25
Phillips #1, 2 in. Power Bit (Carded)	78-0201
Phillips #2, 1 in. Insert Bit (Bulk)	78-0202-25
Phillips #2, 1 in. Insert Bit (Carded)	78-0202
Phillips #2, 2 in. Power Bit (Bulk)	78-0203-25
Phillips #2, 2 in. Power Bit (Carded)	78-0203
Phillips #2, 6 in. Power Bit (Carded)	78-0204
Phillips #3, 1 in. Insert Bit (Bulk)	78-0205-25
Phillips #3, 1 in. Insert Bit (Carded)	78-0205
Phillips #3, 2 in. Power Bit (Bulk)	78-0206-25
Phillips #3, 2 in. Power Bit (Carded)	78-0206

Square

- All bits and accessories fit standard multi-bit screwdrivers and power drills

Description	Cat. No.
Square #1, 1 in. Insert Bit (Bulk)	78-0219-25
Square #1, 1 in. Insert Bit (Carded)	78-0219
Square #1, 2 in. Power Bit (Bulk)	78-0220-25
Square #1, 2 in. Power Bit (Carded)	78-0220
Square #2, 1 in. Insert Bit (Bulk)	78-0221-25
Square #2, 1 in. Insert Bit (Carded)	78-0221
Square #2, 2 in. Power Bit (Bulk)	78-0222-25
Square #2, 2 in. Power Bit (Carded)	78-0222
Square #2, 6 in. Power Bit (Carded)	78-0223
Square #3, 1 in. Insert Bit (Bulk)	78-0224-25
Square #3, 1 in. Insert Bit (Carded)	78-0224
Square #3, 2 in. Power Bit (Bulk)	78-0225-25
Square #3, 2 in. Power Bit (Carded)	78-0225



All bits and accessories fit standard multi-bit screwdrivers.

Torx®

- Manufactured to tight tolerances to ensure accurate fit and full fastener engagement

Description	Cat. No.
Torx® 20, 1 in. Insert Bit (Carded)	78-0226
Torx® 25, 1 in. Insert Bit (Carded)	78-0227
Torx® 27, 1 in. Insert Bit (Carded)	78-0228
Torx® 30, 1 in. Insert Bit (Carded)	78-0229
7 pc. Torx® Bit Set in Holder (Carded)	78-0100

Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Tamper-Proof Torx®

- All bits made from rugged S2M tool steel

Description	Cat. No.
TP Torx® T20, 1 in. Insert Bit (Carded)	78-0230
TP Torx® T25, 1 in. Insert Bit (Carded)	78-0231
TP Torx® T27, 1 in. Insert Bit (Carded)	78-0232
TP Torx® T30, 1 in. Insert Bit (Carded)	78-0233
7 pc. Tamper-Proof Torx® Bit Set in Holder (Carded)	78-0101

Torx® is a registered trademark of Acument Intellectual Properties, LLC.

Magnetic Nut Setter

- Variety of sizes for multiple applications

Description	Cat. No.
Magnetic Nut Setter 1/4 in. (Bulk 10)	78-0111-10
Magnetic Nut Setter 1/4 in. (Carded)	78-0111
Magnetic Nut Setter 3/8 in. (Bulk 10)	78-0113-10
Magnetic Nut Setter 3/8 in. (Carded)	78-0113
Magnetic Nut Setter 5/16 in. (Bulk 10)	78-0114-10
Magnetic Nut Setter 5/16 in. (Carded)	78-0114
Magnetic Nut Setter 3 pk. 1/4 in., 3/8 in., 5/16 in. (Carded)	78-0112

Quick Change Chuck

- Patented Sure-Loc™ tip clicks bit in place without pulling back collar

Description	Cat. No.
Quick Change Chuck 3-3/4 in. (Carded)	78-0207
Quick Change Chuck 6 in. (Bulk 5)	78-0208-5

Magnetic Bit Holder

- Slender extension with powerful magnet to grasp and hold bits

Description	Cat. No.
Magnetic Bit Holder 4 in.	78-0107
Magnetic Bit Holder 6 in.	78-0108

Socket Adapter

- Custom heat treated for strength and durability

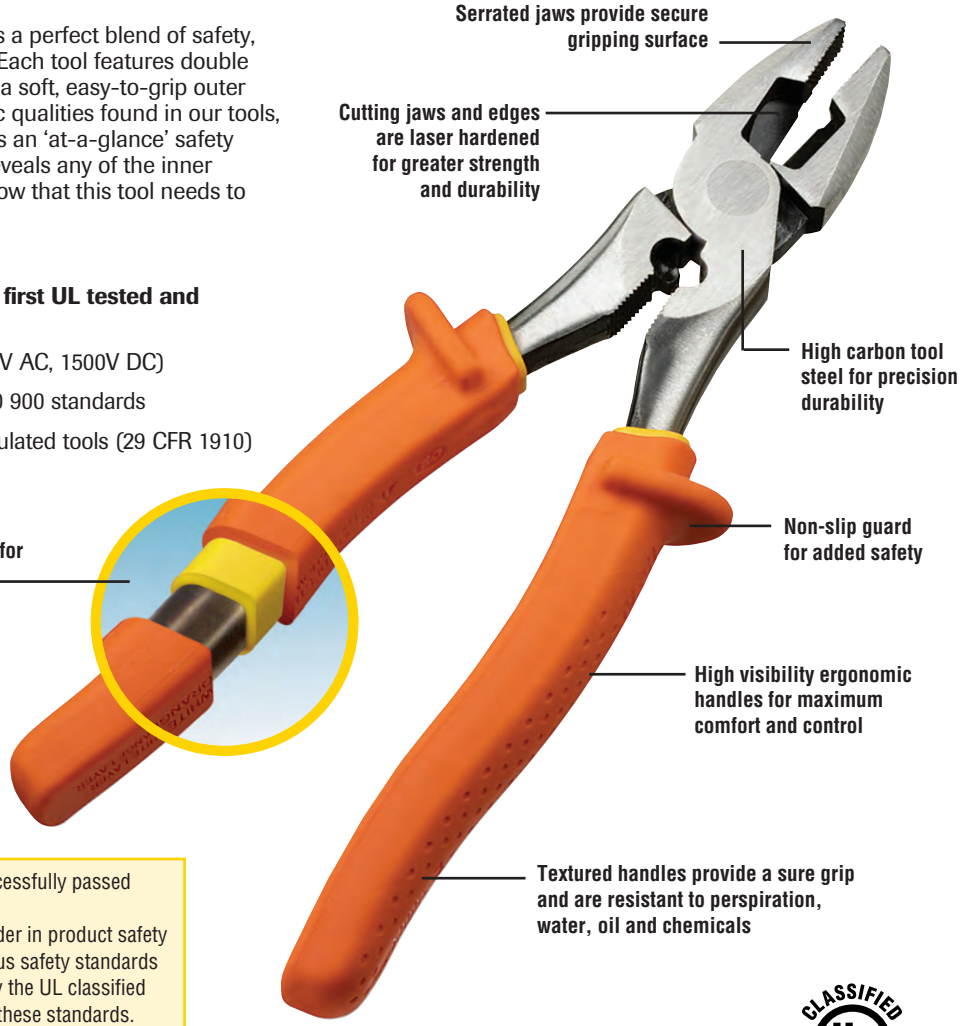
Description	Cat. No.
Socket Adapter 1 in. Insert Bit (Bulk 25)	78-0217-25
Socket Adapter 1 in. Insert Bit (Carded)	78-0217
Socket Adapter 2 in. Power Bit (Carded)	78-0218

Insulated Tools

The IDEAL insulated tool line creates a perfect blend of safety, comfort and precision functionality. Each tool features double insulated Santoprene® handles with a soft, easy-to-grip outer surface. In addition to the ergonomic qualities found in our tools, the insulated coating process acts as an 'at-a-glance' safety check. If the orange outer coating reveals any of the inner yellow surface, an electrician will know that this tool needs to be replaced.

Features

- IDEAL pliers and strippers are the **first UL tested and listed** insulated tools available
- Tools are 1000 Volt certified (1000V AC, 1500V DC)
- Meets ASTM F1505-01 and IEC 60 900 standards
- Meets OSHA requirements for insulated tools (29 CFR 1910)



Santoprene® is a registered trademark of Exxon Mobil.

CLASSIFIED UL

Our tools are the first to have successfully passed UL classification requirements!
Recognized as the undisputed leader in product safety and certification, UL has developed rigorous safety standards for 1000V insulated tools. In order to carry the UL classified mark, tools must be tested by UL to meet these standards.

Only tools that carry the UL Classified mark have passed this stringent certification process. Why accept anything else?

CLASSIFIED UL

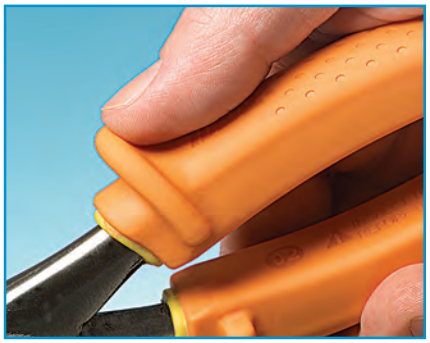
Pliers only

Cutting Jaws

Induction hardened cutting edges for precise cuts and long life.

Impact-Resistant

Designed for the most rugged job site conditions.



Safety Finger Guard

Reduces chance of accidental contact with exposed metal tool parts.

Insulated Screwdrivers & Nutdrivers – More Torque and More Safety

IDEAL insulated screwdrivers and nutdrivers are VDE certified to 1000V AC. Each one is designed to meet ASTM F1505-01, EN, DIN and IEC 60 900 test standards.

Features

- Tempered blades are finished with black oxide and super hardened for maximum quality
- Tools are certified to 1000V (1000V AC, 1500V DC)
- Precision ground tips provide secure fit for less spin-out
- Meets OSHA requirements for insulated tools (29 CFR 1910)

Precision-ground tips provide secure fit for less spin-out

Molded-on insulation provides permanent bonding

Tempered chrome vanadium tool steel blades are super hardened for maximum quality

Warning Whenever possible, always de-energize lines and equipment prior to working on or around them. 1000V insulated tools are designed only to reduce the chance of injury where the tool may make contact with an energized source. Work around energized circuits should only be done when absolutely necessary and only by qualified technicians. Property damage, personal injury or death may result if the following warnings are not heeded:

- Do not use any insulated tool if the insulation cracks, breaks or becomes damaged in any way. Destroy all dual-layer tools if the inner yellow layer shows through the orange outer layer.
- Do not touch the uninsulated portion of an insulated tool or any conductive object when either might contact an energized source.
- Tools must be kept clean and dry for proper insulating properties.
- Always inspect insulated tools before use.
- Use additional protection by wearing protective clothing and approved eye protection.
- Always use tools that are specifically designed for the task.
- These tools meet UL 22PP, ASTM F1505-01 and IEC 60900 standards for insulated tools.
- Always follow OSHA 1910 S and NFPA 70E safety requirements when doing electrical work.

REGULATIONS

Testing:

- Every 1000V insulated plier we sell is individually tested to ensure no failure when subjected to live current.

UL and VDE Certification:

Listed below are some of the tests we perform in order to pass certification:

- Tools are immersed in water for 24 hours, then tested under current for 3 minutes to ensure no current leakage or sparkover occurs.
- After being stored for 168 hours at -40° C (-40° F), tools are dropped to ensure no damage from impact.
- After being stored for 168 hours at +70° C (158° F), a tensile load is applied to ensure the grip is firmly bonded to the tool.
- Tools are subjected to flame for 10 seconds to ensure no flammability of the insulating material.

OSHA Regulations:

OSHA 1910.335(a)(2)(i) When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts.

OSHA 1910.335 (a)(1)(i) Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.

Make sure you are in compliance by providing and using IDEAL insulated tools!

Basic Insulated Kit

35-9100

Description	Cat. No.
Basic Insulated Kit	**35-9100**
35-9100 Includes	**Cat. No.**
9 in. Insulated Side Cutter w/Crimp	**30-9430**
7-1/2 in. Non-Conductive Fuse Puller	**34-002**
8 in. Insulated Offset Diagonal Cutting Plier	**35-9029**
8-1/2 in. Insulated Long-Nose Plier	**35-9038**
2/0 Insulated Cable Cutter	**35-9052**
1/4 in. x 4 in. Insulated Slotted Screwdriver	**35-9150**
1/4 in. x 6 in. Insulated Slotted Screwdriver	**35-9151**
#2 x 4 in. Insulated Phillips Screwdriver	**35-9194**
Heavy-Duty Soft Case	**35-9350**
Red Safety Lock w/Key	**44-916**
Breaker Lockout, Tall & Wide	**44-956**
Breaker Lockout, Standard & Double	**44-957**
Insulated T®-5 T®-Stripper Wire Stripper	**45-9120**

Journeyman Insulated Kit

35-9102

Description	Cat. No.
Journeyman Insulated Kit	**35-9102**
35-9102 Includes	**Cat. No.**
Insulated Linesman's Pliers	**30-9430**
Insulated Multi-Crimp Tool	**30-9429**
7-1/2 in. Non-Conductive Fuse Puller	**34-002**
8 in. Insulated Offset Diagonal Cutting Plier	**35-9029**
8-1/2 in. Insulated Long-Nose Plier	**35-9038**
2/0 Insulated Cable Cutter	**35-9052**
1/4 in. x 4 in. Insulated Slotted Screwdriver	**35-9150**
1/4 in. x 6 in. Insulated Slotted Screwdriver	**35-9151**
5/16 in. x 7 in. Insulated Slotted Screwdriver	**35-9166**
3/8 in. x 8 in. Insulated Slotted Screwdriver	**35-9168**
#1 x 3-3/16 in. Insulated Phillips Screwdriver	**35-9193**
#2 x 4 in. Insulated Phillips Screwdriver	**35-9194**
#3 x 6 in. Insulated Phillips Screwdriver	**35-9196**
3/16 in. x 5 in. Insulated Nutdriver	**35-9290**
1/4 in. x 5 in. Insulated Nutdriver	**35-9291**
5/16 in. x 5 in. Insulated Nutdriver	**35-9292**
3/8 in. x 5 in. Insulated Nutdriver	**35-9294**
7/16 in. x 5 in. Insulated Nutdriver	**35-9295**
1/2 in. x 5 in. Insulated Nutdriver	**35-9296**
Insulated Knife	**35-9340**
Heavy-Duty Soft Case	**35-9352**
10 in. Insulated Tongue & Groove Plier	**35-9430**
Breaker Lockout, Tall & Wide	**44-956**
Breaker Lockout, Standard & Double	**44-957**
Red Safety Lock w/Key	**44-916**
Insulated T®-5 T®-Stripper Wire Stripper	**45-9120**
Volt-Sensor® NCV Tester	**61-063**

Standard Insulated Kit

35-9101

Description	Cat. No.
Standard Insulated Kit	**35-9101**
35-9101 Includes	**Cat. No.**
9 in. Insulated Side Cutter w/Crimp	**30-9430**
7-1/2 in. Non-Conductive Fuse Puller	**34-002**
8 in. Insulated Offset Diagonal Cutting Plier	**35-9029**
8-1/2 in. Insulated Long-Nose Plier	**35-9038**
2/0 Insulated Cable Cutter	**35-9052**
1/8 in. x 4 in. Insulated Slotted Screwdriver	**35-9149**
1/4 in. x 4 in. Insulated Slotted Screwdriver	**35-9150**
1/4 in. x 6 in. Insulated Slotted Screwdriver	**35-9151**
5/16 in. x 7 in. Insulated Slotted Screwdriver	**35-9166**
3/8 in. x 8 in. Insulated Slotted Screwdriver	**35-9168**
#1 x 3-3/16 in. Insulated Phillips Screwdriver	**35-9193**
Insulated Knife	**35-9340**
Heavy-Duty Soft Case	**35-9351**
10 in. Insulated Tongue & Groove Plier	**35-9430**
Breaker Lockout, Tall & Wide	**44-956**
Breaker Lockout, Standard & Double	**44-957**
Red Safety Lock w/Key	**44-916**
Insulated T®-5 T®-Stripper Wire Stripper	**45-9120**
Volt-Sensor® NCV Tester	**61-063**

9-Piece Insulated Kit

35-9108

Description	Cat. No.
9-Piece Insulated Kit	**35-9108**
35-9108 Includes	**Cat. No.**
9 in. Insulated Side Cutter w/Crimp	**30-9430**
8 in. Offset Diagonal Cutting Plier	**35-9029**
8-1/2 in. Long Nose Plier	**35-9038**
T®-5 T®-Stripper Wire Stripper	**45-9120**
Slotted 7/32 in. x 5 in. Screwdriver	**35-9147**
Slotted 1/4 in. x 4 in. Screwdriver	**35-9150**
Slotted 1/4 in. x 6 in. Screwdriver	**35-9151**
Phillips #1 x 3-3/16 in. Screwdriver	**35-9193**
Phillips #2 x 4 in. Screwdriver	**35-9194**
Heavy-Duty Soft Case	**35-9350**

2-Piece Insulated ScrewdriverKit

Description	Cat. No.
2-Piece Insulated Kit	**35-9305**
35-9305 Includes	**Cat. No.**
Slotted 1/4 in. x 4 in. Insulated Screwdriver	**35-9150**
Phillips #2 x 4 in. Insulated Screwdriver	**35-9194**

Insulated Tools

35-9038 30-9429 35-9430 30-9430 35-9052 35-9029 45-9120

Description	Cat. No.
Premium T®-Stripper Wire Stripper	45-9120
8 in. Diagonal Cutting Pliers w/angled head	35-9029
9-1/2 in. High-Leverage Cable Cutter	35-9052
9-1/4 in. Side Cutting Linesman Pliers	30-9430
10 in. Tongue and Groove Pliers	35-9430
9-3/4 in. Multi-Crimp Tool	30-9429
8-1/2 in. Long-Nose Pliers	35-9038

Insulated Screwdrivers

Description	Cat. No.
9-Piece Insulated Screwdriver Kit	35-9103
Kit 35-9103 Includes:	**Cat. No.**
Phillips #1 x 3-3/16 in. Insulated Screwdriver	35-9193
Phillips #2 x 4 in. Insulated Screwdriver	35-9194
Phillips #3 x 6 in. Insulated Screwdriver	35-9196
Square SQ #0 1/4 in. x 4 in. Insulated Screwdriver	35-9690
Slotted 1/4 in. x 4 in. Insulated Screwdriver	35-9150
Slotted 7/32 in. x 5 in. Insulated Screwdriver	35-9147
Slotted 1/4 in. x 6 in. Insulated Screwdriver	35-9151
Slotted 5/16 in. x 7 in. Insulated Screwdriver	35-9166
Slotted 3/8 in. x 8 in. Insulated Screwdriver	35-9168

Insulated Nutdrivers

Description	Cat. No.
7-Piece Insulated Nutdriver Kit	35-9104
Kit 35-9104 Includes:	**Cat. No.**
3/16 in. x 5 in. Insulated Nutdriver	35-9290
1/4 in. x 5 in. Insulated Nutdriver	35-9291
5/16 in. x 5 in. Insulated Nutdriver	35-9292
3/8 in. x 5 in. Insulated Nutdriver	35-9294
7/16 in. x 5 in. Insulated Nutdriver	35-9295
1/2 in. x 5 in. Insulated Nutdriver	35-9296
9/16 in. x 5 in. Insulated Nutdriver	35-9297

Insulated Knife

Description	Cat. No.
Insulated Electrician's Skinning Knife	35-9340

Cases

Description	Cat. No.
Soft Zipper Case for Basic Kit (35-9100 & 35-9108)	35-9350
Soft Zipper Case for Standard Kit (35-9101)	35-9351
Soft Zipper Case for Journeyman Kit (35-9102)	35-9352
Hard Case for Screwdriver Kit (35-9103) & Nutdriver Kit (35-9104)	35-9353

Safe-T-Grip® Fuse Pullers

- Maximum efficiency and convenience for removing or replacing cartridge-type fuses
- Three sizes handle fuses ranging from 0 to 600A
- Fully insulated, high-dielectric, glass-filled polypropylene construction
- Notched handles provide safe, no-slip grip
- Clearly marked amperage ranges
- Exceed MIL specifications

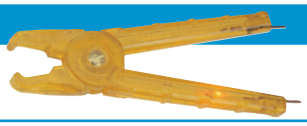
Description	Cat. No.
Small Puller for 250V, 9/32 in. to 1/2 in. dia. fuses; 5 in. long	34-001
Medium Puller for 0 to 100A/250V & 600V, 1/2 in. to 1 in. dia. fuses; 7-1/2 in. long	34-002
Large Puller for 31 to 600A/250V & 31 to 400A/600V, 3/4 in. to 2-1/2 in. dia. fuses; 11-3/4 in. long	34-003

Fuse Puller Cross Reference

Fuse Size	Current	Voltage	IDEAL	Bussmann	Littlefuse
Ferrule Type	**Amps**	**Volt a.c.**			
1/4 x 1-1/4	1/500 to 30	250	**34-015**	FP-A3	97023
13/32 x 1-1/2	1/10 to 30	250	**34-001, 34-015**	FP-2	MFP
9/16 x 2	1/10 to 30	250	**34-002, 34-012, 34-016**	FP-2	LPFP
13/16 x 3	35 to 60	250	**34-016, 34-003, 34-012**	FP-2	LPFP
Knife Blade	**Amps**	**Volt a.c.**			
1 x 5-7/8	70 to 100	250	**34-012, 34-002, 34-016**	FP-3	LPFP
1-1/2 x 7-1/8	110 to 200	250	**34-003**	FP-3	LPFP
2 x 8-5/8	225 to 400	250	**34-003**	FP-4	GFP
2-1/2 x 10-3/8	450 to 600	250	**34-003**	FP-4	GFP
Ferrule Type	**Amps**	**Volt a.c.**			
13/32 x 1-1/2	1/10 to 30	600	**34-001, 34-012, 34-016**	FP-2	MFP
3/4 x 5	1/10 to 30	600	**34-002**	FP-2	MFP
1 x 5-1/2	35 to 60	600	**34-012, 34-002, 34-016**	FP-3	MFP
Knife Blade	**Amps**	**Volt a.c.**			
1-1/4 x 7-1/8	70 to 100	600	**34-003**	FP-3	LPFP
1-3/4 x 9-5/8	110 to 200	600	**34-003**	FP-4	LPFP
2-1/2 x 11-5/8	225 to 400	600	**34-003**	FP-4	LPFP
3 x 13-3/8	450 to 600	600	**NONE**	NONE	NONE

Fuse Puller & Test Light

- Convenient pocket-sized tool safely pulls cartridge fuses and checks electrical connections
- Test prods fit parallel and tandem slot receptacles
- Built-in resistors limit current flow to eliminate false indication
- For 9/16 in. to 1 in. fuses
- For use on fuses to 100A/250V and 60A/600V
- Test capacity from 100V to 600V AC/DC

Description	Cat. No.
Fuse Puller & Test Light 	34-012

Fuse Pullers

- Molded of tough, high-impact nylon for greater strength
- No-slip gripping surface and protective finger stops for added safety

Description	Cat. No.
Small Puller for 0 to 30A/250V, 1/4 in. to 1/2 in. dia. fuses; 5 in. long	34-015
Large Puller for 0 to 100A/250V & 0 to 60A/600V, 9/16 in. to 1 in. dia. fuses; 7-1/4 in. long	34-016

Please visit our website at www.idealindustries.com for more safety products from IDEAL!

- **Insulated Tools**
- **Lockout/Tagout**
- **Fish Tapes**
- **Thermal Imaging**
- **Streetlight Kits**

17-Piece Set - #35-809

Set Includes:

- Four LASERedge™ Pliers with Smart-Grip™ Handles (#35-3012 – 9-1/4" Linesman w/fish tape puller, #35-3038 – 8" Long Nose, #35-3430 – 10" Tongue and Groove, #35-3052 – 9-1/2" Cable Cutter)
- #45-915 – Kinetic™ Reflex™ T®-Stripper Wire Stripper
- #35-908 – 7-in-1 Twist-A-Nut™ Screwdriver
- #Five Cushion Grip Screwdrivers (#35-193 – #1 x 3 Phillips, #35-194 – #2 x 4 Phillips, #35-186 – 3/16" x 6 Slotted Cabinet Tip, #35-164 – 1/4" x 4 Slotted round shank, #35-406 – 3/16" x 6 Screw holding slotted)
- #35-286 – Hawkbill Knife
- #35-210 – Electrician's Hammer
- #35-242 – 25' Auto-Lock™ Tape Measure
- #35-205 – Torpedo Level
- #61-086 – Vol-Con® XL Voltage/Continuity Tester
- #35-975 – Tuff-Tote™ Premium Leather Tool Carrier

16 Piece Set - #35-800

Set Includes:

- Five LASERedge™ Pliers with dipped grips (#30-430 – 9-1/4" Linesman w/ crimper, #35-029 – 8" Offset Diagonal, #35-038 – 8" Long Nose, #35-430 – 10" Tongue and Groove, #35-052 – 2/0 Cable Cutter)
- #45-120 – Premium T®-5 T®-Stripper Wire Stripper
- Two Cushion Grip Screwdrivers (#35-194 – #2 x 4 Phillips, #35-164 – 1/4 x 4 Slotted round shank)
- #35-083 – Twist-A-Nut™ Conduit Deburring Tool
- #35-210 – Electrician's Hammer
- #35-242 – 25' Auto-Lock™ Tape Measure
- #35-285 – Electrician's Knife
- #61-086 – Vol-Con® XL Voltage/Continuity Tester
- #61-201 – Replacement battery
- #35-311 – Tuff-Tote™ Leather Tool Pouch
- #35-908 – 7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver

13-Piece Set - #35-790

Set Includes:

- Three LASERedge™ Pliers with Smart-Grip™ handles (#35-3012 – 9-1/4" Linesman w/fish tape puller, #35-3038-8" Long Nose, #35-3430 – 10" Tongue and Groove)
- #45-915 – Kinetic™ Reflex™ T®-Stripper Wire Stripper
- Four Cushion Grip Screwdrivers (#35-193 – #1 x 3 Phillips, #35-194 – #2 x 4 Phillips, #35-186 – 3/16" x 4 Slotted Cabinet Tip, #35-164 – 1/4" x 4 Slotted round shank)
- #35-242 – 25' Auto-Lock™ Tape Measure
- #35-286 – Hawkbill Knife
- #34-002 – Medium Size Fuse Puller
- #35-205 – Torpedo Level
- #35-462 – Journeyman Electrician's Tote™

16 Piece Set - #35-808

Set Includes:

- Four LASERedge Pliers with dipped grips (#35-012 – 9-1/4" Linesman w/fish tape puller, #35-038 – 8" Long Nose, #35-430 – 10" Tongue and Groove, #35-012 – 9-1/2" Cable Cutter)
- #45-415 – Reflex™ T®-5 T®-Stripper Wire Stripper
- #30-428 – Combo Crimp/Strip Tool
- Four Cushion Grip Screwdrivers (#35-193 – #1 x 3 Phillips, #35-194 – #2 x 4 Phillips, #35-186 – 3/16" x 6 Slotted Cabinet Tip, #35-164 – 1/4" x 4 Slotted round shank)
- #35-210 – Electrician's Hammer
- #35-242 – 25' Auto-Lock™ Tape Measure
- #34-002 – Pocket Fuse Puller
- #35-286 – Hawkbill knife
- #35-261 – Ergonomic Hacksaw
- #35-427 – 18" Large Mouth Bag

12-Piece Set - #35-805

Set Includes:

- Four LASERedge™ Pliers with dipped grip handles (#35-012 – 9-1/4" Linesman w/fish tape puller, #35-028 – 8" Diagonal, #35-038 – 8" Long Nose, #35-430 – 10" Tongue and Groove)
- #45-120 – Premium T®-5 T®-Stripper Wire Stripper
- Four Cushion Grip Screwdrivers (#35-193 – #1 x 3 Phillips, #35-194 – #2 x 4 Phillips, #35-186 – 3/16" x 4 Slotted Cabinet Tip, #35-164 – 1/4" x 4 Heavy-Duty Slotted round shank)
- #35-242 – 25' Auto-Lock™ Tape Measure
- #10-466 – Electrician's Leather Tool Pouch
- #10-398 – Web Belt

6 Piece Set - #35-794

Set Includes:

- One LASERedge™ Plier with dipped grip handles (#30-430 – 9-1/4" Linesman w/ crimper)
- #45-120 – Premium T®-5 T®-Stripper Wire Stripper
- #35-908 – 7-in-1 Twist-a-Nut™ Screwdriver
- #35-242 – 25' Auto-Lock™ Tape Measure
- #35-300 – Utility Knife
- #35-505 – Pocket Pal™ Tool Holster

12-Piece Set - #35-5805

Set Includes:

- Four WireMan™ Pliers with dipped grip handles (#35-5012 – 9-1/4" Linesman, #35-5028 – 8" Diagonal, #35-5038 – 8" Long Nose, #35-5430 – 10" Tongue and Groove)
- #45-120 – Premium T®-5 T®-Stripper Wire Stripper
- Four Cushion Grip Screwdrivers (#35-193 – #1 x 3 Phillips, #35-194 – #2 x 4 Phillips, #35-184 – 3/16" x 4 Slotted Cabinet Tip, #35-164 – 1/4" x 4 Slotted round shank)
- #25' Auto-Lock™ Tape Measure
- #10-466 – Electrician's Leather Tool Pouch
- #10-398 – Web Belt

5 Piece Set - #35-5792

Set Includes:

- One WireMan™ Plier with dipped grip handles (#30-5430 – 9-1/4" Linesman w/crimper)
- #45-120 – T®-5 T®-Stripper Wire Stripper
- Two Screwdrivers (#35-194 – #2 x 4 Phillips, #35-186 – 3/16" x 4 Slotted Cabinet Tip)
- #35-505 – Pocket Pal™ Tool Holster

4 Piece Set - #35-5799

Set Includes:

- #45-120 – T®-5 T®-Stripper Wire Stripper
- #35-5012 – WireMan™ 9-1/4" Side-Cutting Pliers
- #35-505 – Pocket Pal™ Tool Holster
- #35-905 – 5-in-1 Screwdriver/Nutdriver

Premium Leather Line

Top of the line tool carriers are handcrafted from heavy, top-grain cowhide and slow tanned in natural oils to enhance the leather's inherent strength. Each bag is hand waxed for lasting protection against stains and moisture and is warranted for life. Available in natural or black leather.

Standard Leather Line

Leather that stands up to the job like no other material, these tool carriers are constructed of top-grain, natural cowhide and tanned for added strength and durability. Color ages to a deep tan over the years.

Fabric Line

Durable, lightweight, portable tool totes in rugged nylon polyester or heavyweight canvas provide the perfect tool storage. Convenient pockets mean easy access; inner compartments keep tools organized and safe when not in use.

Tuff-Tote™ Ultimate Tool Carriers

- 8 in. square tool carrier features 2 divided inside compartments with 6 screwdriver loops each, 1 large center compartment, 4 outside pockets and 8 outside tool loops
- Exclusive leather-wrapped grab handle for carrying comfort
- Removable shoulder strap helps relieve lower back strain
- Unique stand-alone design keeps tools standing upright for easy identification and access
- Rust-resistant, plated-steel hardware and heavy, lock-stitched nylon thread for long-term durability
- Oil and moisture-resistant reinforced bottom

Description	Cat. No.
Premium Leather Carrier w/shoulder strap	35-975
Premium Black Leather Carrier w/shoulder strap	35-975BLK
Standard Leather Carrier w/shoulder strap	35-325

Tuff-Tote™ Tool Carrier

- Convenient 6 in. x 8 in. tool carrier with 4 center screwdriver slots, 2 interior compartments, 2 divided outside pockets and 4 outside tool loops
- Exclusive leather grab handle for carrying comfort
- Removable shoulder strap helps relieve lower back strain
- Unique stand-alone design keeps tools standing upright for easy identification and access
- Rust-resistant, plated-steel hardware and heavy, lock-stitched nylon thread for long-term durability
- Oil and moisture-resistant reinforced bottom

Description	Cat. No.
Premium Leather Carrier w/shoulder strap	35-969

Tuff-Tote™ Tool Pouches

- 8-pocket, belt-mounted pouch features large utility compartment with 2 dividers and 6 screwdriver loops, 7 outside pockets, release snaps and tape chain
- Exclusive leather grab handle for carrying comfort
- Removable shoulder strap helps relieve lower back strain
- Rust-resistant, plated-steel hardware and heavy, lock-stitched nylon thread for long-term durability
- Tunnel belt loop accommodates belts up to 2-1/4 in. wide

Description	Cat. No.
Premium Leather Pouch w/shoulder strap	35-950
Premium Black Pouch w/shoulder strap	35-950BLK
Standard Leather Pouch w/shoulder strap	35-311

Electrician's Tool Pouch

- 7 -pocket tool pouch
- Full length belt tunnel
- Chain tape lanyard

Description	Cat. No.
Electrician's Tool Pouch	10-466

Hip Holster Tool Pouch

- Compact, multi-pocket holster
- Heavy-duty leather construction
- Riveted corners for long life
- Tape measure holder

Description	Cat. No.
6-Pocket Hip Holster, Black	35-784BLK

Canvas Tool Bag

- Extra large 16 in. x 16 in. tool bag
- Reinforced steel framework
- Genuine leather handles and straps
- Heavy-weight canvas sides with interior pocket

Description	Cat. No.
Canvas Tool Bag	35-302

Ergo Tool Pouches

- Compact ergonomic design for versatility and superior comfort
- Large tool holding capacity

Description	Cat. No.
Premium Leather Ergo Pouch	35-966
Premium Black Leather Ergo Pouch	35-966BLK
Standard Natural Leather Ergo Pouch	35-312

Shoulder Straps

- Nickel-plated hardware for long-term durability and corrosion resistance
- 2-in. wide shoulder pad for added comfort

Description	Cat. No.
Premium Leather Strap	35-965
Standard Leather Strap	35-338
Premium Black Leather Strap	35-965BLK

Belts

- Nickel-plated hardware for long-term durability and corrosion resistance

Description	Cat. No.
Premium Leather Belt - 2 in. x 48 in.	35-995
Standard Leather Belt - 1-3/4 in. x 46 in.	35-316
Web Belt	10-398

Pocket Pal™ Tool Holster

- Protects pocket from sharp tools
- Doubles tool carrying capacity
- Can be worn in pocket or on belt

Description	Cat. No.
Pocket Pal™ Tool Holster	35-505

Note: Tools sold separately.

Zipper Pouches

- Durable, water resistant material
- Heavy duty, self-repairing zippers

Description	Cat. No.
Zipper Pouch, 10-1/2 in. long	35-402
Zipper Pouch, 12-1/2 in. long	35-403

Divider Pouch™ Small Parts Bag

- Designed to provide perfect small parts storage – keeps parts separate and organized
- Six internally divided 5-in. deep pockets
- Convenient drawstring protects contents from spillage
- Convenient handle loop
- Sized to stack in 5-gallon buckets
- Durable nylon polyester construction

Wire connectors sold separately.

Description	Cat. No.
Divider Pouch™ Small Parts Bag	35-655

Supplies Apron

- Two pockets for connectors and fasteners, each 8 in. x 15 in.
- Natural duck construction

Description	Cat. No.
Supplies Apron	35-474

Large Mouth Bags

- Top opens completely for easy access to large tools – reinforced to hold itself open
- Measures 9 in. wide x 12 in. deep with outside and inside pockets for convenient hand tool storage
- Rugged zipper closure helps prevent tool loss
- Removable shoulder strap
- Durable multi-ply construction

Description	Cat. No.
Large Mouth Bag - 13 in. long	35-410
Large Mouth Bag - 16 in. long	35-418
Large Mouth Bag - 18 in. long	35-427

Note: Tools sold separately.

Journeyman Electrician's Tote™ Tool Bag

- Compact and versatile design
- Carry as a hand-tote, shoulder-tote or tool-belt
- Includes removable shoulder strap and belt
- Durable multi-ply construction

Description	Cat. No.
Journeyman Electrician's Tote™	35-462

Master Electrician's Tote™ Tool Bag

- Spacious and durable design
- Organizes and displays tools for fast access
- Includes removable shoulder strap
- Durable multi-ply construction

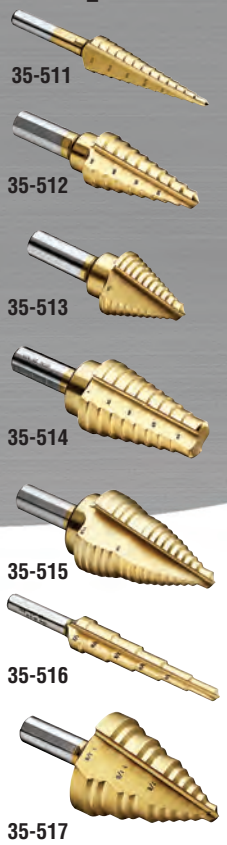
Description	Cat. No.
Master Electrician's Tote™	35-441

Mechanic's Tool Bag

- Eight narrow inside pockets designed to hold small tools
- Two side pockets with closeable snaps for large tools or loose items
- Double inside liner and rigid bottom prevent bag distortion
- Durable nylon polyester construction

Description	Cat. No.
Mechanic's Tool Bag	35-535

Step Drill Bits



Trust IDEAL step drill bits for precise, repetitive drilling through the toughest materials including brass, carbon steel, cast iron, stainless steel, and more. These tough and reliable tools are constructed with a rugged titanium nitrite exterior coating. Each step is gradually blended to ease stepping through hole sizes; reducing the need to keep changing drill bits, which speeds up the fabrication process. Improved Split-Point tip design eliminates the need for a starter hole or punch and delivers three times faster starts, saving valuable time. The double-fluted design provides balanced cuts and cooler operation.

GOOD

Drill Diameter Sizes (In.)	No. of Hole Sizes	Step Increments (In.)	Step Thickness (In.)	Shank Dia. (In.)	Cat. No.
1/8 to 1/2	13	1/32	1/8	1/4	**35-511**
1/4 to 3/4	9	1/16	1/8	3/8	**35-512**
1/4 to 7/8	11	1/16	1/16	3/8	**35-513**
1/2 to 1	8	1/16	1/8	3/8	**35-514***
1/4 to 1-1/8	16	1/16	1/16	3/8	**35-515**
3/16 to 1/2	6	1/16	3/8	1/4	**35-516**
1/4 to 1-3/8	10	1/32	1/16 to 1/4	3/8	**35-517**

**Requires pilot holes.*

Electricians Step Bit Kit

- Durable blow-molded case securely holds and protects bits
- Includes four step bits (35-511, 35-513, 35-515 and 35-517)
- Kit provides a solution for every electrical hole size between 1/8 in. and 1-3/8 in.

Description	Cat. No.
Electrician's Step Bit Kit	**35-520**

Quick Change Step Bits

35-521 35-522 35-523

- Split-Point tip lasts longer and starts faster than competition
- High speed tool steel
- Double-tempered for superior tip life
- Double fluted and blended radius steps for smooth drilling
- 1/4" Quick change shank

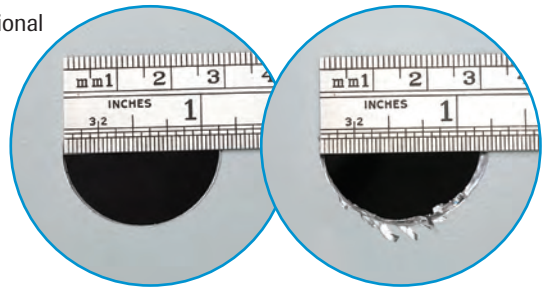
Impact Ready!

Drill Diameter Sizes (In.)	No. of Hole Sizes	Step Increments (In.)	Step Thickness (In.)	Shank Dia. (In.)	Cat. No.
1/8 to 1/2	13	1/16	1/8	1/4	**35-521**
1/4 to 7/8	11		1/16		**35-522**
1/4 to 1-1/8	16				**35-523**

Description	Cat. No.
3-Piece Quick Change Step Bit Kit (35-521, 35-522, 35-523)	**35-524**

TKO™ Carbide Tipped Hole Cutters

TKO™ Hole Cutters offer the most efficient and clean cutter replacement for traditional knockouts, by making smooth holes in a fraction of the time at a fraction of the cost. Specifically designed to cut sheet metal, TKO cutters will even cut stainless steel with fine grained, carbide tips. The innovative design includes the exclusive SmoothStart™ replaceable pilot drill, which guides the cutter to the surface, avoiding cutter damage and providing smoother holes. An integral overdrill flange prevents cutter penetration beyond the sheet metal. When it comes to quality, performance and durability, IDEAL is the professional's choice for carbide tipped hole cutters.



IDEAL TKO™ **Competitor**

IDEAL provides smoother, more precise holes than competitors' (holes cut with 1-1/8 in. cutters)

Hole Size	Conduit & Pipe Size	Cat. No.
3/4 in. (19mm)	—	**36-300**
7/8 in. (22mm)	1/2 in. (22mm) - push button	**36-301**
1 in. (25mm)	—	**36-302**
1-1/8 in. (29mm)	3/4 in. (19mm)	**36-303**
1-1/4 in. (32mm)	—	**36-304**
1-3/8 in. (35 mm)	1 (25mm)	**36-305**
1-7/32 in. (30mm)	1-7/32 in. (30mm) - push button	**36-313**
1-7/16 in. (37mm)	—	**36-306**
1-1/2 in. (38mm)	—	**36-307**
1-3/4 in. (44mm)	1-1/4 (32mm)	**36-308**
2 in. (51mm)	1-1/2 (38mm)	**36-309**
2-1/2 in. (64mm)	—	**36-310**
2-7/8 in. (73mm)	2-1/2 (64mm)	**36-315**
3-1/2 (89mm)	3 (76mm)	**36-316**
4 in. (102mm)	3-1/2 (89mm)	**36-317**
4-1/2 in. (114mm)	4 (102mm)	**36-318**

SmoothStart™ Replacement Pilot Drill

Exclusive! SmoothStart™ pilot guides cutter to surface providing smoother holes and avoiding cutter damage.

Description	Cat. No.
SmoothStart™ Replacement Pilot Drill	**36-312**

4-Piece Kit

Includes the three most common sizes along with a spare SmoothStart™ pilot bit and a convenient carrying case

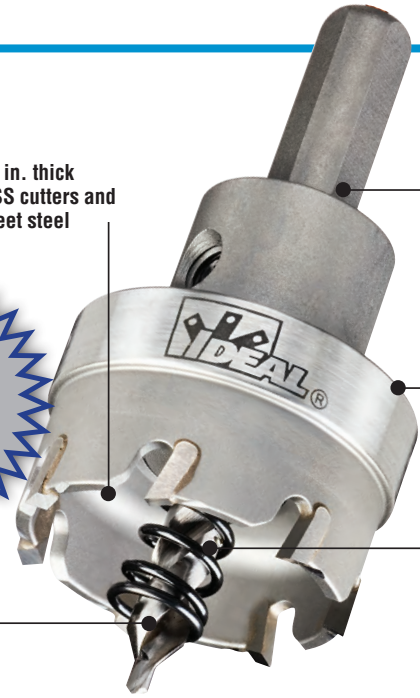
Description	Cat. No.
4-Piece Carbide Hole Cutter Kit — Includes SmoothStart™ Replacement Tip, 7/8 in. 1-1/8 in., 1-3/8 in.	**36-311**

Master Electrician's Kit

Includes six common sizes along with a spare SmoothStart™ pilot bit and a convenient carrying case

Description	Cat. No.
Master Electrician's Kit — Includes two SmoothStart™ Replacement Tips, 7/8 in. 1-1/8 in., 1-3/8 in., 1-3/4 in., 2 in. and 2-1/2 in.	**36-314**

Integrated overdrill flange prevents penetration beyond the sheet metal.



Carbide tips cut up to 1/4 in. thick steel and outperforms HSS cutters and bi-metal hole saws in sheet steel

CUTS UP TO 1/4" THICK STEEL

Integral arbor provides smoother, more accurate holes than hole saws or two-piece carbide-tipped cutters

Integrated overdrill flange prevents penetration beyond the sheet metal

Ejection spring effortlessly ejects slug

Exclusive SmoothStart™ pilot drill guides cutter

See how IDEAL TKO can save time...

Total time using the IDEAL TKO™

30 Seconds

Chuck Cutter

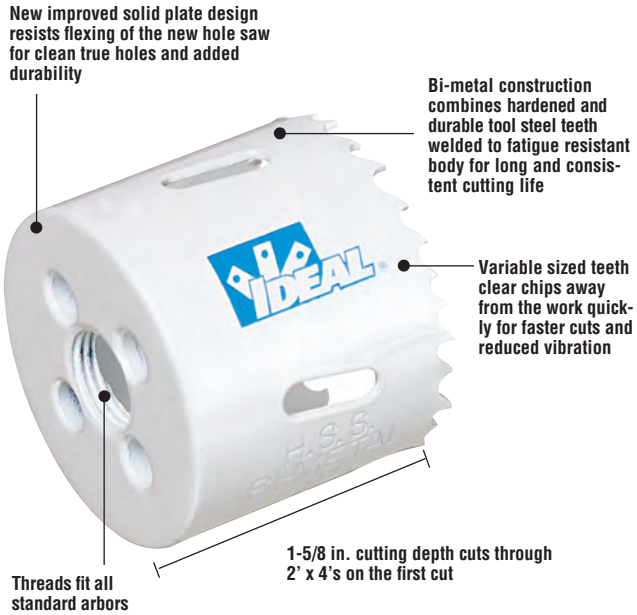
Drill hole & store

Total time using the competitors' knockout tool

More than 6 Minutes

IRONMAN™ Bi-Metal Hole Saws

IRONMAN™ Bi-metal hole saws from IDEAL INDUSTRIES, INC, with re-engineered bi-metal construction, a thick "flex-free" backing plate, and variable sized teeth, will rival the cutting speed and longevity of any in the industry. The bi-metal construction cuts metal, wood and plastics including: tool and stainless steel, nail embedded wood, plywood, and pipe. An extensive list of 50 sizes, effective accessories, and kits are available to meet all your cutting needs. When it comes to quality, performance and durability, IDEAL is the professional's choice for hole saws.



Hole Saws

- Thicker, FLEX FREE backing plate for clean true holes and longer tool life
- Improved bi-metal construction for long life and durability
- Variable pitch tooth geometry for fast cutting and reduced vibration
- Cuts all types of machinable metal including stainless steel, wood, nail embedded wood, plastic and fiberboard

Saw Diameter (Inches)	Pipe Tap Size* (Inches)	Pipe Entrance Size* (Inches)	Cat. No.
Use Arbor No. 35-391, 35-392 or 35-393			
9/16	–	–	**35-340**
5/8	–	–	**35-341**
11/16	–	–	**35-342**
3/4	1/2	3/8	**35-343**
13/16	–	–	**35-344**
7/8	3/4	1/2	**35-345**
15/16	–	–	**35-346**
1	–	–	**35-347**
1-1/16	–	–	**35-348**
1-1/8	1	3/4	**35-349**
1-3/16	–	–	**35-350**
Use Arbor No. 35-394,35-536 or 35-537			
1-1/4	–	–	**35-351**
1-5/16	–	–	**35-352**
1-3/8	–	1	**35-353**
1-1/2	1-1/4	–	**35-355**
1-9/16	–	–	**35-356**
1-5/8	–	–	**35-357**
1-1/16	–	–	**35-358**
1-3/4	1-1/2	1-1/4	**35-359**
1-13/16	–	–	**35-360**
1-7/8	–	–	**35-361**
2	–	1-1/2	**35-362**
2-1/16	–	–	**35-363**
2-1/8	–	–	**35-364**
2-1/4	2	–	**35-365**
2-5/16	–	–	**35-366**
2-3/8	–	–	**35-367**
2-1/2	–	2	**35-368**
2-9/16	–	–	**35-369**
2-5/8	2-1/2	–	**35-370**
2-3/4	–	–	**35-371**
2-7/8	–	–	**35-372**
Use Arbor No. 35-394, 35-536, 35-537 or 35-538			
3	–	2-1/2	**35-373**
3-1/8	–	–	**35-374**
3-1/4	3	–	**35-375**
3-3/8	–	–	**35-376**
3-1/2	–	–	**35-377**
3-5/8	–	3	**35-378**
3-3/4	3-1/2	–	**35-379**
3-7/8	–	–	**35-380**
4	–	–	**35-381**
4-1/8	–	3-1/2	**35-382**
4-1/4	4	–	**35-383**
4-3/8	–	–	**35-384**
4-1/2	–	4	**35-385**
4-3/4	4-1/2	–	**35-386**
5	–	–	**35-387**
5-1/2	–	–	**35-388**
5-3/4	–	–	**35-389**
6	–	–	**35-390**

*All pipe sizes listed in the Pipe Tap Size and Pipe Entrance Size columns are standard industry sizes. All pipes are sized by the nominal inside diameter.

8-Piece Electrician's Hole Saw Kit

- Reliable 8-piece kit in a durable plastic case
- Find electrical sizes for pipe and conduit through 2 in.

Description	Cat. No.
Hole Saw sizes 7/8 in., 1-1/8 in., 1-3/8 in., 1-3/4 in., 2 in. & 2-1/2 in. Also includes arbor models 35-393 & 35-394	35-400

14-Piece Electrician's Hole Saw Kit

- Generous 14-piece kit offers a tremendous selection
- Includes electrical sizes for pipe and conduit through 4 in.
- Sturdy plastic case survives extra wear and tear

Description	Cat. No.
Hole Saw sizes 7/8 in., 1-1/8 in., 1-3/8 in., 1-3/4 in., 2 in., 2-1/2 in., 3 in., 3-5/8 in., 4-1/8 in., 4-1/2 in. Also includes arbor models 35-391, 35-393 & 35-394 and extension bar 35-396.	35-401

19-Piece Master Electrician's Hole Saw Kit

- For electrical, industrial and all-purpose maintenance needs
- 19-piece kit comes in sturdy durable plastic case
- Plumbing and electrical sizes for pipe and conduit through 4 in.

Description	Cat. No.
Hole Saw sizes 3/4 in., 7/8 in., 1 in., 1-1/8 in., 1-3/8 in., 1-1/2 in., 1-3/4 in., 2 in., 2-1/4 in., 2-1/2 in., 3 in., 3-5/8 in., 4-1/8 in. & 4-1/2 in. Also includes arbor models 35-393, 35-394, pilot drill 35-397 (two pieces) and extension bar 35-396.	35-518

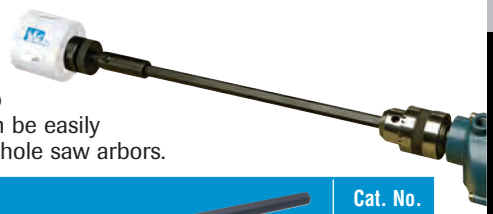
Replacement Pilot Drills for Hole Saw Arbors

Split point pilot drills start on contact for faster penetration and less walking.

Description	Cat. No.
4-1/2 in. x 1/4 in. – Fits 35-391, 35-393, 35-394 & 35-538 arbors	35-397
3-1/4 in. x 1/4 in. – Fits 35-392, 35-536 & 35-537 arbors	35-398

Arbor Extension

For boring jobs that require a longer reach, arbor extensions add up to 18 in. length and can be easily connected to IDEAL hole saw arbors.



Description	Cat. No.
Extension for 7/16 in. Arbors, 12 in. long	35-396

Hole Saw Arbors

Best Arbor for Tri-Bore Hole Saws!

35-391 35-392 35-393 35-394 35-536 35-537 35-538

Durable steel construction means years of long-lasting performance. Set-screw in body allows easy replacement of the pilot drill. Save valuable time through this versatile design. Instantly change hole saws without tools and without having to remove the arbor from the chuck.

Shank Size	Thread Size	Chuck Size	Fits Hole Saw Sizes	Cat. No.
1/4 in. Round	1/2 - 20 in.	1/4 in.	9/16 - 1-3/16 in.	35-391
3/8 in. Hex	1/2 - 20 in.	3/8 in.	9/16 - 1-3/16 in.	35-392
7/16 in. Hex	1/2 - 20 in.	1/2 in.	9/16 - 1-3/16 in.	35-393
7/16 in. Hex	5/8 - 18 in.	1/2 in.	1-1/4 - 6 in.	35-394
7/16 in. Hex	5/8 - 18 in.	1/2 in.	1-1/4 - 6 in.	35-536
3/8 in. Hex	5/8 - 18 in.	3/8 in.	1-1/4 - 6 in.	35-537
7/16 in. Hex	5/8 - 18 in.	1/2 in.	2 - 6 in.	35-538

Adjustable Can Light Hole Saw

- Cuts drywall and ceiling tile
- Self-sharpening carbide coated cutting blades
- Includes two dust shields to minimize clean up

Description	Cat. No.
Adjustable Can Light Hole Saw – 10 sizes from 2-1/2 in. to 7 in.	35-598
Adjustable Can Light Hole Saw – 13 sizes from 6-1/4 in. to 10-3/8 in.	35-599

Drill not included.

TRI-BORE™ Multi-Purpose Hole Saw

- Massive carbide tips designed to cut wood with nails, cement board, composite enclosures, ceiling tile and more!
- Faster than self-feed bits in wood
- Faster than carbide grip in abrasive materials
- Available in all popular sizes
- Suitable for use with impact drills on impact setting

Carbide Tip Pilot (Arbors and pilot drills sold separately.)

Carbide teeth for wood with nails, cement board, composite enclosures and other abrasive materials.

Note: Great for adding holes to most precast polymer concrete underground utility vaults.

Rugged construction for extra life

Deep gullets for easy plug removal

Spade Bit & Carbide Pilot

Deep-cup design on Tri-Bore™ Hole Saws require the use of a longer pilot bit.

Cat. No.	Hole Size (in.)	Application
36-367*	Spade Bit	Wood boring
36-368*	Carbide Pilot	Abrasive material boring

**Sold separately.*

Hole Saw Arbors

Shank Size	Thread Size	Chuck Size	Fits Hole Saw Sizes	Cat. No.
1/4 in. Round	1/2 - 20 in.	1/4 in.	9/16 - 1-3/16 in.	**35-391**
3/8 in. Hex	1/2 - 20 in.	3/8 in.	9/16 - 1-3/16 in.	**35-392**
7/16 in. Hex	1/2 - 20 in.	1/2 in.	9/16 - 1-3/16 in.	**35-393**
7/16 in. Hex	5/8 - 18 in.	1/2 in.	1/4 - 6 in.	**35-394**
7/16 in. Hex	5/8 - 18 in.	1/2 in.	1/4 - 6 in.	**35-536**
3/8 in. Hex	5/8 - 18 in.	3/8 in.	1/4 - 6 in.	**35-537**
7/16 in. Hex	5/8 - 18 in.	1/2 in.	2 - 6 in.	**35-538**

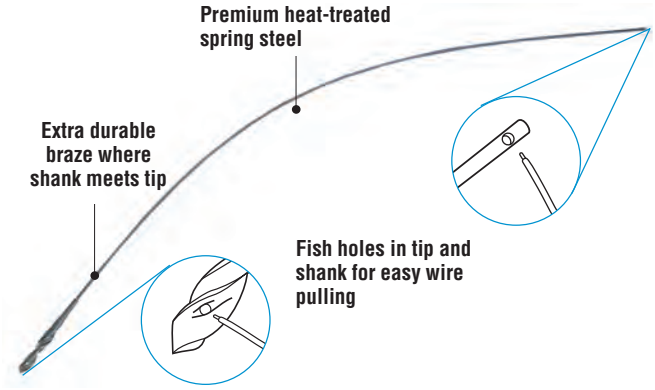
Arbor Extension

Description	Cat. No.
Extension for 7/16 in. Arbors, 12 in. long	**35-396**

Cat. No.	Hole Size (in.)	Application
36-350	1-3/8	
36-351	2-1/8	1-1/2" Pipe and lock installation
36-352	2-1/4	1-1/2" Pipe with couplings
36-353	2-9/16	2" Pipe
36-354	3	2" Pipe with couplings
36-355	3-3/8	
36-356	3-5/8	3" Pipe
36-357	4	
36-358	4-1/4	3" Pipe with couplings, 4" dryer vent
36-359	4-1/8	
36-360	4-3/8	Capri®, Halo®, Marco, Mini Juno
36-361	4-5/8	4" pipe
36-362	5-3/8	Capri®, Juno®, Lightolier, Prescolite, Progress
36-363	6-1/4	6" Duct
36-364	6-3/8	Capri®, Halo®
36-365	6-5/8	Juno® and Progress
36-366	6-7/8	Capri®, Lightolier, Lithonia, Prescolite, Progress

Available in all recessed lighting sizes!

Flexible Drill Bits



Screw Point Flexible Drill Bits, Type B

- Fast and aggressive, self-starting bit
- Ultra-sharp ground threads provide increased pulling power through obstructions
- Designed for easy to tough wood drilling

Description	Shank (in.)	Cat. No.
3/8 in. x 54 in. Screw Point Flexible Bit	3/16	**90-082**
1/2 in. x 54 in. Screw Point Flexible Bit	3/16	**90-085**
9/16 in. x 54 in. Screw Point Flexible Bit	3/16	**90-088**
3/4 in. x 54 in. Screw Point Flexible Bit	1/4	**90-091**

Serrated Combination Flexible Bits, Type C

- Fast and aggressive, self-starting bit
- Ultra-sharp ground threads provide increased pulling power through obstructions
- Designed for easy to tough wood and light metal drilling

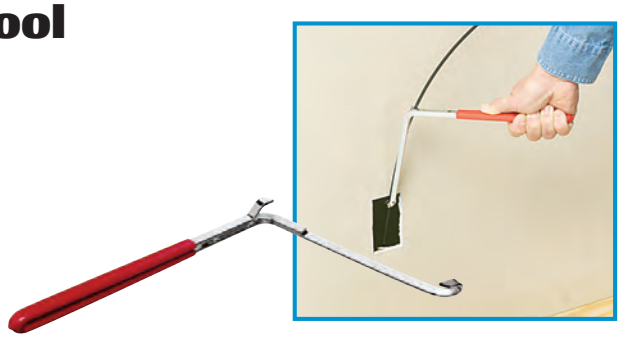
Description	Shank (in.)	Cat. No.
1/4 in. x 54 in. Serrated Combination Flexible Bit	3/16	**90-063**
3/8 in. x 54 in. Serrated Combination Flexible Bit	3/16	**90-067**
1/2 in. x 54 in. Serrated Combination Flexible Bit	3/16	**90-070**
9/16 in. x 54 in. Serrated Combination Flexible Bit	3/16	**90-073**

Flexible Bit Extension

- Connect to chuck end of shaft to increase the length of the bit

Description	Shank	Cat. No.
3/16 in. x 36 in. Flexible Bit Extension	3/16	**90-170**
1/4 in. x 36 in. Flexible Bit Extension	1/4	**90-173**

Flexible Bit Replacement Tool



Description	Cat. No.
Flexible Bit Replacement Tool	**90-176**

Installer Bits

- Hole in fluted head for pulling wires through walls, ceiling and floors
- Flutes designed for quick chip removal – no clogging or binding
- Premium quality, extra-hard 52-100 carbon bearing steel

Description	Length	Cat. No.
Installer Bit - 1/4 in.	18 in.	**35-870**
Installer Bit - 3/8 in.	18 in.	**35-871**
Installer Bit - 1/2 in.	18 in.	**35-872**

Power Spade Bits

- The most innovative and fastest spade bit
- Smooth and effortless drilling
- Max operating speed 1500 RPM
- Available in a variety of sizes
- Offers less vibration than other bits

Description	Cat. No.
3/4 in. x 4 in. stubby	**36-403**
7/8 in. x 4 in. stubby	**36-404**
1 in. x 4 in. stubby	**36-405**
1/2 in.	**36-413**
5/8 in.	**36-415**
3/4 in.	**36-417**
7/8 in.	**36-419**
1 in.	**36-421**
1-1/8 in.	**36-422**
1-1/4 in.	**36-423**
4-pc. Kit with pouch (5/8 in., 3/4 in., 7/8 in., 1 in.)	**36-432**

BUL-O-EYE™ Self Feed Wood Boring Bits

Description	Diameter	Entrance Size for Pipe & EMT	Cat.
1 in. Self-Feed Wood Boring Bit	1 in.	1/2 in.	**36-250**
1-1/8 in. Self-Feed Wood Boring Bit	1-1/8 in.	—	**36-251**
1-1/4 in. Self-Feed Wood Boring Bit	1-1/4 in.	3/4 in.	**36-252**
1-3/8 in. Self-Feed Wood Boring Bit	1-3/8 in.	1 in.	**36-253**
1-1/2 in. Self-Feed Wood Boring Bit	1-1/2 in.	—	**36-254**
1-3/4 in. Self-Feed Wood Boring Bit	1-3/4 in.	1-1/4 in.	**36-255**
2 in. Self-Feed Wood Boring Bit	2 in.	1-1/2 in.	**36-256**
2-1/8 in. Self-Feed Wood Boring Bit	2-1/8 in.	—	**36-257**
2-1/4 in. Self-Feed Wood Boring Bit	2-1/4 in.	—	**36-258**
2-9/16 in. Self-Feed Wood Boring Bit	2-9/16 in.	2 in.	**36-259**
3 in. Self-Feed Wood Boring Bit	3 in.	2-1/2 in.	**36-260**
3-5/8 in. Self-Feed Wood Boring Bit	3-5/8 in.	3 in.	**36-261**
4-5/8 in. Self-Feed Wood Boring Bit	4-5/8 in.	4 in.	**36-262**
5-1/2 in. Extension Bar	—	—	**36-273**
18 in. Extension Bar	—	—	**35-819**

6-Piece Kit

Includes five different bit sizes, a 5-1/2 in. extension bar, and a convenient carrying case, giving you everything you need for drilling multiple hole sizes in any wood material.

Description	Cat. No.
5-1/2 in. extension bar, 1 in., 1-1/4 in., 1-3/8 in., 2 in., 2-9/16 in. bits	**36-266**

9-Piece Kit

Includes eight different bit sizes, a 5-1/2 in. extension bar, and a convenient carrying case, giving you everything you need for drilling multiple hole sizes in any wood material.

Description	Cat. No.
5-1/2 in. extension bar, 1 in., 1-1/8 in., 1-1/4 in., 1-3/8 in., 1-1/2 in., 1-3/4 in., 2-1/8 in., 2-9/16 in. bits	**36-269**

Replacement Lead Screws

- Keeps self-feed bits running fast and true
- Easily replaced with hex wrench providing extended drill life and optimum cost-per-hole value

Description	Qty.	Cat. No.
Small replacement lead screws, fits bit sizes 1 in. - 2-9/16 in.	3/pack	**36-271**
Small replacement lead screws, fits bit sizes 3 in. - 4-5/8 in.	3/pack	**36-270**

Extension Bars

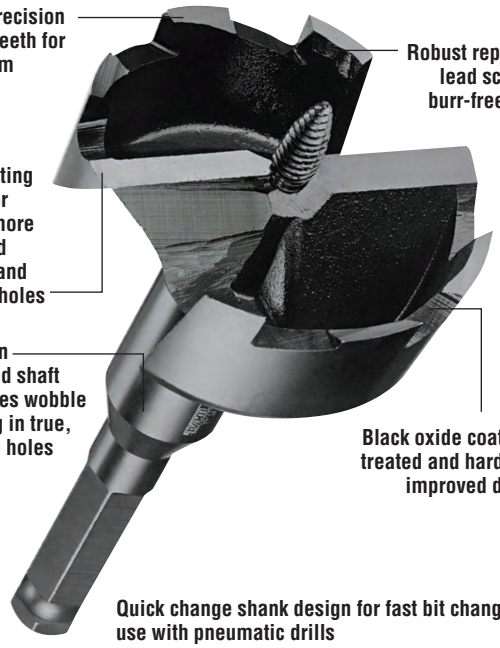
- Cuts into hard-to-reach areas
- Fits IDEAL Auger Bits

Description	Cat. No.
5-1/2 in. Extension Bar	**36-273**
18 in. Extension Bar	**35-819**

Sharpening File

- Keeps durable bits working like new
- High-grade sharpener hones dulled edges quickly and efficiently

Description	Cat. No.
Sharpening File	**36-272**



Nailbiter™ Premium Ship Auger Bits

- Dual-Helix construction with twin cutting edges for faster and smoother drilling action, even through nail-embedded timbers
- Full body, dual induction heat treatment ensures durability, minimizes warping and delivers long lasting performance
- Heavy-duty lead screw designed for quick gripping power, superior penetration and extra-long life
- Re-sharpenable for extended tool life

Description	Hole Diameter	Overall Length	Twist Length	Cat. No.
5/8 in. Power Ship Auger	5/8 in.	7-1/2 in.	5 in.	**35-810**
11/16 in. Power Ship Auger	11/16 in.	7-1/2 in.	5 in.	**35-811**
3/4 in. Power Ship Auger	3/4 in.	7-1/2 in.	5 in.	**35-812**
13/16 in. Power Ship Auger	13/16 in.	7-1/2 in.	5 in.	**35-813**
7/8 in. Power Ship Auger	7/8 in.	7-1/2 in.	5 in.	**35-814**
1 in. Power Ship Auger	1 in.	7-1/2 in.	5 in.	**35-815**
1-1/8 in. Power Ship Auger	1-1/8 in.	7-1/2 in.	5 in.	**35-816**
1-1/4 in. Power Ship Auger	1-1/4 in.	7-1/2 in.	5 in.	**35-817**

Description	Hole Diameter	Overall Length	Twist Length	Cat. No.
1/2 in. Power Ship Auger	1/2 in.	18 in.	15 in.	**35-820**
5/8 in. Power Ship Auger	5/8 in.	18 in.	15 in.	**35-821**
11/16 in. Power Ship Auger	11/16 in.	18 in.	15 in.	**35-822**
3/4 in. Power Ship Auger	3/4 in.	18 in.	15 in.	**35-823**
13/16 in. Power Ship Auger	13/16 in.	18 in.	15 in.	**35-824**
7/8 in. Power Ship Auger	7/8 in.	18 in.	15 in.	**35-825**
15/16 in. Power Ship Auger	15/16 in.	18 in.	15 in.	**35-826**
1 in. Power Ship Auger	1 in.	18 in.	15 in.	**35-827**
1-1/8 in. Power Ship Auger	1-1/8 in.	18 in.	15 in.	**35-828**
1-1/4 in. Power Ship Auger	1-1/4 in.	18 in.	15 in.	**35-829**

Mini™ Utility Bit Augers

- Designed to fit between wall studs when used with common drills
- Eliminates the need for expensive right angle drills

Bit Length = 4-3/4", Twist = 2-1/2", Shank = 7/16"	Hole Diameter	Cat. No.
5/8 in. Mini™ Auger	5/8 in.	**35-862**
3/4 in. Mini™ Auger	3/4 in.	**35-864**
7/8 in. Mini™ Auger	7/8 in.	**35-866**
1 in. Power Ship Auger	1 in.	**35-868**

RESI-MASTER™ Heavy-Duty Ship Augers

- 62° cutting angle reinforces the cutting edge and provides greater durability
- Hardened lead screw and cutting edge provide increased wear resistance and extended life
- Secondary relief angle evacuates wood chips quickly and prevents auger from jamming
- Oversized cutting head makes hole larger than body of bit for easy ejection from work piece

Description	Hole Diameter	Overall Length	Twist Length	Cat. No.
5/8 in. RESI-MASTER™ Auger	5/8 in.	7-1/2 in.	5 in.	**35-892**
11/16 in. RESI-MASTER™ Auger	11/16 in.	7-1/2 in.	5 in.	**35-730**
3/4 in. RESI-MASTER™ Auger	3/4 in.	7-1/2 in.	5 in.	**35-893**
13/16 in. RESI-MASTER™ Auger	13/16 in.	7-1/2 in.	5 in.	**35-731**
7/8 in. RESI-MASTER™Auger	7/8 in.	7-1/2 in.	5 in.	**35-896**
15/16 in. RESI-MASTER™ Auger	15/16 in.	7-1/2 in.	5 in.	**35-897**
1 in. RESI-MASTER™ Auger	1 in.	7-1/2 in.	5 in.	**35-898**
1-1/8 in. RESI-MASTER™ Auger	1-1/8 in.	7-1/2 in.	5 in.	**35-899**
1-1/4 in. RESI-MASTER™ Auger	1-1/4 in.	7-1/2 in.	5 in.	**35-732**

Description	Hole Diameter	Overall Length	Twist Length	Cat. No.
1/2 in. RESI-MASTER™ Auger	1/2 in.	18 in.	15 in.	**35-726**
5/8 in. RESI-MASTER™ Auger	5/8 in.	18 in.	15 in.	**35-971**
11/16 in. RESI-MASTER™ Auger	11/16 in.	18 in.	15 in.	**35-727**
3/4 in. RESI-MASTER™ Auger	3/4 in.	18 in.	15 in.	**35-972**
13/16 in. RESI-MASTER™ Auger	13/16 in.	18 in.	15 in.	**35-728**
7/8 in. RESI-MASTER™ Auger	7/8 in.	18 in.	15 in.	**35-976**
15/16 in. RESI-MASTER™ Auger	15/16 in.	18 in.	15 in.	**35-977**
1 in. RESI-MASTER™ Auger	1 in.	18 in.	15 in.	**35-978**
1-1/8 in. RESI-MASTER™ Auger	1-1/8 in.	18 in.	15 in.	**35-979**
1-1/4 in. RESI-MASTER™ Auger	1-1/4 in.	18 in.	15 in.	**35-729**

Auger Bit Extension

- Dual locking screws
- Allen wrench included

Auger Bit Extensions, 18"; Six flats to fit drill chuck Description	Cat. No.
Auger Bit Extension - 5/16 in.	**35-818**
Auger Bit Extension - 7/16 in.	**35-819**

Reciprocating Blades

- Bi-metal blades last up to ten times longer than carbon steel blades
- Flexible spring-back provides long blade life
- Super-hard, high speed steel teeth for a sharp, long-lasting cutting edge
- Shatterproof for tough applications
- Fits all reciprocating saws using 1/2 in. universal shank

	L/W/TH (In.)	TPI	Material	Blade Back	Qty.	Application	Cat. No.
Metal Cutting							
	6 x 3/4 x .035	14	Bi-metal	Straight	5	Pipe, structural steel, stainless steel: 3/32" - 1/4", Non-ferrous metal: 3/32" - 3/8"	**36-059**
	4 x 3/4 x .035	18	Bi-metal	Straight	5	Structural steel, pipe, conduit, stainless steel: 1/16" - 3/16" thick, Non-ferrous metal: 1/16" - 5/16" thick	**36-055**
	6 x 3/4 x .035	18	Bi-metal	Straight	5	Structural steel, pipe, conduit, stainless steel: 1/16" - 3/16" thick, Non-ferrous metal: 1/16" - 5/16" thick	**36-057**
	8 x 3/4 x .035	18	Bi-metal	Straight	5	Structural steel, pipe, conduit, stainless steel: 1/16" - 3/16" thick, Non-ferrous metal: 1/16" - 5/16" thick	**36-060**
	6 x 3/4 x .035	24	Bi-metal	Straight	5	All metal less than 1/8" thick: Tubing conduit, trim	**36-058**
Heavy-Duty Metal Cutting							
	6 x 3/4 x .050	18	Bi-metal	Straight	2	Heavy-duty blade for cutting structural steel, pipe, conduit, stainless steel: 1/16" to 3/16" thick	**36-085**
	8 x 3/4 x .050	10/14	Bi-metal	Straight	2	Heavy-duty blade for cutting structural steel, pipe, conduit, stainless steel: 1/8" to 1/2" thick	**36-086**
	12 x 3/4 x .050	10/14	Bi-metal	Taper	5	Heavy-duty blade for cutting structural steel, pipe, conduit, stainless steel: 1/8" to 1/2" thick	**36-087**
Wood w/Nails							
	6 x 3/4 x .050	6	Bi-metal	Taper	5	Fast cutting, roughing-in work, nail-embedded wood, remodeling	**36-065**
	9 x 3/4 x .050	6	Bi-metal	Taper	5	Fast cutting, roughing-in work, nail-embedded wood, remodeling	**36-066**
	12 x 3/4 x .050	6	Bi-metal	Taper	5	Fast cutting, roughing-in work, nail-embedded wood, remodeling	**36-067**
Demolition							
	9 x 7/8 x .062	6	Bi-metal	Taper	2	Demolition work in nail-embedded wood, remodeling	**36-095**
	9 x 7/8 x .062	10	Bi-metal	Taper	2	Demolition work in wood, metal, pipe and fire and rescue	**36-096**
General Purpose							
	6 x 3/4 x .035	10	Bi-metal	Straight	5	Nail embedded wood, metal and non-ferrous metal composition materials & plastics 1/8" - 1/2"	**36-075**
Specialty Cutting							
	8 x 3/4 x .050	Grit	Tung. Grit	Straight	2	Iron pipe, fiberglass, reinforced plastics, ceramic tile, stone, slate and brick.	**36-090**
	3 x 5/16 x .035	18	Bi-metal	Scroll	5	Scroll cutting wood, cast aluminum and non-ferrous metals	**36-054**
Plaster/Drywall							
	6 x 3/4 x .050	6	Bi-metal	Taper	2	For plaster, drywall, plaster board & lath. Bi-directional cutting	**36-088**

Long-Life Metal Cutting Reciprocating Blades

- Engineered to be the longest lasting, metal cutting blades available
- Long-life blades perform up to three times as many cuts as similar metal cutting blades
- 8% cobalt cutting edge for extreme durability
- Shatterproof bi-metal design
- Longer life for greater value

Long-Life Blades	L/W/TH (Inches)	TPI	Material	Blade Back	Qty.	Application	Cat. No.
	6 x 3/4 x .035	18	Bi-metal	Straight	5	Long-Life blade for cutting structural steel, pipe, conduit, stainless steel, sheet metal: 1/6" - 3/16" thick	**36-043**
	8 x 3/4 x .035	18	Bi-metal	Straight	5	Long-Life blade for cutting structural steel, pipe, conduit, stainless steel, sheet metal: 1/6" - 3/16" thick	**36-044**
	6 x 1 x .042	14	Bi-metal	Straight	5	Long-Life blade for cutting rebar, barstock, angle iron and other heavy gauge metals: 1/8" and thicker	**36-046**
	12 x 1 x .050	14	Bi-metal	Straight	5	Long-Life blade for cutting rebar, barstock, angle iron and other heavy gauge metals: 1/8" and thicker	**36-048**

Progressive Tooth Reciprocating Blades

- Specially designed for all purpose cutting
- Cut multiple materials without changing blades
- Tough bi-metal and HCS construction for long life.

Long-Life Blades	L/W/TH (Inches)	Blade Back	Qty.	Application	Cat. No.
	6 x 3/4 x .035	Bi-Metal	5	All metal, non-ferrous metal, sheet metal, pipe and other metal materials	**36-056**

Portable Band Saw Blades

- Bi-metal construction
- Fit all standard portable band saw machines
- For pipe, tubing and solids
- Cut any machinable metal, including conduit, angle iron, structurals, rebar and stainless steel tubing

L/W/TH (In.)	TPI	Qty./Pack	Cat. No.
44-7/8 x 1/2 x .020	10	3	**36-070**
44-7/8 x 1/2 x .020	14	3	**36-071**
44-7/8 x 1/2 x .020	18	3	**36-072**
44-7/8 x 1/2 x .020	24	3	**36-073**

Selecting the TPI (Teeth Per Inch)

An important factor in obtaining a smooth cut is to determine the teeth per inch (TPI).

Use a coarser blade (2 - 3 TPI) for sawing wood and materials up to 8" thick. A finer blade (18 - 32 TPI) should be used for thinner materials under 1/4".

You should know the SFM for various speed settings on your band saw. This is helpful when selecting the proper speed for the materials being cut. (Be sure to check the owner's manual for your band saw.)

IDEAL Cable Tie Catalog Numbering System

IT - 2 - S - MH - C - 0

IT	2	S	MH	CC	0
IT = IDEAL Powr-Tie™ Cable Ties	Size Approximate Bundle Diameter for ties	Tensile Strength M = Miniature (18 lbs.) I = Intermediate (40 lbs.) S = Standard (50 lbs.) LH = Light-Heavy Duty (120 lbs.) H = Heavy Duty (175 lbs.) EH = Extra Heavy-Duty (250 lbs.)	Style _ = Standard Tie MH = Mounting ID = Identification MB = Mounting Base LPMB = Low Profile Mounting Base MP = Mounting Pad CCL = Cable Clamp	Qty. Per Package L = 50 C = 100 D = 500 M = 1000	Color _ = Natural 0 = UV Black 8 = Gray 30 = Heat Stabilized Black 35 = Maroon 702 = Halar

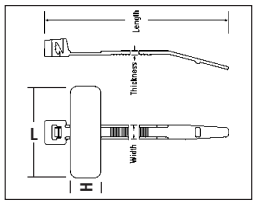
Cable-Tie Installation Tools

- Consistent, positive tension
- Flush cut-off leaves no projections to damage nearby wires or components
- Lightweight economy model for smaller jobs
- Standard and heavy-duty models feature rugged construction with comfortable, cushioned grips

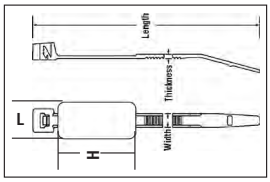
Description		Cat. No.
Economy – use w/standard & heavy-duty ties		41-990
Heavy-Duty – use w/standard & heavy-duty ties		41-995

Identification Ties

- Write-on surface
- Bundle and identify at the same time



IT1MID-C



IT2SID-C & IT4SID-C

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Pad Size (H X L)	Qty./Bag	Cat. No.
Natural Nylon	4.0 in./102mm	.100 in./2.54mm	.044 in./1.12mm	1/16 - 7/8 in.	18 lbs.	5/16 in. x 1 in.	100	IT1MID-C
Natural Nylon	7.8 in./200mm	.181 in./4.59mm	.055 in./1.40mm	1/16 - 1-7/8 in.	50 lbs.	1-1/8 in. x 1/2 in.	100	IT2SID-C

Clamps

- Use to secure wires, cables, pipes, tubing and fiber optics
- Ultraviolet black nylon clamps available for internal and external use
- Use with #10 mounting screw

Description	Closed Diameter	Center to Center	Width	Thickness	Mounting Hole	Qty./Bag	Cat. No.
Natural Nylon	.125 in./3.18mm	.343 in./8.71mm	3/8 in.	.050 in./1.27mm	.203 in./5.16mm	100	**IT125CCL-C**
Natural Nylon	.250 in./6.35mm	.421 in./10.69mm	3/8 in.	.050 in./1.27mm	.203 in./5.16mm	100	**IT250CCL-C**
UV Black Nylon						100	**IT250CCL-C0**
Natural Nylon	.375 in./9.52mm	.500 in./12.70mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	**IT375CCL2-C**
UV Black Nylon						100	**IT375CCL2-C0**
Natural Nylon	.500 in./12.70mm	.553 in./14.05mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	**IT500CCL2-C**
Natural Nylon	.625 in./15.88mm	.625 in./15.88mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	**IT625CCL2-C**
Natural Nylon	.750 in./19.05mm	.699 in./17.75mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	**IT750CCL2-C**
Natural Nylon	1.000 in./25.40mm	.825 in./20.96mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	**IT1000CCL2-C**

Plenum Cable Ties

- UL Listed nylon 6/6 cable ties are suitable for use in Air Handling Spaces (Plenum) in accordance with Section 300-22(C) & (D) of the National Electrical Code and Rules 12-010 (3), (4) and (5) and 12-020 of the Canadian Electrical Code, Part 1

Standard Ties

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Burgundy Nylon	7.5 in./190mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 1-7/8 in.	50 lbs.		100	**IT2S-C35**
Natural Nylon						MS3367-1-9	100	**IT2S-C**
Natural Nylon							1000	**IT2S-M**
UV Black Nylon						MS3367-1-0	100	**IT2S-C0**
UV Black Nylon							1000	**IT2S-M0**
Burgundy Nylon	11.2 in./284mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 3-1/16 in.	50 lbs.		100	**IT3S-C35**
Natural Nylon						MS3367-7-9	100	**IT3S-C**
Natural Nylon							500	**IT3S-D**
UV Black Nylon						MS3367-7-0	100	**IT3S-C0**
UV Black Nylon							500	**IT3S-D0**
Natural Nylon	14.5 in./368mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 4-1/8 in.	50 lbs.	MS3367-2-9	100	**IT4S-C**
Natural Nylon							500	**IT4S-D**
UV Black Nylon						MS3367-2-0	100	**IT4S-C0**
UV Black Nylon							500	**IT4S-D0**

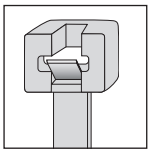
Mounting Ties

Description	Length	Width	Strap Thickness	Max. Bundle	Tensile Strength	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	8.1 in./206mm	.178 in./4.52mm	.053 in./1.35mm	1/16 - 1-3/4 in.	50 lbs.	No. 10	100	**IT2SMH-C**
Natural Nylon							1000	**IT2SMH-M**
UV Black Nylon							100	**IT2SMH-C0**

Definition of "Air Handling Spaces"
Ducts or plenums used for environmental air and other spaces used for environmental air, such as above hung ceilings or below raised floors. This does not include plenums used for the removal of dust, loose stock or vapor, or ventilation of commercial-type cooking equipment.[1]
[1]UL 1565 CSA C22.2 4th Edition
UL Listing #E168851

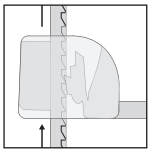
Powr-Tie™ Cable Ties

Quality Construction



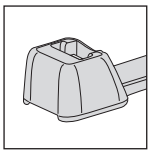
- One-piece design for added strength
- Superior locking mechanism
- Exceeds industry tensile strength ratings

Low Insertion Force



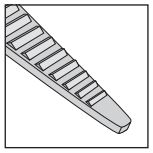
- Tapered thin tip reduces initial friction
- Lowest insertion force with the highest tensile strength
- Reduces installation fatigue

No Burrs or Sharp Edges



- Smooth corners provide added safety
- Rounded edges eliminate insulation damage

Stepped Tail Gripper



- Tapered tail grip assures positive threading
- Stepped tail allows for easier grabbing and tightening once engaged

Angled Tail

- Provides quicker initial insertion
- Lowers installation costs

Material Selection

- **ROHS Compliant**
- **Natural General Purpose 6/6 Nylon**
  - Suitable for most applications
  - Meets UL 94V-2 flammability ratings
  - 85°C/185°F working temperature
- **UV Black Nylon 6/6**
  - Suitable for most applications with continuous or extended exposure to outdoor elements
  - Weather-resistant grade, able to endure ultraviolet (UV) light
  - Meets UL 94V-2 flammability ratings
  - 85°C/185°F working temperature
- **Heat Stabilized Black Nylon 6/6**
  - Suitable for most applications with continuous or extended exposure to high temperatures
  - Meets UL standards for electrical applications
  - Meets UL 94V-2 flammability ratings
  - 125°C/257°F working temperature

Miniature (18 lb.) Ties Natural & UV Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	4.0 in./102mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 7/8 in.	18 lbs.	MS3367-4-9	100	**IT1M-C**
Natural Nylon							1000	**IT1M-M**
UV Black Nylon						MS3367-4-0	100	**IT1M-C0**
Natural Nylon	6.1 in./154mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 3-1/2 in.	18 lbs.	—	100	**IT1_5M-C**
UV Black Nylon							100	**IT1_5M-C0**
Natural Nylon	8.1 in./206mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 2-3/16 in.	18 lbs.	—	100	**IT2M-C**
Natural Nylon							1000	**IT2M-M**
UV Black Nylon							100	**IT2M-C0**

*IM, 1_5M & 2M Series

Intermediate (40 lb.) Ties Natural & UV Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	5.7 in./145mm	.140 in./3.56mm	.049 in./1.24mm	1/16 - 1-7/16 in.	40 lbs.	MS3367-5-9	100	**IT1_5I-C**
Natural Nylon							1000	**IT1_5I-M**
UV Black Nylon						MS3367-5-0	100	**IT1_5I-C0**
UV Black Nylon							1000	**IT1_5I-M0**
Natural Nylon	8.8 in./224mm	.140 in./3.56mm	.049 in./1.24mm	1/16 - 2-3/8 in.	40 lbs.	MS53367-5-9	100	**IT2I-C**
Natural Nylon							1000	**IT2I-M**
UV Black Nylon						MS53367-5-0	100	**IT2I-C0**
UV Black Nylon							1000	**IT2I-M0**
Natural Nylon	11.5 in./292mm	.142 in./3.60mm	.055 in./1.40mm	1/16 - 3-3/8 in.	40 lbs.	—	100	**IT3I-C**
UV Black Nylon							100	**IT3I-C0**
Natural Nylon	14.5 in./368mm	.142 in./3.60mm	.055 in./1.40mm	1/16 - 4 in.	40 lbs.	—	100	**IT4I-C**
UV Black Nylon							100	**IT4I-C0**

*IM, 1_5 & 2I Series

Standard (50 lb.) Ties Natural, UV Black & Heat Stabilized Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	7.5 in./190mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 1-7/8 in.	50 lbs.	MS3367-1-9	100	**IT2S-C**
Natural Nylon							1000	**IT2S-M**
UV Black Nylon						MS3367-1-0	100	**IT2S-C0**
UV Black Nylon							1000	**IT2S-M0**
Natural Nylon	11.2 in./284mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 3-1/16 in.	50 lbs.	MS3367-7-9	100	**IT3S-C**
Natural Nylon							500	**IT3S-D**
UV Black Nylon						MS3367-7-0	100	**IT3S-C0**
UV Black Nylon							500	**IT3S-D0**
Natural Nylon	14.5 in./368mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 4-1/8 in.	50 lbs.	MS3367-2-9	100	**IT4S-C**
Natural Nylon							500	**IT4S-D**
UV Black Nylon						MS3367-2-0	100	**IT4S-C0**
UV Black Nylon							500	**IT4S-D0**
Natural Nylon	17.0 in./432mm	.190 in./4.82mm	.053 in./1.34mm	1/16 - 4-3/4 in.	50 lbs.	—	100	**IT5S-C**
UV Black Nylon							100	**IT5S-C0**

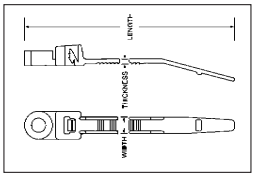
*2S, 3S & 4S Series
UL Listed Nylon 6/6 cable ties are suitable for use in Air Handling Spaces (Plenums) in accordance with Section 300-22(C) & (D) of the National Electrical Code and Rules 12-010 (3), (4) & (5) and 12-020 of the Canadian Electrical Code, Part 1.

Light Heavy-Duty, Heavy-Duty & Extra Heavy-Duty Ties Natural, UV Black & Heat Stabilized Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	8.7/220.9mm	.300 in./7.62mm	.076 in./1.93mm	2-1/16 in.	120 lbs.	—	100	**IT2LH-C**
UV Black Nylon							100	**IT2LH-C0**
Natural Nylon	15.1 in./384mm	.300 in./7.62mm	.075 in./1.90mm	3/16-4-1/16 in.	120 lbs.	MS3367-3-9	50	**IT4LH-L**
UV Black Nylon						MS3367-3-0	50	**IT4LH-L0**
Natural Nylon	17.8 in./451mm	.300 in./7.62mm	.075 in./1.90mm	3/16-5-1/4 in.	120 lbs.	—	50	**IT5LH-L**
UV Black Nylon							50	**IT5LH-L0**
Natural Nylon	24.2 in./614mm	.300 in./7.62mm	.075 in./1.90mm	3/16-7 in.	120 lbs.	—	50	**IT7LH-L**
UV Black Nylon							50	**IT7LH-L0**
Natural Nylon	25.3 in./642mm	.340 in./8.64mm	.090 in./2.29mm	3/16-7-3/16 in.	175 lbs.	MS3367-10-9	50	**IT7H-L**
UV Black Nylon						MS3367-10-0	50	**IT7H-L0**
Natural Nylon	37.1 in./942mm	.340 in./8.64mm	.090 in./2.29mm	3/16-11 in.	175 lbs.	MS3367-13-9	50	**IT11H-L**
UV Black Nylon						MS3367-13-0	50	**IT11H-L0**
Natural Nylon	47.8 in./ 1214mm	.340 in./8.64mm	.090 in./2.29mm	3/8-14-1/2 in.	175 lbs.	MS3367-16-9	50	**IT14H-L**
UV Black Nylon						MS3367-16-0	50	**IT14H-L0**
UV Black Nylon	22.8 in./579mm	.50 in./12.7mm	.080 in./2.03mm	3/16-6 in.	250 lbs.	—	100	**IT6EH-C0**

*4LH, 7H, 11H, 14H Series

Mounting Head Ties Natural & UV Black



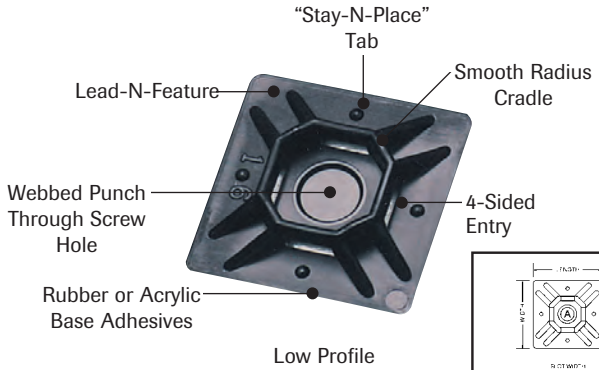
- Secures and positions wire bundles, cables, hoses, etc. to panels or other surfaces with one fastener to reduce time and cost
- Allows bundling before and after mounting

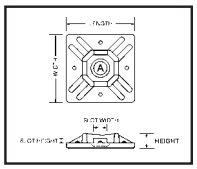
Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	6.0 in./152mm	.140 in./3.55mm	.048 in./1.21mm	1/16 - 1-1/4 in.	30 lbs.	No. 8	100	IT1_5IMH-C
UV Black Nylon							100	IT1_5IMH-C0
Natural Nylon	8.1 in./206mm	.178 in./4.52mm	.053 in./1.35mm	1/16 - 1-3/4 in.	50 lbs.	No. 10	100	IT2SMH-C
Natural Nylon							1000	IT2SMH-M
UV Black Nylon							100	IT2SMH-C0
Natural Nylon	11.8 in./300mm	.189 in./4.80mm	.050 in./1.27mm	1/16 - 3 in.	50 lbs.	No. 10	100	IT3SMH-C
UV Black Nylon							100	IT3SMH-C0
Natural Nylon	14.5 in./370mm	.189 in./4.80mm	.060 in./1.52mm	1/16 - 4 in.	50 lbs.	No. 10	100	IT4SMH-C
Natural Nylon	15.7 in./398mm	.300 in./7.62mm	.075 in./1.90mm	3/16 - 4-1/16 in.	120 lbs.	1/4 in.	100	IT4LHMH-C
UV Black Nylon							100	IT4LHMH-C0

*4LH Series; **2S Series
UL Listed Nylon 6/6 cable ties are suitable for use in air handling spaces in accordance with Section 300-22(C) & (D) of the National Electrical Code.

Mounting Pads

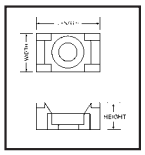
- Patented stay-in-place tab keeps cable ties from sliding down during vertical applications
- Lead-N-Feature allows easy insertion for hard to reach applications
- Four-sided entry slots save time during placement orientation
- Smooth radius cradle eliminates possible damage to cable while providing stable support
- Webbed punch through screw hole allows maximum adhesive surface area, along with easy insertion of mechanical fasteners
- Low Profile is essential in confined spaces
- UL recognized, rubber adhesive positioning device





Description	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	.74 in./19mm	.19 in./4.8mm	.05 in./1.2mm	.20 in./5.1mm	No. 4	100	IT750MP-C
UV Black Nylon						100	IT750MP-C0
Natural Nylon	.99 in./25mm	.20 in./5.0mm	.06 in./1.5mm	.20 in./5.1mm	No. 6	100	IT1000MP-C
UV Black Nylon						100	IT1000MP-C0

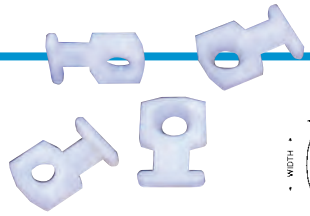
Screw Mounting Bases - Standard

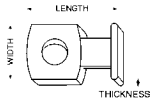


- Deep cradle design provides minimum support for larger bundles and tubing
- Recessed screw hole allows cable ties to easily pass over screw head

Description	Length	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Screw Mount Natural Nylon	.590 in./15mm	.370 in./9.40mm	.270 in./6.86mm	.062 in./1.59mm	.190 in./4.83mm	No. 6	100	IT1SMB-C
Screw Mount UV Black Nylon							100	IT1SMB-C0
Screw Mount Natural Nylon	.870 in./22mm	.640 in./16.26mm	.380 in./9.65mm	.125 in./3.18mm	.300 in./7.62mm	1/4 in.	100	IT2SMB-C
Screw Mount UV Black Nylon							100	IT2SMB-C0

Screw Mounting Bases – Low Profile





- Perfect for confined space, control panels or other areas where space is limited

Description	Length	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Low Profile Mount	.750 in./19mm	.500 in./12.70mm	.120 in./3.04mm	.062 in./1.57mm	.180 in./4.57mm	No. 8	100	**IT1LPMB-C**

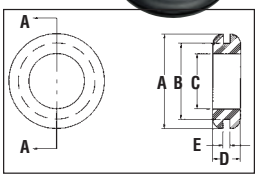
Cable Tie Bag

- Keep your cable ties right where you need them, eliminate loss with this convenient easy-to-use bag that clips securely onto your belt
- Includes a bag for 8 in. cable ties and a bag for 11 in. cable ties, easily clip together or used separately
- Elastic cord quickly and easily cinches to keep ties securely in place

Description	Cat. No.
Cable Tie Bag	**IT-BAG**

Grommets*

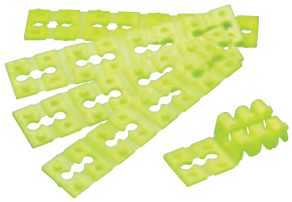
- Installs instantly! Flexible PVC grommets side slotted 1/16 in. for quick installation
- Snap into holes in electrical boxes, sheet metal, auto firewalls and more
- Prevents steel and other sharp edge chafing of wire insulation or cording
- Black, PVC, flexible, 60 durometer



Description	A	B	C	D	E	Qty.	Cat. No.
1/2" Grommets	55/64	.69	1/2	.25	1/16	25	**774113**
3/4" Grommets	15/64	1.0	3/4	.31	1/16	25	**774136**

*Buchanan branded

Spacer Shims

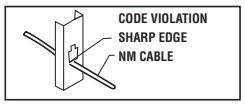


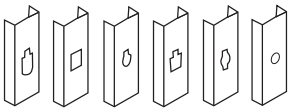
- Eliminates the need to cut platescrews for "GFCI" decorator devices when installing on tile, marble, etc.
- Supports loose outlets
- Prevents broken face plates
- Snaps over #6, #8, #10 screws

Description	Qty.	Cat. No.
Catepillar	**5**	**772453**
Catepillar	**500**	**772451**

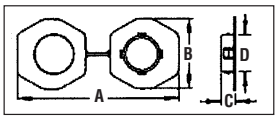
Universal Metal Stud Bushings

- Non-metallic stud bushing fits all HOLE configurations you are likely to encounter in pre-punched steel studs
- Long pulls of cable slide smoothly through the bushing, make a difficult job easier
- Protects wire without falling out of the hole





Common hole configurations in metal studs.



Description	A	B	C	D	Qty.	Cat. No.
Stud Bushing	5.670	2.50	.505	1.30	25	**772271**

Flange-Type Plastic Anchor Kits

- Kits include flange-type anchors, slotted/Phillips head screws and masonry bit
- Convenient plastic storage container

Contents	Cat. No.
100 #10-12 x 1 in. Flange-type anchors, 100 #10 x 1-1/4 in. combo-combo-head, sheet-metal screws & 1-1/4 in. masonry bit (carbide-tipped)	**90-052**

Flexible Tubing*

- Flexible polyethylene cuts easily to desired length
- Splits open for neat "bundling" of wiring jobs
- Snaps shut to create a continuous protective cover

Description	Qty.	Cat. No.
3/8 in. Flexible Tubing	10 ft.	**772240**
1/2 in. Flexible Tubing	7 ft.	**772241**
1 in. Flexible Tubing	5 ft.	**772242**

*Buchanan branded

Convenient reclosable containers keep staples organized in the truck and on the job-site

Plastic Insulated Staples

- Use with wider cable such as Romex® wire, NM and UF
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion

Description	Qty./Package	Cat. No.
1/2 in. Insulated	50/Bag	**BPS2-50**
	100/Bag	**BPS2-1**
	225/Jar	**BPS2-JRL**
	400/Jar	**BPS2B-JR**
	500/Bag	**BPS2-5**
	5,000/Bucket	**BPS2-5M**
3/4 in. Insulated	50/Bag	**BPS3-50**
	100/Bag	**BPS3-1**
	200/Jar	**BPS3-JRL**
	250/Bag	**BPS3-2**

Romex® is a registered trademark of Southwire Company.

Carbon Steel Staples

- Use with wider cable such as Romex® wire, NM and UF
- High-grade carbon steel construction
- Sharp-point legs drive straight without splitting wood
- Resist rust and corrosion

Description	Qty./Package	Cat. No.
1/2 in. x 1 in.	100/Box	**BCS1-1**
	500/Jar	**BCS1-JR**
	500/Box	**BCS1-5**
	5,000/Bucket	**BCS1-5M**
9/16 in. x 1-1/4 in.	100/Box	**BCS2-1**
	400/Jar	**BCS2-JR**
	500/Box	**BCS2-5**
	5,000/Bucket	**BCS2-5M**

Romex® is a registered trademark of Southwire Company.

Cable Stacker

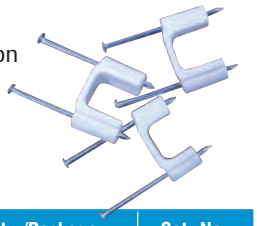
- Perfect for centering multiple cables on 2 x 4 framing members in compliance with NEC 300.4.(2)
- Use with cable such as Romex® wire, NM and UF

Description	Qty./Package	Cat. No.
Cable Stacker	15	**BPSTCKR-15**
	25	**BPS2/2-25**
	50	**BPS2/2-50**

Romex® is a registered trademark of Southwire Company.

Plastic Insulated Staples

- Use with wider cable such as Romex® wire, NM and UF
- High-grade carbon steel construction
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



Description	Qty./Package	Cat. No.
1/2 in. 2 Cable Stacker	50/Bag	**BPS2/2-50**

Romex® is a registered trademark of Southwire Company.

Coaxial Cable Straps

- Use with round cable such as CATV/VCR, RG-5, RG-6 and phone cables or with plastic and metal tubing
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion

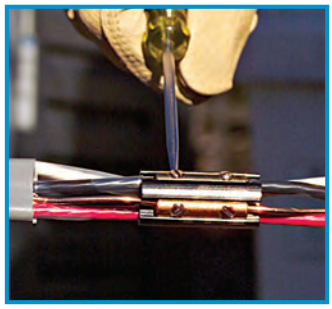
Description	Nail Type	Qty./Package	Cat. No.
1/4 in. White	Standard	250/Jar	**BPCXSW-JR**
1/4 in. Black	Roofing	200/Jar	**BPCSRB-JR**
	Masonry	200/Jar	**BPCXMBJR**
7/16 in. White	Standard	50/Bag	**BPS4-50**

Plastic Insulated Service Entrance Straps

- Use with service entrance cable and conduit
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion

Description	Qty./Package	Cat. No.
#6 SER & 1/2 in. EMT	50/Bag	**BSER6-50**
#6 & #8 SEU	50/Bag	**BSEU6-50**
#2 SER & 3/4 in. EMT	25/Bag	**BSER2-25**
#2 SEU	25/Bag	**BSEU2-25**
4/0 SER	5/Bag	**BSER4/0-5**

Thermo-Shrink® UF Splice Kits



- Direct burial rated
- 14/3 with and without ground thru 8/3 without ground, UF cable range
- Stretcher kit repairs a 7 in. to 10 in. section damaged or destroyed by a trencher
- 600V Maximum, 105°C rating
- Meets the requirements of the 2002 NEC Code 110-14(b) and UL486D

E123896

Description	Cat. No.
UF Splice Kit - 14-8 AWG, Tubing 1.1 in. x 8 in.	46-400
UF Stretcher Kit* - 14-8 AWG, Tubing 1.1 in. x 18 in.	46-410

*Stretcher kit connector is 11.5 in.

Thermo-Shrink® Copper Butt Splice Kits

- UL Listed
- Provides a fully-insulated butt splice
- 600V Maximum, 105°C rating

Description	Cat. No.
Butt Splice Kit – Copper 14-8 AWG	46-404
Butt Splice Kit – Copper 8-2 AWG	46-405

Thermo-Shrink® Al/Cu Splice Kits

- Direct burial rated, underground splice kits
- Heavy-wall heat shrink tubing with adhesive liner provides complete insulation and protection
- Connector can be used for aluminum and/or copper cable
- Meets the requirements of the 2005 NEC Code 110-14(B)
- 600V maximum, 105°C rating

Description	Cat. No.
Underground Splice Kit – 8 to 4 AWG, Tubing 3/4 in. x 6 in.	46-401
Underground Splice Kit – 4 AWG to 1/0, Tubing 1.1 in. x 8 in.	46-402
Underground Splice Kit – 1/0 to 250 KCMIL, Tubing 1-1/2 in. x 12 in.	46-403

Thermo-Shrink® Heat Shrink Kit

Kit includes:
- Heat Elite Pro Heat Gun
- Eleven sizes of thin-wall heat shrinkable tubing disks (3/64 in. – 1 in.)
- Small deflector
- Premium T®-Cutter Wire Cutter

Description	Cat. No.
Kit includes: 46-203, 45-123, 45-941 & 46-600 through 46-610	46-007

Thermo-Shrink® Thin-Wall Heat Shrinkable Tubing

- Polyolefin material electrically insulates and protects in-line components, disconnect terminals and splices with its high strength and excellent resilience
- Use to bundle wires for very flexible light-duty harnesses
- Highly flame-retardant and flexible; resistant to common fluids and solvents
- Meets UL 486D 125°C VW-1 600V; Material: No PBB's, PBBE's, conforms to ROHS
- 2:1 shrink ratio; Minimum shrink temperature: 70°C; Operating temperature: -55°C to +125°C
- RoHS compliant

c UL® us

Technical Data

Property	Test Method	Typical Data
Tensile strength	ASTM D 638	14MPa
Elongation at break	ASTM D 638	600%
Elongation after aging at 175°C for 168 hours	UL 224	350%
Flammability	UL 224 VW-1	Pass
Heat shock (250°C/4 hours)	UL 224	No cracking
Cold bend test (-55°C/4 hours)	UL 224	No cracking
Dielectric strength	ASTM D 150	20KV/mm
Volume resistance	ASTM D 876	1014Ω.cm
Copper corrosion	UL 224	Pass
Chemical resistance	UL 224	Pass
Longitudinal shrinkage	UL 224	0±5%
Eccentricity	UL 224	30%

Normal Size (in.)	Expanded I.D. (Min.)	Nominal Recovered I.D. (Max.)	Recovered Wall Thickness +/- 10%	Cable Range AWG*	Length (Pkg.)	Cat. No.
3/64	0.063"/1.6mm	0.024"/0.6mm	0.013"/0.33mm	22-18	4 ft. (Disk)	**46-600**
1/16	0.079"/2.0mm	0.031"/0.8mm	0.014"/0.36mm	16	4 ft. (Disk)	**46-601**
3/32	0.122"/3.1mm	0.047"/1.2mm	0.017"/0.44mm	14-12	4 ft. (Disk)	**46-602**
1/8	0.146"/3.7mm	0.063"/1.6mm	0.017"/0.44mm	24-20	6 in. (Bag)	**46-310**
					4 ft. (Disk)	**46-603**
					1,000 ft. (Spool)	**46-312**
3/16	0.205"/5.2mm	0.094"/2.4mm	0.020"/0.50mm	20-14	6 in. (Bag)	**46-313**
					4 ft. (Disk)	**46-604**
					1,000 ft. (Spool)	**46-315**
1/4	0.268"/6.8mm	0.126"/3.2mm	0.022"/0.56mm	14-8	6 in. (Bag)	**46-316**
					4 ft. (Disk)	**46-605**
					500 ft. (Spool)	**46-318**
5/16	0.346"/8.8mm	0.157"/4.0mm	0.022"/0.56mm	10-6	4 ft. (Disk)	**46-606**
3/8	0.421"/10.7mm	0.185"/4.7mm	0.022"/0.56mm	8-4	6 in. (Bag)	**46-319**
					4 ft. (Disk)	**46-607**
					200 ft. (Spool)	**46-321**
1/2	0.539"/13.7mm	0.252"/6.4mm	0.026"/0.65mm	4-1	6 in. (Bag)	**46-322**
					4 ft. (Disk)	**46-608**
					200 ft. (Spool)	**46-324**
3/4	0.807"/20.5mm	0.374"/9.5mm	0.027"/0.69mm	2-250 MCM	6 in. (Bag)	**46-325**
					4 ft. (Disk)	**46-609**
					200 ft. (Spool)	**46-327**
1	1.043"/26.5mm	0.500"/12.7mm	0.031"/0.80mm	2/0-500 MCM	6 in. (Bag)	**46-328**
					4 ft. (Disk)	**46-610**
					100 ft. (Spool)	**46-330**

*Reference only - Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.

Thermo-Shrink® Medium-Wall Heat Shrinkable End Caps

- Creates a watertight seal to protect ends of power and control cords
- Protects against oxidation, ozone, UV radiation, etc.
- Coated with hot melt adhesive to ensure environment seal
- Fits easily over end of cable
- Protect power cables up to 1000V and telecommunication cable
- Recommended for both open air and underground power distribution cables with PVC, lead or XLPE sheaths
- Thermally stabilized cross-linked polylelin, coated with specially designed hot melt adhesive

Technical Data

Property	Test Method	Typical Data
Operating Temperature	IEC 216	-55°CC to +110°C
Tensile Strength	ASTM D 638	>14 MPa
Elongation at break	ASTM D 638	>400%
Density	ASTM D 792	1.05g/cm3
Elongation of break after aging	150°C, 168 hrs.	>300%
Dielectric Strength	IEC 243	>15KV/mm
Volume Resistance	IEC 93	1014Ω.cm

Expanded I.D. (Min.)	Recovered I.D. (Max.)	Recovered Wall Thickness +/-10%	Cable Dia. Range*	Length	Cat. No.
0.55"/14mm	0.18"/4.5mm	0.079"/2.0mm	0.20"/5mm - 0.47"/12mm	1.77"/ 45mm	**46-381**
0.98"/25mm	0.31"/8mm	0.091"/2.3mm	0.39"/10mm - 0.71"/18mm	2.76"/ 70mm	**46-382**
1.38"/35mm	0.59"/15mm	0.118"/3.0mm	0.67"/17mm - 1.18"/30mm	3.35"/ 85mm	**46-383**
2.95"/75mm	1.38"/35mm	0.138"/3.5mm	1.77"/45mm - 2.76"/70mm	5.12"/ 130mm	**46-384**

*Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.

Thermo-Shrink® Heavy-Wall Heat Shrinkable Tubing

- TS-46 irradiated cross-linked polyolefin with 3:1 standard shrink ratio
- Adhesive liner provides complete insulation and protection to electrical splices in above-grade, underground or underwater applications
- Maximum flame retardancy
- Meets UL 486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guides Nos. 2.4, 2.5, MIL-DTL-23053/15, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA S-19-8 and NEMA insulation thickness requirements
- Continuous operating temperature from -55°C to 110°C
- Rated for 600V, 90°C continuous use
- Shrink temperature of 120°C

Model	Expanded I.D. (Min.) (In.)	Recovered I.D. (Max.) (In.)	Nominal Recovered Wall Thickness (In.)	Cable Range*	Length (In.)	Cat. No.
TS-46-400	.400	.150	.060	12-6 AWG	6	**46-343**
					9	**46-344**
					48	**46-346**
TS-46-750	.750	.240	.090	8-1/0 AWG	6	**46-347**
					9	**46-348**
					48	**46-350**
TS-46-1100	1.100	.350	.120	2-4/0 AWG	6	**46-351**
					9	**46-352**
					48	**46-354**
TS-46-1500	1.500	.470	.160	3/0 AWG-400 KCMIL	9	**46-356**
					12	**46-357**
					48	**46-358**
TS-46-2000	2.000	.630	.160	250-750 KCMIL	9	**46-369**
					18	**46-371**
					48	**46-372**

*Reference only. Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.

Properties	Heavy Wall
Shrink Temperatures	120°C to 250°C (200°C recommended)
Continuous Operating Temperature	-55°C to 110°C
Tensile Strength (PSI)	2,100 PSI min.
Ultimate Elongation	600% min.
Secant Modulus @ 2% Strain	25,000 PSI max.
Specific Gravity	1.20 max.
Heat Aging, 168 hrs. @ 175°C Tensile Strength Elongation	500%
Heat Shock, 4 hrs. @ 225°C	No cracks, flowing or dripping
Flammability	Self-extinguishing
Low Temperature Brittle Point	-55°C
Volume Resistivity	1013ohm-cm min.
Dielectric Strength	500V/mil (20kV/min.)
Corrosive Effect	Non-corrosive
Solvent Resistance 24 hrs. Immersion per MIL-DTL-23053	Good to excellent
Water Absorption	0.5%
Fungus Resistance	No growth
Longitudinal Change, 3 min.	+1%/-10%

All values are typical performance data and are not to be used as design data.

Heat Elite Heat Gun Kit

- Temperature range – 930°F (500°C)
- Two-step switch for heat and air flow adjustments
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use

Description	Cat. No.
Heat Elite Heat Gun Kit	46-202
46-202 Kit Includes:	**Cat. No.**
Heat Elite Heat Gun	46-202
Small Deflector	46-941
Wide-Slot Adapter	46-954

Heat Elite Pro Heat Gun Kit

- Temperature range – 180°F - 1200°F (80 - 650°C)
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use
- LCD display with memory functions
- Temperature and airflow adjustments
- Stand-by mode to minimize the energy consumption
- Ceramic heating element ensures long-term coil performance

Description	Cat. No.
Heat Elite Pro Heat Gun Kit	46-203
46-203 Kit Includes:	**Cat. No.**
Heat Elite Heat Gun	46-203
Small Deflector	46-941
Redcution Adapter	46-950
Wide-Slot Adapter	46-954

Heat Elite Plus LCD Heat Gun Kit

- Temperature range – 180°F - 1020°F (100 - 550°C)
- Two-step switch for heat and air flow adjustments
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use
- Potentiometer for infinitely temperature adjustment

Description	Cat. No.
Heat Elite Plus LCD Heat Gun Kit	46-204
46-204 Kit Includes:	**Cat. No.**
Heat Elite Plus LCD Heat Gun	46-204
Small Deflector	46-941
Welding Adapter	46-952
Solder Reflector Adapter	46-953
Overlap Adapter	46-955
Pressure Roller	46-956

Heat Gun Accessories

Description	Cat. No.
Small Deflector, 1-1/4 in. diameter (For use with all Heat Elite Heat Guns)	46-941
Reduction Adapter (For use with 46-203 and 46-204)	46-950
Glass Protection Adapter (For use with all Heat Elite Heat Guns)	46-951
Welding Adapter (For use with 46-203 and 46-204)	46-952
Solder Reflector Adapter (For use with 46-204)	46-953
Wide-Slot Adapter (For use with all Heat Elite Heat Guns)	46-954
Overlap Adapter (For use with 46-203 and 46-204)	46-955
Pressure Roller (For use with 46-204)	46-956

Wire Marker Booklets

- Convenient pocket-size booklets
- Plastic-impregnated cloth construction for long-lasting durability
- Resists abrasion, moisture, dirt and oil
- Perforated 1/4 in. x 1-1/2 in. markers can be separated into half-length sizes
- Non-smear black legend ensures high visibility
- Self-sticking on wire and cable
- For applications above or below ground

Specifications:
Temperature Range: -40°F to 180°F (-40°C to 82°C)
Adhesion: 45 oz./in. width ultimate

Legend Assortments

Legend	Qty.	Cat. No.
0-9	45 Markers each	**44-101**
A-Z, 0-15, +, –, /	10 Markers each	**44-102**
1-48	10 Markers each	**44-103**
46-90	10 Markers each	**44-104**
1, 2, 3	150 Markers each	**44-105**
A, B, C	150 Markers each	**44-106**
A-Z	45 Markers each	**44-148*** **
T1, T2, T3	150 Markers each	**44-107**
L1, L2, L3	150 Markers each	**44-108**
1-15 16-90 A-Z +, –, /, 0	6 Markers each 4 Markers each 2 Markers each 2 Markers each	**44-109**
1, 2, 3 A, B, C T1, T2, T3 L1, L2, L3	45 Markers each 45 Markers each 30 Markers each 30 Markers each	**44-110**
+, –, AC, DC POS, NEG, GND NEUT SPARE, BLANK	45 Markers each 33 Markers each 27 Markers each 21 Markers each	**44-111****

Ten pages per booklet with each page bearing the legend assortment indicated. All booklets (except 44-111) contain 450 wire markers and 450 terminal markers.
**Booklet 44-111 includes 348 wire markers and 348 terminal markers.
***Booklet 44-148 contains 26 pages, one page of 45 markers per letter, 1170 total markers.

Load Center

- Contains common household legends – bedroom, living room, dryer, water heater, security system, etc.

Description	Cat. No.
Load Center Wire Marker Booklet	**44-154**

Write-On Marker Cards

- Use for developing personal identification systems
- Cloth write-on surface
- Accepts most writing instruments

Marker Size	Qty.	Cat. No.
5/8 in. x 1-1/2 in.	14/card	**44-753**

Wire Marker Dispenser

- Convenient pocket-size case holds ten wire marker rolls
- Dispenser tab holds tapes firmly in place – allows removal of proper tape length without waste
- Flip top for easy access and refill
- Built-in hook for hanging from belt or tool pouch
- High-quality adhesive and 3 mil. thickness provide long-lasting, low-profile application
- Each plastic reel holds Tyvek® tape

Specifications:
Temperature Range: -40°F to 180°F (-40°C to 82°C)
Adhesion: 25 oz./in. width ultimate

Description	Cat. No.
Dispenser w/0-9 legend rolls	**42-301**
Refill pack with one each of 0-9 legend rolls	**42-399**

Write-On Marker Booklets*

- Use for developing personal identification systems
- Surface accepts pen, pencil or rubber stamp

Marker Size* (In.)	Markers per page	Pages per book	Cat. No.
1 x 2-1/2	6	10	**44-151**
1 x 5	3	10	**44-152**

*Write-on area for 2-1/2 in. markers is 3/4 in. x 1 in. Write-on area for 5 in. markers is 1 in. x 1 in., Adhesion: .25 oz./in. width ultimate

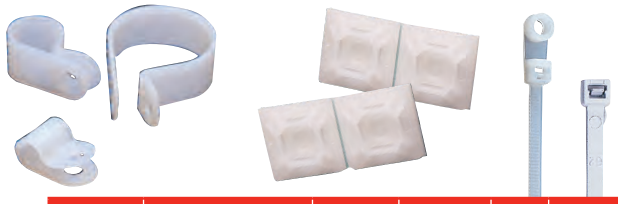
Marking Pen

- Fast-drying, permanent ink will not smear
- Use on write-on marker cards and write-on cable-tie marker plates

Description	Cat. No.
Marking Pen w/black ink	**41-697**

Multi-Purpose Cable Ties

- General purpose cable tie for every day bundling and cable management
- UL recognized



Size	Thickness X Width (in.)	Color	Tensile Strength (lbs.)	Pkg. Qty.	Cat. No.
Miniature Ties					
4”	.039 x .095	Natural	18	100	B-4-18-9-C
4”	.039 x .095	UV Black	18	100	B-4-18-0-C
Intermediate Ties					
6”	.047 x .142	Natural	40	100	B-6-40-9-C
6”	.047 x .142	Natural	40	1000	B-6-40-9-M
6”	.047 x .142	UV Black	40	100	B-6-40-0-C
Intermediate Ties					
8”	.053 x .178	Burgundy	50	100	B-8-50-35-C
11”	.053 x .178	Burgundy	50	100	B-11-50-35-C
Standard Ties					
8”	.057 x .181	Natural	50	100	B-8-50-9-C
8”	.057 x .181	Natural	50	1000	B-8-50-9-M
8”	.057 x .181	UV Black	50	100	B-8-50-0-C
8”	.057 x .181	UV Black	50	1000	B-8-50-0-M
11”	.057 x .181	Natural	50	100	B-11-50-9-C
11”	.057 x .181	Natural	50	500	B-11-50-9-D
11”	.057 x .181	UV Black	50	100	B-11-50-0-C
11”	.057 x .181	UV Black	50	500	B-11-50-0-D
14”	.057 x .181	Natural	50	100	B-14-50-9-C
14”	.057 x .181	Natural	50	500	B-14-50-9-D
14”	.057 x .181	UV Black	50	100	B-14-50-0-C
14”	.057 x .181	UV Black	50	500	B-14-50-0-D
Heavy-Duty Ties					
14”	.066 x .299	Natural	120	50	B-14-120-9-C
14”	.066 x .299	UV Black	120	50	B-14-120-0-L
24”	.066 x .299	Natural	175	50	B-24-175-9-L
24”	.066 x .299	UV Black	175	50	B-24-175-0-L
36”	.066 x .299	Natural	175	50	B-36-175-9-L
48”	.066 x .299	Natural	175	50	B-48-175-9-L

Size	Thickness X Width (in.)	Color	Tensile Strength (lbs.)	Pkg. Qty.	Cat. No.
Mounting Ties					
8”	.057 x .189	Natural	50	100	B-8-50MT-9-C
8”	.057 x .189	UV Black	50	100	B-8-50MT-0-C
14”	.053 x .178	Natural	50	100	B-14-50MT-9-C
Mounting Pads					
3/4” x 3/4”	.142 Max. Tie Width	Natural	N/A	100	BMP-750-9-C
1” x 1”	.189 Max. Tie Width	Natural	N/A	100	BMP-1000-9-C

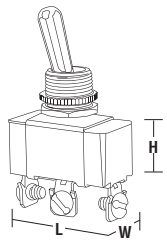
Wire Marker Booklets

- Self-sticking on wire and cable
- Perforated 1/4” x 1-1/2” markers
- For applications above or below ground
- Resists abrasion, moisture, dirt and oil
- Non-smear black legend ensures high visibility

Legend	Qty.	Cat. No.
0-9	45 Markers each	**775101**
A-Z, 0-15, +, -, /	10 Markers each	**775102**
1-45	10 Markers each	**775103**
46-90	10 Markers each	**775104**

Ten pages per booklet with each page bearing the legend assortment indicated. All booklets contain 450 wire and terminal markers.

Standard & Heavy-Duty Toggle Switches

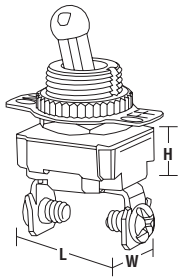


- Great for power tool and motor control switch applications
- Rugged long-wearing solid brass/nickel-plated bushings
- 1/2 in. diameter mounting hole
- Dielectric Strength: 1500V
- Mechanical Life: 100,000 cycles
- Operating Temperature: 32°F to 185°F (0°C to 85°C)
- DC Rating: Factory tested 100,000 cycles to 21 Amp 14.8 VDC

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 227 Vac	HP 125-250 VAC		
	Toggle switch with On-Off Faceplate	SPST	On-Off	Screw	2	20	10	3/4	1.13 x .57 x .61	**774011**
				Spade						**774008**
										774010
	Toggle Switch		On-Off	Spade						**774093**
			(On)-Off	Screw						
										774088BK†
	Toggle Switch w/ boot	SPST	On-Off	Spade	2	20	20	3/4	1.18 x .68 x .75	**774111BK†**
	Toggle Switch	SPDT	On-On	Screw	3	20	10	3/4	1.13 x .57 x .61	**774012**
			On-On	Spade						**774100**
			On-Off-On	Screw						**774013**
			On-Off-On	Spade						**774027**
			On-Off-(On)	Screw						**774094**
			(On)-Off-(On)	Screw						**774009**
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	20	10	1-1/2	1.30 x .76 x .80	**774014**
			On-Off	Spade						**774005**
			(On)-Off	Screw						**774103**
	Heavy-Duty Toggle Switch	DPDT	On-On	Screw	6	20	10	1-1/2	1.30 x .76 x .80	**774015**
										774015BK†
			On-Off-On	Screw						**774016**
			On-Off-On	Spade						**774003**
			(On)-Off-(On)	Screw						**774000**
			(On)-Off-(On)	Spade						**774115**
	Toggle Switch	3PDT	On-On	Screw	9	15	10*	3/4	1.31 x 1.09 x .80	**774089**
										774089BK†
			On-Off-On							**774092**

*250VAC, Dielectric strength: 1000V ( ) denotes momentary action †Bulk Package of 100 Note: All spade terminals are 1/4" (.250).

Medium & Light-Duty Toggle Switches

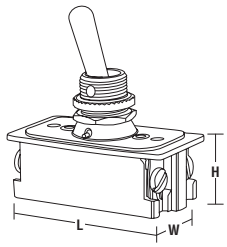


- Great for household appliances and equipment
- Bat toggle switch, 774007, is ideal for battery-powered equipment including trimmers and lawn mowers
- Wire leads are #18 AWG, 6 in. stripped wire
- 1/2 in. diameter mounting hole

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating	Dimensions (L" x W" x H")	Cat. No.
	Bat Toggle with On-Off Faceplate	SPST	On-Off	Screw	2	6 Amps 120 VAC, 3 Amps 240 VAC	.69 × .55 × .34	**774017**
			On-Off	Wire Leads	2	4 Amps 250VAC/DC, 8 Amps 125VAC/DC, 10 Amps 125 VAC, 1/3 HP 125 VAC	.98 × .64 × .62	**774018**
	Bat Toggle*		On-Term Ground	Spade	1	21 Amps 14 VDC	.69 × .55 × .34	**774007**
	Short Ball Toggle Switch	SPST	On-Off	Wire Leads	2	6 Amps 125 VAC, 3 Amps 250 VAC	.89 × .47 × .55	**774002**

*DC rating not CSA or RU listed.

Extra Heavy-Duty AC/DC Toggle Switches



- The switch that can handle your heavy-duty requirements
- Quick-make/quick-break type switches are ideal for DC voltage applications
- Perfect for industrial motor control, with its sturdy metal construction and stiff actuation force, it will withstand the abuses of virtually any application

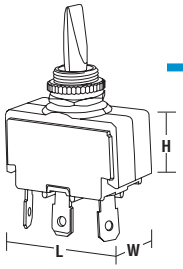
Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 227 Vac	HP 125-250 VAC		
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	16	8	1	1.75 x .84 x .76	**774096**
						20	10	1-1/2	2.09 x 1.00 x .90	**774097**

Toggle Switch Accessories

- These neoprene covers are great for outdoor and other environmentally tough conditions. They screw onto toggle switches to protect switches from moisture, dust and dirt.
- Nickel indicator plate fits easily on most toggle switches to identify the On-Off positions

Product	Description	Mounting	Dimensions	Qty./Card	Cat. No.
	Toggle Switch Cover	15/32 - 32 NS-2B	.93 Height x .62 Base Dia.	2	**774020**
	Push Button Switch Cover (Clear)	3/8 - 27 NS-2B	.59 Height x .60 Base Dia. x .34 I.D.	2	**774117**

Double Insulated Plastic Toggle Switches

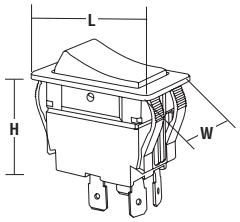


- Great for outdoor, marine/recreational equipment, automotive and weather resistant applications
- Double-insulated with an internal "O" ring design for moisture and dust resistance
- 1/2 in. diameter mounting hole

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating		Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 250 VAC		
	Double Insulated, Plastic Toggle Switch	SPST	On-Off	Screw	2	20	10	1.37 × .76 × .94	**774019**
		SPDT	(On)-Off-(On)	Spade	3				**774004BK†**
		DPDT	(On)-Off-(On)	Spade	6				**774006**

( ) Denotes momentary action †Bulk Package of 100

Full-Size Rocker Switches



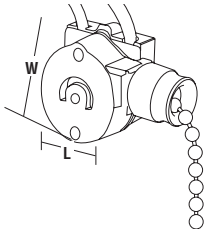
- For commercial appliances, industrial controls, automotive and marine applications
- Moisture- and dust-resistant
- Suitable for low-voltage DC applications
- Recommended .830 in. x 1.450 in. mounting hole, .125 in. panel thickness
- Operating temperature: 32°F to 185°F (0°C to 85°C)

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 227 Vac	HP 110-250 VAC		
	Black Rocker Switch	SPST	On-Off	Spade	2	20	15	2	1.70 x .97 x 1.09	**774045**
	Black Rocker Switch	DPDT	On-Off-On	Spade	6	20	15	2	1.70 x .97 x 1.09	**774040** **774040BK†**
	Red Lighted Rocker Switch***	DPST	On-Off	Spade	4	15	10*	3/4**	1.70 x .97 x 1.09	**774056**

***

*Amps 250 VAC **HP 125-250VAC †Bulk package of 100

Lever & Pull Chain Switches

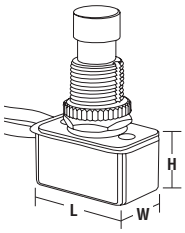


- Use for ceiling fixtures, lamps and fans
- Wire leads are #18 AWG, 6 in. stripped wire
- Push in connectors for #18 AWG wire
- 13/32 in. diameter mounting hole

Product	Description	Pull-Chain Color	Poles	Circuitry	Termination Type	Circuit	Rating			Dimensions (L" x W" x H")	Cat. No.
							Amps 125 VAC	Amps 250 Vac	Amps 125 VL		
	All-Angle Lever Switch*	Nickel	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	—	1.50 x 1.28 x .50	**774035**
	Pull Chain	Nickel	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	3	.92 x .88 x .67	**774031**
	Pull Chain	Brass	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	3	.92 x .88 x .67	**774032**
	3-Speed Pull Chain*	Brass	SPTT	Off-On-On-On	Push-In	4 Pos - 4 WIre	6	3	—	1.43 x 1.25 x .73	**774034**
	3-Speed Pull Chain	Brass	SPTT	Off-On(A)-On(B)-On(A+B)	Wire Leads	4 Pos - 3 Wire	6	3	—	.87 x 1.05 x .65	**774037**

c UL us * UL CSA

Push-Button Switches

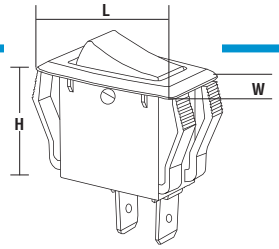


- Great for household appliances, lamps and motor controls
- Available in normally open, normally closed and standard On-Off circuitry
- Wire leads are #18 AWG, 6 in. stripped wire
- 1/2 in. diameter mounting hole

Product	Description	Actuator	Poles	Circuitry	Termination Style	No. of Terminals	Ratings	Dimensions (L" x W" x H")	Cat. No.
	Momentary Contact Push-Button Switch	Black Plastic	SPST NO	(On)-Off	Screw	2	6 Amp 120 VAC, 3 Amp 240 VAC	.88 x .54 x .35	**774022**
	Maintained Contact Push-Button Switch	Black Plastic	SPST	On-Off	Wire Leads	2	8 Amp 125 VAC/DC, 4 Amp 250 VAC/DC, 10 Amp 125 VAC, 1/3 HP 125	.98 x .64 x .62	**774021**
	Momenary Contact Push-Button Switch**	Nickel Plated	SPST NO	(On)-Off	Screw	2	15 Amp 125 VAC, 10 Amp 250 VAC	1.38 x .58 x .60	**774085**

** UL CSA * c UL us ( ) Denotes momentary action

Appliance Rocker Switches

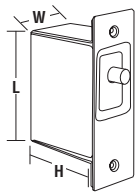


- Great for home appliances, computer equipment, automotive and industrial controls
- Appliance Rockers fit standard .55 in. × 1.12 in. panel cut outs
- Miniature Rockers fit .520 in. × .776 in. panel cut outs
- Plain and lighted versions available
- Operating temperature: 32°F to 185°F (0°C to 85°C)

Product	Description	Rocker	Poles	Circuitry	Termination Style	No. of Terminals	Ratings	Dimensions (L" x W" x H")	Cat. No.
	Appliance Rocker Switch	Black	SPST	On-Off	Spade	2	16 Amp 1/3 HP 125 VAC, 10 Amp 1/2 HP 250 VAC	1.24 x .68 x .77	**774038**
			SPDT	On-On	Spade	3			**774049BK†**
			SPDT	On-Off-On	Spade	3			**774059**
									774059BK†
	Appliance Rocker Switch	Red Lighted	SPST	On-Off	Spade	3*	16 Amp 1/3 HP 125 VAC, 10 Amp 1/2 HP 250 VAC	1.24 x .68 x .77	**774039**

c UL us †Bulk Package of 100 *3rd terminal to power lighted rocker

Door & Slide Switches

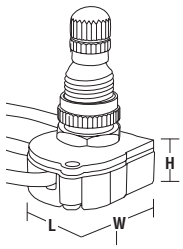


- Standard slide switch fits 9/16 in. x 7/8 in. opening
- Door switches are great for closets, turning the light on when the door is open and off when it is closed
- Door switch kit comes with metal box, cover plate and mounting hardware

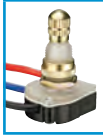
Product	Description	Color	Poles	Circuitry	Termination Style	Ratings	Dimensions (L" x W" x H")	Cat. No.
	AC/DC Door Switch Kit	White Button	SPST	Normally On-(Off)	Wire Leads	10 Amp 1/3 HP 125/250VAC	1.25 x 2.75 x 2.0	**774026K**
	Door Replacement Switch	White Button	SPST	Normally On-(Off)	Wire Leads	10 Amp 1/3 HP 125/250VAC	1.17 x .69 x .98	**774026BK†**

UL CSA c UL us ( ) Denotes momentary action †Bulk package of 25

Rotary Switches



- Rotary switches are perfect for household appliances, ceiling fixtures and lamps
- Single or three-position switches available
- #18 AWG, 6 in. stripped wire leads

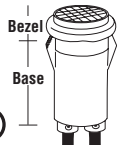
Product	Description	Color	Poles	Circuitry	Termination Style	Ratings	Dimensions (L" x W" x H")	Cat. No.
	Rotary Swtich	Brass Plated	SPST	On-Off	Wire Leads	6 Amp 125VAC, 3 Amp 250VAC	.97 x .80 x .39	**774061**
	3-Way Rotary Swtich	Brass Plated	SPTT	Off-On(A)-On(B)-On(A+B)	Wire Leads	6 Amp 125VAC, 3 Amp 250VAC	.86 x 1.03 x .34	**774062**

Indicator Light Part No. System

Series	Voltage	Color	Mounting Diameter Lens Style	Terminators
77	5 - 14V	1 - Red	1 - 1/2 in. Raised	1 - 6 in. Wire Leads
	6 - 28V	2 - Green	2 - 1/2 in. Flush	2 - .187 in. Spade
	7 - 125V	3 - Amber	3 - 5/16 in. Flush	—
	8 - 250V	4 - Blue	—	—
	—	5 - Clear	—	—

Flush Indicator Lights

- Nylon body with flush transparent polycarbonate lens and stainless steel bezel, 94V-2 flammability rating
- 6 in. wire leads, 1/2 in. mounting diameter
- Lamp voltage is AC/DC
- Operating Temperature: Nylon Body: 140°C
  Polycarbonate lens: 135°C

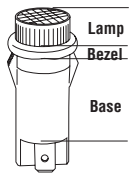


Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs.)	Lamp Type	Termination Style	Height (Base" x Bezel")	Cat. No.
	Flush Indicator Light	Red	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 x .10	777121*
										777121BK†
	Flush Indicator Light	Green	125V	1/3	2mA Max.	15,000	Neon	6" Wire Leads	.91 x .10	777221
										777221BK†
	Flush Indicator Light	Amber	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 x .10	777321
										777321BK†

*VDE certified †Bulk Package of 100

Raised Indicator Lights

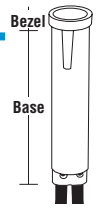
- Nylon body with raised transparent polycarbonate lens and stainless steel bezel, 94V-2 flammability rating
- 1/2 in. mounting diameter
- Lamp voltage is AC/DC
- Operating Temperature: Nylon Body: 140°C
  Polycarbonate lens: 135°C



Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs.)	Lamp Type	Termination Style	Height (Base" x Bezel")	Cat. No.
	Raised Indicator Light	Red	14V	1.2	.08	50,000	Incandescent	6" Wire Leads	.91 x .10 x .20	775111*
		Red	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 x .10 x .20	776111*
		Green	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 x .10 x .20	776211*
		Amber	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 x .10 x .20	776311*
		Red	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 x .10 x .20	777111*
		Green	125V	1/3	2mA Max.	15,000	Neon	6" Wire Leads	.91 x .10 x .20	777211*
		Amber	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 x .10 x .20	777311*
		Red	250V	1/2	2mA Max.	25,000	Neon	6" Wire Leads	.91 x .10 x .20	778111*
		Green	250V	1/2	2mA Max.	15,000	Neon	6" Wire Leads	.91 x .10 x .20	778211*
	Raised Indicator Light	Green	28V	1.2	.04	25,000	Incandescent	.187" Spade	1.09 x .10 x .20	776212BK†
		Amber	28V	1.2	.04	25,000	Incandescent	.187" Spade	1.09 x .10 x .20	776312BK†
		Red	125V	1/3	2mA Max.	25,000	Neon	.187" Spade	1.09 x .10 x .20	777112
										776112BK†
		Green	125V	1/3	2mA Max.	15,000	Neon	.187" Spade	1.09 x .10 x .20	777212
										777212BK†

*VDE certified †Bulk Package of 100

Miniature Indicator Lights

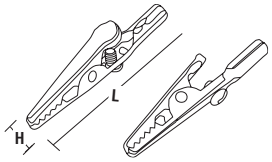


- Nylon body with flush transparent polycarbonate lens
- 6 in. wire leads
- 5/16 in. mounting diameter
- Lamp voltage is AC/DC

Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs.)	Lamp Type	Termination Style	Height (Base" x Bezel")	Cat. No.
	Miniature Indicator Light	Red	125V	1/3	2mA Max.	25,000	Neon	6 in. Wire Leads	1.43 × .13	**777131**
		Green	125V	1/3	2mA Max.	15,000	Neon	6 in. Wire Leads	1.43 × .13	**777231**
		Amber	125V	1/3	2mA Max.	25,000	Neon	6 in. Wire Leads	1.43 × .13	**777331**
										777331BK†

†Bulk Package of 100

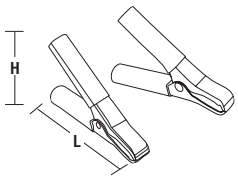
Alligator Clips



- Great for temporary connections, testing wires and troubleshooting projects
- Spring-loaded, grab-tight jaws make these clips quick and easy-to-use
- For screw and/or crimp connections

Product	Description	Amps	Dimensions (L" x H")	Jaw Opening	Wire Gauge	Qty.	Cat. No.
	Non-Insulated	10	2 x 7/16	5/16 in.	#22 - #14	2	**770200L**
	Insulated Barrel	10	2-1/2 x 7/16	5/16 in.	#22 - #14	1 Red/1 Black	**770204L**
	Fully Insulated	10	2-1/2 x 7/16	5/16 in.	#22 - #14	1 Red/1 Black	**770205L**

Plier-Type Battery Clamps



- Great for battery charging and test equipment
- Insulated grips are color-coded for positive (red) and negative (black) identification
- For crimp or solder connections

Product	Description	Amps	Dimensions (L" x H")	Jaw Opening	Wire Dia.	Qty.	Cat. No.
	Plier-Type Battery Clip, Steel	50	2-7/8 x 2	1-1/8 in.	9/32 in.	1 Red/1 Black	**770213L**
	Plier-Type Battery Clip, Copper	75	2-7/8 x 2	1-1/8 in.	9/32 in.	1 Red/1 Black	**770212L**

Basic Lockout/Tagout Kit

- A great selection of the most popular lockout/tagout devices
- Small nylon zipper pouch features belt loops and d-rings for easy attachment to belts, tool pouches, tool carts and more

Description		Cat. No.
Basic Lockout/Tagout Kit		**44-970**
Kit 44-970 Includes:	**Qty.**	**Cat. No.**
Hinged Single-Pole Breaker Lockouts	2	**44-810**
Universal 277V Breaker Lockout/Single Pole	1	**44-809**
480/600V Breaker Lockout	1	**44-807**
Wall Switch Lockout	1	**44-789**
3/4 in. Red Padlock	1	**44-906**
1 in. Safety Lockout Hasp	1	**44-800**
Lockout Tags – Do Not Operate (striped)	5	**44-849**
Universal Multi-Pole Breaker Lockout	1	**44-783**
110V Plug Lockout	1	**44-818**
Zipper Pouch	1	**IA-3240**

Quantities listed in kit description are for individual pieces, not carded packages.

Starter Lockout/Tagout Kit

- A starter selection of the lockout/tagout devices every electrician/maintenance person needs
- Small nylon zipper pouch features belt loops and d-rings for easy attachment to belts, tool pouches, tool carts and more

Description		Cat. No.
Starter Lockout/Tagout Kit		**44-973**
Kit 44-973 Includes:	**Qty.**	**Cat. No.**
Universal 277V Breaker/Single-Pole Lockout	1	**44-809**
Universal Multi-Pole Lockout	1	**44-783**
3/4 in. Shackle Red Padlock	1	**44-906**
1 in. Safety Lockout Hasp	1	**44-800**
Lockout Tags – Do Not Operate (striped)	2	**44-849**
110V Plug Lockout	1	**44-818**
Zipper Pouch	1	**IA-3240**

Quantities listed in kit description are for individual pieces, not carded packages.

Personal Lockout Pouch Kit

- Easy to carry, zippered pouch holds a worker's personal padlocks and other small devices

Description		Cat. No.
Personal Lockout Pouch Kit		**44-969**
Kit 44-969 Includes:	**Qty.**	**Cat. No.**
1 in. Safety Lockout Hasp	1	**44-800**
Lockout Tags	12	**44-833***
Red Safety Padlocks - Keyed Alike	3	**44-916****
Personal Lockout Pouch	1	—

*Masterlock equivalent.

**Keyed alike and master keyed padlocks can be special ordered by contacting IDEAL Customer Service.

Standard Lockout/Tagout Kit

- Excellent selection of lockout/tagout devices, tags and locks for maintenance workers or contractors
- Small nylon zipper pouch features belt loops and d-rings for easy attachment to belts, tool pouches, tool carts and more

Description		Cat. No.
Standard Lockout/Tagout Kit		**44-971**
Kit 44-971 Includes:	**Qty.**	**Cat. No.**
Hinged Single-Pole Breaker Lockouts	3	**44-810**
Universal 277V Breaker Lockouts/Single Pole	2	**44-809**
480/600V Breaker Lockout	1	**44-807**
Wall Switch Lockout	1	**44-789**
110V Small Plug Lockout	1	**44-818**
2 in. Shackle Red Padlocks	2	**44-907**
1 in. Safety Lockout Hasps	2	**44-800**
Lockout Tags – Do Not Operate	5	**44-848**
Lockout Tags – Do Not Operate (striped)	5	**44-849**
Cleat for 277V Breaker Lockout	1	**44-785**
Cleat for 480/600V Breaker Lockout	1	**44-786**
Universal Multi-Pole Breaker Lockouts	2	**44-783**
Zipper Pouch	1	**IA-3240**

Quantities listed in kit description are for individual pieces, not carded packages.

Plant Facility Lockout/ Tagout Kit

- Ideal for plant facility personnel to keep all lockout/tagout devices in one convenient place
- Polypropylene plastic tool box resists oil and chemicals

Description		Cat. No.
Plant Facility Lockout/Tagout Kit		**44-972**
Kit 44-972 Includes:	**Qty.**	**Cat. No.**
Hinged Single-Pole Breaker Lockouts	5	**44-810**
Universal 277V Breaker/Single Pole Lockouts	3	**44-809**
480/600V Breaker Lockout	1	**44-807**
Wall Switch Lockouts	2	**44-789**
110V Plug Lockout	1	**44-818**
1 in. Safety Lockout Hasps	3	**44-800**
Red Labeled Lockout	1	**44-791**
220/550V Plug Lockout	1	**44-819**
Lockout Tags – Do Not Operate (striped)	10	**44-849**
Fuse Blockout	1	**44-815**
Fuse Blockout	1	**44-816**
Gate Valve Lockout	1	**44-824**
Cleat for 277V Breaker Lockout	1	**44-785**
Cleat for 480/600V Breaker Lockout	1	**44-786**
Universal Multi-Pole Breaker Lockouts	3	**44-783**
Tool Box*	1	**IA-3241**

Quantities listed in kit description are for individual pieces, not carded packages.
*Tool box color may vary.

Industrial Lockout/Tagout Kit

- An industrial selection of lockout/tagout devices
- Polypropylene plastic tool box resists oil and chemicals

Description		Cat. No.
Industrial Lockout/Tagout Kit		**44-974**
Kit 44-974 Includes:	**Qty.**	**Cat. No.**
Hinged Single-Pole Breaker Lockouts	3	**44-810**
Universal 277V Breaker/Single Pole Lockouts	2	**44-809**
480/600V Breaker Lockout	1	**44-807**
Wall Switch Lockout	1	**44-789**
110V Small Plug Lockout	1	**44-818**
Ball Valve Lockout	1	**44-820**
1 in. Safety Lockout Hasps	2	**44-800**
Red Labeled Lockout	1	**44-791**
220/550V Plug Lockout	1	**44-819**
Lockout Tags – Do Not Operate (striped)	10	**44-849**
Fuse Blockout	1	**44-815**
Fuse Blockout	1	**44-816**
Gate Valve Lockout	1	**44-824**
Cleat for 277V Breaker Lockout	1	**44-785**
Cleat for 480/600V Breaker Lockout	1	**44-786**
Red Lockout Padlocks	4	**44-916**
Universal Multi-Pole Breaker Lockouts	2	**44-783**
Tool Box*	1	**IA-3241**

Quantities listed in kit description are for individual pieces, not carded packages.
*Tool Box color may vary.

Job Site Lockout/Tagout Kit

- Perfect kit for an individual worker; padlocks are keyed-alike for added worker convenience
- Excellent selection of lockout/tagout devices, tags and keyed-alike padlocks for most applications

Description		Cat. No.
Job Site Lockout/Tagout Kit		**44-979**
Kit 44-979 Includes:	**Qty.**	**Cat. No.**
Circuit Breaker Lockouts - tall and wide toggles	2	**44-956**
Circuit Breaker Lockouts - standard single and double toggles	3	**44-957**
Circuit Breaker Lockout Padlock	1	—
Red Lockout Padlocks	3	**44-916****
1 in. Safety Lockout Hasp	1	**44-800**
Red Labeled Lockout	1	**44-791***
Universal Wall Switch Lockout	1	**44-772**
Lockout Tags - Do Not Operate (striped)	12	**44-833***
Tool Box	1	**IA-3241***

*Masterlock equivalent.
**Reference part number is keyed-different, keyed-alike and master-keyed products can be special ordered by contacting IDEAL Customer Service.

Group Lock Box

- Helps ensure maximum security for complex work team situations
- Allows up to 13 individuals to personally lock the closed box
- Heavy-duty steel construction resists unauthorized entry and job-site abuse
- Compact 8-3/4 in. x 3-1/2 in. x 6 in. design

Description	Cat. No.
Group Lock Box	**44-804**

Lock Stations

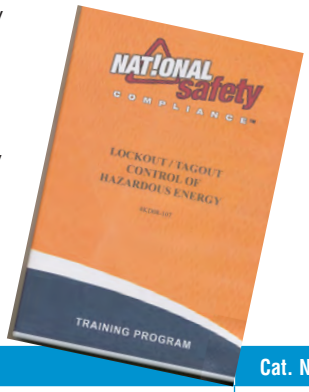
- Resilient polycarbonate material provides twice the heat resistance and quadruple the impact strength of typical stations
- Lockable cover prevents loss of valuable safety products and innovative hinge holds cover open for easy product selection

Description	Cat. No.
Four-Lock Station Kit includes Four-Lock Station Board (44-777), four red Safety Padlocks (44-916), 12 Heavy-Duty Lockout Tags and two 1 in. Safety Lockout Hasps (44-800)	**44-778***
Ten-Lock Station Kit includes Ten-Lock Station Board (44-805), ten red Safety Padlocks (44-916), 24 Heavy-Duty Lockout Tags and two 1 in. Safety Lockout Hasps (44-800)	**44-806**

*Not shown.

Lockout/Tagout Training Programs and Compliance Manuals

- Kinds of energy lockout/tagout can control
- Lockout/tagout basics
- OSHA's LO/TO Standard
- The six steps to lockout/tagout
- Removing lockout/tagout devices after a job is complete
- Length: 15:00 minutes



Description	Cat. No.
Lockout/Tagout Training DVD	**44-941**

Please contact your IDEAL Sales Representative should you need any Lockout/Tagout Training!

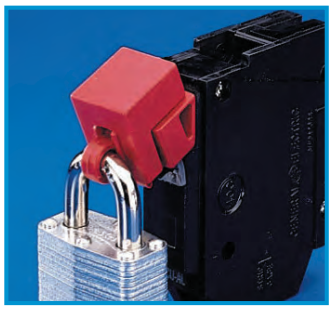
Industrial Lockout/ Tagout Station

- Large Lockout/Tagout Station can be wall mounted or easily transported
- All metal, lockable cabinets come with two adjustable shelves (extra shelves available)
- Lockout safety tips are conveniently located inside of door for frequent reminders of proper lockout procedures

Description		Cat. No.
Industrial Lockout/Tagout Station – 16 in. H x 14 in. W x 6 in. D		**44-975**
Kit 44-975 Includes:	**Qty.**	**Cat. No.**
Hinged Single-Pole Breaker Lockouts	2	**44-810**
Universal Single-Pole Breaker Lockouts	2	**44-809**
Cleat for Universal Single-Pole Lockouts	2	**44-785**
Universal Multi-Pole Breaker Lockouts	2	**44-783**
480/600V Breaker Lockout	1	**44-807**
Cleat for 480/600V Breaker Lockout	1	**44-786**
Wall Switch Lockout	1	**44-789**
1 in. Safety Lockout Hasps	3	**44-800**
Red Safety Padlocks	4	**44-916**
100V Small Plug Lockout	1	**44-818**
220/550V Plug Lockout	1	**44-819**
Lockout Tags – Do Not Operate	10	**44-849**
Gate Valve Lockout - 1 in. to 2-1/2 in.	1	**44-824**
Gate Valve Lockout - 2-1/2 in. to 5 in.	1	**44-825**
Ball Valve Lockout	1	**44-820**
Pnuematic Lockout	1	**44-774**
Description	**Qty.**	**Cat. No.**
Extra Shelf	1	**IA-4990**

Universal 120/277V Breaker Lockouts

- Use thumbscrew to clamp lockout securely on to switch tongue, then pull cover over thumbscrew and lock in place to prevent clamp from being loosened
- New blade design provides tighter grip with less torque on thumbscrew



Description	Qty.	Cat. No.
Single-Breaker Lockouts	3	**44-809**
Cleat for Single-Pole Breaker Lockouts	3	**44-785**
Single-Pole Breaker Lockouts	50	**44-1809**

Circuit Breaker Lockouts

- Attaches securely to breaker with simple thumb turn and clamping handle
- 44-956 is designed for breakers with wide or tall toggles
- 44-957 fits standard height and tie-bar toggles
- The narrow profile permits side-by-side breaker lockout

Description	Cat. No.
Circuit Breaker Lockout, wide & tall toggles	**44-956**
Circuit Breaker Lockout, standard toggles	**44-957**

Hinged Single-Pole Breaker Lockouts

- Hinged single-pole lockout with locking post design, locks lever in off position to isolate and prevent breaker use
- Ideal for applications where panel closure is preferred
- Please see breaker guide for your application (pg. 99)

Description	Qty.	Cat. No.
Hinged Single-Pole Breaker Lockouts	3	**44-810**
Hinged Single-Pole Breaker Lockouts	100	**44-1810**

Muti-Pole Breaker Lockout

- Works with most major multi-pole breakers with tie-bar type switches including GE, ITE Sylvania, Challenger, Bryant, Westinghouse, Square D (2/3 poles) and General Switch Co.
- Easy to install – thumbscrew secures and locks tie bar in place; no cable ties or tools required
- Please see breaker guide for your application (pg. 99)

Description	Qty.	Cat. No.
Multi-Pole Breaker Lockout	1	**44-783**

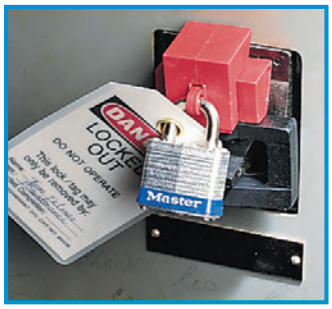
480/600V Single/Multi-Pole Breaker Lockouts

- Use thumbscrew to clamp lockout securely on to switch tongue, then pull cover over thumbscrew and lock in place to prevent clamp from being loosened
- Blade design provides tighter grip with less torque on thumbscrew

Description	Qty.	Cat. No.
480/600V Single/ Multi-Pole Lockout	1	**44-807**
480/600V Single/ Multi-Pole Lockouts	50	**44-1807**
Cleat for 480/600V Single/Multi-Pole Lockout	1	**44-786**

Large Breaker Lockout

- Designed to lockout large 480/600V breaker switches up to 2-1/2 in. wide and 7/8 in. thick
- Easy to install – no tools required



Description	Qty.	Cat. No.
Large Breaker Lockout	1	**44-823**

Plug Lockouts

- Accommodates a variety of electrical plug and cord sizes to prevent accidental connection or disconnection
- Durable plastic body resists wear, chemicals and job-site abuse
- Accommodates cable ties or padlocks (with up to 3/8 in. shackles)

Description	Size	Cat. No.
Plug Lockouts - 100V	2 in. x 2 in. x 3-1/2 in.	**44-818**
Plug Lockouts - 220/550V	3-1/4 in. x 3-1/4 in. x 7 in.	**44-819**

Electric Plug Lockout

- Slides over cord prongs and locks in place to prevent cord from being plugged into an outlet
- Cannot be removed without key
- Works on any 2- or 3-prong plug

Description	Cat. No.
Electric Plug Lockout	**44-782**

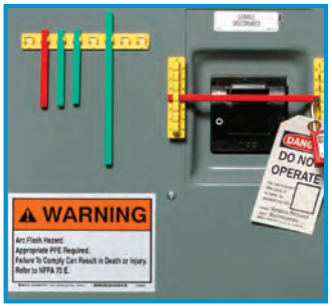
Plug Lockouts

- Plug lockout, 44-792 works with high and low voltage plugs up to 3 in. in diameter and 5-1/2 in. in length, up to 1-1/4 in. cord diameter
- Plug lockout, 44-973 works with 110V/220V plugs up to 1-3/4 in. in diameter and 2-1/2 in. in length, up to a 1/2 in. cord diameter

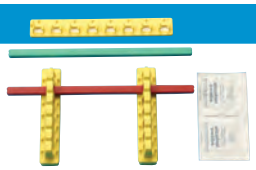
Description	Cat. No.
Plug Lockout - up to 3 in. diameter	**44-792**
Plug Lockout - 110V/20V	**44-793**

Oversized Circuit Breaker Lockout System

- Unique Lockout system for oversized 480/600V Circuit Breakers
- System can be permanently installed into an electrical panel putting all lockout items at the point of need
- Easy installation of adhesive mounting rails – no tools required



- Pegs in mounting rails mate with holes in locking arms for security of arm when lock is in place
- Red arms lock off, green arms lock on



Description	Qty.	Cat. No.
Oversized Circuit Breaker System – 480-600 Volt	1	**44-822**

Circuit Breaker Lockout System

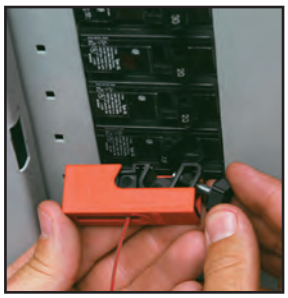
- Covers most 120V - 277V breakers!
- Works on wide range of breakers, including single- and multi-pole configurations
- Makes use of unique lock rail system, providing the following benefits:
  - Allows panel door to be closed even when lockouts are in place
  - Accommodates multiple locks, facilitating group lockout activity without hasps
  - Keeps weight off the breakers, protecting delicate electrical components from damage
  - Positions locks and tags outside the panel, making sure lockout activity is clearly visible to anyone in the area

Technical Information

- Lockout devices constructed of high-impact Isoplast polymers
- Cables are 2 ft. in length
- Lock rails made of durable isoplast polymers with acrylic adhesive backing

How the System Works

1. Peel liner off bottom of the lock rail, exposing super-bond adhesive. Permanently affix to any location on the panel. No drilling required.



2. Attach the lockout device to the breaker and snap into locked position.

3. Pass plastic key through lock rail and attach lock, preventing key from sliding down cable and opening lockout device.

4. For group lockouts, run key through multiple loops in lock rail and apply locks. No hasps required!

5. Lockout device is unlocked by inserting and turning the red plastic key.

Perfect when locking out adjacent breaker lockouts.

Snap-on

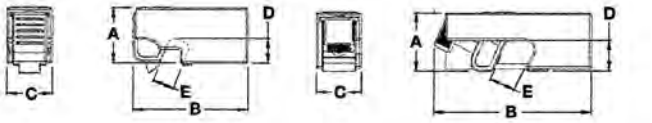
For use on Square D NQO and other breakers that have a hole in the switch tongue. Just align pins with hole and snap closed. Pins prevent switch from being thrown.

Clamp-on

For use on breakers that do not have a hole in the switch tongue, including multiple breakers with tie bars. Turn thumb-screw to clamp lockout securely onto switch, then snap the cover closed to prevent thumbwheel from being loosened.

"No Shackle" Locks

Especially useful when lockout devices will be kept at the panel in accordance with NEC regulations.



Description	Outer Dimensions (In.)			Switch Clearance (In.)	
	A	B	C	D	E
Snap-on	0.90	1.88	0.74	0.40	0.35
Clamp-on	0.95	2.56	0.74	0.35	0.42

Description	Qty.	Cat. No.
Snap-on lockout for Square D NQO and other breakers with a hole in the switch tongue	1	**44-768**
Clamp-on lockout for breakers without hole in the switch tongue, including multi-pole breakers with tie bars	1	**44-764**
4 in. Lock Rail with seven lock loops	1	**44-769**
No shackle lock	1	**444.001**

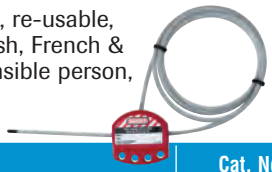
Wall Switch Lockouts

- Our patent pending universal Wall Switch Lockout locks out both toggle and decora wall switches
- Universal design assures switch is locked on or off. Hinges open for unobstructed normal switch operation
- Standard wall switch lockout fits most wall-mounted single or three-way electrical switches

Description	Qty.	Cat. No.
Universal Wall Switch	1	**44-772**
Standard Wall Switch (not shown)	1	**44-789**

Adjustable Cable Lockout

- Infinitely adjustable safety hasp and cable
- Ideal for multiple circuit breaker panels and side-by-side gate valve lockouts
- Feed the cable end through the points to be locked out, then back through the lockout body. Cinch it tight to remove any slack with the patented locking feature.
- Tough, flexible multi-stranded 6 ft. 1/4 in. dia. steel cable is insulated with a clear vinyl coating
- Tough, lightweight, dielectric thermoplastic body withstands chemicals; performs effectively in extreme conditions
- Up to four workers can apply their personal safety locks
- Complete with high-visibility, re-usable, write-on safety labels (English, French & Spanish). Identify the responsible person, then erase for the next job.



Description	Cat. No.
Adjustable Cable Lockout	**44-808**

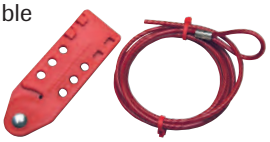
Gate Valve Lockouts

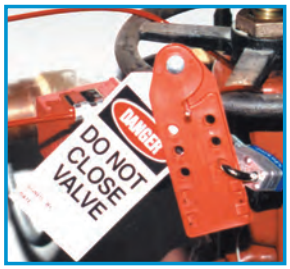
- Unique patent pending rotating design allows for easier installation in confined space applications
- Each size rotates into itself and nests within the next larger size to save space in storage
- Up to four workers can apply their personal safety locks
- Complete with high-visibility permanent safety labels (English, French & Spanish) that can be written on to identify the responsible person, then erased for the next job
- Tough, lightweight, dielectric thermoplastic bodies withstand chemicals and perform effectively in extreme conditions, temperature range: -50°F (-46°C) to +350°F (177°C)

Valve Size	Qty.	Cat. No.
1 in. to 3 in.	1	**44-824**
2 in. to 5 in.	1	**44-825**
Set of five sizes (1 in. to 13 in.)	1	**44-817**

Cable Lockout

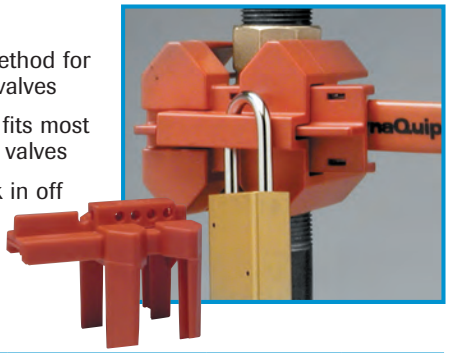
- 44-829 Unique hasp lockout device accepts up to six 9/32 in. padlocks and comes with a 6 ft. plastic-coated steel cable





Description	Cat. No.
Cable Lockout, 6 ft. cable	**44-829**

Ball Valve Lockout Devices



- Best available method for locking out ball valves
- Patented design fits most major brand ball valves
- Designed to lock in off position only
- Complies with OSHA lockout standard

Valve Size	Max. Shackle Length	Material	Cat. No.
1/2 to 1-1/4 in.	—	Polypropylene	**44-846**
1-1/4 to 3	—	Polypropylene	**44-847**
1/4 to 1 (not shown)	9/32 in.	Nylon	**44-820**
1-1/4 to 3 (not shown)	9/32 in.	Heavy Steel	**44-821**

Steel Padlocks

- Rustproofed, steel case with nickel-plated shackle withstands abuse and environmental hazards
- Includes two keys
- 1-1/2 in. wide lock with 9/32 in. shackle diameter
- Keyed-alike and Master-Keyed locks available by special order

Bumper Color	3/4 In. Shackle Clearance Cat. No.	2 In. Shackle Clearance Cat. No.
Blue	**44-900**	**44-901**
Red	**44-906**	**44-907**

Lock Labels

- Easy identification of employees' locks
- Write-on, vinyl labels with peel-off adhesive backing
- Polyester over laminate protects label

Description	Qty.	Cat. No.
Lock Labels	8 labels	**44-898**

Safety Lockout Padlocks w/Key Retention

- Dedicated safety lockout device reduces confusion with other locks
- Complies with OSHA's "1-key, 1-lock"
- Non-conductive, lightweight body
- Key retention ensures keys do not get lost while not in use and that padlocks are not left untouched
- 1-1/2 in. shackle clearance
- 1-1/2 in. wide lock with 1/4 in. shackle
- Four colors for easy identification
- Keyed-alike, Master-Keyed, 2nd key, additional colors and engraving available by special order

Bumper Color	Cat. No.
Blue	**44-912**
Black	**44-914**
Red	**44-916**
Yellow	**44-918**

Flash Protection Labels and Signs

National Electric Code 110.16 Flash Protection: ***Switchboards, panel boards, industrial control panels and motor control centers,*** in other than dwelling occupancies, that are likely to require examination, adjustment, servicing or maintenance while energized, shall be field marked to warn qualified persons of potential electric arc flash hazards. The marking shall be located so as to be clearly visible to qualified persons before examination, adjustment, servicing or maintenance of the equipment.

Description	Type	Size	Qty./Bag	Cat. No.
NEC Arc Flash, Warning	Self-Sticking Polyester	3-1/2 in. x 5 in.	5	**44-892**
			100	**44-892BK**
		5 in. x 7 in.	5	**44-893**
NEC Arc Flash, Danger				**44-894**
		4 in. x 6 in.	5	**44-895**
NEC Arc Flash, Warning		7 in. x 10 in.	1	**44-896**

Python™ Adjustable Locking Cable

Python™ Adjustable Locking Cable secures anything within its grasp. The only locking cable that is right length for your application. This patented product holds flexible steel cable tight at any position

- Infinite Locking Positions – Patented lock holds cable tight from 1 ft. (30cm) to 6 ft. (1.8m)
- Application Flexibility – Interchangeable cables
- Keyed Alike Convenience – Rekeyable cylinder
- Cut Resistance – 3/8 in. (10mm), 100% steel braided cable
- Weather Tough – Rust resistant aluminum lock body
- Scratch Resistant – Vinyl cable sleeve and lock body bumper

Other Applications: Bikes, lawn furniture, lawn mowers, job sites, canoes, boats, skis, snowboards, generators, pickup truck cargo, spare tire locks and much more.

Description	Cat. No.
Master Lock Python™ Kit with 6 ft. Cable-keyed different	**44-990**
Master Lock Python™ Kit with 6 ft. Cable-keyed alike*	**44-991**
12 ft. (3.7m) x 3/8 in. (10mm) Cable for Python™ Lock*	**44-992**

*Special order thru Customer Service.

Voltage & Conduit Markers

- Identify junction boxes, switches, circuit breakers, raceways, pipe and fuse boxes
- Non-conductive for user safety
- High-adhesion properties with easy removability
- Vinyl-impregnated cloth construction for long-lasting durability
- Resist abrasion, moisture, dirt and oil
- Non-smear, black legend on bright orange background for high visibility

Large:
2-1/4 in. x 9 in. each w/1-3/4 in. type

Medium:
1-1/8 in. x 4-1/2 in. each w/3/4 in. type

Small:
2-1/4 in. x 1/2 in. each w/5/16 in. type

Legend	Large Cat. No. 1/card	Medium Cat. No. 4/card	Small Cat.No. 18/card
120/280	**44-295**	**44-296**	–
277/480V	**44-298**	**44-299**	–
120V	–	**44-353**	–
208V	–	**44-355**	–
240V	–	**44-358**	–
277V	–	–	**44-410**
480V	**44-314**	**44-364**	–
DANGER	**44-289**	–	–
HIGH VOLTAGE	**44-292**	–	–

Specifications:
Temperature Range: -40°F to 180°F (-40°C to 82°C)
Adhesion: 45 oz./in. width ultimate

Heavy-Duty Lockout Tags

- High-visibility lettering
- Laminated plastic tags have non-fade legends, resist corrosive and harsh environmental conditions grommet
- Vinyl tags are silk screened with a 7/8 in. metal grommet; fastener included
- Exceeds OSHA's 50-lb. pullout requirement
- Matte finish for easy writing surface

Legend	Type	Qty.	Cat. No.
Do Not Operate	Heavy-Duty Laminated	5/card	**44-830**
	Heavy-Duty Laminated	100/box	**44-1830**
	Economy Vinyl	25/bag	**44-848**
Do Not Operate - Electricians at Work	Heavy-Duty Laminated	5/card	**44-832**
	Economy Vinyl	25/bag	**44-843**
Do Not Operate - (red striped background)	Heavy-Duty Laminated	5/card	**44-833**
	Heavy-Duty Laminated	100/box	**44-1833**
	Economy Vinyl	25/bag	**44-849**

Bilingual Lockout Tags

- Spanish/English tags provide extra safety and information in bilingual situations
- High-visibility lettering
- Laminated plastic tags with non-fade legends resist corrosive and harsh environmental conditions
- Write-on tag with 7/8 in. grommet can be padlocked to device to help prevent unauthorized removal

Legend	Qty.	Cat. No.
Do Not Operate (striped)	5	**44-841**

Lockout Signs

- Resistant to both chemicals and abrasion – protected graphics for indoor and outdoor use

Legend	Material	Size (In.)	Cat. No.
OSHA Regulation 36 in. clearance	Self-sticking polyester	3-1/2 x 10	**44-877**
OSHA Regulation (Bilingual) 36 in. clearance	Self-sticking polyester	7 x 10	**44-878**
Danger - Breakers Locked Out	Magnetic	5 x 7	**44-890**

Safety Signs

- Resistant to both chemicals & abrasion – protected graphics for indoor & outdoor use

Legend	Material	Size (In.)	Cat. No.
Danger – High Voltage	Fiberglass	10 x 14	**44-862**
Danger – High Voltage	Self-Sticking Polyester	7 x 10	**44-863**
Danger – High Voltage – Keep Out	Fiberglass	10 x 14	**44-880**
Danger – High Voltage – Keep Out	Self-Sticking Polyester	7 x 10	**44-881**
Danger – High Voltage – Spanish	Self-Sticking Polyester	7 x 10	**44-865**

Safety Lockout Hasps

- Allow up to six workers to lock out a single energy source
- Rustproofed, plated and vinyl-coated
- Labeled hasps feature anodized aluminum alloy construction for long-term durability
- Permanent "Do Not Operate" labels accept pens, pencils and permanent markers

Safety Lockout Hasps

Jaw Diameter	Qty.	Cat. No.
1 in.	3	**44-800**
1-1/2 in.	2	**44-801**

Labeled Safety Lockout Hasps

Legend	Color	Qty.	Cat. No.
Do Not Operate	Blue	1	**44-790**
	Red	1	**44-791**
	Red	50	**44-1791**

Non-Detectable Underground Tapes

- For protection, location and identification of underground utility installations
- Formulated to resist degradation from acid and alkali found in soils
- Lead-free pigments and organic lead-free ink

42-103 **42-152**

Property	Method	Value
Thickness	ASTMD2103	4.0 Mils
Elongation	ASTMD882-75B	500%
Composition	IDEAL Specs.	LDPE
Tensile Strength	ASTMD882	2,750 PSI
Recommended Burial Depth		
3 in. Tape – 4 in. to 6 in.		
6 in. Tape – less than 12 in.		

Legend	Color	Size	Cat. No.
Caution Buried Electric Line Below	Red	3 in. x 1,000 ft.	**42-101**
	Yellow	3 in. x 1,000 ft.	**42-102**
Caution Buried Telephone Line Below	Orange	3 in. x 1,000 ft.	**42-103**
Caution Buried Fiber Optic Line Below	Orange	3 in x 1,000 ft.	**42-104**
Caution Buried Electric Line Below	Red	6 in. x 1,000 ft.	**42-151**
	Yellow	6 in. x 1,000 ft.	**42-152**

Detectable Underground Tapes

- Solid aluminum foil core tapes for protection, location and identification of underground utility installations
- Meets or exceeds industry standards including the American Public Works Association (APWA) color code
- Formulated to resist degradation from acid and alkali found in soils
- Lead-free pigments and organic lead-free ink

42-251

Property	Method	Value
Thickness	ASTMD2103	5.0 Mils
Elongation	ASTMD882-75B	80%
Composition	IDEAL Specs.	Bottom Layer PE Top layer PET Foil industry standard
Tensile Strength	ASTMD882	35 lbs./in. (15,000 PSI)

Legend	Color	Size	Cat. No.
Caution Buried Electric Line Below	Red	3 in. x 1,000 ft.	**42-201**
		6 in. x 1,000 ft.	**42-251**
Caution Buried Fiber Optic Line Below	Orange	6 in. x 1,000 ft.	**42-252**

Barricade Tapes

- High-visibility safety yellow or red polyethylene construction with bold black letters
- Meets OSHA specifications Section 1010.144 for marking physical hazards

42-052 **42-001**

Property	Method	Value
Elongation	ASTMD882-75B	≥ 400%
Composition	IDEAL Specs.	LDPE
Tensile Strength	ASTMD882	2,350 PSI TD 1,893 PSI MD

Legend	Color	Size	Thickness	Cat. No.
Caution	Yellow	3 in. x 1,000 ft.	4.0 Mils	**42-001**
Caution Do Not Enter	Yellow		4.0 Mils	**42-002**
Caution High Voltage	Yellow		4.0 Mils	**42-003**
Danger	Red		4.0 Mils	**42-051**
Danger High Voltage Keep Out	Red		4.0 Mils	**42-052**
Legend	**Color**	**Size**	**Thickness**	**Cat. No.**
Caution	Yellow	3 in. x 1,000 ft.	2.0 Mils	**42-011**
Caution Do Not Enter	Yellow		2.0 Mils	**42-012**
Danger	Red		2.0 Mils	**42-015**

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Stan-dard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Airpax		Airpax	1												
American Switch		C	1												
Bryant		BR	1												
Bryant		BR	2-3												
Bryant		BRD													
Challenger		C	1												
Challenger	Type C	C	2-3												
Challenger	Same as W DK	CDK													
Challenger		LM	1												
Challenger		NEJ	1-2												
Crouse Hinds		MP	2												
Cutler Hammer		BA	1												
Cutler Hammer		CH	2-3												
Cutler Hammer		CH2	4												
Cutler Hammer		CHB	3												
Cutler Hammer	Quicklag	BAB	1												
Cutler Hammer	Quicklag	BAB	2-3												
Cutler Hammer	BR	BD	1												
Cutler Hammer	BR	BQ	2												
Cutler Hammer	BR	BQC	2												
Cutler Hammer	BR	BR	1												
Cutler Hammer	BR	BR	2-3												
Cutler Hammer	BR	BRH	1												
Cutler Hammer	BR	BRH	2-3												
Cutler Hammer	BR	BRHH	2												
Cutler Hammer	CH	CH	1												
Cutler Hammer	CH	CH	2-3												
Cutler Hammer	CH	CH2	4												
Cutler Hammer	CH	CHB	1												
Cutler Hammer	CH	CHB	2-3												
Cutler Hammer	K-Frame	CHKD	2-3												
Cutler Hammer	L-Frame	CHLD	2-4												
Cutler Hammer	M-Frame	CHMDL	2-3												
Cutler Hammer	N-Frame	CHND	2-4												
Cutler Hammer	CH	CHP	1												
Cutler Hammer	CH	CHP	2-3												
Cutler Hammer	CH	CHQ	1												
Cutler Hammer	CH	CHQ	2												
Cutler Hammer	CH	CHSW	2-3												
Cutler Hammer	K-Frame	CKD	2-3												
Cutler Hammer	CL	CL	1												
Cutler Hammer	CL	CL	2												
Cutler Hammer	L-Frame	CLD	2-4												
Cutler Hammer	L-Frame	CLDC	2-4												
Cutler Hammer	CL	CLR	1-2												
Cutler Hammer	M-Frame	CMDL	2-3												
Cutler Hammer	N-Frame	CND	2-4												
Cutler Hammer	N-Frame	CNDC	2-4												
Cutler Hammer	CH	CSR	1												
Cutler Hammer	K-Frame	DK	2-3												
Cutler Hammer	E125-Frame	E125B													
Cutler Hammer	E125-Frame	E125E													
Cutler Hammer	E125-Frame	E125H													
Cutler Hammer	E125-Frame	E125S													
Cutler Hammer	F-Frame	ED	2-4												
Cutler Hammer	F-Frame	EDC	2-4												
Cutler Hammer	F-Frame	EDH	2-4												
Cutler Hammer	E125-Frame	EFH	1-4												
Cutler Hammer	E125-Frame	EGB	1-4												

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Cutler Hammer	E125-Frame	EFH	1-4		■							■			
Cutler Hammer	E125-Frame	EGB	1-4		■							■			
Cutler Hammer	E125-Frame	EGE	1-4		■							■			
Cutler Hammer	E125-Frame	EGS	1-4		■							■			
Cutler Hammer		EHC			■							■			
Cutler Hammer	F-Frame	EHD	1-4		■							■			
Cutler Hammer	Tri Pac Cur. Lim	FB	2-3		■	■						■			
Cutler Hammer		FC			■							■			
Cutler Hammer	F-Frame	FD	1-4		■							■			
Cutler Hammer	F-Frame	FDB	2-4		■							■			
Cutler Hammer	F-Frame	FDC	2-4		■							■			
Cutler Hammer	F-Frame	FS	2-3									■			
Cutler Hammer	G-Frame	GB	1-3		■							■			
Cutler Hammer	G-Frame	GC	1-3		■							■			
Cutler Hammer	Tri Pac Cur. Lim	FB	2-3		■	■						■			
Cutler Hammer		FC			■							■			
Cutler Hammer	F-Frame	FD	1-4		■							■			
Cutler Hammer	F-Frame	FDB	2-4		■							■			
Cutler Hammer	F-Frame	FDC	2-4		■							■			
Cutler Hammer	F-Frame	FS	2-3		■							■			
Cutler Hammer	G-Frame	GB	1-3		■							■			
Cutler Hammer	G-Frame	GC	1-3		■							■			
Cutler Hammer	G-Frame	GD	1-3		■							■			
Cutler Hammer	G-Frame	GHB	1-3		■							■			
Cutler Hammer	G-Frame	GHBGFEP	1		■							■			
Cutler Hammer	G-Frame	GHC	1-3		■							■			
Cutler Hammer	G-Frame	GHCG-FEP	1		■							■			
Cutler Hammer	Quicklag	HBAW	1	■	■							■			
Cutler Hammer	Quicklag	HBAW	2-3							■					
Cutler Hammer	Quicklag	HBAX	1	■	■							■			
Cutler Hammer	Quicklag	HBAX	2-3							■					
Cutler Hammer		HFD	1-4		■							■			
Cutler Hammer	G-Frame	HGHB	1		■							■			
Cutler Hammer	G-Frame	HGHC	1		■							■			
Cutler Hammer		HJD	2-4				■								
Cutler Hammer	K-Frame	HKD	2-4				■								
Cutler Hammer	L-Frame	HLD	2-4						■						
Cutler Hammer	L-Frame	HMCP	3						■						
Cutler Hammer	J-Frame	HMCP	3				■								
Cutler Hammer	K-Frame	HMCP	3				■								
Cutler Hammer	L-Frame	HMCP	3						■						
Cutler Hammer	F-Frame	HMCP	3-4		■										
Cutler Hammer	M-Frame	HMDL	2-3						■						
Cutler Hammer	M-Frame	HMDLB	2-3						■						
Cutler Hammer	N-Frame	HND	2-4				■	■							
Cutler Hammer	Quicklag Type P	HQP	1	■	■							■			
Cutler Hammer	Quicklag Type P	HQP	2							■					
Cutler Hammer	J-Frame	JD	2-4				■								
Cutler Hammer	J-Frame	JDB	2-3				■								
Cutler Hammer	J-Frame	JDC	2-4				■								
Cutler Hammer	K-Frame	KD	2-4				■								
Cutler Hammer	K-Frame	KDB	2-4				■								
Cutler Hammer	K-Frame	KDC	2-4				■								
Cutler Hammer	Tri Pac Cur. Lim	LA	2-3				■								
Cutler Hammer	L-Frame	LD	2-4						■						
Cutler Hammer	L-Frame	LDB	2-3						■						
Cutler Hammer	L-Frame	LDC	2-4						■						
Cutler Hammer		LH	3				■								

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Cutler Hammer		LHB	3				■								
Cutler Hammer	Type CC	LJ										■			
Cutler Hammer		MA	2-3				■	■							
Cutler Hammer		MC	2-3				■	■							
Cutler Hammer	M-Frame	MD	2-3						■						
Cutler Hammer	M-Frame	MDL	2-3						■						
Cutler Hammer	M-Frame	MDS	2-3						■						
Cutler Hammer	Tri Pac Cur. Lim	NB	2-3						■						
Cutler Hammer	N-Frame	ND	2-4				■	■							
Cutler Hammer	N-Frame	NDC	2-4				■	■							
Cutler Hammer	N-Frame	OPTIM	3				■	■							
Cutler Hammer	Tri Pac Cur. Lim	PB	2-3						■						
Cutler Hammer	Quicklag	QBGF	1		■										
Cutler Hammer	Quicklag	QBGF	2									■			
Cutler Hammer	Quicklag	QBGFEP	1		■										
Cutler Hammer	Quicklag	QBGFEP	2									■			
Cutler Hammer	Quicklag	QBHGF	1		■										
Cutler Hammer	Quicklag	QBHGF	2												
Cutler Hammer	Quicklag	QBHGFEP	1		■										
Cutler Hammer	Quicklag	QBHGFEP	2												
Cutler Hammer	Quicklag	QBHW	1	■	■							■			
Cutler Hammer	Quicklag	QBHW	2-3							■					
Cutler Hammer	Quicklag Type P	QC	1	■	■							■			
Cutler Hammer	Quicklag Type P	QC	2-3							■		■			
Cutler Hammer	Quicklag Type P	QCD	1	■	■							■			
Cutler Hammer	Quicklag Type P	QCD	2-3							■		■			
Cutler Hammer	Quicklag	QCGF	1		■										
Cutler Hammer	Quicklag	QCGF	2												
Cutler Hammer	Quicklag	QCGFEP	1		■										
Cutler Hammer	Quicklag	QCGFEP	2												
Cutler Hammer	Quicklag	QCHGF	1		■										
Cutler Hammer	Quicklag	QCHGF	2												
Cutler Hammer	Quicklag	QCHG-FEP	1		■										
Cutler Hammer	Quicklag	QCHG-FEP	2												
Cutler Hammer	Quicklag	QCHW	1	■	■							■			
Cutler Hammer	Quicklag	QCHW	2-3							■		■			
Cutler Hammer	Quicklag DIN RAIL	QCR	1												
Cutler Hammer	Quicklag DIN RAIL	QCR	2-3												
Cutler Hammer	Quicklag	QHCW	1	■	■							■			
Cutler Hammer	Quicklag	QHCW	2-3							■		■			
Cutler Hammer	Quicklag	QHCX	1	■	■							■			
Cutler Hammer	Quicklag	QHCX	2-3							■		■			
Cutler Hammer	Quicklag	QHPW	1	■	■							■			
Cutler Hammer	Quicklag	QHPW	2-3							■					
Cutler Hammer	Quicklag	QHPX	1	■	■							■			
Cutler Hammer	Quicklag	QHPX	2-3							■					
Cutler Hammer	Ground Fault	QPGF	1		■										
Cutler Hammer		QPGF	2									■			
Cutler Hammer	Ground Fault	QPGFEP	1		■										
Cutler Hammer		QPGFEP	2									■			
Cutler-Hammer	Ground Fault	QPHGF	1		■										
Cutler-Hammer	Quicklag	QPHGF	2												
Cutler-Hammer	Ground Fault	QPHGFEP	1		■										
Cutler-Hammer	Quicklag	QPHGFEP	2												

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Cutler-Hammer	Quicklag	QPHW	1	■	■							■			
Cutler-Hammer	Quicklag	QPHW	2-3							■					
Cutler-Hammer	Miniature DIN RAIL	WME	1-3										■		
Cutler-Hammer	Miniature DIN RAIL	WMF	1-3										■		
Cutler-Hammer	Miniature DIN RAIL	WMH	1-4										■		
Cutler-Hammer	Miniature DIN RAIL	WMM	1-4										■		
Cutler-Hammer	Miniature DIN RAIL	WMN	1-4										■		
Cutler-Hammer	Miniature DIN RAIL	WMS	1-4										■		
Fed. Pacific Elec.		2B	2												
Fed. Pacific Elec.		BAB	1		■							■			
Fed. Pacific Elec.		LJ													
Fed. Pacific Elec.		NA-single	3				■	■				■			
Fed. Pacific Elec.		NA-tie bar	2									■			
Fed. Pacific Elec.		NB	1		■	■						■			
Fed. Pacific Elec.		NBH GFI	1		■							■			
Fed. Pacific Elec.		NC	1												
Fed. Pacific Elec.		NE/NEF			■	■									
Fed. Pacific Elec.		NEJ			■	■									
Fed. Pacific Elec.		NFJ			■										
Fed. Pacific Elec.		NJJ					■								
Fed. Pacific Elec.		NJL					■								
Fed. Pacific Elec.		NM					■								
Fed. Pacific Elec.		NP-single	1		■							■			
Frank Adams	FA Quicklag	P	1		■							■			
General Electric	V-Line Minia-ture Ckt. Bkr	1 Pole	1											■	
General Electric	V-Line Minia-ture Ckt. Bkr	2 Pole	2											■	
General Electric	V-Line Minia-ture Ckt. Bkr	3 Pole	3											■	
General Electric	Type C	HQC	3		■							■			
General Electric	SE150	SED	2-3		■							■			
General Electric	SE150	SEH	2-3		■							■			
General Electric	SE150	SEL	2-3		■							■			
General Electric	SE150	SEP	2-3		■							■			
General Electric	SF250	SFH	2-3		■							■			
General Electric	SF250	SFL	2-3		■							■			
General Electric	SF250	SFP	2-3		■							■			
General Electric	SG600	SGD	2-3										■		
General Electric	SG600	SGH1	3										■		
General Electric	SG600	SGH4	2-3										■		
General Electric	SG600	SGH6	2-3										■		
General Electric	SG600	SGL1	2-3										■		
General Electric	SG600	SGL4	2-3										■		
General Electric	SG600	SGL6	2-3										■		
General Electric	SG600	SGLA											■		
General Electric	SG600	SGP4	2-3										■		
General Electric	SG600	SGP5	2-3										■		
General Electric	Tri Break	TB1			■	■						■			
General Electric	Tri Break	TB4			■	■						■			
General Electric	Tri Break	TB6			■	■						■			
General Electric	Tri Break	TB8			■	■						■			
General Electric	Mag Break	TBC4			■	■						■			
General Electric	Mag Break	TBC6			■	■						■			
General Electric	Mag Break	TBC8			■	■						■			
General Electric	E150	TE	1-3		■	■						■			

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
General Electric	E150	TEB	1-3		■	■						■			
General Electric	E150	TED	1-3		■	■						■			
General Electric		TEF	1-3		■	■						■			
General Electric	E150	TEL	3		■	■						■			
General Electric	Mag Break	TEML	3		■	■						■			
General Electric	E150	TEY	1-3		■							■			
General Electric	E150	TF	1-3		■							■			
General Electric	Mag Break	TFC	3		■							■			
General Electric	F225	TFJ	2-3				■								
General Electric	F225	TFK	2-3				■								
General Electric	F225	TFL	3				■								
General Electric	Like TED	THED	1-3		■	■						■			
General Electric	Like TED	THEF			■	■						■			
General Electric	F225	THFK	2-3				■								
General Electric	Q Line	THHQB	2-3							■		■			
General Electric		THHQB GF	1												
General Electric	Q Line	THHQB-A	1	■	■							■			
General Electric	Q Line	THHQB-S	1		■							■			
General Electric	Q Line	THHQC	1-3							■		■			
General Electric	Q Line	THHQC-A	1	■	■							■			
General Electric	Q Line	THHQC-S	1		■							■			
General Electric	Q Line	THHQL	2-3							■		■			
General Electric		THHQL GF	1												
General Electric	Q Line	THHQL-A	1	■	■							■			
General Electric	Q Line	THHQL-S	1		■							■			
General Electric	J600	THJK4	2-3				■	■							
General Electric	J600	THJK6	2-3				■	■							
General Electric	K1200	THKM12	2-3						■						
General Electric	K1200	THKM8	2-3						■						
General Electric	THLC Current Limiting	THLC1	3		■										
General Electric	Q Line	THQB	2-3							■		■			
General Electric	Q Line	THQB GF	1-2												
General Electric	Q Line	THQB-A	1	■	■							■			
General Electric	Q Line	THQB-S	1		■							■			
General Electric	Q Line	THQC	2-3							■		■			
General Electric	Q Line	THQC GF	1-2												
General Electric	Q Line	THQC-A	1	■	■							■			
General Electric	Q Line	THQC-AL	2-3							■		■			
General Electric	Q Line	THQC-S	1		■							■			
General Electric	Q Line	THQD	2-3		■		■					■			
General Electric	Q Line	THQDBL	3									■			
General Electric	Q Line	THQL	2-3							■		■			
General Electric	Q Line	THQL GF	1-2												
General Electric	Q Line	THQL-A	1	■	■							■			
General Electric	Q Line	THQL-S	1		■							■			
General Electric	Q Line	THQP	1-2												
General Electric		TJ4	3				■								
General Electric	Mag Break	TJC			■		■					■			
General Electric	TJD432400WL	TJD	2-3				■	■							
General Electric	J600	TJJ	2-3				■	■							
General Electric	J600	TJK4	2-3				■	■							
General Electric	TJK636F000	TJK6	2-3				■	■							
General Electric	TJS3604S	TJS					■	■							
General Electric	MicroVersaTrip	TK4V	3				■								
General Electric	Mag Break	TKC	3		■	■						■			
General Electric	TKM4365000	TKM4							■						
General Electric	K1200	TKM8	2-3						■						
General Electric		TKMA8	3						■						
General Electric	Q Line	TQB	2-3							■		■			

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
General Electric	Q-Line	TQB-A	1	■	■							■			
General Electric	Q-Line	TQB-S	1		■							■			
General Electric	Q Line	TQC	2-3							■		■			
General Electric		TQC-A	1	■	■							■			
General Electric		TQC-S	1		■							■			
General Electric	Q Line	TQD	2-3		■										
General Electric	OLD TQL single throw	TQL	1-3												
General Electric	Q-Line	TQL	2-3												
General Electric	Q Line	TQL-A	1	■	■							■			
General Electric	Q Line	TQL-S	1		■							■			
General Electric	Miniature Circuit Breaker	V	1-3											■	
General Electric		V-Line	1-4											■	
Heinemann		LB	1		■	■									
Heinemann		LF	1		■	■									
Heinemann		LJ	1		■	■									
Merlin Gerin	Miniature DIN RAIL	C32N	1-4										■		
Merlin Gerin	Miniature DIN RAIL	C60	1-4										■		
Merlin Gerin	Miniature DIN RAIL	C60H	1-4										■		
Merlin Gerin	Miniature DIN RAIL	C60L	2-3										■		
Merlin Gerin	Miniature DIN RAIL	C60N	3										■		
Merlin Gerin	400 Amp series	CJ	3				■	■							
Merlin Gerin	1,200 Amp series	CK	3												
Merlin Gerin	Miniature DIN RAIL	NC100N	1-4												■
Siemens ITE		BL	1	■	■							■			
Siemens ITE		BL	2-3							■		■			
Siemens ITE		BL	1		■						■	■			
Siemens ITE		BL	2-3							■		■			
Siemens ITE		BLF-GFI	2							■		■			
Siemens ITE		BLH	1	■	■							■			
Siemens ITE		BLH	2-3							■		■			
Siemens ITE		BQ	1	■	■							■			
Siemens ITE		BQ	2-3							■		■			
Siemens ITE		BQCH	1-3		■							■			
Siemens ITE		BQD	3		■							■			
Siemens ITE		BQD	1-3		■							■			
Siemens ITE		BQD6	1-3		■							■			
Siemens ITE		BQH	1	■	■							■			
Siemens ITE		BQH	2-3							■		■			
Siemens ITE		CED6	2-3		■							■			
Siemens ITE		CFD6	2-3				■	■							
Siemens ITE		CFD6-ETI	2-3				■	■							
Siemens ITE		CJ3					■								
Siemens ITE		CJD6	2-3				■								
Siemens ITE		CJD6-ETI	2-3				■								
Siemens ITE		CLF	2				■	■							
Siemens ITE		CMD6	3						■						
Siemens ITE		CMD6-ETI	3						■						
Siemens ITE		CND6	3						■						
Siemens ITE		CPD6	3						■						
Siemens ITE		CQD	1-3		■	■						■			
Siemens ITE		E2			■							■			
Siemens ITE		E4	1		■							■			
Siemens ITE		ED2	1-3		■							■			
Siemens ITE		ED4	1-3		■							■			
Siemens ITE		ED6	1-3		■							■			
Siemens ITE		ED6-ETI	3		■							■			

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Siemens ITE		EE3			■	■						■			
Siemens ITE		EH3			■	■						■			
Siemens ITE		EQP	4							■		■			
Siemens ITE		EQT QF													
Siemens ITE	F-Frame	ET			■	■						■			
Siemens ITE		FD6A	2-3			■	■	■							
Siemens ITE		FJ2-B	2-3		■	■	■	■							
Siemens ITE		FJ3	2				■								
Siemens ITE		FJ6	2				■	■							
Siemens ITE		FXD6A	2-3				■	■							
Siemens ITE		FXD6-ETI	2-3				■	■							
Siemens ITE		GF	1		■							■			
Siemens ITE		HBL	1	■	■							■			
Siemens ITE		HBL	2-3							■		■			
Siemens ITE		HBQ	1	■	■							■			
Siemens ITE		HBQ	2-3							■		■			
Siemens ITE		HE4			■							■			
Siemens ITE		HED4	1-3		■							■			
Siemens ITE		HED6	2-3		■							■			
Siemens ITE		HFD6	2-3				■	■							
Siemens ITE		HFXD6	2-3				■	■							
Siemens ITE		HHED6	2-3		■							■			
Siemens ITE		HHFD6	2-3				■	■							
Siemens ITE		HHJD6	2-3				■								
Siemens ITE		HHJXD6	2-3				■								
Siemens ITE		HJD6	2-3				■								
Siemens ITE		HJD6-A	2-3				■								
Siemens ITE		HJXD6	2-3				■								
Siemens ITE		HJXD6-A	2-3				■								
Siemens ITE		HMD6	2-3						■						
Siemens ITE		HMXD6	2-3						■						
Siemens ITE		HND6	2-3						■						
Siemens ITE		HNXD6	2-3						■						
Siemens ITE		HPD6	3						■						
Siemens ITE		HPXD6	3						■						
Siemens ITE		HQJ2-H	3		■							■			
Siemens ITE		HQP	1	■	■							■			
Siemens ITE		HQP	2-3							■		■			
Siemens ITE		HQPP	1	■	■							■			
Siemens ITE		HQPP	2-3							■		■			
Siemens ITE		HQPPH	2							■		■			
Siemens ITE		HRD6	3						■						
Siemens ITE		HRXD6	3						■						
Siemens ITE		JD6-A	2-3				■								
Siemens ITE		JJ3					■								
Siemens ITE		JL3	3				■								
Siemens ITE		JXD2-A	2-3				■								
Siemens ITE		JXD6-A	2-3				■								
Siemens ITE		LL3					■								
Siemens ITE		MD6	2-3						■						
Siemens ITE		MXD6	2-3						■						
Siemens ITE		MXD6-ETI	2-3						■						
Siemens ITE		ND6	2-3						■						
Siemens ITE		NH3-F800													
Siemens ITE		NXD6	2-3						■						
Siemens ITE		PD6	3						■						
Siemens ITE		PXD6	3						■						
Siemens ITE		QJ2	2-3		■	■						■			
Siemens ITE		QJ2-H	2-3		■	■						■			
Siemens ITE		QJH2	2-3		■	■						■			
Siemens ITE		QP	1	■	■							■			
Siemens ITE		QP	2-3							■		■			
Siemens ITE		QP1	1		■							■			
Siemens ITE		QPH	1	■	■							■			
Siemens ITE		QPH	4							■		■			
Siemens ITE		QPH	2-3							■		■			
Siemens ITE		QPJ	2-3												
Siemens ITE		QPP	1	■	■							■			
Siemens ITE		QPP	2-3							■		■			
Siemens ITE		QPPH	1	■	■							■			

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Siemens ITE		QPPH	2-3												
Siemens ITE		RD6	3												
Siemens ITE		RXD6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SCMD6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SCND6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SHMD6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SHND6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SMD6	3												
Siemens ITE	Solid State Trip Ckt. Bkr.	SND6	3												
Simplex		NX	3												
Square D		EDB	1-3												
Square D		EGB	1-3												
Square D		EH4	1-3												
Square D		EHB	1-3												
Square D		EHB	2-3												
Square D		EJB	1-3												
Square D		EZ	3												
Square D	100 Amp Frame	FA	1-3												
Square D	100 Amp Frame	FAL	1-3												
Square D	100 Amp Frame	FC	3												
Square D	100 Amp Frame	FCL	2-3												
Square D	FDA 34040	FDA													
Square D	100 Amp Frame	FH	1-3												
Square D	100 Amp Frame	FHL	1-3												
Square D	100 Amp Frame	FHL-DC	3												
Square D	100 Amp Frame	FI	3												
Square D	100 Amp Frame	FIL	3												
Square D	100 Amp Frame	FY	1												
Square D	Mag Gard	GJL	3												
Square D	250 Amp Frame	KA	2-3												
Square D		KAL	2-3												
Square D		KAP													
Square D	250 Amp Frame	KC	2-3												
Square D		KCL	2-3												
Square D	250 Amp Frame	KH	2-3												
Square D		KHL	3												
Square D	250 Amp Frame	KI	2-3												
Square D	250 Amp Frame	KIL	2-3												
Square D	400 Amp Frame	LA	2-3												
Square D		LAL	2-3												
Square D	400 Amp Frame	LH	2-3												
Square D		LHL	3												
Square D		LHP													
Square D		MA	3												
Square D	1000 Amp Frame	MA	2-3												
Square D		MAL	3												
Square D	1000 Amp Frame	MH	2-3												
Square D		MHL	2-3												
Square D		ML-1	3												
Square D		ML-3	3												
Square D	2000 Amp Frame	PA	2-3												
Square D	2000 Amp Frame	PAF	2-3												
Square D	2500 Amp Frame	PC	2-3												
Square D	2500 Amp Frame	PE	3												
Square D	2000 Amp Frame	PH	2-3												
Square D	2000 Amp Frame	PHF	2-3												
Square D	2500 Amp Frame	PX	3												

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Square D	250 Amp Frame	Q1B	2-3		■							■			
Square D	250 Amp Frame	Q1L	2-3		■							■			
Square D	250 Amp Frame	Q2	2-3		■	■									
Square D	250 Amp Frame	Q2H	2-3		■	■									
Square D	250 Amp Frame	Q2L	2-3		■	■									
Square D	250 Amp Frame	Q2MT	2-3		■	■									
Square D	400 Amp Frame	Q4	2-3				■	■							
Square D	400 Amp Frame	Q4L	2-3				■	■							
Square D	QO	QO	1								■				
Square D	QO	QO	2-3	■	■						■	■			
Square D	QO	QO-AFI	1												
Square D	QO	QOB	1								■				
Square D	QO	QOB	2-3	■	■						■	■			
Square D	QO	QOB-AFI	1												
Square D	QO	QOB-GFI	1-2												
Square D	QO	QOB-H	2								■				
Square D	QO	QOB-VH	1	■	■						■				
Square D	QO	QOB-VH	2-3							■					
Square D	QO	QOB-VHAFI	1												
Square D	QO	QOB-VHGFI	1												
Square D	QO	QO-GFI	1-2												
Square D	QO	QO-H	2								■				
Square D	Main Circuit Breaker QO	QOM1-VH	2		■							■			
Square D	Main Circuit Breaker QO	QOM2-VH	2		■							■			
Square D	QO	QO-SWN	2-3	■	■						■	■			
Square D	QO	QOT	1												
Square D	DIN Rail Mount QO	QOU	1								■				
Square D	DIN Rail Mount QO	QOU	2-3		■						■	■			
Square D	DIN Rail Mount QO	QOU w/tie	2-3							■		■			
Square D	QO	QO-VH	1								■				
Square D	QO	QO-VH	2-3	■	■						■	■			
Square D	QO	QO-VHAFI	1												
Square D	QO	QO-VHGFI	1												
Square D	DIN Rail Mount	QYU	1								■				
Square D	2500 Amp Frame	RG	2-4												
Square D	2500 Amp Frame	RJ	2-4												
Square D	2500 Amp Frame	RL	2-4												
Square D		Y1					■								
Sylvania GTE		QC	2							■		■			
Sylvania GTE		Type C	2							■		■			
Thomas & Betts		F Frame	1-3		■							■			
Westinghouse		BA	1		■							■			
Westinghouse		BA	2-3		■							■			
Westinghouse		BA	2-3							■					
Westinghouse		BA	1	■	■							■			
Westinghouse		BAB	1	■	■							■			
Westinghouse		BR	1	■	■							■			
Westinghouse		BR	2-3							■		■			
Westinghouse		BRH	2-3							■					
Westinghouse		CA			■	■									
Westinghouse		DA					■								
Westinghouse		DK					■								
Westinghouse		EB	1-3		■	■						■			
Westinghouse		ED			■							■			
Westinghouse		EH	1-3		■							■			
Westinghouse		EHB	1-3		■	■									
Westinghouse		EHD	1-3		■							■			
Westinghouse		FA	3		■	■						■			
Westinghouse		FB	2-3		■	■						■			
Westinghouse		FD	1-4		■							■			
Westinghouse		FDB	2-4		■							■			

				IDEAL											
				Standard Breaker Lockouts							EZ Panel Loc™		Mini DIN-type Breaker LO		
Mfg.	Breaker Classification	Breaker Type	# of Poles	1-Pole Snap-On (w/hole) 44-810	120/277V Clamp On (no hole) 44-809	Cleat for #65396 44-785	480/600V Clamp On (no hole) 44-807	Cleat for #65397 44-786	Oversize 480/660V 44-823	Multi-pole w/tie bar 44-783	Snap On (SQD QO) 44-768	Clamp On (univer-sal) 44-764	Pin Out Standard 44-779	Pin In Standard 44-780	Pin Out Wide 44-784
Westinghouse		FDC	2-4		■							■			
Westinghouse	For Fire Protection	FP	3				■	■							
Westinghouse		GB	1-3		■							■			
Westinghouse		GBH	1-3		■							■			
Westinghouse		GHB	1-3		■							■			
Westinghouse		GR	3				■								
Westinghouse		HBAW	1	■	■							■			
Westinghouse		HBAX	1	■	■							■			
Westinghouse		HCA	3		■	■						■			
Westinghouse		HFB	1-3		■	■						■			
Westinghouse		HFD	1-4		■							■			
Westinghouse		HKD	3				■								
Westinghouse		HLA					■								
Westinghouse		HLB					■								
Westinghouse		HMC					■								
Westinghouse		HMCP			■	■						■			
Westinghouse		HNC							■						
Westinghouse		HQNP	3		■							■			
Westinghouse		HQP	1	■	■							■			
Westinghouse		JA					■								
Westinghouse		JD	2-4				■								
Westinghouse		KA	3				■	■							
Westinghouse		KB					■								
Westinghouse		LA	3				■	■							
Westinghouse		LB					■								
Westinghouse		LBB	3				■								
Westinghouse		LH					■								
Westinghouse		MA	2-3				■	■							
Westinghouse		MC	2-3				■	■							
Westinghouse		MCC	2-3				■	■							
Westinghouse		MCPO	3		■	■						■			
Westinghouse		NB							■						
Westinghouse		P	3		■							■			
Westinghouse		PA	3												
Westinghouse		QBHW	1	■	■							■			
Westinghouse		QC	1	■	■							■			
Westinghouse	Quicklag C	QC	3							■					
Westinghouse		QCHQ	1	■	■							■			
Westinghouse		QHCW	1	■	■							■			
Westinghouse		QHCX	1	■	■							■			
Westinghouse		QHPW	1	■	■							■			
Westinghouse		QPHW	1	■	■							■			
Westinghouse		Quicklag P			■							■			
Westinghouse		RE			■							■			
Westinghouse		RH	3				■								
Westinghouse		WPHX	1	■	■							■			
Zinsco		HQB	3		■							■			
Zinsco		QB	1		■							■			
Zinsco		QCB	2							■		■			
Zinsco		Type Q	1		■							■			
Zinsco		Type T	1		■							■			

How to Select Resurfacer Grade

Small Motor and Pocket Resurfacers
Grade code letters designate the following grade combinations:

A Medium/Finish
B Coarse/Finish
D Finish/Polish
G Coarse/Medium
H Medium/Polish

All Other Resurfacers
Resurfacers for commutators and copper-alloy slip rings are made in five grades:

X Extra coarse—very fast cutting, for "hogging" off excessive copper
C Coarse—fast cutting
M Medium—for general use, high mica, small ridges and burns
F Finish—for use after the three grades above, for periodic application and for removing small burns and ridges immediately after their appearance
P Polish—very fine grade (220 aggregate grain) for burnish finish

For all resurfacers, specify grade by adding the appropriate letter as a suffix to the catalog number. (Example: 80-475M for medium grade.)

How to Select Resurfacer Size

Size is always written length x width x thickness (working face area x depth of stone). For handle types, the handle is mounted parallel to the first dimension. Always use a resurfacer with the largest face possible (length x width). Thickness should be governed by clearance around commutator or ring.

Commutator Resurfacers
The resurfacer should have a width of approximately 3/4 the length of the commutator bar and as long as will conveniently go between the brush riggings. For periodic application, three or four sizes are generally sufficient. After determining approximate dimensions, select nearest standard size and type.

Slip Ring Resurfacers
When space permits, use a resurfacer about 1 in. wider than the face width of the ring. Length should be at least three times greater than the longest flat spot to bridge over and ensure a true ring.

Small Motor-Type Resurfacer

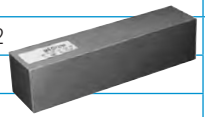
- Different grades of stone on each end
- 10 in. handle
- For use on small fractional horsepower motors

Size (In.)	Grades	Cat. No.
3/4 x 1/2 x 3/8	A, B, D	**80-012***

*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

Tool-Type Resurfacer

- For use in lathe-turning device
- Two resurfacers required for each grinder

Sizes (In.)	Grades	Cat. No.
3/4 x 3/4 x 3	C	**80-504***
1 x 1-1/2 x 6-1/2 	C, M, F	**80-454***
1 x 2 x 8		**80-461***
2 x 2 x 8		**80-475***

*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

Pencil-Type Resurfacer

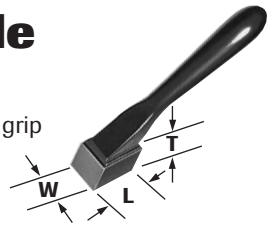
- For use on fans, signal motors, auto generators, locomotive headlight motors and other fractional horsepower motors

Size (In.)	Grades	Cat. No.
5/8 x 3/8 x 6	C, M, F, P	**80-075***

*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

Tramway-Handle Resurfacer

- Handle shaped to ensure secure grip
- 10-1/2 in. handle permanently mounted at 45° angle

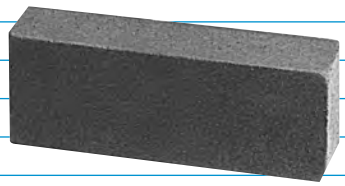


Sizes (In.)	Grades	Cat. No.
2 x 1-1/2 x 2	M, F	**80-255***
2 x 2 x 2	C, M, F	**80-265***

*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

Powr-Polish™ Flexible Abrasive

- Fine-grain, non-dusting abrasive held together by a flexible bond
- Serves as both commutator cleaner and burnisher
- Removes dirt and grease—imparts super-finished surface
- Non-conductive and non-loading

Sizes (In.)	Cat. No.
3/8 x 1/2 x 5 	**82-001**
3/8 x 3/4 x 5	**82-002**
5/8 x 1 x 5	**82-003**
1 x 2 x 5	**82-004**
1 x 4 x 5	**82-005**
1/8 x 1 x 5	**82-006**

Please allow 2-3 weeks for delivery.

Brush Seater & Commutator Cleaner

- Gentle acting abrasive for seating carbon brushes and cleaning commutators and slip rings
- Soft, loosely bound grain produces a scouring effect when held against commutator
- Will not remove or scratch copper
- Self-cleaning
- Available in soft(S), medium(M) and hard(H) grades

Sizes (In.)	Grades	Cat. No.
1/4 x 1/4 x 4-3/4	M, H	**23-001***
1/2 x 1/4 x 4-3/4	M, H	**23-002***
3/8 x 3/8 x 4-3/4	M	**23-003***
1/2 x 3/8 x 4-3/4	M, H	**23-004***
1/2 x 1/2 x 4-3/4	M	**23-005***
5/8 x 1/2 x 4-3/4	M	**23-006***
3/4 x 1/2 x 4-3/4	S, M, H	**23-007***
1-1/8 x 5/8 x 4-3/4	S, M, H	**23-008***
1/2 x 1 x 4-3/4	S, M	**23-027***
1 x 1 x 4-3/4	—	**23-035S**
2 x 1 x 4-3/4	—	**23-036S**
3 x 2 x 6	—	**23-041S**
3 x 2 x 8	—	**23-042S**

*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

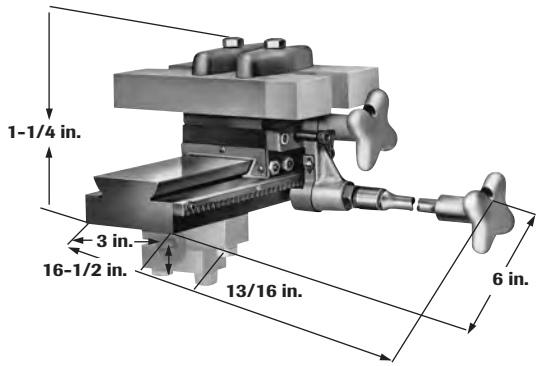
Commutator Smoothie® Resurfacing Tool

- Designed to smooth commutators of auto generators, starting motors and other similar equipment
- 8-1/2 in. plastic handle with a 5/16 in. x 7/8 in. x 11/16 in. resurfacer on each end
- Features one polish-grade and one finish-grade resurfacer
- Bent handle reaches into any motor frame
- Non-conductive for user safety

Description	Cat. No.
Commutator Smoothie® Resurfacing Tool	**80-033**

Please allow 2-3 weeks for delivery.

Midget Precision Grinder



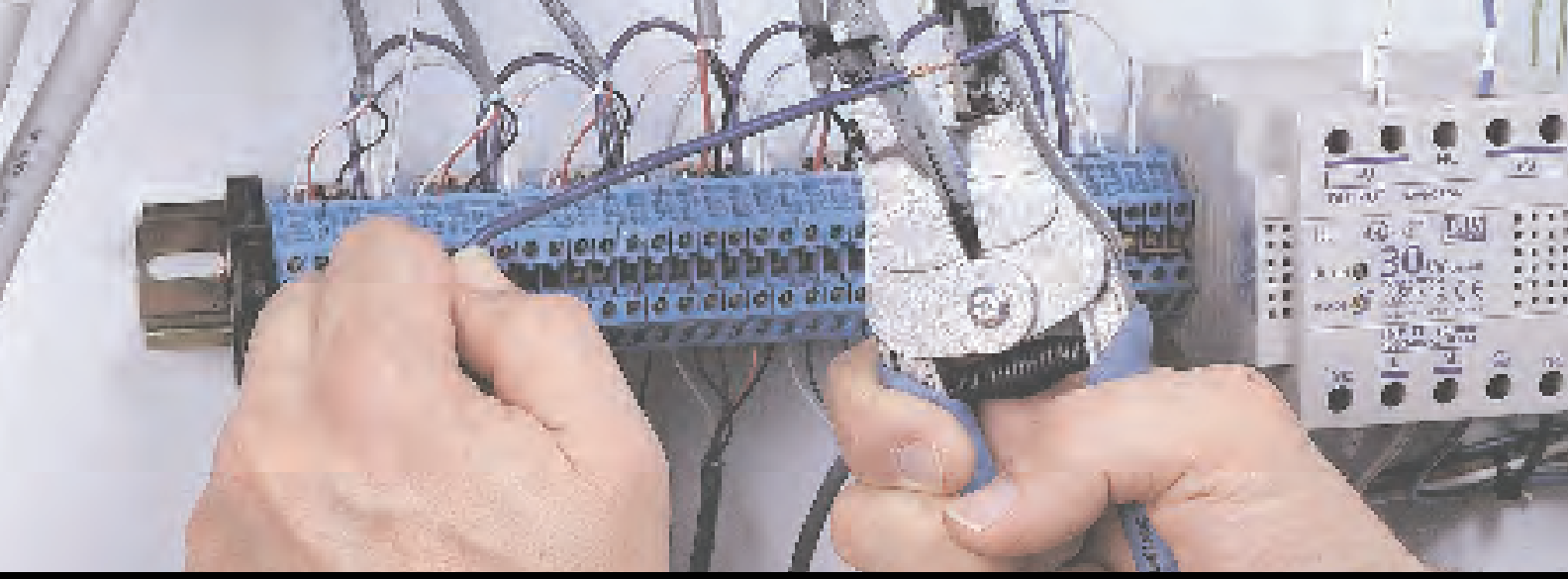
- Right-angle rack and pinion allows for operation in small areas
- 6 in. base — recommended for commutator widths up to 9-1/4 in. (includes extra 1 in. travel obtained by setting resurfacers at slight angle)
- Includes convenient carrying case
- Two tool-type resurfacers required — 80-454 recommended

Description	Cat. No.
Midget Precision Grinder	**24-033**

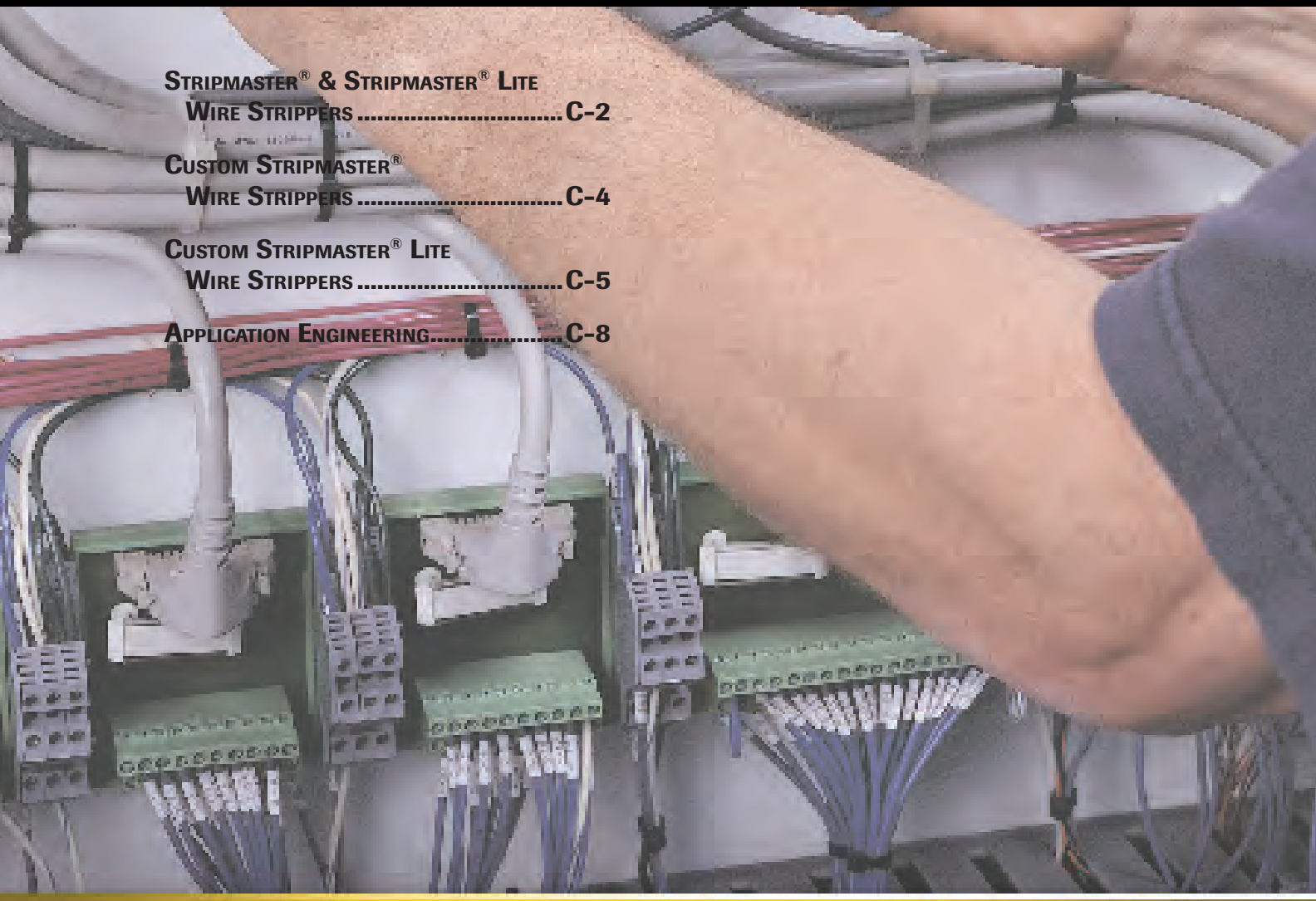
Order tool-type resurfacers and brush arm supports separately.

Fact:

IDEAL INDUSTRIES, INC. was founded by J. Walter Becker in 1916 as the IDEAL Commutator Dresser Company.



C Stripmaster® Wire Strippers



Stripmaster® & Stripmaster® Lite Wire Strippers C-2

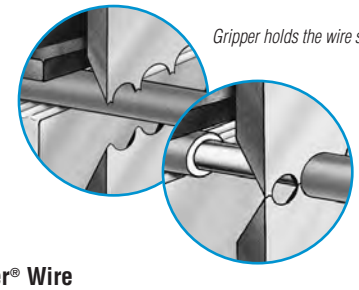
Custom Stripmaster® Wire Strippers C-4

Custom Stripmaster® Lite Wire Strippers C-5

Application Engineering C-8

Stripmaster® and Stripmaster® Lite Wire Strippers

- One-step stripping enhances productivity
- Spring-action motion increases leverage and reduces operator fatigue
- Precision-ground, knife-type blades provide clean, accurate stripping
- Sturdy die-cast frame provides long-term durability
- Wire gripper holds wire securely in position
- Stripmaster® Lite designed for smaller hands – 3/4 the size of the standard Stripmaster®



Gripper holds the wire securely in position.

Knife-type stripping blades have form-ground holes which penetrate the insulation like a knife, giving a clean insulation cut.

Stripmaster® Wire Stripper

Stripmaster® Lite Wire Stripper

Stripmaster® Wire Strippers and Knife-Type Blades

Specifications — Stripping Hole Diameter in Inches (mm)													Cat. No.	Replacement Blades (Pair) Cat. No.	Replacement Frame Cat. No.
Wire Size AWG															
6	8	10	12	14	16	18	20	22	24	26	28	30			
	0.159 (4.0)	.141 (3.6)	.106 (2.7)										45-090* or 45-290**	L-4419	L-5620
		.144 (3.6)	.105 (2.7)	.085 (2.2)	.073 (1.8)	.073 (1.8)							45-091	L-4420	L-5620
		.144 (3.6)	.113 (2.9)	.090 (2.3)	.072 (1.8)	.061 (1.5)	.048 (1.2)	.048 (1.2)					45-092* or 45-292**	L-4421	L-5620
				.090 (2.3)	.072 (1.8)	.061 (1.5)	.039 (1.0)	.039 (1.0)					45-093	L-4422	L-5620
.230 (2.3)	.198 (1.9)												45-096	L-4453	L-4453
					.072 (1.8)	.061 (1.5)	.048 (1.2)	.039 (1.0)	.032 (0.8)	.026 (0.7)			45-097	L-4994	L-5620
							.048 (1.2)	.039 (1.0)	.032 (0.8)	.026 (0.7)	.021 (0.5)	.016 (0.4)	45-098	L-5361	L-5620
	.198 (5.0)	.167 (4.2)			.062 (1.6)	.055 (1.4)							45-099	L-8763	L-5620

*Boxed ** Blister Card Tolerances +001 - .005

Stripmaster® Lite Wire Strippers and Knife-Type Blades

Specifications — Stripping Hole Diameter Inches (mm)										Cat. No.	Replacement Blades (Pair) Cat. No.	Replacement Frame Cat. No.
Wire Size AWG												
12	14	16	18	20	22	24	26	28	30			
		.072 (1.8)	.061 (1.5)	.048 (1.2)	.039 (1.0)					45-671	LB-1001	LB-1421
						.032 (0.8)	.026 (0.7)	.021 (0.5)	.016 (0.4)	45-672	LB-1002	LB-1421
.113 (209)	.090 (2.3)	.072 (1.8)	.061 (1.5)	All stranded wire						45-673	LB-1003	LB-1421
.096 (2.4)	.085 (2.2)	.073 (1.9)	.061 (1.5)	12 & 14 Solid Wire, 16 & 18 Stranded Wire						45-674	LB-1004	LB-1421

Tolerances +001 - .005

Stripmaster® Wire Strippers and Knife-Type Blades for Metric Wire

Specifications — Stripping Hole Diameter (mm)																
Wire Size mm²																
0.05	0.1	0.15	0.22	0.34	0.5	0.75	1	1.5	2.5	4	6	8	10	Cat. No.	Replacement Blades (Pair) Cat. No.	Replacement Frame Cat. No.
												4.3	5.0	**45-090-341**	**L-4419M**	**LA-2358**
						1.3	1.6	1.9	2.4	3	3.6			**45-092-341 or 45-292-341***	**L-4421M**	**LA-2358**
0.6	0.7	0.8	0.9	1.0	1.1									**45-098-341**	**L-5361M**	**LA-2358**

*Boxed Tolerances +001 - .005

Stripmaster® Lite Wire Strippers and Knife-Type Blades for Metric Wire

Specifications — Stripping Hole Diameter (mm)											
Wire Size mm²											
0.05	0.1	0.15	0.22	0.34	0.5	0.75	1	1.5	Cat. No.	Replacement Blades (Pair) Cat. No.	Replacement Frame Cat. No.
				1.0	1.1	1.3	1.6	1.9	**45-671-341**	**LB-1001M**	**H-2909**
0.6	0.7	0.8	0.9						**45-672-341**	**LB-1002M**	**H-2909**

Free Application Engineering Service available. Contact IDEAL INDUSTRIES, INC. for complete information at 1-800-324-9571 or download application at www.idealindustries.com/products/wire-processing.

Coax Stripmaster® Wire Strippers and Blades

Description	Coax Cable Type (RGU)	Repl. Blade Cat. No.	Cat. No.
Coax Stripmaster® for RG-6	RG-6	**LB-740**	**45-262**
Coax Stripmaster® for RG-58	RG-58	**LB-742**	**45-264**
Coax Stripmaster® for RG-59	RG-59	**LB-743**	**45-265**
Coax Stripmaster® for RG-6 QuadShield	RG-6 QuadShield	**LA-3953**	**45-282**

Coaxial Cables: two-step strip for termination, jacket and dielectric.

Stripmaster® Wire Strippers with Rectangular Holes

Description	Cat. No.	Replacement Blades (Pair) Cat. No.
For Flat Telephone Cable (.060 in. or 1.52mm)	**N/A**	**LB-1155**
For European Flat Lamp Cord	**45-089**	**L-8762**
For SP-SPT Lamp Cord	**45-095***	**L-4452**

*Also strips 2- and 3-conductor low-voltage wire used in E.E. and Touchplate remote control wiring system.

Transparent Adjustable Wire Stop Assembly

- Provides uniform stripping length

Short Stop Latch

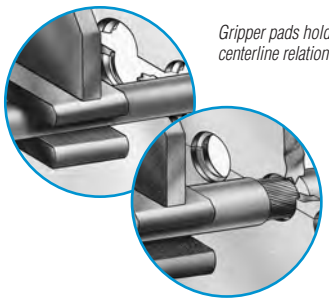
- Protects wire strands by limiting stripping stroke to 5/32 in.
- Retains slug until wire is ready for terminating

Optional Accessories	Cat. No.
Transparent Adjustable Wire Stop (for Stripmaster® Wire Strippers)	**L-5270**
Transparent Adjustable Wire Stop (for Stripmaster® Lite Wire Strippers)	**LB-1195**
Replacement Moveable Gripper	**L-1953**

Replacement Frame Assemblies	Cat. No.
For Stripmaster® Wire Strippers	**L-5620**
For Stripmaster® Lite Wire Strippers	**LB-1421**

Custom Stripmaster® Wire Strippers

- Strips 30 through 10 AWG solid or stranded wire
- Mil-spec die-type blades allow precision stripping
- Inner cutting hole sized to conductor and counter-bored holes sized to insulation
- Replaceable grippers
- Optional short stop-latch and transparent wire stop
- Cushioned, comfort grip handles
- Engineering service and made-to-order blades available.
  Contact factory for complete product and blade number listing.



Gripper pads hold the wire securely in a centerline relationship with the blade.

Die-type blades incorporate a counter-bored hole sized to the insulation and an inner cutting hole sized to the conductor. This varies depending on insulation type and thickness.

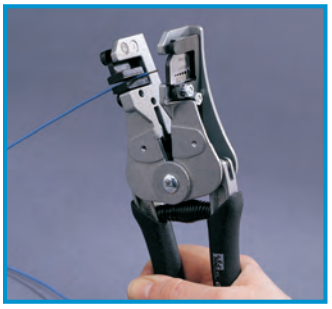
Custom Stripmaster® Wire Strippers and Die-Type Blades

Specifications – Cutting Hole Diameter / Counterbore Diameter in Inches

Wire Size AWG											Stripper Cat. No.	Blade Only Cat. No.
10	12	14	16	18	20	22	24	26	28	30		
For Type E Teflon® (600V)												
.119/.136	.096/.113	.076/.0985									**45-176**	**L-5559**
			.061/.081	.052/.070	.042/.0595	.034/.052	.028/.043	.026/0.39			**45-177**	**L-5560**
								.023/.039	.019/.035	.016/.032	**45-178**	**L-5561**
For Type EE Teflon® (1000V)												
.119/.144	.096/.125	.076/.104									**45-173**	**L-5562**
			.061/.089		.042/.067	.034/.0595	.028/.055	.023/.0465			**45-174**	**L-5563**
				.052/.0785				.023/.0465	.019/.043	.016/.042	**45-175**	**L-5564**
For Other Misc. Insulations												
.116/.154	.0937/.138	.076/.113									**45-170**	**L-5210**
			.062/.096	.052/.086	.042/.073	.035/.0635	.0292/.0595	.022./052			**45-171**	**L-5211**
								.024/.043	.020/.040	.016/.037	**45-172**	**L-5436**
Other Thin Insulations												
							Three identical holes			.012./020	**45-179**	**L-7625**
				Solid Wires			.024/.033	.018/.025	.014/.023	.012/.019	**45-169**	**L-9300**

Tolerances: Cutter Dia.: ± .001; Counter-bore Dia.: ± .002. The 45-170 Series is a Custom Stripmaster® Wire Stripper frame without the short stop latch and wire stop.
Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.

Custom Stripmaster® Lite Wire Strippers



- Custom Stripmaster® Lite is 3/4's the size of Custom Stripmaster® Wire Stripper and strips 16 through 30 AWG solid or stranded wire
- Custom Stripmaster® Lite requires one-third less hand pressure for each strip actuation
- Engineering Service and made-to-order blades available. Contact factory for complete product and blade number listing.

Custom Stripmaster® Lite Wire Strippers and Die-type Blades

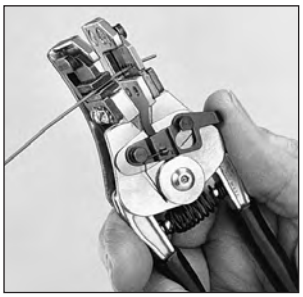
Specifications – Cutting Hole Diameter / Counterbore Diameter in Inches									
16	18	20	22	24	26	28	30	Stripper Cat. No.	Blade Only Cat. No.
For Type E Teflon® (600V)									
.061/.081	.052/.070	.042/.0595	.034/.052					**45-638**	**LB-918**
		.042/.0595	.034/.052	.028/.043	.023/.039			**45-639**	**LB-919**
				.028/.043	.023/.039	.019/.035	.016/.032	**45-640**	**LB-920**
For Type EE Teflon® (1000V)									
.061./089	.052./0785	.042./067	.034/.0595					**45-635**	**LB-915**
		.042./067	.034/.0595	.028/.055	.023/.0465			**45-636**	**LB-916**
				.028/.055	.023/.0465	.019/.043	.016./042	**45-637**	**LB-917**
For Other Misc. Insulations									
.062./096	.052./086	.042./073	.034/.0595					**45-632**	**LB-912**
		.042./073	.034/.0595	.0292/.0595	.022/.052			**45-633**	**LB-913**
				.024/.033	.018/.025	.020/.040	.016/.037	**45-634**	**LB-914**
Other Thin Insulations									
							.012/.020	**45-641**	**LB-921**
				.024/.033	.018/.025	.014/.023	.012/.019	**45-631**	**LB-911**

Tolerances: Cutter Dia.: ± .001; Counter-bore Dia.: ± .002.
Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.

Custom Steel Stripmaster® Wire Strippers and Special Flat-Blades for Ribbon and Multi-Conductor Cable

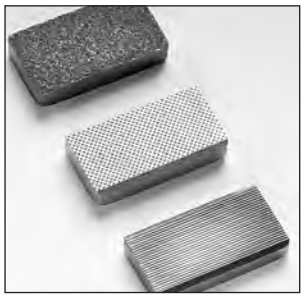
Description	Blade Gap ("x") vertical height	Blade Only Cat. No.	Frame & Blade Cat. No.
Custom Steel frame only	N/A	N/A	**LB-1091**
Flat blade for 26 AWG (.40mm dia.) multi-conductor	.022 in.	**LB-1151**	**45-890**
Flat blade for 24 AWG (.00mm dia.) multi-conductor	.030 in.	**LB-1152**	**45-891**
Flat blade for 22 AWG (.64mm dia.) multi-conductor	.038 in.	**LB-1153**	**45-892**
Flat blade for 20 AWG (.00mm dia.) multi-conductor	.050 in.	**LB-1154**	**45-893**
Flat blade for 18 AWG (1.02mm dia.) multi-conductor	.060 in.	**LB-1155**	**45-894**
Flat blade for 16 AWG (1.29mm dia.) multi-conductor	.075 in.	**LB-1156**	**45-895**

STRIPMASTER® WIRE STRIPPERS



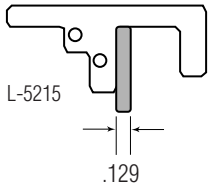
Short stop-latch protects wire strands by limiting the stripping stroke to 5/32 in. and retains the slug until the wire is ready for terminating.

Transparent wire stop provides uniform stripping length.

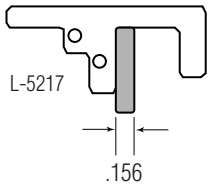


Gripper pads are available in your choice of either parallel, file or grit-type. File-type pads may be used on hard-to-grip insulations such as Kapton® and some Teflon®.

Stationary Gripper for Red Handle Units
For 10, 12 & 14 AWG Wire



Stationary Gripper for Black Handle Units
For 16 thru 30 AWG wire.



Replacement Gripper Pads

For Custom Stripmaster® and Custom Steel Stripmaster® Wire Strippers			
Surface Type	**Gripper Set* Cat. No.**	**Movable Gripper Cat. No.**	**Stationary Gripper (Thickness)**
Grit**	**LB-197**	**L-5212**	**L-5215** (.129 in.)
Grit**	**LB-198**	**L-5212**	**L-5217** (.156 in.)
File	**LB-721**	**LB-718**	**LB-719** (.129 in.)
File	**LB-722‡**	**LB-718**	**LB-720** (.156 in.)
Parallel	**LB-730**	**LB-727**	**LB-728** (.129 in.)
Parallel	**LB-731**	**LB-727**	**LB-729** (.156 in.)
For Custom Stripmaster® Lite Wire Strippers			
Surface Type	**Gripper Set* Cat. No.**	**Movable Gripper Cat. No.**	**Stationary Gripper (Thickness)**
Grit*	**LB-1188**	**LB-882**	**LB-883** (.109 in.)
File	**LB-1189**	**LB-1184**	**LB-1185** (.109 in.)
Parallel	**LB-1190**	**LB-1186**	**LB-1187** (.109 in.)

* Gripper Set includes one movable gripper, one stationary gripper.
** Grit pads are standard for most Custom Stripmaster® and Custom Stripmaster® Lite products.
‡ These are for use on hard-to-grip surfaces such as Kapton® and Teflon®.
Gripper pad selection depends on insulation type and user preference.
Note: For 10-14 AWG, use .129 in. stationary gripper. For 16-30 AWG, use .156 in. gripper.

Replacement Frame Assemblies

For Custom Stripmaster® Wire Strippers	Cat. No.
Frame only, 10-14 AWG	**L-5616**
Frame only, 16-30 AWG	**L-5617**
Frame only, 10-14 AWG, Wire Stop and Latch	**L-5618**
Frame only, 16-30 AWG, Wire Stop and Latch	**L-5619**
Frame only, 10-14 AWG, internal spring (see note)	**L-9039**
Frame only, 16-30 AWG, internal spring (see note)	**L-9038**

Note: Frames with internal springs allow additional blade penetration pressure for difficult and multi-layered insulation types.

For Custom Stripmaster® Lite Wire Strippers	Cat. No.
Frame only	**LB-895**
Frame only, Wire Stop and Latch	**LB-896**

For Custom Steel Stripmaster® Wire Strippers	Cat. No.
Frame only, 10-14 AWG	**LB-1091**
Frame only, 16-30 AWG	**LB-1092**
Frame only, 10-14 AWG, internal spring (see note)	**LB-1090**
Frame only, 16-30 AWG, internal spring (see note)	**LB-1089**

Note: Frames with internal springs allow additional blade penetration pressure for difficult and multi-layered insulation types.

Optional Accessories

Short Stop-Latch	Cat. No.
For Custom & Custom Steel Stripmaster® Wire Strippers	**L-5269**
For Custom Stripmaster® Lite Wire Strippers	**LB-1194**

Transparent Adjustable Wire Stop Assembly	Cat. No.
For Custom & Custom Steel Stripmaster® Wire Strippers	**L-5270**
For Custom Stripmaster® Lite Wire Strippers	**LB-1195**

Wire Stripper MIL-spec reference chart – Contact Industrial Customer Service for lead times.

Wire Specification	Custom Stripmaster®			Custom Stripmaster® Lite		
	Cat. No.	Blade Only Cat. No.	Wire Gauge	Cat. No.	Blade Only Cat. No.	Wire Gauge
MIL-W-81044/4/5/6 MIL-W-5086/1/7	**45-170** **45-171**	**L-5210** **L-5211**	10-14 AWG 16-26 AWG	**N/A**	**N/A**	N/A
MIL-W-81044/8/9/10 MIL-W-16878/5 MIL-W-81381/3/4	**45-173** **45-174** **45-175**	**L-5562** **L-5563** **L-5564**	10-14 AWG 16-26 AWG 26-30 AWG	**45-635** **45-637** **45-637**	**LB-915** **LB-917** **LB-917**	16-22 AWG 24-30 AWG 24-30 AWG
MIL-W-22759/32/33/44/45/46	**45-1987** **45-1654**	**45-1987-1** **45-1654-1**	16-26 AWG 16-26 AWG	**45-2133** **45-2132**	**45-2133-1** **45-2132-1**	16-24 AWG 16-24 AWG
MIL-81044/11/12/13 MIL-W-22759/34/35/41/42/43	**45-1611** **45-2500** **45-1987** **45-178**	**45-1611-1** **45-2500-1** **45-1987-1** **L-5561**	10-14 AWG 10-14 AWG 16-26 AWG 26-30 AWG	**45-2133** **45-2118** **45-640**	**45-2133-1** **45-2118-1** **LB-920**	16-24 AWG 20-26 AWG 24-30 AWG
Raychem 44A021X, 44/051X MIL-W-16878/4 MIL-W-22759/11/12/22/23	**45-176** **45-1611** **45-177** **45-178**	**L-5559** **45-1611-1** **L-5560** **L-5561**	10-14 AWG 10-14 AWG 16-26 AWG 26-30 AWG	**45-640**	**LB-920**	24-30 AWG
MIL-W-81044/16/17	**45-1611** **45-1610**	**45-1611-1** **45-1610-1**	10-14 AWG 16-26 AWG	**45-2131**	**45-2131-1**	16-24 AWG
MIL-W-81381/1/2//6/7/8/9/10/17/21	**45-1609** **45-1551** **45-178**	**45-1609-1** **45-1551-1** **L-5561**	10-14 AWG 16-26 AWG 26-30 AWG	**45-640**	**4LB-920**	24-30 AWG
MIL-W-81381/11/12/13/14/22	**45-1608** **45-1654** **45-178**	**45-1608-1** **45-1654-1** **L-5561**	10-14 AWG 16-26 AWG 26-30 AWG	**45-640**	**4LB-920**	24-30 AWG
MIL-W-22759/18/19	**45-1608** **45-1551**	**45-1608-1** **45-1551-1**	10-14 AWG 16-26 AWG	**N/A**	**N/A**	N/A
MIL-W-81381/17/21	**45-1633**	**45-1633-1**	16-26 AWG	**45-2120**	**45-2120-1**	20-26 AWG
MIL-W-81381/18/19/20	**45-1609** **45-1551**	**45-1609-1** **45-1551-1**	10-14 AWG 16-26 AWG	**N/A**	**N/A**	N/A
MIL-W-22759/16/17	**45-1611** **45-1987**	**45-1611-1** **45-1987-1**	10-14 AWG 16-26 AWG	**45-2133** **45-2118**	**45-2133-1** **45-2118-1**	16-24 AWG 22-26 AWG
MIL-W-24640/19/22/23/24	**45-1957**	**45-1957-1**	14-22 AWG	**N/A**	**N/A**	N/A
MIL-W-85485/5/6/7/8	**45-1925** **45-1924**	**45-1925-1** **45-1924-1**	10-14 AWG 16-24 AWG	**N/A**	**N/A**	N/A
MIL-W-85485/9/10/11/12 MIL-W-85485/9/10	**45-1611** **45-1610**	**45-1611-1** **45-1610-1**	10-14 AWG 16-24 AWG	**45-2131**	**45-2131-1**	16-24 AWG
BMS 1360 Type 1-6, 19-21, 23-27, 33-34	**45-2541** **45-2543**	**45-2541-1** **45-2543-1**	10-14 AWG 16-24 AWG	**45-2697**	**45-2697-1**	16-24 AWG
BMS 1360 Type 12-18, 28-32	**45-2542** **45-2544**	**45-2542-1** **45-2544-1**	10-14 AWG 16-24 AWG	**N/A**	**N/A**	N/A
BMS 1360 Type 7-12	**45-2565** **45-2564**	**45-2565-1** **45-2564-1**	10-14 AWG 16-26 AWG	**N/A**	**N/A**	N/A
MIL-W-22759/80/81/82/91/92	**45-2542** **45-2544**	**45-2542-1** **45-2544-1**	10-14 AWG 16-24 AWG	**45-2693** **45-2692**	**45-2693-1** **45-2692-1**	16-22 AWG 20-26 AWG
MIL-W-22759/83/84/85/86/87/88/89/90	**45-2541** **45-2543** **45-2618**	**45-2541-1** **45-2543-1** **45-2618-1**	10-14 AWG 16-24 AWG 16-26 AWG	**45-2685**	**45-2685-1**	16-24 AWG

FREE Application Engineering Service

Whatever your particular wire or cable preparation challenge, we're ready to assist you with practical solutions. Simply send us at least five feet of your wire or cable and complete the questionnaire below. Copy this form and mail to:

IDEAL INDUSTRIES, INC.
Becker Place, Sycamore, IL 60178
Attn: Wire Stripping Applications Analysis

We'll quickly recommend a practical stripping or cutting solution designed to meet your needs. Remember, this is a free service that we're eager to provide whenever you need it.

For immediate assistance, call our Industrial Support Line at 800-324-9571 or e-mail industrial@idealindustries.com.

Free Application Engineering Service for Wire Stripping Recommendations

Completion of this information is a request for recommended tools or equipment only and does not place the individual or the company inquiring under any obligation to purchase. This is a free service of IDEAL INDUSTRIES, INC., Sycamore, Illinois.

Please enclose at least **five feet of your wire or cable** and answer the following questions to expedite a reply for your particular application.

1. Method Preference:

☐ **A. Hand Type**

☐ **B. Production Strippers**

☐ **1. 45-930 STP Stripping System**

☐ **2. 45-950 Stripmaster® Model 950 Wire Stripper**

2. Stripping Tolerance:

A. Precision

B. Non-Precision

3. Present Method: _____

_____

4. Type of Insulation: _____

_____

Customer Information

Please enclose business card or complete the following:

Name _____

Title _____

Company _____

Street _____

City _____ State _____ Zip _____

Phone _____ Fax _____

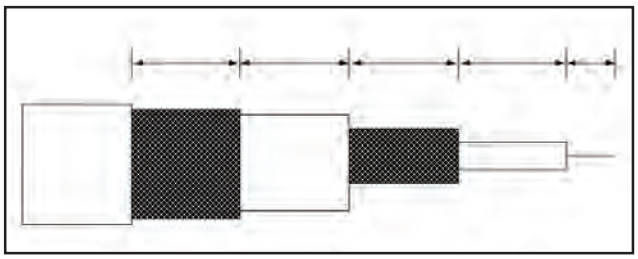
E-mail _____

5. Wire Gauge: _____

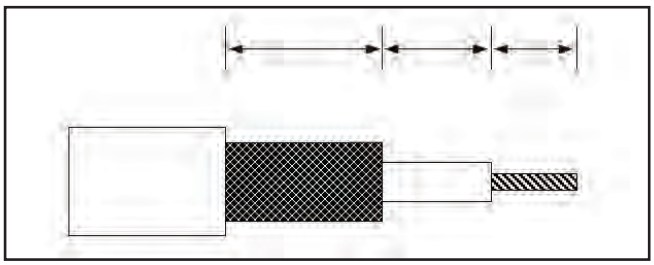
6. MIL-Spec: _____

7. Number of Strips per Day: _____

Triaxial Cable



Coax Cable



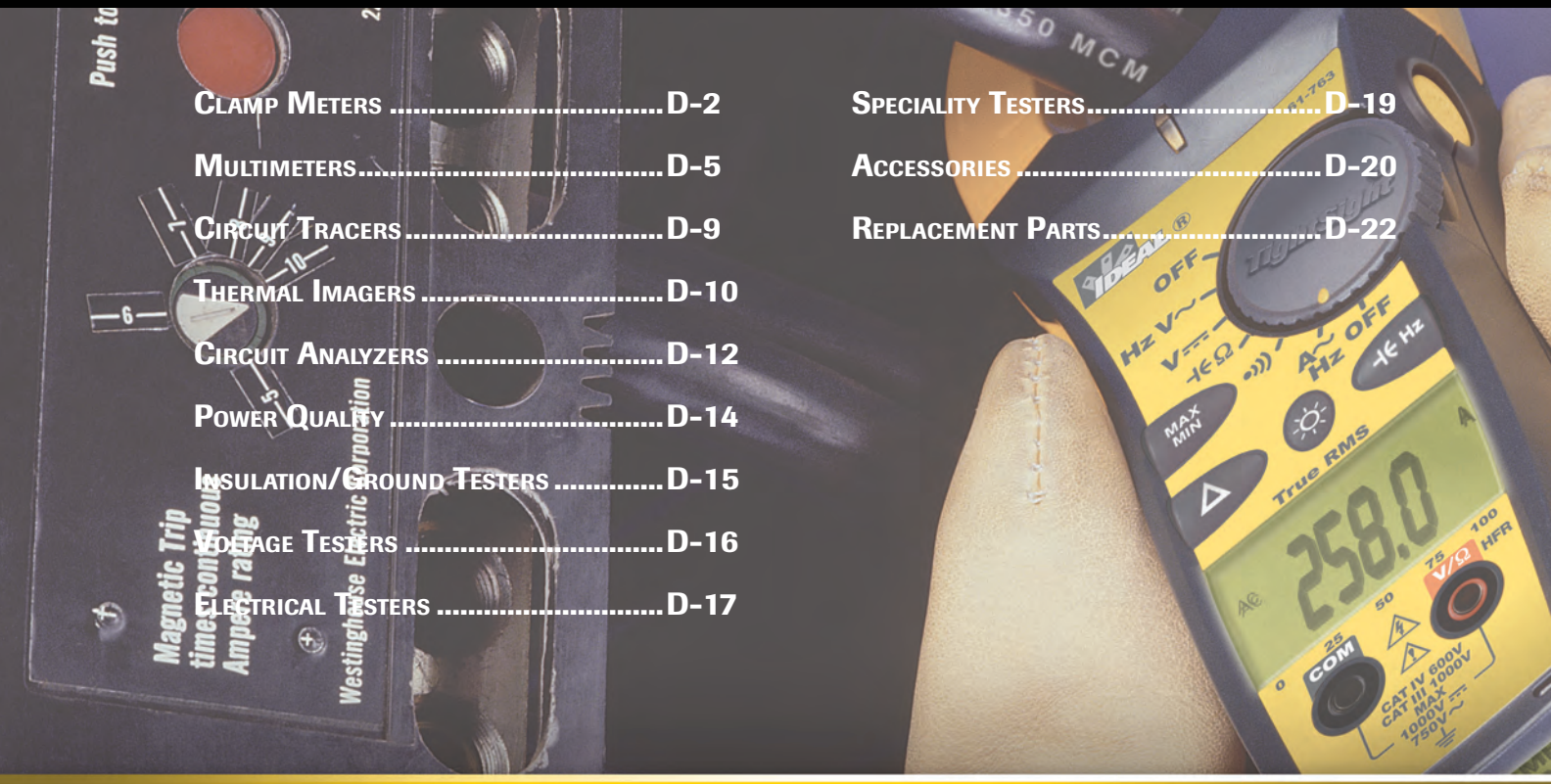
5. Remarks: _____

_____

_____

D Test & Measurement

Clamp Meters D-2
Multimeters D-5
Circuit Tracers D-9
Thermal Imagers D-10
Circuit Analyzers D-12
Power Quality D-14
Insulation/Ground Testers D-15
Voltage Testers D-16
Electrical Testers D-17
Speciality Testers D-19
Accessories D-20
Replacement Parts D-22



Clamp Meter Selection Guide

CLAMP METER SELECTION GUIDE	700 Series		740 Series		760 Series		770 Series	
	61-702	61-704	61-744	61-746	61-763	61-765	61-773	61-775
MEASUREMENT FUNCTIONS								
AC Voltage	•	•	•	•	•	•	•	•
DC Voltage	•	•	•	•	•	•	•	•
AC Current	•	•	•	•	•	•	•	•
DC Current						•		•
Resistance	•	•	•	•	•	•	•	•
Audible Continuity	•	•	•	•	•	•	•	•
Diode Test	•	•						
Capacitance	•	•			•	•	•	•
Frequency					•	•	•	•
FEATURES								
Display Type (Digital)	D	D	D	D	D	D	D	D
AC Current Capacity	200	200	600	600	660	660	1000	1000
DC Current Capacity						660		1000
True RMS		•		•	•	•	•	•
Auto Ranging	•	•						
Auto/Manual Ranging			•	•	•	•	•	•
Data Hold	•		•	•	•	•	•	•
Max Hold	•	•						
Peak Hold					•	•	•	•
Min/Max					•	•	•	•
DCA Zero						•		•
Auto Power Off	•	•	•	•	•	•	•	•
Non-Contact Voltage Indication	•	•	•	•				
Harmonics Indicator	•	•						
Vibration Mode	•	•						
Backlight		•			•	•	•	•
Low Battery Indication	•	•	•	•	•	•	•	•
High Voltage Warning	•	•			•	•	•	•
Overload Protection on all Ranges	•	•	•	•	•	•	•	•
Conductor Size – Inches (mm)	1.3" (33)	1.3" (33)	1.5" (38)	1.5" (38)	1.4" (36)	1.4" (36)	2.0" (51)	2.0" (51)
Warranty (years)	2	2	2	2	2	2	2	2
CERTIFICATIONS								
UL 61010 Listed c UL us	•	•	•	•	•	•	•	•
CAT III, 100V/CAT IV 600V	III	III	III	III	IV	IV	IV	IV
CE	•	•	•	•	•	•	•	•

TightSight® Clamp Meters 1000 & 660 Amp

- TightSight® bottom display
- Tapered jaws with hook tip
- Measures AC current
- True RMS
- AC/DC Voltage
- Capacitance
- Audible continuity
- Frequency via clamp head or test leads
- Resistance
- High frequency rejection*
- Peak hold
- Max/min hold
- Data hold
- Selectable audible and visual voltage alerts on AC/DC voltage functions
- Selectable auto power off
- Backlit display
- Low battery indicator
- 2-year warranty

*Reads accurately on noisy electrical circuits.

1000A Clamp (61-773)

Exclusive TightSight® Display

N12966

660A Clamp (61-763)

Description	Cat. No.
1000AAC Clamp Meter	**61-773**
1000A AC/DC Clamp Meter	**61-775**
660AAC Clamp Meter	**61-763**
660A AC/DC Clamp Meter	**61-765**

Includes: Carrying Case and Test Leads w/Alligator Clip.

Specifications

	Range & Resolution				Accuracy
	61-773	61-775	61-763	61-765	
AC Current	0.0-999.9A		0.0-660.0A		2.0%
DC Current	—	0.0-999.9A	—	0.0-660.0A	2.0%
AC Voltage	0.0-750.0V				1.0%
DC Voltage	0.0-999.9V				1.0%
Resistance	0.0-999.9Ω				1.5%
Capacitance	0.0-999.9μF				5.0%
Continuity	0.0-999.9Ω				Audible @ <30Ω
Frequency	20.0-400.0Hz				0.5%
Jaw Size	2" (51mm)		1.42" (36mm)		—

Clamp-Pro™ Clamp Meters 600 Amp (740 Series)

- Measures up to 600AAC
- Non-contact voltage indicator (70V-600VAC)
- Continuity
- Tapered jaws with hook tip
- Auto/manual ranging
- Data hold
- Auto power off
- Low battery indicator
- 2-year warranty

Description	Cat. No.
600A Clamp Meter w/TRMS	**61-746**
600A Clamp Meter	**61-744**

Includes: Carrying Case and Test Leads.

61-744

N12966

Specifications

	Range & Resolution	Accuracy
AC Current	40.00/400.0/600A	1.7%
AC Voltage	400.0/600 V	1.2%
DC Voltage	400.0/600 V	0.5%
Resistance	400.0/4.000k/ 40.00k 400.0k/4.000M/40.00M Ω	1.0%

Jaw opening is 1.25" (32mm).

4-in-1 Test Tools (700 Series)

- 200AAC current capability
- Non-contact voltage (40-600VAC)
- Vibration mode to verify AC voltage
- Harmonics indicator
- Capacitance
- Max hold
- Continuity
- Low battery indication
- Integral lead storage
- Audible dangerous voltage warning on all ranges
- Auto power off
- Ergonomic hourglass shape
- Compact clamp head
- 2-year warranty

Description	Cat. No.
4-in-1 Test Tool w/TRMS, Backlight	**61-704**
4-in-1 Test Tool	**61-702**

Includes: Carrying Case and Silicone Test Leads.

61-704

N12966

Specifications

	Range & Resolution	Accuracy
AC Voltage	2000m/200.0/750 V	1.2%
DC Voltage	2000m/200.0/1000 V	0.5%
AC Current	200.0 A	3.0%
Resistance	200.0/200.0k Ω	1.0%
Capacitance	200.0μ F	3.0%

Jaw opening is 1.3" (33mm).

Multimeter Selection Guide

MULTIMETER SELECTION GUIDE	310 Series		340 Series		360	480 Series		490 Series		600	610 Series	
	61-310	61-312	61-340	61-342	61-361	61-484	61-486	61-497	61-498	61-605	61-610	61-614
MEASUREMENT FUNCTIONS												
AC & DC Voltage	•	•	•	•	•	•	•	•	•	•	•	•
AC Current	•	•	•	•	•	•	•	•	•			
DC Current	•	•	•	•	•	•	•	•	•		•	•
Resistance	•	•	•	•	•	•	•	•	•	•	•	•
LV Resistance						•	•	•	•			
Audible Continuity	•	•	•	•	•	•	•	•	•	•		•
Diode Test	•	•	•	•	•	•	•	•	•	•		
Capacitance		•	•	•	•	•	•	•	•			
Frequency		•	•	•	•	•	•	•	•			
Temperature	•	•	•	•			•	•	•			
Duty Factor			•	•				•	•			
Battery Test	•										•	•
Decibels								•	•			
Phase Rotation					•							
FEATURES												
Display Type (Digital or Analog)	D	D	D	D	D	D	D	D	D	D	A	A
True RMS				•	•	•	•	•	•			
Auto/Manual Ranging		•	•	•		•	•	•	•	•		
Non-Contact Voltage Detection						•	•					
Data Hold / Auto Hold	D	D	D	D		D	D	A	A	D		
Min/Max			•	•		•	•	•	•			
Min/Max/Avg			•	•		•	•	•	•			
Peak Min/Max						•	•	•	•			
Relative Mode								•	•			
High Speed Analog Bar Graph						•	•	•	•		•	•
Auto Power Off			•	•	•	•	•	•	•	•		
Backlight			•	•		•	•	•	•	•		
Low Battery Indication			•	•	•	•	•	•	•	•		
Dual Display								•	•	•		
Overload Protection on all Ranges	•	•	•	•	•	•	•	•	•	•		
Data Logging								•	•			
Data Acquisition								•	•			
Memory Storage & Recall								•	•			
Optical USB Interface								•	•			
ProVision™ II Software								•	•			
Warranty (years)	2	2	2	2	2	2	2	2	2	2	2	2
CERTIFICATIONS												
UL 61010 Listed c UL us	•	•	•	•	•	•	•	•	•	•	•	•
CAT Rating	II	II	III	III	III	IV	IV	IV	IV	II	II	II
CE	•	•	•	•	•	•	•	•	•	•	•	•

MULTIMETERS

490 Series Industrial-Grade Multimeters

- True RMS
- Data acquisition, data logging & data storage
- Auto AC/DC voltage and current mode w/ frequency indication
- High voltage indicator
- Frequency
- Temperature
- High frequency rejection mode*
- Auto selection for resistance/continuity/ diode/capacitance
- Auto hold, peak hold
- dBm/dB measurement
- Relative mode
- Min/Max/Avg
- Dual display
- Duty factor
- Auto power off
- Auto sensing backlight
- Low battery indicator
- USB cable and software included
- 2-year warranty

*Reads accurately on noisy electrical circuits.

61-498

Description	Cat. No.
Digital Multimeter, 0.015% DCV Accuracy	61-498
Digital Multimeter, 0.03% DCV Accuracy	61-497

Accessories

Includes	
Test Leads w/Alligator Clips	TL-497
Magnetic Strap	61-565
USB Cable	61-902
ProVision™ II Software	61-906
K-Type Thermocouple	61-461
Thermocouple Adapter	61-465
Carrying Case	C-230

Specifications

	Range & Resolution		Accuracy	
	61-497	61-498	61-497	61-498
AC Voltage	40.000m/400.00m/ 4.0000/40.000/400.00/1000.0 V	100.000m/1000.00m/ 10.0000/100.000/1000.00V	±0.7%	±0.40%
DC Voltage	40.000m/400.00m/ 4.0000/40.000/400.00/1000.0 V	100.000m/1000.00m/ 10.0000/100.000/1000.00V	±0.03%	±0.015%
AC Current	40.000m/400.00m/10.000 A	10.0000m/100.000m/10.0000A	±0.8%	±0.7%
DC Current	40.000m/400.00m/10.000 A	10.0000m/100.000m/10.0000A	±0.2%	±0.1%
Resistance	400.00/4.0000k/40.000k/400.00k/ 4.0000M/40.000M Ω	1000.00/10.0000k/100.000k/1000.00k 10.0000M/40.000M Ω	0.6%	
Capacitance	4.000n/40.00n/400.0n/4.000µ/ 40.00µ/400.0µ/4.000m/40.00mF		0.9%	
Diode Test	2.000 V	0.400 V - 0.800 V	±1.5%	
Frequency	40.000/400.00/4.0000k/40.000k/400.00k/4.0000M Hz		±0.002%	
Duty Factor	20% - 80%		±0.1%	
Temperature	-328° F to 2192° F (-200° C TO 1200° C)		±1.0% +2°F/1°C	

480 Series Commercial-Grade Multimeters

- True RMS
- Auto AC/DC voltage detect w/low impedance (Auto - VLoZ)
- Capacitance
- Frequency
- Analog bar graph
- Min/max
- Non-contact voltage detection
- Low battery indication
- Auto power off
- 2-year warranty

61-486

Description	Cat. No.
Digital Multimeter w/peak hold, temperature, includes thermocouple	61-486
Digital Multimeter	61-484

Include: Test Leads & Carrying Case.

Specifications

	Range & Resolution		Accuracy	
	61-484	61-486	61-484	61-486
AC Voltage	6.000/60.00/600.0/1000.0 V		1.0%	0.80%
AC mV	600.0 mV		1.5%	1.2%
DC Voltage	6.000/60.00/600.0/1000.0 V		0.1%	0.08%
DC mV	600.0 mV	60.00/600.0 mV		
AC Current	60.00m/600.0m/6.000/10.00A		1.5%	1.2%
DC Current	60.00m/600.0m/6.000/10.00A		1.0%	0.80%
Resistance	600.0/6.000k/60.00k/600.0k/6.000M/40.00M Ω		1.0%	0.80%
Capacitance	1nF to 10.mF		0.1%	
Frequency	99.9 to 100.0k Hz		0.1%	
Temperature	—	-40°F to 752°F (-40°C to 400°C)	1.0%	

361 Contractor-Grade Multimeter

- Phase rotation
- Capacitance
- Frequency
- Voltage
- Current
- Resistance
- Audible continuity
- Manual ranging
- Rugged construction
- Auto power off
- Low battery indication
- 2-year warranty

Description	Cat. No.
361 Multimeter w/TRMS	**61-361**

Includes: Test Leads.

N12966

CAT III 600V

Specifications

	Range & Resolution	Accuracy
AC Voltage	200.0m/2000m/200.0/600 V	2.0%
DC Voltage	200.0m/2000m/20.00/200.0/600 V	1.2%
AC Current	2.000 A	3.0%
DC Current	2.000 A	2.5%
Resistance	200.0/2.000k/20.00k/200.0k/20.00M/200.0M Ω	1.0%
Capacitance	20.00µ/200.0µ/2.000m/20.00m F	4.0%
Frequency	10.0-100.0k Hz	0.5%
Phase Rotation	80-500V (50-500Hz)	—

340 Series Test-Pro® Multimeters

- Capacitance
- Frequency
- Temperature
- Voltage
- Current
- Resistance
- Audible continuity
- Relative mode
- Backlight
- Min/max
- Data hold
- Low battery indicator
- Auto power off
- 2-year warranty

Description	Cat. No.
Test-Pro® Multimeter w/TRMS	**61-342**
Test-Pro® Multimeter	**61-340**

Includes: Test Leads and Thermocouple.

61-342

61-340

N12966

CAT III 600V

Specifications

	Range & Resolution	Accuracy
AC Voltage	4.000/40.00/400.0/600 V	1.5%
DC Voltage	400.0m/4.000/40.00/400.0/600 V	0.5%
Current	400.0µ/4000µ/40.00m/400.0m/4.000/10.00A AC/DC	1.5%
Resistance	400.0/4.000k/40.00k/400.0k/4.000M/40.00M Ω	1.0%
Capacitance	40.00n/400.0n/4.000µ/ 40.00µ/400.0µ F	3.0%
Frequency	10.000/100.00/1.000k/10.00k/100.0k/1.000M/4.000M Hz	0.3%
Temperature	-4° F to 1382° F (-20° C to 750° C)	3.0%

310 Series Residential Meters

- Voltage
- Current
- Resistance
- Audible continuity
- Temperature
- Data hold
- Diode test
- Large numbers displayed
- 2-year warranty

61-312

61-310

Description	Cat. No.
Resi-Pro™ Meter w/Auto Ranging, AC/DC Current, Capacitance, Frequency, Auto Power Off, Low Battery Indication	61-312
Resi-Pro™ Meter w/Manual Ranging, Tests Batteries	61-310

Includes: Test Leads and Thermocouple.

Specifications

	61-310		61-312	
	Range & Resolution	Accuracy	Range & Resolution	Accuracy
AC Voltage	200.0/300 V	1.2%	4.000/40.00/400.0/300 V	1.2%
DC Voltage	200.0m/2.000/20.00/200.0/300 V	0.5%	400.0m/4.000/40.00/400.0/300 V	0.5%
Current	200.0m/10.00 ADC	1.5%	400.0µ/4000µ/40.00m/400.0m/10.00A AC/DC	1.5%
Resistance	200.0/2.000k/20.00k/200.0k/20.00M Ω	1.0%	400.0/4.000k/40.00k/400.0k/4.000M/40.00M Ω	1.0%
Capacitance	—	—	40.00n/400.0n/4.000µ/40.00µ/400.0µ F	3.0%
Frequency	—	—	10.00/100.0/1.000k/10.00k/100.0k/1.000M/10.00M Hz	0.3%
Temperature	-4-1382°F (-20-750°C)	2.5%	-4-1382°F (-20-750°C)	2.5%

Pocket Meter

- Convenient pocket size
- Built-in lead storage and test stand
- Audible continuity
- Auto power off
- Test lead storage
- 2-year warranty

Description	Cat. No.
Pocket Meter	61-605

Includes: Test Leads.

Specifications

	Range & Resolution	Accuracy
AC Voltage	200.0m/2.000/20.00/200.0/600 V	4.0%
DC Voltage	200.0m/2.000/20.00/200.0/600 V	2.0%
Resistance	200.0/2.000k/20.00k/200.0k/2.000M/20.00M Ω	3.0%

Analog Meters

- Multi-color analog display with mirrored scale
- High-impact thermoplastic case
- Battery test
- 2-year warranty

61-614

Description	Cat. No.
Analog Multimeter w/Audible Continuity, built-in stand	61-614
Analog Multimeter (pocket-size)	61-610

Includes: Test Leads.

Specifications

	Range & Resolution		Accuracy
	61-610	61-614	
AC Voltage	10/50/250/500 V	10/50/250/1000 V	+/- 4.0% Full Scale
DC Voltage	10/50/250/500 V	2.5/10/50/250/1000 V	+/- 3.0% Full Scale
DC Current	500µ/50m/250mA	5m/50m/500m/20A	+/- 3.0% Full Scale
Resistance	1 M Ω Full Scale 5 k Ω Mid Scale	10k/100k/10M Ω Full Scale 50/500/50k Ω Mid Scale	+/- 3.0% Arc Length
Decibels	-20 to +56 dB	-8 to +62 dB	—
Battery Test	1.5 , 9.0 VDC	1.5 , 9.0 VDC	—

Open/Closed Circuit Tracers

- Identifies breakers and fuses
- Pinpoints opens and shorts
- Traces wires
- "0-99" display of signal strength
- Audible intensifies in tone/pitch
- Works on energized or de-energized circuits (0 - 600V AC/DC)
- Four modes of sensitivity – search high, search low, trace and breaker
- Peak bar graph
- 2-year warranty

61-954

61-956

61-958

Description	Cat. No.
Receiver with Rotating Display, Inductive Clamp and Battery Pack	61-958
Receiver with Rotating Display	61-956
Receiver with Standard Display	61-954

N12966

CAT III 600V

RC-958

RC-954

TL-956

CR-958

TR-958

Accessories

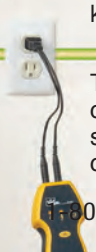
Includes	
Fuse – High-energy, Fast-acting, 1A/1000V	F-958
Magnetic Strap	61-565
Tracer Test Lead Set (includes 1-6 below)	TL-956
1. Outlet Plug Adapter for Transmitter	TLOP-956
2. Blade Prongs for Lead Adapters (2/set)	TLBP-956
3. Ground Prong for Lead Adapter	TLGP-956
4. Alligator Clips for Lead Adapters (2/set)	TLAC-956
5. 3 ft. Lead Adapters for Transmitter (2/set)	TLA1-956
6. 25 ft. Lead Adapter for Transmitter	TLA2-956
Optional	
Cradle for Receiver*	CR-958

*Threaded for use on standard extension pole.

Kit Contents	61-954	61-956	61-958
Transmitter	TR-958	TR-958	TR-958
Receiver	RC-954	RC-958	RC-958
Tracer Test Lead Set	TL-956	TL-956	TL-956
Inductive Clamp			IC-958
Battery Pack			BP-958
Magnetic Hanging Strap			61-565
Hard Carrying Case	C-956	C-956	C-958
Batteries	•	•	•
Instruction Manual	•	•	•

Exclusive Rotating Display

Revolutionary technology in the receiver rotates the display in 90° increments so that you always receive an upright reading. Even when the receiver is pointing down, you can keep up.



Transmitter will work on a de-energized circuit and won't affect GFCIs and sensitive equipment on an energized circuit.

AA batteries provide the transmitter and receiver 4x the power.

Circuit Tracer Demo Video

HeatSeeker® Thermal Imagers

- Blended thermal/digital image (0-100% & PIP)
- Hottest/coldest temperature cursors instantly display on live screen
- Sequence image recording activated by alarm settings
- Class II laser
- Built-in LED light
- High and low temperature alarms
- Save images with text and voice annotation
- Adjustable emissivity for maximum accuracy
- IP54 rated
- Multi-lingual - nine languages included
- Tripod mountable
- ThermalVision™ PC software included
- Two-year warranty

Description	Cat. No.
HeatSeeker® 320 Thermal Imager – (320 x 240 resolution)	**61-848**
HeatSeeker® 160 Thermal Imager – (160 x 120 resolution)	**61-846**
HeatSeeker® Thermal Imager – (47 x 47 resolution)	**61-844**

Accessories	61-848/ 61-846	61-844
Includes		
Removable Battery	**61-846BAT**	—
USB Cable	**61-844USB**	**61-844USB**
Camera Handle	—	**61-844HAN**
Carrying Case	**61-844CC**	**61-844CC**
Power Supply	**61-846PS**	**61-844PS**
ThermalVision™ Software	**61-848SW**	**61-844SW**
Optional		
Light Shade	**61-844LS**	**61-844LS**
Car Charger	**61-846CAR**	**61-844CAR**
Desktop Charger	**61-846DT**	—
Hard Transport Case	**61-846HC**	**61-846HC**

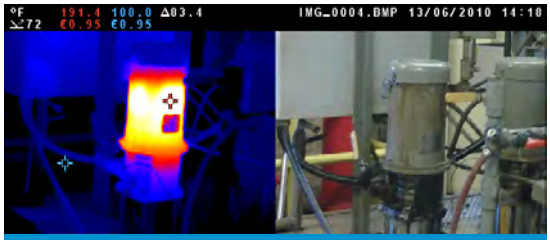
CE N12966

Included Accessories:

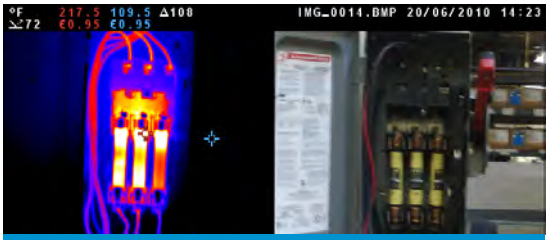
61-846 / 61-848

Specifications

Feature	HeatSeeker® (61-844)	HeatSeeker® 160 (61-846)	HeatSeeker® 320 (61-848)
Temperature Range	14°F to 662°F (-10°C to 350°C)	14°F to 1,832°F (-20°C to 900°C)	14°F to 482°F (-10°C to 250°C)
Temperature Accuracy	±2°C or ±2% of reading		
Emissivity Table	0.2 to 1.0 (adjustable)		
Cursors	Two-movable	Four-movable (with independent emissivity setting)	
Image Storage (2 GB micro SD card)	2000 Images		
Field of View	20° x 20°	10° x 15°	21.4° x 16°
Thermal Sensitivity	< 0.3°C at 30°C	< 0.08°C at 30°C	
Focal Plane Array	47 x 47 (2,209 pixels)	160 x 120 (19,200 pixels)	320 x 240 (76,800 Pixels)
Display	3.5" LCD		
Visible Light Camera Resolution	1.0 Megapixels	2.0 Megapixels	
Spectral Range	8µm to 12µm	8µm to 14µm	
Image Control	Eight color palettes (Ironbow, Rainbow, Isotherm, Hot Metal, High Contrast, Rainbow 16, Black Hot and White Hot)		
Focus	Manual		
Battery Life	6 hours	6 hours	4 hours
Power	Internal rechargeable Li-ion battery	Field replaceable, rechargeable Li-ion battery	



Pump Motor



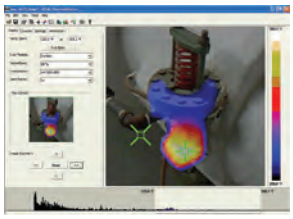
Fuse Panel

Visit idealheatseeker.com for a demonstration!

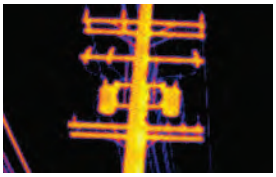
Side door allows quick access to headphone and USB connections, charging port and removable Micro SD card

ThermalVision™ PC Software Included

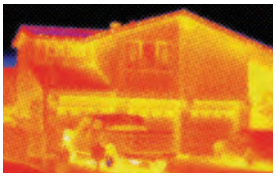
Easy-to-use software allows report generation.



Provides Real-time Analysis for:



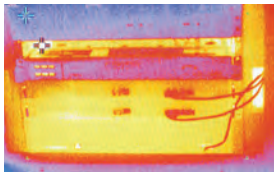
Electrical Safety



Energy Efficiency

Preventive Maintenance

Building Maintenance



Data Center Thermal Mapping

SureTest® Circuit Analyzers

- Measures voltage drop under load*
- Hot and neutral conductor impedances
- Estimates Load on Line (ELL) up to 15A
- Tests GFCIs and EPDs for proper operation
- Super-bright display
- High accuracies
- True RMS
- Line voltage
- Peak voltage
- Frequency
- Ground to neutral voltage
- Ground impedance
- Identifies proper wiring in 3-wire receptacles
- Identifies false (bootleg) grounds
- Conducts testing without disturbing sensitive loads
- Verifies isolated grounds (with 61-176 adapter)
- 2-year warranty

*12A, 15A, 20A load tests

61-165

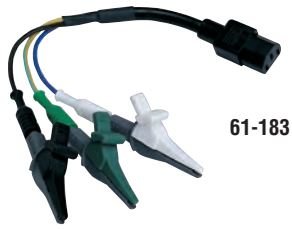
Description	Cat. No.
SureTest® Circuit Analyzer - Tests AFCIs wiring, tests for shared neutrals	61-165
SureTest® Circuit Analyzer	61-164

Accessories

Includes	
Carrying Case	61-179
1' Extension Cord	61-182
Optional	
Ground Continuity Adapter	61-175
Isolated Ground Adapter	61-176
Alligator Clip Adapter	61-183

Specifications

	Range & Resolution	Accuracy
AC Voltage	85.0 - 265.0 VAC	1.0%
Frequency	45.0 - 65.0 Hz	1.0%
Impedance	0.00 - 1.99 Ω	5.0%
Ground-Neutral Voltage	0.0 - 24.0 VAC	2.0%
% Voltage Drop 12A, 15A, 20A load tests	0.1% - 50.0%	5.0%
GFCI Test Current/Time	6.0 - 9.0 mA 0.0 - 6500 mS	2.0%



61-183

61-175

61-176

61-182

SureTest® Circuit Analyzer Functions

Voltage Drop

- NEC recommends no more than 5% voltage drop
- Higher voltage drop leads to heat buildup and performance issues
- <108V is a poor level for voltage load

Line Voltage

- Specification is 120VAC +/-10% (108 to 132 VAC)
- True RMS ensures accuracy in harmonic environments

Ground-to-neutral Voltage

- Good circuit has 2VAC or less
- Higher reading indicates loaded circuit, harmonic distortion or shared neutral

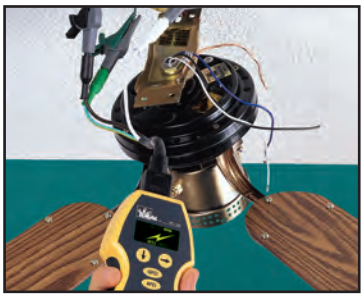
Ground Impedance

- Ground impedance should be 1Ω or less (0.25Ω or less for sensitive equipment to run properly)

GFCI

- Applies a 6-9mA fault current and measures the trip time
- Applies a 30mA fault current to check for equipment protection

Troubleshoots branch circuit problems with a variety of tests at the receptacle.



AFCI testing with alligator clips on an installed device.

AFCI/GFCI Tester

- Tests AFCIs circuit wiring
- Tests GFCIs for proper operation
- Tests for shared neutrals
- Verifies wiring configuration
- Compact size fits comfortably in pocket
- 1-year warranty

Description	Cat. No.
AFCI/GFCI Circuit Tester	61-059

Accessories

Optional	
1' Cord Adapter	61-177
Alligator Clip Adapter (3-wire)	61-184
Alligator Clip Adapter (2-wire)	TL-532A
Carrying Case with Belt Clip	C-50

C-50
w/Belt clip

Voltage Performance Monitor

- Real-time TRMS voltage, frequency and harmonics monitoring
- Logs voltage, sags, swells and impulses
- Measures %THD and logs periods over 3% (line to neutral)
- Selectable thresholds based on the most accepted international standards, defaults to ITIC*
- Custom programmable event thresholds
- Invertible display, when it is necessary to plug in upside down
- 2-year warranty

* *Captures events that would affect equipment on branch circuit*

Applications

Monitor voltage near sensitive equipment

- **Installation and Service Technicians** – Monitor voltage at point of equipment connection
- **Electricians** – Eliminate guesswork on service calls
- **Building Maintenance Technicians** – Identify voltage caused equipment failures
- **Equipment Manufacturers** – Eliminate unnecessary warranty costs
- **Hospital/IT Maintenance Engineers** – Monitor voltage quality to critical equipment

N12966

CAT III 300V

See voltage through the eyes of your equipment

Poor voltage quality increases facility expenses, warranty costs and downtime plus shortens the life of equipment. The IDEAL VPM identifies only those voltage conditions that can damage equipment or cause equipment failure.

Description	Cat. No.
Voltage Performance Monitor	61-830

Accessories

Includes	
Adapters (set of 4)	PA-830
Carrying Case	61-179
Optional	
Alligator Clip Adapters (2-wire)	TL-532A
1 ft. US Extension Cord	61-177
Kit with (1) SureTest® 61-164, (2) VPM 61-830, Soft Case C-2004	61-2003
Kit with (1) SureTest® 61-164, (4) VPM 61-830, Soft Case C-2004	61-2004

Specifications

61-830	
Operating Range	15-265V
Memory	513 Events
Sampling Method	Continuous (128 samples per cycle)
Voltage Accuracy	1%
Impulse Detection	6µs, 4kV
Harmonic Distortion	2%, FFT to 51st

61-179

PA-830

3-Phase Power Analyzer

- True RMS
- Single- or three-phase measurements
- Up to one month of recording time
- 4-channels for voltage plus 4-channels for current measurements
- Backlit display
- Programmable trigger-points and start/stop time
- Easy set-up and interactive demo CD
- 2-year warranty

POWER & ENERGY MEASUREMENTS

- Kilowatts (kW)
- Volt-amperes (VA)
- Inductive reactive power (kvarL)
- Capacitive reactive power (kvarC)
- Power factor (PF)
- Frequency
- Kilowatt hours (kWh)

HARMONICS MEASUREMENT

- Total harmonic distortion (% THD)
- Harmonic factorization (FFT) to 51st harmonic

N12966

CAT III 600V

Description	Cat. No.
Power Analyzer Kit	61-807

Accessories

Included	
1000AAC Clamps (set of 3)	61-811
100AAC Neutral Clamp (1)	61-813
2000AAC Clamps (set of 3)	61-810
5AAC Compact Clamps (set of 3)	61-819
100AAC Compact Clamps (set of 3)	61-820
200/2000/20000AAC Flexible Clamp adapters (set of 3)	61-457

Specifications

	Range & Resolution	Accuracy
AC VOLTAGE	20 to 600 V (phase-neutral) 20 to 866 V (phase-phase)	0.5%
AC CURRENT	10 to 1000A (with supplied clamp adapters)	1.0%
ACTIVE POWER	866 kW (with supplied clamp adapters)	1.0%
REACTIVE POWER	866 kW (with supplied clamp adapters)	1.0%
POWER FACTOR	0.5 to 1.0	1.0%

Insulation Testers

- Checks new installations for damaged insulation
- Checks existing installations and motor windings for breakdowns in insulation
- 2-year warranty

61-797

61-795

Description	Cat. No.
Insulation Meter w/PI, DAR, Remote Probe	61-797
Insulation Tester	61-795

Accessories

61-795 Includes:	
Test Leads	TL-795
Carrying Case	C-795
61-797 Includes:	
Test Leads	TL-797
Remote Probe	TL-797RP
Carrying Case	C-230

Specifications

	Range & Resolution	
	61-795	61-797
Test Voltage	250/500/1000 VDC	50/100/250/500/1000 VDC
Voltage AC/DC	0.1-600.0 V	0.1-600.0 V
Continuity	0.01-20.0 Ω	—
Resistance	0-200.0Ω	—
Insulation Resistance	Up to 4000M Ω	Up to 20G Ω
Earth-Bond Resistance	—	0.01 Ω to 40.00k Ω

Ground Resistance Meters

- Auto ranging
- Auto power off
- Hard case included
- 2-year warranty

TL-796

61-796

61-920

Description	Cat. No.
Ground Resistance Clamp Meter	61-920
3-Pole Ground Resistance Tester - includes TL-796 lead set kit	61-796
Earth Resistance Lead Set Kit	TL-796

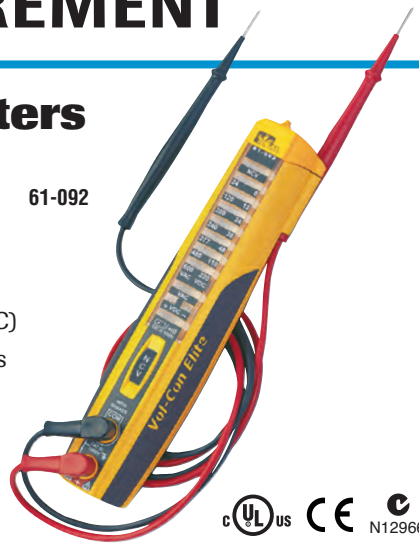
Specifications

	Range & Resolution	Accuracy	Range & Resolution	Accuracy
	61-920		61-796	
Ground Resistance	0/120/1200 Ω	1.5%	20.00/200.0/2000 Ω	2.0%
Ground Leakage Current	100m/1000m/15/30 A	2.0%	—	—

Vol-Con® Elite Digital Voltage Testers

- Tests for AC Voltage from 24-600VAC
- Tests for DC Voltage from 6-220VDC
- Visual and audible warning
- Audible continuity
- Non-contact voltage indication (40-600VAC)
- Low impedance to eliminate ghost voltages
- Low battery indicator
- Replaceable silicone test leads
- Integral lead storage
- 2-year warranty

61-092



Description	Cat. No.
Vol-Con® Elite Digital Voltage Tester w/vibration mode	61-092
Vol-Con® Elite Digital Voltage Tester	61-090

Accessories

Includes	
Silicone Test Leads	TL-102
Optional	
Carrying Case	C-90

Solenoid Voltage Testers

- Extremely rugged and reliable
- Vibrates when voltage is present
- Indicates AC/DC voltage level
- Replaceable leads with shielded probe tips
- Bright, long-life LED's and neon indicator lamp
- Dual voltage indication for backup safety

61-076

Description	Cat. No.
Vol-Con® Voltage/Continuity Tester, 5-600V AC/DC	61-076
Vol-Test® Voltage Tester, 100-600V AC/DC	61-065

Accessories

Includes	
Standard Test Leads	61-070
Optional	
Resistor-fused Leads*	61-072
Padded Nylon Case	C-90
Leather Case	61-010
Batteries	61-201

**Special, current-limiting resistor in each lead acts as a fuse to open in a short- circuit situation*

XL-Series Solenoid Voltage Testers

- Rugged and reliable tester
- Vibrates when voltage is present
- Indicates AC/DC voltage level
- Replaceable leads with shielded probe tips
- Bright, long-life LED's and neon indicator lamp
- Dual voltage indication for backup safety
- Compact size
- 2-year warranty

61-086

Description	Cat. No.
Vol-Con® XL Voltage/Continuity Tester, 6-600V AC/DC	61-086
Vol-Test® XL Voltage Tester, 80-600V AC/DC	61-085

Accessories

Includes	
Standard Test Leads	TL-80
Optional	
Resistor-fused Leads*	TL-82
Padded Nylon Case	C-90
Leather Case	61-010

**Special, current-limiting resistor in each lead acts as a fuse to open in a short-circuit situation.*

Split-Jaw™ Smart Meter

- Measures 0.9-200AAC
- Measures 1.3-750VAC
- Measures 2.1-1000VDC
- Measures 0.0-9999Ω
- Audible continuity
- Data hold
- Integral lead storage
- Replaceable test leads
- Auto power off
- Low battery indication
- 2-year warranty

N12966

CAT IV 600V

CAT III 1000V

Specifications

61-096		
AC Voltage	1.3 - 750 V	1.5%
DC Voltage	1.8 - 1000 V -0.6 - 1000 V	1.0%
AC Current	0.6 - 200.0A	3.0%
Resistance	0 - 2000 Ω	1.0%

*Note: Jaw opening is 0.6 in. (16mm) - up to 1/0 copper cable.

Description	Cat. No.
Split-Jaw™ Smart Meter	61-096

Includes: Test Leads.

Circuit Breaker Finders

- Fully automatic operation
- Positively identifies circuit breakers and fuses without service interruption
- Self calibrating
- Visual and audible indicators
- 2-year warranty

61-534
w/GFCI receptacle tester

N12966

Description	Cat. No.
Circuit Breaker Finder w/Digital Receiver & GFCI Circuit Tester	61-534
Circuit Breaker Finder w/Analog Receiver	61-532

TL-532A

61-532

Alligator clip adapter allows connections to exposed wiring.

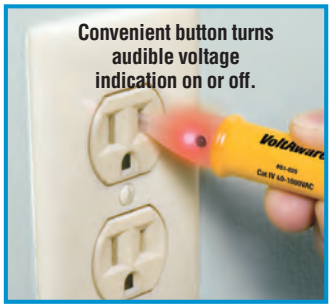
Lighting adapter allows connection to light fixtures.

Specifications

	61-532	61-534
Operating Voltage	100 - 140 VAC	100 - 250 VAC
Operating Frequency	47 - 63 Hz	47 - 63 Hz

VoltAware™ Non-Contact Voltage Tester

- Indicates presence of voltage from 40-1000VAC
- Visual indication of voltage
- Selectable audible indication of voltage
- Sleek, compact design
- Green LED indicates power on
- Low battery indicator
- Battery replacement (AAA size)
- 2-year warranty



Description	Cat. No.
VoltAware™ Non-Contact Voltage Tester	61-025

VoltSensor™ Non-Contact Voltage Tester

- Tests for voltage from 40-600VAC
- Audible and visual indication
- Locates breaks along live insulated wires
- Tests for energized circuits
- Battery replacement (LR44/61-201)
- 1-year warranty

Description	Cat. No.
Volt-Sensor® Non-Contact Voltage Tester	61-063

Continuity Tester

- Checks continuity of dead circuits and ground on conduit systems and identifies wires in multi-wire cables
- Light signal indicates completed circuit
- Bulb-in end can serve as flashlight
- Pocket clip functions as probe
- Removable 4-ft. test lead with alligator clip
- 1-year warranty

Description	Cat. No.
Continuity Tester	61-030

E-Z Check® Circuit Tester

- Tests for correct wiring, open ground, reverse polarity, open hot, open neutral, hot on neutral, hot and ground reversed with open hot, and ground fault interruption in 3-wire, 120VAC circuits
- No-slip ergonomic design maximizes comfort
- Premium neon lamps prevent false readings
- Tough, impact-resistant case
- 2-year warranty

61-051

Description	Cat. No.
E-Z Check® Plus GFCI Circuit Tester	61-051
E-Z Check® Circuit Tester	61-035

Receptacle Testers

- Warns against faulty wiring in 3-wire receptacles
- For use on 120VAC circuits
- 1-year warranty

61-501

Description	Cat. No.
GFCI Receptacle Tester	61-501
Receptacle Tester	61-500

Test-Glo™ Circuit Tester

- Industrial-quality tester checks voltage from 80V to 600V AC/DC
- Neon test lamp at front of probe
- Resistors reduce voltage reaching leads
- 24-in. lead – rated 1,000V
- 1-year warranty

Description	Cat. No.
Test-Glo™ Circuit Tester	61-040

Digital Light Meters

- Measures all visible light sources
- Measures LED lighting
- Measures in four ranges up to 20,000 FC or 200,000 Lux
- +/- 3% basic accuracy
- Data hold mode
- Max reading mode
- Auto zero adjustment
- Low battery indication
- Auto power off
- Remote sensor with 59 in. (1.5m)

CE N12966

Description	Cat. No.
Digital Light Meter	61-686

Includes Carrying Case.

3-Phase/Motor Rotation Tester

- Identifies three-phase sequence
- Indicates motor rotation
- Checks for open phases
- For use up to 600V
- 2-year warranty

CE N12966 CAT III 600V

Description	Cat. No.
3-Phase/Motor Rotation Tester	61-521

Includes Carrying Case.

Infrared Thermometer

- Measurement range: -76°F to 932°F
- Distance spot: 12:1
- Modes: Ave., Difference, Hi/Lo limits w/alarm, Max, Min, Lock
- Emissivity Range: Adjustable from 0.1 to 1
- Precision K-type thermocouple (optional)
- Backlight
- Auto power off
- Low battery indicator
- 2-year warranty

Description	Cat. No.
Infrared Thermometer	61-685

Includes Carrying Case.

Accessories

Optional	
K-type Thermocouple	61-461

Specifications

	Range & Resolution	Accuracy
Object Temperature	-27 to 932°F (-33 to 500°C)	+/- 2% of reading or +/- 4°F (+/-2°C) whichever is greater

3-Phase Sequence Tester

- For use up to 600V
- Color-coded insulators over alligator clips
- Shock resistant housing
- Easy to read
- 2-year warranty

Description	Cat. No.
3-Phase Sequence Tester	61-520

Includes Carrying Case.

Magnetic Strap

- Frees up hands to help work safely
- Fits 490/480/340 Series Multimeters

Description	Cat. No.
Magnetic Strap	61-565

USB Cable

- Provides safe, easy measurement of AC current
- Extends the current measurement capabilities of digital multimeters
- AC milli-volt output (1mVAC = 1mA)

Description	Cat. No.
Optical USB Cable for 490 Series Meters & Software	61-902

Current Clamp Adapter

Description	Cat. No.
600A AC/DC Clamp Adapter - 2 ft. lead length	61-334

Specifications

61-334	
AC Current	1 – 600 A
DC Current	1 – 600 A
Output Signal	1mV/A
Max Conductor Size	1.125" (28.5cm)

CE N12966

Flexible Clamp Adapter

- Provides safe, easy measurement of high AC currents
- Large opening and flexible materials to wrap around conductors and bus bars
- Shape Memory allows pre-forming before installation
- Extends the current measurement capabilities of digital multimeters

CE N12966

Description	Cat. No.
300/3000AAC Flexible Clamp Adapter	61-331

Specifications

61-331	
AC Current	300/3000A
DC Current	—
Output Signal	1mV/A/10mV/A
Max Conductor Size	8" (19cm)
Sensor Length	36" (91cm)

Test Leads

TL-100

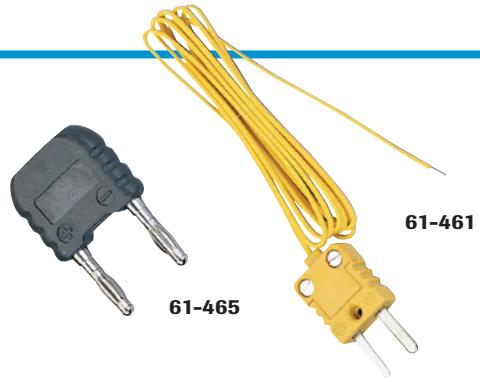
TL-104

TLF-252

Description	Cat. No.
Premium Test Leads w/alligator clips	TL-100
Silicone Test Leads	TL-102
Test Leads w/large alligator clip	TL-104
Fused Test Leads w/alligator clips, 10A/600V, CAT III - 1000V	TLF-252

Thermocouple

- Measures up to 1500˚ F (816˚ C)
- K-type thermocouple plugs into digital multimeter voltage jacks with 61-465 adapter



Description	Cat. No.
Beaded K-type Thermocouple	**61-461**
Thermocouple Adapter	**61-465**

Carrying Cases

61-010 **C-90** **C-290** **61-445**

Description	Cat. No.
Leather Carrying Case - for use with 61-065, 61-076, 61-085, 61-086	**61-010**
Small Nylon Carrying Case w/four pockets	**61-445**
Nylon Carrying Case - for use with all Vol-Con® and Vol-Test® Voltage Testers	**C-90**
Nylon Carrying Case - for use with Digital Multimeters	**C-290**

Carrying Case Selection Guide

	VOLTAGE TESTERS								160		310		340		360	480		490		610		700		740		760		770		830
	61-059	61-065	61-076	61-085	61-086	61-090	61-092	61-096	61-164	61-165	61-310	61-312	61-340	61-342	61-361	61-484	61-486	61-497	61-498	61-610	61-614	61-702	61-704	61-744	61-746	61-763	61-765	61-773	61-775	61-830
61-179 Nylon Carrying Case									•	•																				•
C-50 Nylon Carrying Case	•																													
C-90 Nylon Carrying Case		•	•	•	•	•	•	•																•	•					
C-230 Nylon Carrying Case																		•	•											
C-290 Nylon Carrying Case											•	•	•	•	•	•	•	•	•	•	•									
C-700 Nylon Carrying Case																						•	•							
C-760 Nylon Carrying Case																										•	•			
C-770 Nylon Carrying Case																												•	•	

ACCESSORIES

Replacement Parts Selection Guide

METER REPACEMENT PARTS SELECTION GUIDE			090	310		340		360	480		490		600	610		700		740		760		770		790	
			61-096	61-310	61-312	61-340	61-342	61-361	61-484	61-486	61-497	61-498	61-605	61-610	61-614	61-702	61-704	61-744	61-746	61-763	61-765	61-773	61-775	61-795	61-797
FUSES																									
F-1	0.5A (250V)	6.35 x 38mm													•										
F-105	1A (600V)	10.3 x 35mm																						•	
F-310	250mA (250V)	5 x 20mm		•										•											
F-312	500mA (250V)	5 x 20mm			•																				
F-314	10A (250V)	5 x 20mm			•																				
F-340	0.5A (500V)	6.35 x 32mm				•	•																		
F-341	10A (1000V)	10 x 38mm				•	•																		
F-497	440mA (1000V)	10 x 35mm							•	•	•	•													
F-498	11A (1000V)	10 x 38mm							•	•	•	•													
F-797	315mA (1000V)	5 x 32mm																							•
LA-3893	2A (600V)	6.35 x 25.4mm						•																	
LA-3898	0.25A (500V)	5 x 32mm						•																	
BATTERIES																									
61-201	1.5V (LR44)												•												
—	1.5V (AA)										•			•	•										
—	1.5V (AAA)				•													•	•					•	•
—	9V		•	•		•	•	•	•	•	•	•				•	•			•	•	•	•		
TEST LEADS																									
TL-34	Leads w/pin connectors													•											
TL-56	Test leads														•										
TL-95	Test leads		•																						
TL-100	Test leads w/alligator clips					•	•	•	•	•	•	•						•	•						
TL-102	Silicone test leads															•	•								
TL-104	Test leads w/large alligator clips																			•	•	•	•		
TL-310	Test leads			•	•																				
TL-795	Test leads																							•	
TL-797	Test leads																								•

Safety in the Field

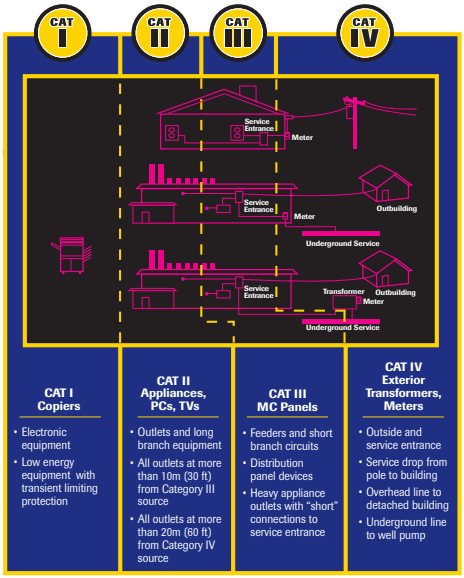
The power demands of today's high-tech world have caused a marked increase in occurrences and levels of transient overvoltages. The International Electrotechnical Commission (IEC) has developed a safety standards model for measurement, control and laboratory use.

Category I – The signal level for telecommunications, electronic and other low-energy equipment with transient-limiting protection. Peak impulse transient range is 600–4,000 volts with a 30 ohm source.

Category II – The local level for fixed and non-fixed powered devices including appliances, lighting and portable equipment. Outlets located more than 30 feet from CAT III sources and 60 feet from CAT IV sources. Peak impulse transient range is from 600–6,000 volts with a 12 ohm source.

Category III – The distribution level for fixed primary feeders or branch circuits. Circuits that are separated from CAT IV sources by at least one level of transformer isolation. Peak impulse transient range is 600–8,000 volts with a 2 ohm source.

Category IV (proposed) – The primary supply level for the highest levels of transient overvoltage. Includes the utility service both outside and at the service entrance, service drop from the pole to the building, overhead line to remote buildings, and underground line to a well pump. Peak impulse transient range is 600–12,000 volts with less than a 1 ohm source.



Visit our website for more technical product details, application support, white papers, videos and software!

E DATACOMM/NETWORKS

Testers E-2
Compression Tools / Connectors ... E-9
Crimp Tools / Die Sets E-13
Coax Connectors E-14
Hand Tools E-16
Strippers E-18
Cutters / Scissors E-20
Splitters E-21
Kits E-22
Fiber optic Tools E-27

LanTEK® II Series Cable Certifier

- **Best price/performance options from three models** - 350 MHz, 500 MHz, 1000 MHz
- **Super fast** nine second Cat 5E, 14 second Cat 6 including full graphical data
- Patented **Universal Adapter System equals lowest cost of ownership**
- **No proprietary adapters, test most cables with off the shelf manufacturer matched patch cords**
- **Permanent and Channel testing without changing adapters** with patented **DualMODE 2 ANEXT testing 4x faster and easier than any competitor**
- **18+ hour battery life of test time** from smart lithium-ion technology with minimal drain between use
- **No down time** with testing on Ac, AC + battery or battery only including five hour eternal quick battery charge
- **Most expansive internal memory with storage for over 1700 Category 6/ISO E tests with graphs** and off-load to USB flash drive
- **Extraordinary fast and easy fiber testing with optional FiberTEK® FDX using first full duplex, bi-directional fiber certification**
- **Ultra big and bright display with LED backlighting** for clear viewing of menus and data plots
- **Trade-in path for old certifiers of any brand and Upgrade path for LanTEK II** 350 MHz and 500 MHz units to 1000 MHz

Five results with one Autotest, the fastest fiber certification solution available

Cat. No.	Description	Cat. No.	LanTEK® II – Add-on Options
33-993	LanTEK® II-1000: ANSI/TIA Cat7A, ISO Class F/FA certifier w/Cat6A adapters	33-990-FA01	Multimode (850/1300nm) kit with LED light sources for standard multi-mode fiber
33-992	LanTEK® II-500: ANSI/TIA Cat6A, ISO Class EA certifier w/Cat6A adapters	33-990-FA02	Multimode (850/1300nm) kit with VCSEL/laser light sources for laser optimized fiber
33-991	LanTEK® II-350: ANSI/TIA Cat6, ISO Class E certifier w/Cat6 adapters	33-990-FA03	Single mode (1310/1550nm) kit with laser light sources for single mode fiber
33-993-FA01	LanTEK® II-1000 with MM LED FiberTEK FDX Kit	33-990-FA04	Combination MM/SM kit with LED MM sources and laser SM sources (33-990-FA01 & 33-990-FA03)
33-993-FA02	LanTEK® II-1000 with MM VSCEL/Laser FiberTEK FDX Kit	33-990-FA05	Combination MM/SM kit with VCSEL/laser MM sources and laser SM sources (33-990-FA02 & 33-990-FA03)
33-993-FA03	LanTEK® II-1000 with SM Laser FiberTEK FDX Kit	FDX2-CP-3	Three year Care Plan for FiberTEK FDX, 3 year warranty + annual calibration for FA04 or FA05 kits
33-993-FA04	LanTEK® II-1000 with MM LED & SM Laser FiberTEK FDX Kit	FDX-CP-3	Three year Care Plan for FiberTEK FDX, 3 year warranty + annual calibration for FA01-FA03 kits
33-993-FA05	LanTEK® II-1000 with MM VSCEL & SM Laser FiberTEK FDX Kit	LT2-CP-3	Three year Care Plan for LanTEK® II, 3 year warranty + annual calibration and accessory replacement
		LANTEK10GBKIT	Alien Crosstalk Testing Kit for 10GbE Certification. Compatible with 33-992 and 33-993.

Contents: LanTEK® II display and remote handset, two smart lithium ion batteries, two 110-240V power adapters with US/EU/UK plugs, lockable semi-rigid carrying case, Cat6A F/FTP patch cords, USB cable, DataCENTER data management and reporting software, two headsets, and hanging straps.

Trade-up and CarePlan details, Product video and demo, software and all product information at www.idealindustries.com.

N12966

SignalTEK™ II

- **Save money** - by using a single multifunction device in place of separate copper, fiber and Power over Ethernet (PoE) testers.
- **Increase efficiency** through simplifying and accelerating cable installation including advanced Ethernet network troubleshooting
- **Cost effective** way to test network links to Gigabit performance standards including IEEE 802.3ab
- **Future-proof investment** with a cable qualifier that is already IPv6 and PoE+ compatible
- Full Gigabit load cable test
- Excellent wiremapping by pin, with distance to fault
- Support for copper and fiber optic networks
- Simplified network load testing through hubs and switches

SIGNALTEK™ II FO

Cat. No.	Description
SignalTEK™ II - Operates on copper networks	
R156000	**SignalTEK™ II** – 1 x Near-End unit (copper only), 1 x Remote unit (copper only), 2 x Power module (rechargeable), 2 x Mains PSU/charger, 2 x 30cm RJ45 cable, 1 x Quick reference guide (English), 1 x User manual CD, 1 x Carrying case
SignalTEK™ II - Operates on both copper and fiber optic networks	
R156001	**SignalTEK™ II FO** - 1 x Near-End unit (copper and fibre), 1 x Remote unit (copper and fibre), 2 x Power module (rechargeable), 2 x Mains PSU/charger, 2 x 30cm RJ45 cable, 1 x Quick reference guide (English), 1 x User manual CD, 1 x Carrying case
150054	1 x Active remote No. 1
150050	1 x Active remote set No. 2 – 12
151053	1 x NiMH power module
150055	2 x Patch cables - 30cm, Cat. 5e STP
151051	1 x Power supply with EU/UK/US adaptor
151052	1 x Alkaline battery module
MGKSX1	1 x 1000BASE-SX Fibre kit. Includes 850nm SFP (Small Form factor Pluggable) SX transceiver, LC/LC and LC/SC duplex multimode cables and SC/SC duplex adaptor
MGKLX2	1 x 1000BASE-LX Fibre kit. Includes 1310nm SFP (Small Form factor Pluggable) LX transceiver, LC/LC and LC/SC duplex singlemode cables and SC/SC duplex adaptor
MGKZX3	1 x 1000BASE-ZX Fibre kit. Includes 1550nm SFP (Small Form factor Pluggable) ZX transceiver, LC/LC and LC/SC duplex singlemode cables and SC/SC duplex adaptor
62-164	1 x IDEAL amplifier probe
33-963-10	1 x Fibre cleaning pen for SC, ST and FC adaptor
33-963-11	1 x Fibre cleaning pen for LC and MU adaptor
150056	1 x Optical fibre multimode 2m duplex cable with LC-LC connectors
150057	1 x Optical fibre singlemode 2m duplex cable with LC-LC connectors
150059	1 x Active remote set No. 2 to No. 6
156050	1 x Carry case
150058	1 x RJ45 insert extraction tool, 10 x Lifejack RJ45 inserts

SIGNALTEK™ Gigabit Certifier & SIGNALTEK™-FO Multimedia Ethernet Certifier

SIGNALTEK™ provides a technically innovative method to test and document performance of voice, data, video and VoIP applications for cabling installers and network technicians. It tests the link's ability to support applications by transmitting Ethernet packets on the wire and measuring the link performance according to IEEE 802.3ab Gigabit Ethernet standard. By monitoring transmitted and received data packets, it can report the BERT (Bit Error Rate Test) for the link.

SIGNALTEK™-FO is the first active ethernet certifier that offers both copper and fiber optic testing; and SIGNALTEK™-FO does it for less than the price of an Optical Test Set alone.

- Simulate real world network traffic with full-duplex gigabit performance testing
- User selectable 10/100/1000 Bit Error Rate Testing (BERT) to ensure performance for all Ethernet devices. Decibel (dB) loss measurements of optical lines.
- Smart autotest function detects line condition and automatically chooses appropriate test to run to allow testing cable that is terminated with a SIGNALTEK remote, a network device or unterminated
- Save time using the remote to perform 10/100 or gigabit service detection AND initiate an Autotest when main unit is connected
- Maximum flexibility with two USB ports. Connect to a computer to upload test results, connect directly to a printer, or connect a USB memory drive for unlimited storage
- Get maximum coverage with a full two-year warranty
- Configure multiple target IP addresses for pinging several network devices to ensure communications with servers, printers, IP cameras, home automation controls, etc.
- Offers network interrogation tools such as link establishment, port LED blink and ping
- TDR to accurately measure length and locate shorts and opens
- ARP test discovers active network devices
- Exceeds 100m measurement distance required by IEE 802.3ab gigabit Ethernet
- Dual Wavelength Capability – available in both 850nm and 1300mn wavelengths to support virtually all LAN and campus fiber applications.

Description	Cat. No.
SIGNALTEK™-FO w/850 Modules	**33-981**
SINGALTEK™-FO w/13X0 Modules	**33-982**
SIGNALTEK™-FO w/850 & 13X0 Modules	**33-983**
SIGNALTEK™-FO w/o Modules (Fiber-Ready)	**33-987**
SIGNALTEK™ Kit - Copper Only	**33-974**
Universal 120-240V Power Adapter	**4010-00-0136**
RJ-45 to 8 Head Alligator Clip	**K-7920**
Pair of 850nm SFP Modules	**SFP-850**
Pair of 13X0nm SFP Modules	**SFP-13X0**
Replacement Cable Accessory Kit - contains all original cables in SIGNALTEK™ Kit	**1219-91-0003**

#33-974 - SIGNALTEK™ Kit - Copper Only

#33-983 – SIGNALTEK™-FO w/850 & 13X0 Modules

LanXPLORER™ Series

With full In-Line and Endpoint test capabilities, LanXPLORER PRO tests not only copper cables but also active LAN connections over copper and fiber links. In addition, it liberates the user from cables by allowing most tests to be conducted through a wireless connection offering unparalleled flexibility. With such comprehensive test capability and ease of use, LanXPLORER PRO is the perfect tool to meet the needs of professional IT installers and systems administrators in any enterprise, campus or industrial Ethernet environment.

- Network connectivity and diagnositcs for 10/100/1000Mb Ethernet
- Options for dual copper ports for in-line testing, fiber optic SFP port and Wi-Fi
- Network mapping to all devices on the network and group into categories
- Save and recall Network Maps to identify changes in the network such a new or missing devices
- List top talkers to identify the source of network slowness
- Power over Ethernet (PoE) testing with load simulation to fully test PoE power supply equipment and in-line testing to measure power consumption of PoE devices
- Full wire map testing with TDR to located cabling faults
- Displays total, average, peak network bandwidth, error generation and packet size distribution
- Monitoring of VoIP calls and quality including RTP Jitter
- Field replaceable RJ-45 jacks eliminate downtime from wear and tear

Features

	LanXPLORER	LanXPLORER PLUS	LanXPLORER PRO
Display	Color, 3.5" QVGA	Color, 3.5" QVGA	Color, 3.5" QVGA **Touchscreen**
Test interfaces	1 x RJ45	1 x RJ45, Wi-Fi	2 x RJ45, Wi-Fi, 1 x SFP
Wiremap with length	✔	✔	✔
PoE and PoE+ tests	✔	✔	✔
Wi-Fi w/ext. antenna		✔	✔
SFP fiber interface			✔
Network detection	✔	✔	✔
Network device mapping	✔	✔	✔
Traffic/Top Ten/Error counting	✔	✔	✔
PC diagnosis			✔
In-line tests			✔
VoIP testing			✔
Test storage	✔	✔	✔
VLAN / 802.1x support	✔	✔	✔
Loopback mode			✔

Ordering Information

Description	Cat. No.
LanXPLORER™ Tester – Soft carrying case, 2 x RJ-45 STP patch cords, 1 smart remote, 6 AAA batteries, printed quick reference guide, manual on CD	**R150002**
LanXPLORER™ PLUS Premium Kit – Includes tester, soft carrying case, 2 x RJ-45 STP patch cords, 1 smart remote, printed quick reference guide, manual on CD, **rechargeable battery pack, AC power supply, inductive cable tracing probe**	**R150005**
LanXPLORER PRO Premium Kit – Includes tester, soft carrying case, 2 x RJ-45 STP patch cords, 1 smart remote, printed quick reference guide, manual on CD, **rechargeable battery pack, AC power supply, inductive cable tracing probe**	**R160001**
Battery Pack - rechargeable	**150053**
Remote #1	**150054**
Remote Kit #2 - #12	**150050**
RJ-45 Inserts with removal tool	**150058**
Remote Kit #2 - #6	**150059**
Power Supply/Battery Charger	**150052**
Replacement Wi-Fi Antenna (Plus/Pro models only)	**150061**
1 x 850nm SFP module w/LC-LC and LC/SC jumper	**MGKSX1**
1 x 1310nm SFP module w/LC-LC and LC/SC jumper	**MGKLX2**
1 x 1550nm SFP module w/LC-LC and LC/SC jumper	**MGKZX3**

NaviTEK® II

Unique Class Leading Features

Easy to See User Interface

- Large, bright and clear color screen
- Large icons for accuracy and efficiency
- 5-way navigation buttons for easy navigation
- On screen keyboard for easy data input
- Autotest completes several tests automatically

Essential Features for Modern Networks – IPv6!

- Simultaneously see and test IPv6 and IPv4 network information
  - Ping, Traceroute, DHCP
  - Store up to 100 common destinations
- Netscan – one touch, fast discovery
  - Auto discover IPv6 and IPv4 network nodes
- VLAN interface support (full 4096 range with priority)

Powerful PoE+ and PoE Capabilities

- See the availability and capability of PoE sources in real time - Voltage, Current, Standard (802.3af and 802.3at)

Accurate Cable Testing and Fault Finding

- Advanced Wiremap – pin by pin help you pinpoint faults
- Total distance, distance to fault with graphical display
- One connector for cabling and network tests, no need to move the cable
- Includes smart remote for very accurate results
- Built in toning capabilities to quickly distinguish cable

Large Test Database Storage with Job Folders

- Store up to 250 test results on the tool

Organize your tests in up to 5 different job folders

Ordering Information

Description	Catalog No.
NaviTEK® II PLUS Test Unit – Advanced Wiremap Remote Unit #1, (2) Cat 5e STP patch cords, (4) AA Dry Cell Batteries (non-rechargeable), Quick Reference Guide, Manual on CD, Carrying Case	**R151000**
NaviTEK® II PLUS PREMIUM Kit – NaviTEK® II PLUS Test Unit, NiMh rechargable battery pack, AC power adaptor (US/UK/EU), (10) Lifejack RJ45 Inserts + Extraction Tool, Advanced Wiremap Remote Unit #1, (2) Cat 5e STP patch cords, (4) AA Dry Cell Batteries (non-rechargeable), Quick Reference Guide, Manual on CD, Carrying Case	**R151001**
NaviTEK® II PRO PREMIUM Kit – NaviTEK® II PRO Test Unit with Fiber SFP Interface, NiMh rechargable battery pack, AC power adaptor, (10) Lifejack RJ45 Inserts + Extraction Tool, Advanced Wiremap Remote Unit #1, (2) Cat 5e STP patch cords, (4) AA Dry Cell Batteries (non-rechargeable), Quick Reference Guide, Manual on CD, Carrying Case *SFP Fiber Kit modules sold separately*	**R151002**
NaviTEK® II PRO BASIC Test Kit – 1 x NaviTEK® II test unit, 1 x Remote unit No. 1, 4 x AA dry cell batteries (non-rechargeable), 2 x Patch cables - 30cm, Cat. 5e STP, 1 x Manual on CD, 1 x Quick reference guide, 1 x Carrying case (this SKU needs to be at top of list)	**R151003**
Accessories	
(1) Alkaline Battery Module	**151052**
(1) Remote #1	**150054**
Remote Kit #2 - 12	**150050**
Remote Kit #2 - #6	**150059**
(1) MiMH Power Module	**101053**
(2) 12' Cat 5e STP Patch Cables	**150055**
(1) AC power adaptor (US/UK/EU)	**151051**
(10) RJ45 Replaceable Inserts with (1) Removal Tool	**150058**
(1) IDEAL Amplifier Probe	**62-164**
Optical fiber multimode 2m duplex cable, LC/LC connectors	**150056**
Optical fiber single-mode 2m duplex cable, LC/LC connectors	**150057**
(1) Carrying Case	**151054**
1000BASE-SX Fiber Kit, Includes 850nm SFP (Small Form factor Pluggable) SX transceiver and LC/SC duplex multimode cable	**MGKSX1**
1000BASE-LX Fiber Kit, Includes 1310nm SFP (Small Form factor Pluggable) LX transceiver and LC/SC duplex single-mode cable	**MGKLZ2**
1000BASE-ZX Fiber Kit, Includes 1550nm SFP (Small Form factor Pluggable) ZX transceiver, LC/SC duplex single-mode cable	**MGKZX3**

SecuriTEST™ PRO CCTV/Security Tester

SecuriTEST™ PRO is the most versatile all-in-one installation and troubleshooting tool for the CCTV professional. CCTV installers often need to carry a variety of testing tools to complete their work. SecuriTEST™ PRO combines the most-needed tools in one easy-to-carry package. Since all connections (video/communications/DMM) attach to a single unit, SecuriTEST™ PRO eliminates the need to juggle several devices while on a ladder or lift, making working conditions safer and increasing productivity.

- IRE video level and sync tests
- Sound level test through integrated speaker and on screen level indicator
- High capacity lithium ion battery
- Support for additional PTZ protocols
- Carrying case included
- **Seven Essential CCTV Tools** - Combines a CCTV video tester, PTZ camera controller, Digital Multimeter, UTP cable tester, video test pattern generator, PTZ protocol analyzer and camera programmer in a single compact package.
- **Save Time & Money** - Test, aim, focus and program cameras when working alone. Save time by not having to walk back to the control center to verify functionality of each camera.
- **Compact Design** - Combines all the most needed security tools in a lightweight easy-to-carry unit. Sharp, bright 2.5 in. (6.3 cm) color LCD screen with on-screen displays for PTZ control/diagnostics and DMM readouts.
- **PTZ Protocol Analyzer** - Compatible with 20+ PTZ protocols to test and program cameras in the field. Decodes and identifies output from PTZ console to aid in troubleshooting.

Description	Cat. No.
SecuriTEST™ PRO CCTV/Security Tester only	**33-892**

VDV Pro Cable Tester

The VDV PRO Cable Tester is an easy-to-use cable testing and verification device that can quickly test all wiring requirements found throughout today's residential and commercial environments.

- Voice – tests 3-pair USOC and 6-position RJ-11/12 jacks for voice cable testing
- Data – tests wire map of shielded and unshielded cable to T568A/B standard
- Video – tests coax cable for opens, shorts and length with F-Connector interface
- Larger backlit LCD screen for better test results readability
- Network link LED blink for visual cable tracing
- Voice testing capability detects RJ-11 (1, 2, or 3 pair)
- Voice test also shows Normal or Reverse for pins 1 through 6
- Length measurement is shown during initial test results for convenience and time savings
- Eight remotes have RJ-45, RJ-11 and Coax F-jacks for increased testing capabilities
- Tests for shield continuity, shorts, opens, miswires, reversals and split pairs with remote connected
- Full dot-matrix LCD display for user convenience to read display results
- One-ended testing for shorts, opens and split pairs (no remote needed)
- Test results displayed in wire map format with message line for shorts and split pairs

Description	Cat. No.
VDV PRO w/one remote and terminator	**33-770**
VDV PRO w/eight remotes and terminators	**33-771**
VDV PRO (33-770) w/one remote and Amplifier Probe (62-164)	**33-780**

Description	Cat. No.
VDV PRO Eight Remote Replacement Kit (ID 1-8)	**33-774**
Eight Coax Terminator Kit	**33-775**

IENet™ Pro Cable Tester for RJ-45 and M-12 Industrial Ethernet Cable Testing

The IENet® PRO tester makes it a snap to quickly verify wiring integrity and assure proper terminations for diverse types of industrial cabling and provides automatic pin conversion between M-12 and RJ-45 connections.

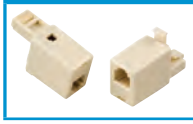
- Simple selection between Voice, 2 and 4 pair Data, and Coax testing functions. Voice and Video/Security tests via optional adapters
- Tests for opens, shorts, miswires, reversals, split pair (user selectable) and length
- Indicates correct wiremap to T568A/B standards for shielded and unshielded cabling
- Easy-to-read LCD display with "PASS" or "Miswire" indicator for each test
- Identifies presence of voltages on cables
- Tone generator supports four different tones making fault isolation easier
- Network LED blink for visual cable tracing
- Numerical indication for UTP "No Shield" and STP - "Shield" to comply with industrial ethernet PROFINET® requirements

PROFINET® is a registered trademark of PROFIBUS International.

Ordering Information

Description	Cat. No.
IENet™ PRO w/single remote	**33-772**
IENet™ PRO w/eight remotes	**33-773**
Eight Coax Terminator Kit	**33-775**
IENet™ PRO Eight Remote Kit (ID 1-8)	**33-776**

Accessories

	Description	Cat. No.
	RJ-45 to RJ-11 jack adapter (2/card)	**LA-4233**

Integrated RJ-45 (UTP/STP) and shielded M12 interfaces on top of the unit

Large backlit LCD displays user current test mode, test results and all faults for the various types.

Display automatically warns of voltage on lines and shows a PASS or MISWIRE message after each test.

Remote ID number indicated on display, UTP indcated as "No Shield" and STP as "Shield"

Compact ergonomic design puts full-featured industrial Ethernet cable testing in the palm of your hand

A single button push immediately selects between VOICE, 2 and 4 pair DATA and VIDEO testing functions

Detachable remote with RJ-45 and shielded M12 Coax intertaces

Test-Tone-Trace Kit

- Kit includes the VDV (33-856), Amplifier Probe (62-164) and carrying case
- Tests and traces coax, twisted pair and telephone cables

Description	Cat. No.
Test-Tone-Trace Kit	33-866

PRO Amplifier Probe and Tone Generator

Amplifier Probe

- Identifies and traces wire or cables within a group
- Battery low indicator

Tone Generator

- Emits three different types of tones
- Auto-off after three hours of non-use
- F-Connector port for toning & tracing coaxial CATV cabling systems
- Tone can be added in any status

Description	Cat. No.
Amplifier Probe & Tone Generator Kit - includes 62-164, 62-160, Lead Set, Cable Assembly	33-864
Amplifier Probe	62-164
Tone Generator	62-160

TRACETone™ Tone Generator & Amplifier Probe

- Test continuity and locate signal of installed wire and cable
- Two selectable tone styles
- Adjustable volume control
- RJ-11 Alligator Clip, RJ-11 Cable Assembly included

Description	Cat. No.
TRACETone™ Tester	62-140

VDV MultiMedia Cable Tester

Easy-to-use tester for installers working with voice, data and video applications. One tester for all applications!

- **Voice** – supports 3-pair USOC and 6-position RJ-11/12 jacks for telephone cable testing
- **Data** – supports both shielded and unshielded cable testing to T568A/B (RJ-45)
- **Video** – tests coax cable for opens and shorts with F-connector interface
- Tests for opens, shorts, miswires, reversals and split pairs. Also indicates correct wiremap. Automatic shut off (to prolong battery life) and low battery indicator.

- Easy-to-read LCD display with "PASS or ERROR" indicator after each test
- Tone generator supports four different tones making fault isolation easier
- One remote wiremap and testing unit is stored inside tester – easier to keep all parts together
- Uniquely designed remote accommodates RJ-11, RJ-45 and F-style connectors

Description	Cat. No.
VDV MultiMedia Cable Tester	33-856

LinkMaster™ Tester

Tests wiring configurations on UTP/STP cables. Checks for shorts, miswires, reversals and split pairs. Debug feature, automatic shut-off and low battery LED indication.

- Designed to test installed twisted pair wiring
- Tests unshielded and shielded modular plugs
- Main unit and remote allow one person testing

Description	Cat. No.
LinkMaster™ Tester and Remote	62-200

TESTERS

OmniSeal™ Pro Compression Tools

The IDEAL OmniSeal™ Compression Tools now offer additional features and increased connector compatibility in a smaller, more compact tool designed to meet the demands of the professional installer. (OmniSeal™ Pro requires no accessory attachment to terminate IDEAL branded compression connectors.) Most other manufacturers compression connectors can be terminated with an easy plunger depth adjustment. The simple intuitive design combined with its size and universal connector acceptance makes this the only compression tool needed by professional installers.

- Factory preset to work with IDEAL compression connectors
- Compresses F-type, RCA, BNC and Mini connectors
- Adjustable to fit other manufacturer's connectors – no accessory adapters required

Description		Cat. No.
OmniSeal™ Pro XL Compression Tool		30-793
OmniSeal™ Pro Compression Tool		30-603

	BNC	F-Type	RG-11	RCA	Mini Coax
OmniSeal™ Pro XL 30-793	✓	✓	✓	✓	✓
OmniSeal™ Pro 30-603	✓ with adjustment	✓	✓	✓	✓

LINEARX™ Compression Tools

- Available in fixed and adjustable versions
- Compresses F/BNC/RCA connectors
- Durable and rugged zinc die-cast body with a protective powder coated paint finish
- Linear stroke for consistent compression results and easy operation
- Includes four RTQ™ RG-6 WeatherProof™ F-Compression Connectors

Description	Cat. No.
LinearX1 F-Compression Tool (Fixed) with four RTQ™ F-Connectors	33-631
LinearX3 F/BNC/RCA Compression Tool (Adjustable) with four RTQ™ F-Connectors	33-632

INCLUDES 4 WeatherProof™ Connectors

Linear X3 adjustable post

Compression Connectors

RTQ™ Reg/Tri/Quad & Plenum F-Connectors

- Fits 60% regular, tri-shield and quad shield cables
- Nickel-plated, brass-construction for superior corrosion resistance
- Designed for use in satellite and cable TV installations
- WeatherProof™ for indoor and outdoor use
- Use 30-603, 30-793 or LinearX Compression Tools

RG-11 F-Connectors

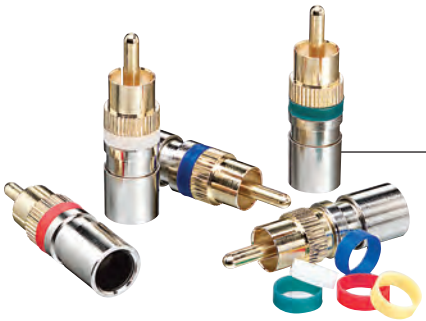
- Fits 60% regular RG-11 cable
- Nickel-plated, brass-construction for superior corrosion resistance
- Designed for use in satellite and cable TV installations
- WeatherProof™ for indoor and outdoor use
- Use 30-603 or 30-793 Compression Tools
- Use 45-111, 1/4" x 1/4" RG-11 Coax Stripper

BNC Connectors

- Nickel-plated, brass-construction for superior corrosion resistance
- Moisture-inhibiting design
- Use 30-793 Compression Tool
- 75 Ohm nominal impedance
- Gold-plated pin contact area
- Available in plenum versions

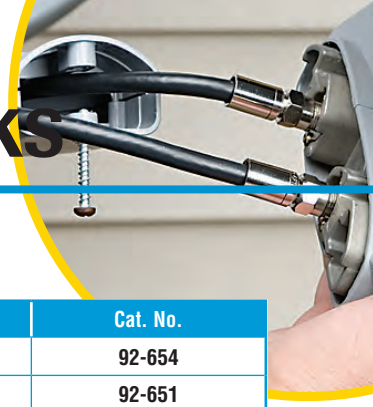
OmniCONN™ F-Connectors

- Non corrosive nickel plated brass body and polycarbonate bushing
- Delrin/Nylon adapter sleeve and o-ring provide double protection for a watertight seal
- Free spinning hex nut for ease of installation onto all 7/16 ports
- 75 ohm nominal impedance
- Two-piece pre-assembled connectors

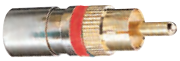


RCA Connectors

- Constructed of nickel plated brass and gold plated head
- 75 ohm nominal impedance
- Bandwidth up to 3 GHZ
- Compatible with 30-603 and 30-793 Compression Tools



Compression Connectors

	Connector Type	Cable Type	Qty.	Cat. No.
	F	RG-6 Reg/Tri/Quad	Card of 4	**92-654**
			Card of 10	**92-651**
			Jar of 50	**92-650**
			Jar of 100	**92-656**
			Box of 1,000 bulk	**92-659**
	F	RG-6 Quad	Jar of 50	**92-655**
	F	RG-6 Plenum	Jar of 50	**92-660**
	F	RG-59 Reg/Tri/Quad	Card of 10	**92-611**
			Jar of 50	**92-610**
	F	RG-11 Plenum	Card of 10	**92-212**
	F	RG-11	Card of 10	**89-211**
			Box of 500	**89-1211**
	F	RG-6	Jar of 50	**89-044**
	F	RG-6 Quad	Jar of 50	**89-045**
	BNC	RG-6	Card of 4	**92-705**
			Card of 15	**89-048**
			Jar of 35	**89-5048**
	BNC	RG-6 Plenum	Card of 15	**89-050**
			Jar of 35	**89-5050**
	BNC	RG-59	Card of 4	**92-704**
			Card of 15	**89-047**
			Jar of 35	**89-5047**
			Box of 1,000 (10 bags, 100 ea.)	**89-1047**
	BNC	RG-59 Plenum	Card of 15	**89-049**
			Jar of 35	**89-5049**
	RCA*	RG-6	Card of 4	**92-582**
			Card of 10	**89-582**
			Jar of 35	**89-580**
	RCA*	RG-59	Card of 4	**92-572**
			Jar of 35	**89-570**

***RCA Connectors include an assortment of color ID bands.**

Compression Port Seals – 1/2 in.

- Used with compression F-connectors to weatherproof connectors by placing onto the female port. Made from EPDM for superior sealing.

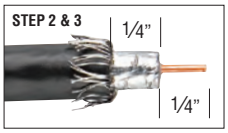
Description	Qty.	Cat. No.
Long Sleeve Compression F-Connector Port Seals, 1/2 in.	Bag of 100	**89-127**

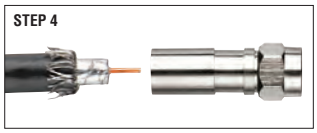
Compression Connector Instructions

Compression F-Connector

1. Use IDEAL Data T®-Cutter (45-074) to cut cable to desired length.
2. Use IDEAL Coax Stripper (45-603 or 45-526) to strip coax to proper dimensions.
   - Proper strip length settings will leave 1/4" of center conductor exposed and 1/4" of braiding (shield) exposed.
   - After stripping, make sure tip of center conductor is straight and not bent. Straighten conductor if necessary.
3. Fold back outer layer of braiding (shield) against cable jacket. Keep braid strands as straight and as close to jacket as possible.
   - Note: For Quad Shield cables (with 4 layers: outer braid, outer foil, inner braid, inner foil), first fold back outer braiding. Use 45-074 to score and remove exposed 1/4" of outer foil. Remove outer foil, and fold back inner braiding.

4. Push F connector on to prepared cable until white center dielectric is flush with bottom of the nut of the F connector.
5. Insert connector/cable assembly into the OmniSeal™ Pro XL compression tool, squeeze handle completely to compress fitting. Remove completed cable assembly.

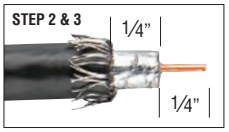


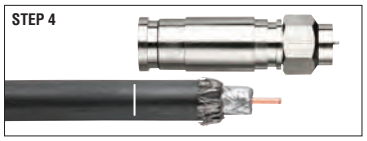


Compression RG-11 F-Connector

1. Use IDEAL Data T®-Cutter (45-074) to cut cable to desired length.
2. Use IDEAL Coax Stripper (45-111) to strip RG-11 coax to proper dimensions.
   - Proper strip length settings will leave 1/4" (minimum) of center conductor exposed and 1/4" of braiding (shield) exposed.
   - After stripping, make sure tip of center conductor is straight and not bent. Straighten conductor if necessary. Conductor must be straight to make proper contact with pin contact inside of connector.
3. Fold back outer layer of braiding (shield) against cable jacket. Keep braid strands as straight and as close to jacket as possible.
   - Note: For Quad Shield cables (with 4 layers: outer braid, outer foil, inner braid, inner foil), first fold back outer braiding. Use 45-074 to score and remove exposed 1/4" of outer foil. Remove outer foil, and fold back inner braiding.

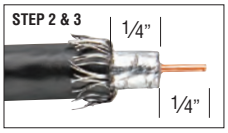
4. Measure and mark cable insertion length. Align tip of center conductor with bottom of hex nut fitting of connector. Mark or lightly score cable jacket near base of connector. Connector should be within 1/8" of this mark after it is pushed on to cable. If it is more than 1/8" away from mark, continue rocking and guiding connector on to cable. Approximately 1-1/4" of cable length should be inserted into connector prior to compressing the connector.
5. Insert the connector/cable assembly into OmniSeal™ Pro XL compression tool (adjust plunger setting if necessary), squeeze handle completely to compress fitting. Remove completed cable assembly.

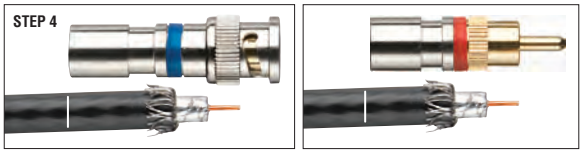


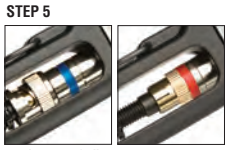


Compression BNC/RCA Connectors

1. Use IDEAL Data T®-Cutter (45-074 to cut cable to desired length.
2. Use an IDEAL coax stripper (45-603 or 45-526) to strip coax to proper dimensions.
   - Proper strip length settings will leave 1/4" (minimum) of center conductor exposed and 1/4" of braiding (shield) exposed.
   - After stripping, make sure tip of center conductor is straight and not bent. Straighten conductor if necessary. Conductor must be straight to make proper contact with pin contact inside of connector.
3. Fold back outer layer of braiding (shield) against cable jacket. Keep braid strands as straight and as close to jacket as possible.
   - Note: For Quad Shield cables (with 4 layers: outer braid, outer foil, inner braid, inner foil), first fold back outer braiding. Use 45-074 to score and remove exposed 1/4" of outer foil. Remove outer foil, and fold back inner braiding.



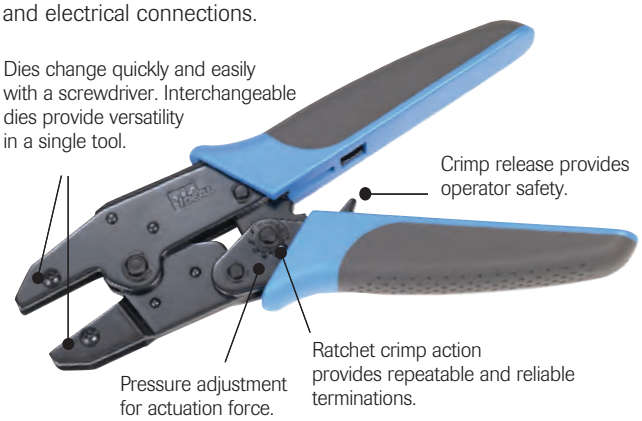




4. Measure and mark cable insertion length. For BNC's, align tip of center conductor with top of the nut fitting. For RCA's, align tip of center conductor with top of retention collar. Mark or lightly score cable jacket near base of connector. Connector should be within 1/8" of this mark after it is pushed on to cable. If it is more than 1/8" away from the mark, continue rocking and guiding connector on to cable. Approximately 1-1/4" of cable length should be inserted into the connector prior to compressing connector for BNC. Approximately 1-1/8" of cable length should be inserted into connector prior to compressing connector for the RCA.
5. Insert connector/cable assembly into OmniSeal™ Pro XL compression tool, squeeze handle completely to compress fitting. Remove completed cable assembly.

Crimpmaster™ Crimp Tools & Die Sets

High quality ratchet-type crimp tool for electricians, contractors and installers who require guaranteed repeatability of good mechanical and electrical connections.



Description	Cat. No.
Crimpmaster™ Crimp Frame Tool	30-506

Also available in these kits:

33-400

33-917

30-556
RJ-11 Crimp Tool for two, four or six-position modular plugs
Tool w/die N/A

30-559
RJ-45 Eight-position Crimp Tool for keyed or non-keyed modular plugs
Tool w/die 30-522

30-560
RJ-45 Eight-position Crimp Tool for AMP® RJ-45 modular plugs
Tool w/die 30-521

30-570
RG-6, RG-174, Belden®-Type RG-8281 cables (Hex. 0.324 (8.23mm), 0.178 (4.52mm), 0.068 (1.73mm)
Tool w/die N/A

30-573
Cambridge CP-88, CP-89 BNC/TNC coax connectors with RG-58, RG-59/RG-62 AU cables (Hex 0.305 (7.75mm), 0.068 (1.73mm), 0.228 (5.79mm)
Tool w/die 30-481

30-576
RG-174, Mini 59 BNC/TNC Connectors (Hex, 0.178 (4.52mm), 0.128 (3.25mm), 0.068 (1.73mm)

30-577
N-Series and RG-8/11 Connectors (Hex, 0.429 (10.90mm), 0.100 (2.54mm), 0.080 (2.03mm)
Tool w/die 30-482

30-578
RG-59, RG-6, and 8281 50 and 75 OHM cables (Hex, 0.324 (8.23mm), 0.255 (6.48mm), 0.068 (1.73mm), 0.042 (1.07mm)
Tool w/die 30-483

30-581
RG-58, RG-59/62, BNC/TNC Coax Connectors (Hex, 0.255 (6.48mm), 0.213 (5.41mm), 0.068 (1.73mm)
Tool w/die 30-502

30-582
F-type CATV RG-59, RG-6 Connectors (Hex, 0.350 (8.89mm), 0.320 (8.13mm), 0.255 6.48mm)
Tool w/die 30-503

30-587
RG-58, RG-174 and G-8218 for both 50 and 75 ohm cables (Hex 0.213 (5.41mm), 0.178 (4.52mm), 0.068 (1.73mm), 0.042 (1.07mm)
Tool w/die N/A

30-591
Plenum and Non-Plenum Thinwire Cables RG-58 and 59 (Hex, 0.213 (5.41mm), 0.190 (4.83mm), 0.068 (1.73mm), 0.042 (1.07mm)
Tool w/die N/A

30-593
Mini UHF and BNC/TNC 5 cavity (Hex, 0.052 (1.32mm), 0.068 (1.73mm), 0.100 (2.54mm), 0.213 (5.41mm), 0.255 (6.48mm)
Tool w/die N/A

30-572
16-26 AWG (1.31mm² - .128mm²) miniature insulated rings, spade and butt splices
Tool w/die N/A

30-579
22-10 AWG (.324mm² - 5.261mm²) insulated terminals/color coded nests
Tool w/die 30-500

30-580
22-8 AWG (.3mm² - 8mm²) non-insulated terminals
Tool w/die N/A

30-586
22-12 AWG (.324mm² - 3.31mm²) Non Insulated Open Barrel Connectors, Commercial Type
Tool w/die N/A

30-594
Fully Insulated quick disconnect terminals with thinner wire barrels 22-10 AWG (.324mm² - 5.261mm²)
Tool w/die N/A

30-599
30-18 AWG (.205mm² - 2.08mm²) Open Barrel Pins and Sockets
Tool w/die N/A

30-479 (Tool w/die)
For insulated terminals, 22-10 AWG with built-in locator

AMP® is a registered trademark of Amp Inc.
Belden® is a registered trademark of Belden Technologies, Inc.

F-Type Coaxial Connectors

F-Series Connectors utilize threaded couplings and cable conductors as contacts for CATV and other UHF applications.

- Available in the three most popular styles, RG-6/6Q/59
- All brass design
- One-piece body design
- Crimp with the Crimpmaster™ 30-503 Crimp Tool

	Connector Type	Cable Type	Termination Type	Qty.	Cat. No.
	F	RG-6	Crimp	Card of 4	**84-017**
				Card of 10	**85-037**
				Card of 50	**85-017**
	F	RG-6 Quad	Crimp	Card of 10	**85-057**
				Card of 50	**85-030**
	F	RG-59	Crimp	Card of 4	**84-016**
				Card of 10	**85-036**

Push-On F-Connectors
RG-6 & RG-59

- No terminator tool required
- All brass nickel-plated construction
- Knurled nut for superior grip
- Designed for indoor use

Connector Type	Cable Type	Qty.	Cat. No.
F	RG-6	Card of 4	**85-065**
		Jar of 50	**89-165**
	RG-6 Quad	Card of 4	**85-066**
	RG-59	Card of 4	**85-067**
RCA	RG-6	Card of 10	**89-500**

Description	Cat. No.
Coax Connector Kit w/Economy Coax Stripper and four RG-6 Push-on Connectors	**33-320**

Twist-On F-Connectors
RG-6 & RG-59

- After cable is stripped, simply twist on connector
- No termination tool required
- Available in two styles, RG-6 and RG-59

Connector Type	Cable Type	Qty.	Cat. No.
F	RG-6	Card of 10	**85-053**
		Card of 50	**85-039**
F	RG-59	Card of 4	**84-018**
		Card of 10	**85-035**

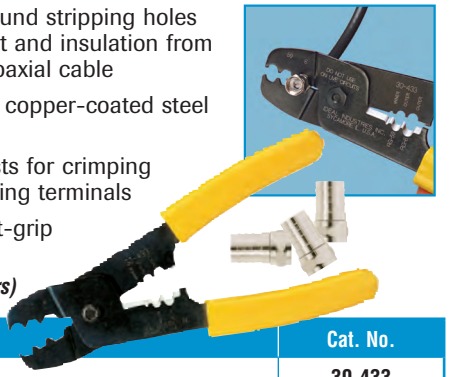
Connector Installation Tools

- Works on compression and hex connectors
- Comfort grip handle aids in installing and removing connectors on coax cable

35-046

Description	Cat. No.
F & BNC Coax Connector Tool - 8 in.	**35-046**
F & BNC Coax Connector Tool - 12 in.	**35-042**
F & BNC Coax Connector Tool - 16 in.	**35-043**

Coax Strip & Crimp Tool



- Precision, form-ground stripping holes remove outer jacket and insulation from RG-59 and RG-6 coaxial cable
- Durable blades cut copper-coated steel conductors
- Three crimping nests for crimping F-connectors and ring terminals
- Cushioned, comfort-grip handles

(Kit includes ten connectors)

Description	Cat. No.
Coax Strip & Crimp Tool	**30-433**
Coax Strip & Crimp Tool Kit w/ten RG-6 F-Connectors	**30-433F**

F-Type Adapters & Terminators

- Nickel-plated brass construction
- For 75Ω applications

	Description	Qty.	Cat. No.
	1GHz Female-to-Female F-Type Coaxial Adapter	Card of 10	**85-031**
	3GHz F-Splice Adapter, high bandwith, OMHz to 3GHz for standard and high definition applications, <0.25dB insertion loss, >25dB return loss	Card of 4	**85-339**
		Card of 10	**85-340**
	Female to RCA Male Adapter – converts female F-connectors to male RCA connectors	Card of 2	**85-936**
	Coax Cable F-Terminators - for all open ports on coax wall plates and splitters	Card of 10	**85-038**
	90° F-Adapter - F-female to F-male coax adapter	Card of 2	**85-070**

BNC Connectors

- Connector construction covers both plenum and non-plenum cable jackets
- Captive gold center contacts provide maximum conductivity and minimal resistance
- Nickel plating resists corrosion, tarnish and ensures signal quality
- Meets military specifications. MS39012 and MIL202 where applicable.
- Available in both small and bulk quantities to suit a range of application requirements

	Connector Type	Cable Type	Center Conductor	Jacket	Connector Impedance	Qty.	Cat. No.
	BNC Plug	RG-59	20 AWG Solid	Non-Plenum	75 Ohm	Bag of 5	**85-502**
						Box of 100	**86-502**
	BNC Plug	RG-6	18 AWG Solid	Non-Plenum	75 Ohm	Bag of 5	**85-545**
	BNC Adapter	—	Jack to Jack	—	50 Ohm	Bag of 5	**85-590**
	BNC Twist-on Plug	RG-59	22-23 AWG Solid	Non-Plenum	50 Ohm	Bag of 5	**85-480**
	F to BNC Adapter Kit						**LA-4173**

4-Way Indent Crimp Tool

Crimps solid barrel contacts for RS232 interface connectors. Features four-way indent dies (per MS22520 specifications), full cycle ratchet, built-in pin and socket locator and comfort-grip handles.

- High-grade steel construction

Description	Cat. No.
20-26 AWG (.519 mm2 - .128 mm2) RS232 D-sub Round Barrel Contacts, Pins or Sockets	**35-465**

D-Sub/Double-D Service Tool

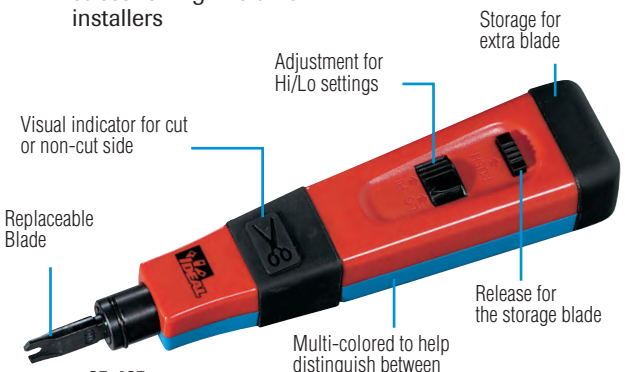
- Exact replacement of the AMP® open-barrel service tool for stamped contacts and D-Sub contacts
- Also crimps Double-D, high density, miniature contacts
- Includes openings for crimping insulated terminals and cutters for machine screws

Description	Cat. No.
D-Sub/Double-D Service Tool	**30-426**

AMP® is a registered trademark of Amp Inc.

Punch Down Tools

- Insert and cut cable terminations effortlessly
- Adjustable high/low actuation setting accommodates termination requirements
- Turn-Lock™ Style blade holding design
- Impact-absorbing cushioned grip reduces operator stress for high volume installers



35-485

35-492

Impact Turn-Lock™ Punch Down Tools	Cat. No.
Punchmaster™ II Punch Down Tool w/110 & 66 blades	35-485
Non-Impact Turn-Lock™ Punch Down Tools	**Cat. No.**
Punch Down Tool w/110 blade	35-492
Economy Punch Down Tool	**Cat. No.**
Non-impact Tool w/permanent non-cut blade	35-185

35-495 110 Blade | 35-497 66 Blade | 35-407 110/66 Blade | 35-478 Krone® Blade | 35-479 Bix® Blade

Removable Blades*	Cat. No.
110 Turn-Lock™ blade	35-495
66 Turn-Lock™ blade	35-497
110/66 combo blade w/cutting edges	35-407
Krone® blade	35-478
Bix® blade	35-479

*Not applicable for Economy Punch Down tool.
Bix® is a registered trademark of Nortel. Krone® is a registered trademark of Krone, Inc.

Ratchet Telemaster™

- Heavy-duty steel frame
- For paired conductors
- Ratchet version of our Telemaster™ Tool for RJ-45 and RJ-11 modular plugs
- Repeatable crimp action for consistent, high quality connections

Description	Cat. No.
Ratchet Telemaster™	30-696
Replacement Cut & Strip Blade Set for 30-696	LA-4102

Telemaster™ Telephone Tools

- For paired conductors
- Multi-function telephone tool cuts, strips and crimps for easy one-tool application
- Steel frame for long-term durability. (Crimps primary modular plug strain relief only)

Description	Kit Cat. No.	Tool Only Cat. No.
Tool for RJ-11 (1, 2, 3 pair) and RJ-45 (4 pair) Plugs	33-700*	30-496
Tool for RJ-22 (handset) and RJ-11 (1, 2, 3 pair)	N/A	30-499
Replacement Cut and Strip Blade Set for Telemaster™	N/A	LB-1747

*Kit includes 10 each, RJ-45 8P8C, RJ-11 6P6C and RJ-11 6P4C modular plugs.

Modular Plug Tool Kit

- Multi-function telephone/ network tool; cuts, strips and crimps
- Steel frame construction
- Interchangeable dies allow for crimping RJ-45 and RJ-11 modular plugs
- Spring return handle for comfort

Die Set | RJ-45 | RJ-11

Description	Cat. No.
Modular Plug Tool Kit - includes ten each RJ-11, 6P4C Telephone Plugs & RJ-45, CAT 5e Data Plugs, RJ-11 & RJ-45 Die Sets	33-296

Kinetic Super™ Wire Stripper/Crimper

- Cuts and strips 22 to 24 AWG
- Crimps IDC Connectors

Description	Cat. No.
Kinetic Super™ Wire Stripper/Crimper Kit – includes 25 IDC connectors (UR-I, 3-Wire Butt Splice)	**33-719**

Insulation Displacement Connectors

IDC connectors create fast splice and tap connections on solid copper wires. Designed for low voltage telecommunication cables.

85-900 **85-925**

85-950

- Moisture-resistant sealant protects wires from corrosion
- Use with solid copper single-conductor wire
- Kinetic Super™ Wire Stripper/Crimper easily cuts and strips 22 to 24 AWG solid wire

Description	Qty.	Cat. No.
UR-I, 3-Wire Butt Splice IDC	25	**85-925**
UR-I, 2-Wire Butt Splice IDC	100	**86-925**
UR-I, 3-Wire Butt Splice IDC	1,000	**87-925**
IDC Connector Combo Pack – includes 10 UR, 10 UY and 5 UB	25	**85-960**
UY-I, 2-Wire Butt Splice IDC	25	**85-950**
UB-I, 2-Wire Tap Splice IDC	25	**85-900**

Strain Relief Boots for Modular Plugs

- Prevents broken connector tabs and snagging while extending connector life
- Minimizes cable bends that can reduce data speed and result in data loss
- Dampens cable movement and vibrations that can result in premature connector failure

Description	Qty.	Cat. No.
Strain Relief Boots for Modular Plugs	25	**85-380**
15 Strain Relief Boots and 15 8P8C RJ-45 Modular Plugs	15	**85-379**

Modular Plugs

- Plugs support the latest cable system performance categories when installed in compliance with appropriate standards and methods
- Plugs work with 24 AWG solid or stranded conductors and round or flat cables.

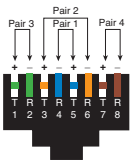
Description	Qty.	Cat. No.
8-Position 8-Contact, RJ-45	10	**85-147**
	25	**85-346**
	50	**85-396**
	100	**86-396**
6-Position 6-Contact, RJ-11	25	**85-345**
6-Position 4-Contact, RJ-11	25	**85-344**

CAT 6 RJ-45 Modular Plugs

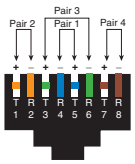
- Three-piece design provides easy installation and optimal performance
- Crimps with a standard RJ-45 crimp die
- 50 micron gold contacts, 8-position, 8-contact
- Suitable for solid or stranded conductors – 23 AWG

Description	Qty.	Cat. No.
CAT 6 RJ-45 Modular Plugs	25	**85-366**

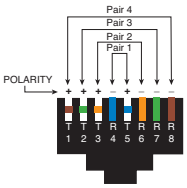
Wiring Configurations for Modular Plugs



T568-A



T568B



USOC

UTP/STP/Coaxial Cable Strippers

- Adjustable blades can be set for any depth to help ensure nick-free stripping and slitting of cables

Description	Typical RG Cables	Cat. No.
Coaxial Cable Stripper, up to 1/8 in. (3.2mm) O.D	RG-174, RG-187	**45-162** (Gray)
Coaxial Cable Stripper, 1/8 in. (3.2mm) to 7/32 in. (5.556mm) O.D.	Mini Coax RG-58,CB	**45-163** (Blue)
Coaxial Cable Stripper, 1/4 in. (6.4mm) to 9/16 in. (14.3mm) O.D.	RG-11, RG-8	**45-164** (Blue)
Cable Stripper, 3/16 in. (4.8mm) to 5/16 in. (8mm) O.D.	RG-59/6, UTP Cable	**45-165** (Black)
UTP/STP Ringer Stripper, one blade	UTP/STP	**45-168** (Black)
Replacement Blade Set* for 45-162, 45-163, 45-165	—	**L-9225**
Replacement Blade Set* for 45-164	—	**L-9226**

*A set of blades consists of three straight blades and one round blade.

UTP Cable Stripper

- Strips Cat 3, 5, 5e & 6 cables
- One-step stripping

Description	Cat. No.
UTP Cable Stripper	**45-167**

Cyclops® Data Cable Stripper

- Fast, easy removal of outer sheath insulations (PVC and Plenum types, UTP & STP)

Description	Cat. No.
Data Cable Stripper for unshielded and shielded twisted pair cable	**45-514**

CAT 5e Cable

- Customizable cable
- CAT 5e solid 4-pair, CMR rated, 24 AWG, 350 MHz cable

Description	Cat. No.
CAT 5e Cable - 100 ft.	**85-780**

In-Wall Speaker Wire

- Customizable cable
- In-wall rated 16 AWG speaker wire

Description	Cat. No.
In-wall 2-conductor Speaker Wire - 50 ft.	**85-770**
In-wall 4-conductor Speaker Wire - 100 ft.	**85-771**

Cable/Satellite/CCTV Coax Stripper

- Designed for fast and easy 1/4" x 1/4" strip lengths
- Blades auto-adjust to different diameter coax cables
- Spinner ring for fast stripping
- Strips RG-6/6 Quad and RG-59 coax cable

Description	Cat. No.
Video Coax Stripper	45-321

Coax Strippers

- Specific adjustments needed for each cable size

Description	Cat. No.	Replacement Cassette
Coax Stripper - 2 Step • For most IDEAL compression connectors and single crimp/twist-on BNC/TNC • Strips 0.250 in. or 6.35mm	45-526	45-524 (Blue)
Coax Stripper - 3 Step • For crimp BNC and TNC connectors • Strips braid 0.240 in. or 6mm and	45-520	45-522 (Black)
Coax Stripper - 3 Step • For dual crimp BNC/TNC and Thinnet BNC conn. • For 735A Belden® cable • Strips braid 0.328 in. or 8.2mm and dielectric 0.109 in. or 2.7mm	45-521	45-523 (Brown)

Belden® is a registered trademark of Belden Technologies, Inc.

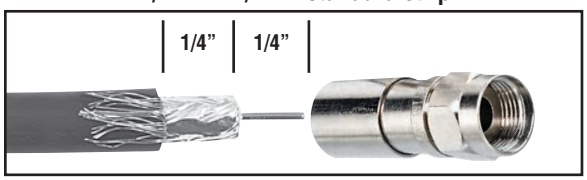
RG-11 Coax Stripper

- For use with IDEAL RG-11 compression connectors (89-211, 89-1211), provides 1/4 in. x 1/4 in. strip

Description	Cat. No.
RG-11 Coax Stripper for Compression Connectors	45-111

Proper Coax Strip Procedure

1/4 in. x 1/4 in. standard strip.



- Proper strip length settings will leave 1/4" of the center conductor exposed and 1/4" of the braiding (shield) exposed.
- After stripping, make sure the tip of the center conductor is straight and not bent. Straighten the conductor if necessary.

Fold back the outer layer of braiding (shield) against the cable jacket. Keep the braid strands as straight and as close to the jacket as possible.

- Note: For Quad Shield cables (with four layers; outer braid, outer foil, inner braid, inner foil), first fold back the outer braiding. Use the 45-074 to score and remove the exposed 1/4" of outer foil. Remove outer foil and fold back inner braiding.

Coax Stripmaster® Wire Strippers

- Provides precision stripping with easy spring cushion grip
- Knife-type blades feature multiple hole diameters sized for two step removal of outer jacket insulation and center conductor

Description	Coax Cable Type (RGU)	Cat. No.	Repl. Blade Cat. No.
Coax Stripmaster® for RG-6	RG-6	45-262	LB-740
Coax Stripmaster® for RG-59	RG-59	45-265	LB-743
Coax Stripmaster® for RG-6	RG-6 Quad Shield	45-282	LA-3953
Coax Stripmaster® for RG-58	RG-58	45-264	—
Coax Stripmaster® for MediaTwist®	MediaTwist	45-274	—

MediaTwist® is a registered trademark of Belden Technologies, Inc.

Round Cable Slitting & Ringing Tool

- Cuts around cable jacket as well as slits the length of jacket for easy removal
- Use with single or multiple conductor cable up to 1.75 in. O.D.
- Blade adjusts for jacket thicknesses up to .125 in.
- Spare blade in handle base

Description	Cat. No.
Round Cable Slitting and Ringing Tool	**45-144**
Replacement Blades for 45-144 (2/pkg.)	**LB-1748**

Data T®-Cutter

- Cuts round communication cable and maintains cable geometry for better cable performance
- Cuts multi-pair cable up to .500 in. (12.7mm) and coaxial cable up to RG-9/U
- Suitable for soft cables (not ACSR)
- Steel reinforced center conductors can be trimmed with bolt cutting holes
- Locking latch keeps tool closed in pouch

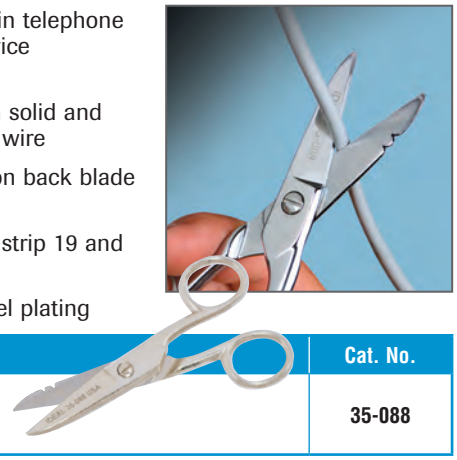
Description	Cat. No.
Data T®-Cutter	**45-074**

Lever™ Snips Electrician's Scissors with Stripping Notches

- Ergonomic design gives added leverage
- Spring-action, mechanical advantage increases stripping leverage and reduces operator fatigue
- Double plated for added rust protection
- Extra-deep serrations grip wire better

Description	Cat. No.
Electrician's Scissors with Stripping Notches	**35-087**

Electrician's Scissors



- Designed for use in telephone and electrical service applications
- Cut up to 16 AWG solid and 12 AWG stranded wire
- Serrated surface on back blade edge cleans wire
- Stripping notches strip 19 and 23 AWG wire
- Chrome over nickel plating

Description	Cat. No.
Electrician's Scissors w/stripping notches	**35-088**

Cable Splicing Kit

- Kit designed for use in telephone and electrical service applications
- High carbon steel blade in Splicing Knife remains sharp and cuts easily through many insulation types
- Kit includes Scissors, Splicing Knife and Leather Holder

Description	Cat. No.
Cable Splicing Kit (Scissors, Splicing Knife, Leather Holder)	**35-093**
Cable Splicing Knife	**35-1091**

PrepPRO™ COAX/UTP Cable Stripper

- Auto adjusting blade depth for 6/6Quad/59 coax cable
- 1/4" x 1/4" coax preparation
- Replaceable blade cartridges
- CAT5e/6 jacket stripping
- Spring loaded for consistent cutting force

Description	Cat. No.
PrepPRO™ Coax/UTP Cable Stripper	**45-605**

Also available in these kits:

33-917

33-623

Surge Suppression Cable Splitters

Digital Surge Suppression Cable Splitters withstand a one-time surge up to 6KV on cable line

- Bandwidth: 5 MHz - 1 GHz
- Impedance: 75 ohm
- Over 130 dB of RFI Shielding
- Low 8 db Insertion Loss
- Printed Circuit Board Design
- Nickel-plated Housing
- Splits signals up to 4 outlets

Description	Cat. No.
2-Way Surge Suppression Splitter	85-135
4-Way Surge Suppression Splitter	85-137

2.4 GHz Satellite & Digital TV Splitters

- Designed for easy mounting over cable
- All ports are F female connectors, 75Ω
- Two grounding screws eliminate the need for grounding block
- All ports power pass

Description		Cat. No.
2-Way, 5MHz - 2.4GHz		85-332
3-Way, 5MHz - 2.4GHz		85-333
4-Way, 5MHz - 2.4GHz		85-334

1 GHz Splitters

- Nickel-plated housing, soldered back
- High-performance impedance - balanced Printed Circuit Board design
- Bandwidth: 5MHz - 1 GHz Impedance: 75 Ω; Splits signals up to 8 outlets

Description		Cat. No.
High Performance Cable Splitter, 5MHz-1GHz, 2-Way		85-132
High Performance Cable Splitter, 5MHz-1GHz, 3-Way		85-133
High Performance Cable Splitter, 5MHz-1GHz, 4-Way		85-134
Digital Cable Splitter, 8-Way		85-138

Grounding Block

- Solid zinc alloy, nickel plated and chromate finished
- High Performance beryllium copper contact
- Electrical performance rated 0 - 3 GHz
- Dual grounding holes can accept up to #6 wire

Description	Cat. No.
3 GHz Double Grounding Block	85-311

Use terminators (85-038) on all unused ports for optimal performance.

Diplexer 5 MHz - 2.1 GHz

- Combine or split cable/antenna signals with satellite signals
- Use two Diplexers per installation, one to combine and one to split
- High quality PCB design
- Nickel-plated die-cast zinc housing
- Grounding hole for up to 6 AWG wire

Description	Cat. No.
Diplexer, 2.1 GHz, SATV/TV Combiner Splitter - 2 Amp	85-323

Pro Installer Kit – 33-945

- This professional kit includes a selection of tools that are needed by anyone who installs or maintains low-voltage systems.
- Kit Includes:

35-427	Large Mouth Bag – 18 in.
30-603	OmniSeal™ Compression Tool
30-696	Ratchet Telemaster™
35-046	F-Connector Tool
35-087	Lever™-Snips Electrician's Scissors
35-091	Cable Splicing Knife
35-205	Torpedo Level
35-238	Mag-Tape™ Tape Measure
35-275	Jab Saw
35-407	110/66 Blade
35-430	Tongue & Groove Pliers – 10 in.
35-473	Probe Pic and Spudger
35-485	Punchmaster™ II 110 Blade only
35-497	66 Blade only
35-908	7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver
35-4038	Long Nose Pliers – 8 in.
45-074	Data T®-Cutter
45-165	UTP/STP Stripper
45-526	Coax Stripper - 2-Step
62-160	Tone Generator
62-164	Amplifier Probe

Master Series Network Service Kit – 33-706

- Kit allows user to cut, strip, terminate and test data cables. For Cat5e, Cat6 and voice installments.
- Kit Includes:

30-696	Ratchet Telemaster™
35-485	Punchmaster™ II w/110 Blade
35-473	Probe Pic and Spudger
45-165	UTP/STP Stripper
35-093	Electrician's Scissors
35-497	66 Blade only
62-200	LinkMaster™ Tester
35-908	7-in-1 Twist-a-Nut™ Screwdriver
33-864	PRO Amplifier Probe & Tone Generator Kit
45-719	Kinetic Super™ Wire Stripper/ Crimper
85-396	8-Position, RJ-45 Modular Plugs, qty. 50
35-410	Large Mouth Bag – 13 in.

RF Coax Crimp & Compression Kit – 33-410

- This professional kit allows user to crimp or compress F and BNC coax connectors. Multiple die sets give the Crimpaster™ Crimp Tool a wide range of connectors to terminate. For security and cable/satellite installers
- Kit Includes:

30-793	OmniSeal™ Pro XL Compression Tool
30-503	Ratchet Crimp Tool
45-526	2-Step Coax Stripper
45-520	3-Step Coax Stripper
45-523	45-521 Replacement Cassette
45-074	Data T®-Cutter
30-581	58/59, BNC/TNC Die Set
30-573	RG-59 Cambridge-type Die Set
30-576	RG-174, Mini-59 Die Set
92-650	RG-6 RTQ™ Compression F-Connector, 50/jar
35-535	Mechanic's Bag

Low Voltage Starter Kit – 33-920

- This starter kit allows user to terminate jacks and modular plugs as well as coax connectors.
- Kit Includes:

30-496	Telemaster™ Telephone Tool
30-633	Economy Compression Tool
45-321	Cable/Satellite/CCTV Coax Stripper
35-492	Punch Down Tool w/110 blade
45-074	Data T®-Cutter
35-497	66 Blade only
30-503	Ratchet Crimp Tool
45-168	UTP/STP Ringer Stripper, one blade
35-535	Mechanic's Bag

Data/Video Kit – 33-917

- Kit includes professional tools to terminate both coax and twisted pair cables. VDV gives user the ability to test terminated cables.
- Kit Includes:

30-522 Crimpmaster™ Crimp Tool for RJ-45 Modular Plugs
30-793 OmniSeal™ Pro XL Compression Tool
33-856 VDV MultiMedia Cable Tester
35-046 Coax Connector Tool - F & BNC
35-088 Electrician's Scissors w/Stripping Notch
35-407 110/66 Blade Combo Punch Down Blade
35-410 Large Mouth Bag – 13 in.
35-473 Probe Pic and Spudger
35-485 Punchmaster™ II Punch Down Tool w/110 Blade
35-908 Twist-a-Nut™ 7-in-1 Screwdriver
45-074 Data T®-Cutter
45-165 UTP Stripper
45-526 Coax Stripper w/Replaceable Cartridge
62-164 Amplifier Probe

Pro Coax Termination Hip Kit – 33-624

- IDEAL for anyone who is installing security cameras, cable or satellite TV, or working with general coax compression installations.
- Kit Includes:

30-793 OmniSeal™ Pro XL Compression Tool
45-074 Data T®-Cutter
45-603 Coax/UTP Cable Stripper
36-240 Cabinet Tip Screwdriver, 1/8 in.
– Pouch w/Belt Clip

Basic Coax Termination Hip Kit – 33-623

- This basic kit includes tools to cut, strip and terminate coax cables.
- Kit Includes:

45-074 Data T®-Cutter
45-320 Coax Cable Stripper
30-633 Economy Compression Tool
– Pouch w/belt clip

Service Compression Kit – 33-630

- This service kit includes both F and BNC connectors as well as the professional tools to cut, strip and terminate coax cables. Designed for security and cable/satellite installation.
- Kit Includes:

30-793 OmniSeal™ Pro XL Compression Tool
45-074 Data T®-Cutter
45-262 Coax Stripmaster® Wire Stripper for RG-6
89-127 Compression F-Connector Port Seals, qty. 5
89-047 BNC RG-6 Compression Connectors, qty. 10
89-048 BNC RG-59 Compression Connectors, qty. 10
92-650 RG-6 RTQ™ Compression Connectors, 50/jar
92-660 RG-6 Plenum Compression Connectors, qty. 10
LA-3953 Replacement Blade for 45-262

Economy Compression Kit – 33-620

- This starter kit includes the tools and connectors to cut, strip and terminate coax cables.
- Kit Includes:

30-633 Economy F-Compression Tool
45-074 Data T®-Cutter
45-526 RG-59/6 Coax Stripper
92-610 RG-59 RTQ™ Compression Connectors, qty. 10
92-650 RG-6 RTQ™ Compression Connectors, qty. 30

Technician's Service Kit – 33-505

- Kit includes tools to install twisted pair cable on blocks and data jacks.
- Kit Includes:

35-088 Electrician's Scissors w/ Stripping Notches
35-473 Probe Pic & Spudger
35-485 Punchmaster™ Punch Down Tool w/110 Blade
35-497 66 Blade Only
35-908 7-in-1 Twist-a-Nut™ Screwdriver/Nutdriver
45-165 UTP/STP Stripper
62-205 Nylon case

RJ-45/11 Four, Six & Eight-Position Combination TelCom Termination Kit – 33-704

- This TelCom Kit is designed for the user who will terminate RJ-11 and RJ-45 twisted pair cables.
- Kit Includes:

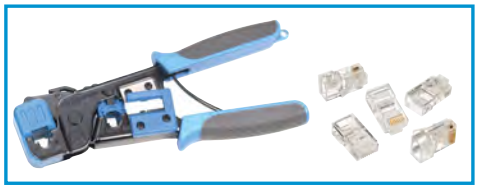
30-496 Telemaster™ for RJ-11/RJ-45 Plugs
85-344 4-Position, RJ-11 Modular Plugs, qty. 15
85-345 6-Position, RJ-11 Modular Plugs, qty. 15
85-346 8-Position, RJ-45 Modular Plugs, qty. 15

RJ-45 Termination Kit – 33-750

- This kit is suited for the user who will cut and terminate RJ-45 Modular Plugs. The kit includes 50 modular plugs, enough to make 25 separate cables.
- Kit Includes:

30-496 Telemaster™ for RJ-11/RJ-45 Plugs
45-165 UTP/Coax Stripper
85-346 8-Position, RJ-45 Modular Plugs, qty. 50

Telemaster™ Crimp Kit – 33-700



- This kit is the Telemaster™ tool along with 30 modular plugs.
- Kit Includes:

30-496 Telemaster Tool for RJ-11 (1, 2, 3 pair) and RJ-45 Plugs
85-346 RJ-45 8P8C, qty. 10
86-395 RJ-11 6P6C, qty. 10
85-344 RJ-11 6P4C, qty. 10

PRO Network/Telco Installer Kit – 33-506

- This kit gives the user the ability to terminate modular plugs as well as data blocks or jacks.
- Kit Includes:

30-696 Ratchet Telemaster™
35-485 Punchmaster™ II 110 Blade only
35-473 Probe Pic and Spudger
45-165 UTP/STP Stripper
35-088 Electrician's Scissors w/Stripper Notches
35-497 66 Blade only
85-396 8-Position, RJ-45 Modular Plugs, qty. 50
35-535 Mechanic's Bag

Crimpmaster™ 10Base-T RJ-45 Crimping Kit – 33-652

- This foam fitted kit includes the Crimpmaster™ Crimp Tool with an 8-position die set as well as 200 RJ-45 Modular Plugs. Kit allows user to cut, strip and terminate twisted pair cables.
- Kit Includes:

30-506 Crimpmaster™ Crimp Tool Frame only
30-559 8-Position Die Set for RJ-45 Plugs
45-074 Data T®-Cutter
45-165 UTP/Coax Stripper
86-396 8-Position RJ-45 Plugs, qty. 200

33-960 Series – Micro OTDRs

Designed with installers in mind, 33-960 Series Micro OTDRs offer excellent performance and ease of use in a truly handheld, lightweight and rugged package. Available as either an 850/1300 nm (multimode) or 850/1300/1310/1550 nm (multimode and single mode) OTDR, they are ideally suited for the installation and troubleshooting of LAN, campus and WAN fiber networks. Both models combine high measurement precision with the user friendliness of one-button operation resulting in accurate characterization of connectors and splices in addition to fast and reliable fault location.

With the MB option, these OTDRs provide clear PASS/FAIL indications. Distance, loss and ORL for each event is reported in a trace summary table making full certification of the link possible. Each OTDR is shipped in a kit containing everything you need to get started on the job, including a ruggedized carrying case, PC software, rechargeable batteries and wall charger.

- **Short Attenuation and Event Dead Zones** – for accurate location and characterization of events
- **Autotest Function** – provides simple one-button operation
- **Fast Data Acquisition** – important for troubleshooting intermittent problems
- **Certifying OTDR Option** – for tier-2 certification
- **Optional Macro Bend detection** – accurately detects macro bends in singlemode fiber

Specifications

Testing	33-960-10	33-960-30
Wavelength [nm]	850, 1300	850, 1300, 1310, 1550
Dynamic Range [dB]	24 / 25	24 / 25 / 29 / 28
Attenuation dead zone [m]	11 / 11	11 / 11 / 11 / 12
Pulse width [ns]	10, 30, 100, 275, 1000, 2500, 10000	
Event dead zone [m]	2.5 worst case	
Launch Conditions (MM)	Class CPR 1 or 2	
Linearity [dB / dB]	± 0.03	
Loss threshold [dB]	0.05	
Loss resolution [dB]	0.01	
Sampling resolution [m]	0.16 to 5	
Sampling points	Up to 30000	
Typical real time refresh [1/sec]	4	
Distance uncertainty [m]	± (0.75 + 0.0025% x distance + sampling resolution)	
Distance range [km]	0.1 to 40	MM: 0.1 to 40 SM: 0.65 to 160
Stable source output power [dBm]	-1.5	MM: -1.5 SM -6.5
Laser Safety	21 CFR 1040.10 and IEC 60825-1:1993+A2:2001 / Class 1M	
Hardware	**All Models**	
Memory capacity	500 traces	
Data connectivity	USB A and USB B	
Size (HxWxD) [mm]	250 x 125 x 75 (9.8 x 4.9 x 2.9 in.)	
Weight	1 kg (2.2 lbs.)	
Temperature	Operating: -18°C to 50°C , Storage: -40°C to 70°C	
Batteries	2 x Li-Ion	
Power supply (mains)	110 – 230 V AC	
Power supply (unit)	9 - 24 V DC, 12 Watt	
Operating time	8 hours (per Bellcore™ TR-NWT-001138)	
Warranty	1 year	

Kits

33-960-10 MM OTDR Kit	33-960-30 Quad OTDR Kit
MM OTDR with 850/1300nm	Quad OTDR with 850/1300/1310/1550nm
Ruggedized carrying case	Ruggedized carrying case
PC-Software	PC-Software
CD with manual and Quick Reference Guide	CD with manual and Quick Reference Guide
Wall charger	Wall charger
2 Li-Ion rechargeable batteries	2 Li-Ion rechargeable batteries
SC Adapter	1 SC and 1 FC Adapter
33-960-10MB	OTDR Kit with Tier 2 certification option and macro bend detection
33-960-30MB	

Ordering Information

Description	Cat. No.
200x and 400x video probe w/USB port	**33-960-VP**
Adapter for FC connectors	**33-961-10**
Adapter for SC connectors	**33-961-20**
Adapter for ST connectors	**33-961-30**
Adapter for E2000 connectors	**33-961-40**
Adapter for DIN 47256 connectors	**33-961-50**
Adapter for HMS-10/AG connectors	**33-961-60**
Cleaning Kit	**1219-00-1621**
Rechargeable battery	**33-960-BP**
Foldable USB Keyboard	**33-960-KB**

FiberMASTER™ Fiber Optic Test Kit

Measure fiber optic power in milliwatts (mW) and decibel-milliwatts (dBm) to test and troubleshoot active LANs. Quickly measure cabling loss with the automatic calibration feature that stores reference power from any light source for quick dB loss calculations. Plus, the 1490nm wavelength measurement mode is perfect for troubleshooting emerging Fiber-To-The-Home cabling systems.

- **Fiber Optic Power Meter & Light Source** – Four wavelength power meter for multimode and single mode testing, and 850nm multimode LED light source.
- **Calibration Function** – Stores reference power level for quick dB loss measurements eliminating the need to manually calculate loss.
- **Save Time and Money** – Power meter features 2.5mm universal and FC adapters, light source includes ST®, SC and FC adapters to test the most common interfaces.
- **Ready for FTTx** – 1490nm measurement wavelength for use with nearly all single mode Fiber-To-The-Home applications.
- **Designed for the Field** – Unique "docking" light source and easy three-button operation make this the perfect fiber tester for use in the field.

FiberMASTER™ Kit Includes:

- 33-926 Light source, 850nm LED with ST®, SC and FC adapters
- 33-927 Power meter, 4 wavelength with universal 2.5mm and fixed FC adapter
- 2x FC-SC 62.5um multimode cables
- 1 SC calibration coupler
- Carrying case
- English, Spanish, German, French, Portuguese, Italian and Chinese user's manual

Power Meter Specifications

Wavelength	850, 1300/1310, 1490, 1550nm
Detector	InGaAs
Measurement Range	-60 to +3dBm
Accuracy	±5%
Display Resolutio•	.01
Connector	Universal 2.5mm w/FC adapter
Power Supply	AAA Alkaline Battery x 3
Operating Time	360 hours
Operating Temp	-10 to +60°C
Storage Temp	-25 to +70°C

Light Source Specifications

Wavelength	850, 1300, 1310, 1550nm laser diode
Output Power	-6 to -7 dBm Typical
Stability	.05dB after 15min, 0.1dB over 8 hrs
Connector	2.5mm w/ST®, SC, FC adapters
Power Supply	AAA Alkaline Battery x 3
Operating Time	40 hours
Operating Temp	-10 to +60°C
Storage Temp	-25 to +70°C

Description	Cat. No.
850NM Fiber light source	**33-926**
Power meter only	**33-927**
Power meter with 850NM fiber light source (33-926 & 33-927)	**33-928**
Four wavelength MM/SM light source only	**33-929**
Power meter with four wavelength MM/SM light source (33-927 & 33-929)	**33-931**

33-929

Fiber Inspection Microscope

- 100X magnification for viewing multimode connectors
- Includes 2.5mm connector "Universal Adapter" for FC, ST® and SC style connectors
- Oblique illumination provides excellent view of ferrule cleanliness and core condition
- Rugged, rubberized metal housing, precision glass optics and a built-in laser safety filter
- White LED illumination delivers 100,000 hours bulb life
- Optional 200X Conversion Eyepiece threads on for viewing finish/polish of singlemode connectors

Description	Cat. No.
Fiber Inspection Microscope w/carrying case	**45-332**
1.25mm Connector Adapter	**45-334**
MTRJ-Style Connector Adapter	**45-335**
200X Conversion Eyepiece for Singlemode Connectors	**45-336**

Note: ST® is a registered trademark of AT&T.

Visual Fault Finder

Laser light source used to locate breaks, faulty splices and crimps

- 2.5mm Universal Adapter for all ST®, SC and FC connectors
- Useful over a distance of 5km (3 miles)
- Two AA batteries provide over 30 hours of continuous use
- Slim, pocket-sized tool in rugged solid aluminum body
- Nylon carrying case with belt loop included

Description	Cat. No.
Visual Fault Finder	**VFF5**

Note: ST® is a registered trademark of AT&T.

Mini-Lite-Strip™ Optical Fiber Stripper

- Small strip notch engineered and precision-ground to strip 900 micron or 250 micron buffer coatings from 125 micron fiber
- Larger round strip notch machined to remove the 3mm outer jacket
- Strip notches pre-set and locked, no field adjustment necessary

Description	Cat. No.
MiniLite-Strip™ Optical Fiber Stripper	**45-352**

Lite-Strip™ Optical Fiber Stripper

V-notch blades strip a wide range of outer cable jacket. Precision-ground, replaceable knife-type blades strip tight buffer tube insulations (900µm). Also strips mechanically strippable coatings from 250 microns to 900 microns.

- Replaceable precision-ground blades cleanly strip buffer coatings
- New funneled hole makes cable insertion easier
- Improved spring mounting returns handles to original position after every application
- One-step, 900 micron stripping hole provides broader stripping range
- Extra durable to withstand normal drops without requiring tool realignment
- New gauge color makes fiber and hole identification easier
- Improved comfort-grip handles for an easier, more comfortable stripping process

Description	Fiber Sizes	Cat. No.
Lite-Strip™ Optical Fiber Stripper (900µm/250µm)	125µm, 140µm	**45-350**
Replacement Blade Set		**LB-661**

Stripmaster® Ribbon Fiber Jacket Stripper

- Removes jacket from Ribbon Fiber without damage to the Kevlar® strength member of the Ribbon Fiber

Note: Frame and blade-set sold separately.

Description	Cat. No.
Stripmaster® Wire Stripper Frame only	**L-5620**
Blade-set for use with Corning® Plenum and Riser Ribbon Fiber Cable	**LB-1152**
Blade-set for use with Corning® "Fanout" Ribbon Cable	**LB-1153**

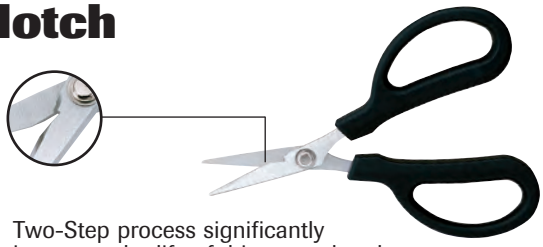
Note: Kevlar® is a registered trademark of DuPont. Corning® is a registered trademark of Corning, Inc.

DualScribe™ Double-Ended Fiber Optic Scribes

- Three professional quality blade styles to choose from to meet your specific needs – Ruby, Sapphire, Carbide
- Color-coded handles for quick, easy identification
  Red – Ruby
  Blue – Sapphire
  Black – Carbide
- 30° single bevel – DualScribe™ reversible blade doubles tool life
- Soft non-slip grip provides precise control during scribing
- Clear safety cap protects the blades from damage when not in use

Description	Handle Color	Cat. No.
Ruby Blade Fiber Optic Scribe	Red	**45-357**
Sapphire Blade Fiber Optic Scribe	Blue	**45-358**
Carbide Blade Fiber Optic Scribe	Black	**45-359**

Serrated Cutter (For Kevlar®) with Breaker Notch



- Two-Step process significantly increases the life of this rugged tool
- Superior quality high-carbon stainless steel with molybdenum and vanadium provides the super-hard edges needed to stand up to the demands of today's market
- Textured cushioned-grip handles
- Value-priced for contractors, cable assembly houses, fiber installers/technicians and tool kits

Description	Cat. No.
Serrated Cutter w/Breaker Notch (Patent pending)	**45-344**

Note: Kevlar® is a registered trademark of DuPont.

Stainless Steel Polishing Fixture for Optical Fiber ST® and SC Type Connectors

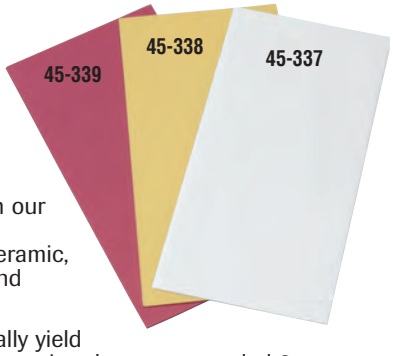
Produces polished fiber optic ST® and SC type connectors for optimum connector performance.

- Precision-machined, stainless-steel disk provides accurate polishing angle for desired end face finish
- Stainless-steel hardness maintains long life and resists uneven wear
- Stepped surface reduces drag and friction for easier polishing

Description	Cat. No.
Polishing Fixture for Optical Fiber ST/ST® Type Connectors	**45-341**

Note: ST® is a registered trademark of AT&T.

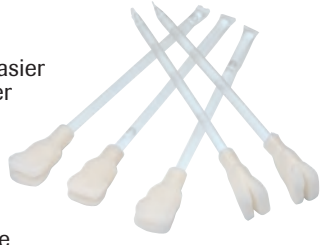
Polishing Films for Fiber Optic Connectors



- For optimum connector polishing results, we recommend a three-step procedure using 0.5µm, 3µm and 12µm 3 in. x 6 in. aluminum oxide polishing films
- Lot-to-lot consistency in our films means repeatable connector finishes on ceramic, stainless steel, plastic and composite ferrules
- A single sheet will typically yield 10 to 20 connectors when using the recommended 3-step procedure

Description	Color	Qty.	Cat. No.
0.5µm, 3" x 5", Aluminum Oxide	Ivory	20 films/sleeve	**45-337**
3.0µm, 3" x 5", Aluminum Oxide	Lt. Yellow	20 films/sleeve	**45-338**
12µm, 3" x 5", Aluminum Oxide	Lt. Red	20 films/sleeve	**45-339**

Split-Tip Fiber Optic Swabs



- Split-tip design cleans fiber easier and more efficiently than other methods
- Tube/handle is pre-loaded with 99% isopropyl alcohol
- A single swab can be used for many cleanings or until the alcohol is gone

Description	Qty.	Cat. No.
Split-Top Fiber Optic Swabs	Bag of 20	**45-360**

ALPHABETICAL INDEX

Item	Page
100 Series, Miniature Terminal Blocks	A-28
200 Series Nylon Heavy Duty Terminal Blocks	A-29
200 Series Phenolic Heavy Duty Terminal Blocks	A-29
21-in-1 Twist-a-Nut™ Screwdriver	A-7, B-33
3-Phase Sequence Tester	D-19
3-Phase/Motor Rotation Tester	D-19
4-in-1 Test Tools	D-4
4-Way Crimp Tool	B-26
4-Way Indent Crimp Tool	E-16
7-in-1 Stripper	B-19
7-in-1 Twist-a-Nut™ Screwdriver	A-7, B-34
9-in-1 Ratch-a-Nut™ Screwdriver	A-7
9-in-1 Ratch-a-Nut™ Screwdriver	B-34
900 Series, Medium Duty	A-28
A	
Abrasives	B-109
Accessories	
Grounding	A-10
Tuff-Grip™ Pro	B-6
Anchor Kits	B-73
Adapters	
Current	D-20
F-Type	E-16
Flexible	D-20
AFCI/GFCI Tester	D-13
Alligator Clips	B-87
Aluminum Benders	B-12
Amplifier Probe	E-9
Analog Meters	D-8
Anchors	B-73
Anti-Oxidant, Noalox®	A-17, B-11
Application Engineering Service	C-8
Apron	B-56
Aqua-Gel® CW Wire Pulling Lubricant	B-10
Aqua-Gel® II Cable Pulling Lubricant	B-10
Aqua-Gel® IIP Wire Pulling Lubricant	B-10
Arbors	B-61
Assemblies, Frame	C-6
Auger Bits	B-65
Augers	B-65
Aviation Tin Snips	B-26
Awl	B-40
B	
B-CAP® Wire Connectors	A-19
B-TAP® Insulation-Piercing Tap Connectors	A-21
B-Twist™ Wire Connectors	A-19
Bag, Cable Tie	B-73
Band Saw Blades	B-67
Barricade Tapes	B-98
Barrier Strips	A-15
Battery Clamps	B-87
Belts	B-55
Bender	
Guide	B-13
Handles	B-12
BenderBoot™	B-13
Benders	B-12
Bit Holder	B-45
Bits	B-43 thru B-45
Auger	B-65
Drill	B-63
Installer	B-63
Power-Spade™	B-63
Wood Boring	B-64
Blades	
Band Saw	B-67
Hacksaw	B-13, B-30
Punch Down	E-17
Reciprocating	B-66, B-67
Stripmaster® Wire Stripper	C-3
Blued-Steel™ Fish Tapes	B-4
BNC Connectors	E-16
Breaker Cross-Reference	B-99 thru B-108
Breaker Lockout System	B-93, B-94
Breaker Lockouts	B-92, B-93
Bullet Disconnects	A-14
Bushings	B-73
Butt Splices	A-13
C	
Cabinet Screwdrivers	B-38
Cable	E-18
Certifier, LanTEK®	E-2
Cutters	B-22, B-24, B-29
Locking	B-96
Lockouts	B-95
Pulling Lubricant	B-10
Ripper	B-19
Splicing Kit	E-21
Stacker	B-74
USB	D-20
Cable Strippers	E-19
Coaxial	E-20
Cyclops Data	E-19
NM	B-18
UF	B-20
UTP	E-19
Cable Testers	E-7
IENet™ Pro	E-8
VDV Multimedia	E-9
VDV Pro	E-7
Cable Tie	
Bag	B-73
Installation Tool	B-68
Cable Ties	B-68 thru B-72, B-80
Plenum	B-69
Can Light Hole Saw	B-61
Canvas Tool Bag	B-55
Carbide-Tipped Hole Cutters	B-58
Carriers, Foam	B-15
Carrying Cases	D-21
Cases	
Carrying	D-21
Insulated Hand Tool	B-50
CAT 5E Cable	E-19
CAT 6 Modular Plugs	E-18
CCTV Stripper	E-19
Center Punch	B-30
Channel Clamps	A-32
Channels, Mounting	A-32
Chisels	B-30
Circuit Analyzers	D-12
Circuit Breaker Finders	D-17
Circuit Tester	
E-Z Check	D-18
Test-Glo™	D-18
Circuit Tracers	D-9
Clamp Adapters	D-20
Clamp Meter	
Selection Guide	D-2
Clamp Meters	D-2
Clamp-Pro™	D-4
TightSight®	D-3
Clamp-Pro™ Clamp Meters	D-4
Clamps	B-69
Battery	B-87
Channel	A-32
ClearGlide™ Wire Pulling Lubricant	B-9
Clips, Alligator	B-87
Coax	
Strip/Crimp Tool	B-20, E-15
Stripmaster® Wire Strippers	E-20
Strippers	E-20
Termination Kit	E-24
Coaxial	
Cable Strippers	E-18, E-20
Connectors	E-15
Combo Head™	
Bits	B-44
Screwdriver	B-39
Combo Tool	B-19
Commercial-Grade Multimeter	D-6
Commutator	
Cleaner	B-110
Maintenance	B-109
Compression	
Connector Instructions	E-13
Connectors	E-11, E-12
Kit	E-23, E-24
Tools	E-10
Port Seals	E-12
Conduit	
Benders	B-12
Markers	B-97
Measuring Tape	B-15
Wiring Kit	B-35
Connector Installation Tools	E-15
Connectors	
BNC	E-16
Coaxial	E-15
Compression	E-11, E-12
IDC	E-18
Steel Crimp	A-16
Tap Splice	A-13
Connects, Quick	A-15
Continuity Tester	D-18
Contractor-Grade Multimeter	D-7
Covers	A-15
Crimp Connectors	A-16
Crimp Connectors	
Splice Cap	A-23
Crimp	
Kit	E-25
Terminals	A-11
Tool	B-23, B-26, E-15
Crimp Tool, 4-Way Indent	E-16
Crimp Tool, Four-Way	A-23
Crimp Tools	E-15
Crimpmaster™ Crimp Tools	E-14
Current Clamp Adapter	D-20
Custom Stripmaster®	
Lite Wire Strippers	C-5
Wire Strippers	C-4
Cutters	
Cable	B-22, B-24, B-29
Serrated	E-29
Cyclops® Data Cable Stripper	E-19
D	
D-Sub/Double-D Service Tool	E-16
Data T®-Cutter	B-19, E-21
Data/Video Kit	E-24
DataComm Kits	E-22
Deburring Tools	B-35
Diagonal Cutting Pliers	B-23, B-24
Die Sets	E-14
Digital Light Meters	D-19
Diplexer	E-22
Disconnects	
Bullet	A-12
Female	A-12 thru A-13
Male	A-12, A-14
Multi-Stack	A-12
Receptacle	A-14
Divider Pouch™	B-55
Door Switches	B-85
Double Ended Bits	B-44

ALPHABETICAL INDEX

Item	Page
Drill	
Bits	B-63
Pilot	B-58
Duct Seal	B-11
Ductile Iron	
Benders	B-12
Hickeys	B-13
E	
E-Z Check® Circuit Tester	D-18
Electrician's Screwdrivers	A-7
Engraving Tools	B-27
Entrance Straps	B-74
Ergo Tool Pouches	B-55
Ergonomic Hacksaws	B-30
Ethernet Certifier	E-4
Extension Bar	B-64
F	
F-Connectors	
Push-On	E-15
Twist-On	E-15
F-Type	
Adapters	E-16
Coaxial Connectors	E-14
Female	
Disconnects	A-12 thru A-13
Fiber Optic	
Scribes	E-29
Swabs	E-29
Test Kit	E-27
FiberMASTER™	E-27
Field Application Kits	B-6
File, Sharpening	B-64
Films, Polishing	E-29
Fish Tape	
Leaders	B-6
Swivel Ball	B-6
Fish Tapes	B-2 thru B-5
Blued-Steel™	B-4
Gold-Fish®	B-5
S-Class®	B-5
Stainless Steel	B-4
Volt-Guard™	B-5
Zoom™	B-5
Fishing Poles, Tuff-Rod™	B-7
Flexible	
Clamp Adapter	D-20
Drill Bits	B-63
Tubing	B-73
Foam Carriers	B-15
Folding Saw	B-30
Four-Way Crimp Tool	A-23
Frame Assemblies	C-6
Fuse Blocks, Phenolic	A-31
Fuse Pullers	B-51
G	
Gate Valve Lockout	B-95
Generator, Tone	E-9
Gold-Fish® Fish Tapes	B-5
Greenie® Grounding Wire Connectors	A-3
Grinder	B-110
Grip-n-Screw™ Screwdriver	B-40
Grip-n-Strip™ End Stripper	B-20
Gripper Pads	C-6
Grips	B-23
Grommets	B-73
Ground Resistance Meters	D-15
Grounding	
Accessories	A-10
Block	E-22
Wire Connectors	A-3
Guide, Bender	B-13
H	
Hacksaw	B-30
Blades	B-13, B-30
Ergonomic	B-13
Heavy-Duty	B-13
Hammer	B-27
Hand Tool Kits	B-52, B-53
Handles	
Bender	B-12
Hickeys	B-13
Hasps	B-98
Heat Guns	B-78
Heat Shrink Tubing	B-76 thru B-77
HeatSeeker® Thermal Imagers	D-10
Heavy-Duty	
Hacksaws	B-13, B-30
Terminal Blocks	A-29
Heavy-Duty, 200 Series Phenolic Terminal Blocks	A-29
Heavy-Duty, Nylon Intermediate Terminal Blocks	A-30
Heavy-Duty, Phenolic Ultra Terminal Blocks	A-30
Hex Key Sets	B-30
Hickey Handles	B-13
Hickeys	B-13
Hip Holster Tool Pouch	B-55
Hole Cutters	B-58
Hole Saw	B-60, B-61
Arbors	B-61
Can Light	B-61
Kits	B-58, B-61
Tri-Bore™ Multi-Purpose	B-62
I	
IDC Connectors	E-18
Identification Ties	B-68
IENet™ Pro Ethernet Cable Tester	E-8
In-Sure™ Push-In Wire Connectors	A-9
In-Wall Speaker Wire	E-19
Indentor	B-26
Indicator Lights	B-86, B-87
Industrial-Grade Multimeter	D-6
Infrared Thermometer	D-19
Installation Tools	E-15
Installer	
Bits	B-63
Kit	E-24
Insulated	
Cases	B-50
Hand Tools	B-46 thru B-51
Knife	B-50
Nutdrivers	B-50
Pliers	B-50
Screwdrivers	B-50
Staples	B-74
Tool Kits	B-48, B-49
Insulation Displacement Connectors	E-17
Insulation Testers	D-15
Insulators	
Splice Cap	A-23
Wrap-Cap®	A-16
IRONMAN™ Hole Saws	B-60, B-61
J	
Jab Saw	B-30
Jacket Stripper	E-27
Jumpers	A-15, A-38
K	
Keystone Screwdrivers	B-39
Kinetic Super Wire Stripper/ Crimper	E-18
Kinetic™ Wire Strippers	B-17
Kits	
DataComm	E-22 thru E-24
Field Application Kits	B-6
Hand Tool	B-52, B-53
Hole Saw	B-58, B-61
Lockout/Tagout	B-88 thru B-90
Step Bit	B-57
Wood Boring Bit	B-64
Knife, Insulated	B-50
Knives	B-30
L	
Labels, Lock	B-96
LanTEK® Cable Certifier	E-2
LanXPLORER™	E-5
Large Mouth Bags	B-56
LASERedge™ Pliers	B-22 thru B-23
Latch, Short Stop	C-3
Lead Screws	B-64
Leaders, Fish Tape	B-6
Leads, Test	D-20
Level	B-30
Lighting Kit	B-40
Lights, Indicator	B-86, B-87
Lil' Ripper Stripper	B-18
Line Packages	B-15
LinearX™ Compression Tools	E-10
LinkMaster™ Tester	E-8
Load Center	B-79
Lock Box	B-90
Lock Labels	B-96
Lock Stations	B-91
Locking Cable	B-96
Lockout	
Hasps	B-98
Signs	B-97
Tags	B-97
Gate Valve	B-95
Lockout/Tagout	
Kits	B-88 thru B-90
Training	B-91
Lockouts	
Breaker	B-92, B-93
Cable	B-95
Plug	B-93
Switch	B-95
Long-Arm Cable Cutters	B-29
Long-Nose Pliers	B-22, B-24
Low Voltage Starter Kit	E-23
Lubricants	B-8 thru B-11
Luminaire Disconnects	A-8
M	
Magnetic	
Bit Holder	B-45
Nut Setter	B-45
Strap	D-20
Male Disconnects	A-12, A-14
Markers	
Conduit	B-97
Voltage	B-97
Marking Pen	B-80
Measuring Tape, Conduit	B-15
Measuring Tapes	B-27
Mechanical Indentor	B-26
Medium Duty, 900 Series Terminal Blocks	A-28
Meters	
Analog	D-8
Clamp	D-2
Digital	D-19
Ground Resistance	D-15
Pocket	D-8
Residential	D-8
Split-Jaw	D-17
Microscope	E-28
MIL Spec Chart	C-7
Mini Cushioned-Grip Screwdriver Set	B-41
Mini Hacksaws	B-30
Miniature Terminal Blocks	A-28
Modular Plug Tool Kit	E-17

Item	Page
Modular Plugs	E-18
CAT 6	E-18
Mounting	
Base	B-72, B-73
Channels	A-32
Head Ties	B-72
Pads	B-72
Mudbug® Utility Wire Connectors	A-6
MULETAPE®	B-14
Multi-Crimp Tools	B-19, B-23 thru B-25
Multi-Purpose Hole Saws	B-62
Multi-Stack Disconnects	A-12
Multimeter	
Commercial-Grade	D-6
Contractor-Grade	D-7
Industrial-Grade	D-6
Selection Guide	D-5
Test-Pro®	D-7
N	
NAVITEK® II	E-6
Network Service Kit	E-23
NM Cable Strippers	B-18
Noalox® Anti-Oxidant	A-17, B-11
Nut Setter	B-45
Nutdriver	B-42
Insulated	B-50
Nutmaster	A-7
Sets	B-42
Nutmaster®	A-7, B-42
Nylon Heavy-Duty Terminal Blocks	A-29
Intermediate Heavy-Duty Terminal Blocks	A-30
O	
Off-Set Screwdriver Set	B-40
OmniSeal™ Pro Compression Tools	E-10
Optical Fiber Stripper	E-28
OTDR	E-26
P	
Padlocks	B-96
Pads, Gripper	C-6
Parallel Splices	A-13
Phenolic	
Fuse Blocks	A-31
Heavy-Duty Terminal Blocks	A-29
One-Piece Terminal Blocks	A-31
Ultra Heavy-Duty Terminal Blocks	A-30
Phillips	
Bits	B-44
Screwdrivers	B-38
Pilot Drill	B-58
Plenum Cable Ties	B-69
Pliers	B-21 thru 25
Insulated	B-50
Split-Joint	B-23
Plug Lockouts	B-93
Plugs, Modular	E-17
Pocket Knives	B-30
Pocket Meter	D-8
Pocket Pal™ Tool Holster	B-55
Polishing	
Films	E-29
Fixture	E-29
Port Seals	E-11
Power Analyzer	D-14
Power Spade Bits	B-63
PowerBlade™ Cable Cutter	B-28
PowerPlug® Luminaire Disconnects	A-8
Powr-Fish® Pull-Line	B-14
Powr-Polish™ Abrasives	B-109
Powr-Tie™ Cable Ties	B-70
Pre-Insulated Crimp Connectors	A-16
PrepPRO™ Cable Stripper	E-21
PRO Amplifer Probe	E-9
Pro Installer Kit	E-23
Pro-Pull™ Rope	B-14
Probe	
Amplifier	E-9
PRO Amplifier	E-9
Pull-Chain Switches	B-84
Pull-Line	B-14
Punch Down	
Blades	E-17
Tools	E-17
Push-Button Switches	B-84
Push-On F-Connectors	E-15
Q	
Quick Change Chuck	B-45
Quick Connects	A-15
Quick-Change Screwdriver	B-41
Quick-Rotating Screwdriver	B-40
R	
Ratchet	
Crimp Tool	B-26
Telemaster™	E-17
Cable Cutter	B-29
Receptacle	
Disconnects	A-14
Testers	D-18
Recessed Lighting Kit	B-40
Reciprocating Blades	B-66
Reflex™ Wire Strippers	B-17, B-18
Residential Meters	D-8
Resurfacers	B-109
RG-11 Coax Stripper	E-20
Ring Terminals	A-12
Ringing Tool	B-20
Rocker Switches	B-83, B-85
Rope	B-14
Rotary Switches	B-85
Round Cable Slitting & Ringing Tool	B-20, E-21
S	
S-Class® Fish Tapes	B-5
Safety, Test & Measurement	D-23
Satellite Stripper	E-19
Saws	B-30
Hole	B-60, B-61
Scissors	E-21
Screwdriver	
Bits	B-43 thru B-45
Screwdriver Set	B-37
Mini Cushioned-Grip	B-41
Stubby	B-41
Screwdriver	
7-in-1 Twist-a-Nut†	A-7
9-in-1 Ratch-a-Nut	A-7
21-in-1 Twist-a-Nut™	A-7
Combo Head™	B-39
Grip-n-Screw™	B-40
Quick-Change	B-41
Quick-Rotating	B-40
Screwdriver/Nutdrivers	B-36
Screwdrivers	B-32 thru B-41
Cabinet	B-38
Insulated	B-50
Keystone	B-39
Phillips	B-38
Slim Electronics	B-41
Square	B-38
Twist-a-Nut™	B-33, B-34
Scribes, Fiber Optic	E-29
Seals	E-12
SecuriTEST™ Security Tester	E-7
Security Tester	E-7
Selection Guide,	
Carrying Case	D-21
Clamp Meter	D-2
Lubricant	B-11
Multimeter	D-5
Replacement Parts	D-22
Serrated Cutter	E-29
Service Compression Kit	E-24
Service Tool	E-15
Set Screw	
Holder	A-17
Wire Connectors	A-17
Sets	
Nutdriver	B-42
Screwdriver	B-37
Sharpening File	B-64
Shims	B-73
Ship Augers	B-65
Short Stop Latch	C-3
Shoulder Straps	B-55
Side Cutting Pliers	B-22, B-24
SignalTEK™	E-4
SignalTEK™ II	E-3
Signs	B-96, B-97
Sir Nickless™ Cutter	B-26
Slide Switches	B-85
Slim Electronics Screwdrivers	B-41
Slotted Bits	B-44
Snips, Aviation Tin	B-26
Socket Adapter	B-45
Solenoid Voltage Testers	D-16
Spacer Shims	B-73
Spade	
Terminals	A-11 thru A-12
Speaker Wire	E-19
Spin-Twist® Wire Connector Socket	A-7
Splice Cap Crimp Connectors	A-32
Splice Cap Insulators	A-32
SpliceLine™ In-Line Wire Connectors	A-8
Splices	
Butt	A-13
Parallel	A-13
Split-Jaw™ Smart Meter	D-17
Split-Joint Pliers	B-23
Splitters	E-22
Square	
Bits	B-44
Screwdrivers	B-38
Stainless Steel Fish Tapes	B-4
Staples	B-74
Stations, Lock	B-91
Steel	
Crimp Connectors	A-16
Padlocks	B-96
Staples	B-74
Step Bits	B-57
Strain Relief Boots	E-18
Straps, Entrance	B-74
StreetLight Kits	A-22 thru A-27
Stripmaster®	
Lite Wire Strippers	C-2
Ribbon Fiber Jacket Stripper	E-28
Wire Stripper Blades	C-3
Wire Strippers	B-19, B-20, C-2
Stripper	
Cable	E-19
CCTV	E-19
Coax	E-19
Coaxial Cable	E-18
Jacket	E-27
NM	B-18
Optical Fiber	E-28
Satellite	E-19
UTP Cable	E-19
V-Notch	B-19
Wire	B-16 thru B-18
Stubby Screwdriver Set	B-41
Stud Bushings	B-73

ALPHABETICAL INDEX

Item	Page
SureTest® Circuit Analyzers	D-12
Swabs, Fiber Optic	E-29
Switch Lockouts	B-95
Switches	B-81 thru B-85
Door	B-85
Pull-Chain	B-84
Push-Button	B-84
Rocker	B-83, B-85
Rotary	B-85
Slide	B-85
Toggle	B-81
Swivel Ball, Fish Tape	B-6
T	
T®-Cutter Data	E-21
Lite Wire Cutter	B-20
T®-Stripper Wire Strippers	B-18
Tags	B-97
Tamper-Proof Torx® Bits	B-45
Tap Connectors	A-21
Tap Splice Connectors	A-13
Tap Tools	B-35
Tapes	B-98
Fish	B-2 thru B-5
Measuring	B-27
Technician's Service Kit	E-25
Telemaster™	E-17
Telephone Tools	E-17
Tenite® Grips	B-23
Terminal Blocks	A-28 thru A-31
Strips	A-14
Ring	A-12
Spade	A-11 thru A-12
Termination Kit	E-24, E-25
Terminators	E-16
Test & Measurement Safety	D-23
Test Leads	D-20
Tools	D-4
Test-Glo™ Circuit Tester	D-18
Test-Pro® Multimeters	D-7
Test-Tone-Trace Kit	E-9
Tester 3-Phase/Motor Rotation	D-19
3-Phase Sequence	D-19
AFCI, GFCI	D-13
Continuity	D-18
LinkMaster™	E-8
Insulation	D-15
Receptacle	D-18
Thermal Imagers	D-10
Thermo-Shrink®	B-75 thru B-77
Thermocouple	D-21
Thermometer, Infrared	D-19
Ties, Identification	B-68
TightSight® Clamp Meters	D-3
Tin Snips	B-26
TKO™ Carbide-Tipped Hole Cutters	B-58
Toggle Switches	B-81 thru B-83
Tone Generator	E-9
Tongue & Groove Pliers	B-22, B-24
Tool Bags	B-56
Carriers	B-54 thru B-56
Kits, Insulated	B-48, B-49
Pouches	B-54 thru B-56
Tools, Engraving	B-27
Torx® Bits	B-45
TRACETone™ Tone Generator	E-9
Transparent Adjustable Wire Stop Assembly	C-3
Tri-Bore™ Multi-Purpose Hole Saws	B-62
Tubing, Flexible	B-73
Tuff-Grip™ Pro Accessories	B-6
Tuff-Rod™ Fishing Poles	B-7
Tuff-Tote™ Tool Carriers & Pouches	B-54
Twist-a-Nut™ Pro Electrician's Screwdrivers	A-7, B-34
Twist-a-Nut™ Conduit Wiring Kit	B-35
Screwdrivers	B-33, B-34
Tap Tool	B-35
Twist-On F-Connectors	E-15
Twister® Al/Cu Wire Connectors	A-6
Pro Wire Connectors	A-4
Wire Connectors	A-4
U	
UF Cable Stripper	B-20
Underground Tapes	B-98
UnderGround™ Wire Connectors	A-5
USB Cable	D-20
Utility Bit Augers	B-65
Knife	B-30
Wire Connectors	A-6
UTP Cable Stripper	E-19
V	
V-Notch Stripper	B-19
Valu-Line™ Pull-Line	B-14
VDV Multimedia Cable Tester	E-9
VDV Pro Cable Tester	E-7
Velocity™ Wire Pulling Lubricant	B-10
Visual Fault Finder	E-28
Vol-Con® Elite Voltage Tester	D-16
Volt-Guard™ Fish Tapes	B-5
Volt-Guard™ Repair Kit	B-6
Voltage Markers	B-97
Voltage Performance Monitor	D-13
Voltage Tester Vol-Con® Elite	D-16
VoltAware™	D-18
VoltSensor™	D-18
Solenoid	D-16
VoltAware™ Non-Contact Voltage Tester	D-18
VoltSensor™ Non-Contact Voltage Tester	D-18
W	
WeatherProof™ Wire Connectors	A-5
Wing-Nut® Wire Connectors	A-3
WingTwist™ Wire Connectors	A-22
Wipes	B-27
Wire Connector Socket	A-7
Wire Connectors B-CAP®	A-19
B-Twist®	A-19
Greenie® Grounding	A-3
In-Sure™ Push-In	A-9
Mudbug® Utility	A-6
Set Screw	A-17
SpliceLine® In-Line	A-8
Twister®	A-4
Twister® Al/Cu	A-6
Twister® Pro	A-4
UnderGround™	A-5
WeatherProof™	A-5
Wing-Nut®	A-3
WingTwist™	A-22
Wire-Nut®	A-2
WireTwist™	A-20
Wire Cutters	B-19, B-20
Wire Marker Booklets	B-79, B-80
Cards	B-79
Dispenser	B-79
Wire Pulling Lubricant	B-9
Wire Stop Assembly	C-3
Wire Stripper MIL Spec Chart	C-7
Wire Stripper/Crimper, Kinetic Super	E-18
Wire Strippers	B-16 thru B-18
Coax Stripmaster®	E-20
Custom Stripmaster®	C-4
Custom Stripmaster® Lite	C-5
Kinetic™	B-17
Reflex™	B-17, B-18
Stripmaster®	C-2
Stripmaster®	B-20
T®-Stripper	B-18
Wire-Nut® Wire Connectors	A-2
Wire, Speaker	E-19
WireMan™ Pliers	B-24 thru B-25
WireTwist™ Wire Connectors	A-20
Wiring Configurations	E-17
Wood Boring Bits	B-64
Wrap-Cap® Insulators	A-16
Wrenches	B-27
Y	
Yellow 77® Plus Wire Pulling Lubricant	B-9
Yellow 77® Wire Pulling Lubricant	B-9
Z	
Zipper Pouches	B-55
Zoom™ Fish Tapes	B-5

Numerical Index

Item	Page
0221	A-29
0222	A-29
0223	A-29
0230	A-29
0241	A-29
0242	A-29
0243	A-29
0250	A-29
0330	A-30
0351	A-30
0352	A-30
0358	A-30
0921	A-28
0924	A-28
0925	A-28
0930	A-28
11	A-32
12	A-32
41	A-32
42	A-32
43	A-32
60	A-32
61	A-32
63	A-32
64	A-32
67	A-32
68	A-32
70	A-32
115	A-28
120	A-28
125	A-28
130	A-28
101053	E-5, E-6
150050	E-3, E-5, E-6
150052	E-5
150053	E-5
150054	E-3, E-5, E-6
150055	E-3, E-6
150056	E-3, E-6
150057	E-3, E-6
150058	E-3, E-5, E-6
150059	E-3, E-5, E-6
150061	E-5
151051	E-3, E-6
151053	E-3
151052	E-3, E-6
151054	E-5, E-6
156050	E-3
221	A-29
222	A-29
223	A-29
230	A-29
241	A-29
242	A-29
243	A-29
250	A-29
330	A-30
351	A-30
352	A-30
358	A-30
426	A-30
427	A-30
430	A-30
444.001	B-94
824	A-30
830	A-30
921	A-28
924	A-28
925	A-28
930	A-31
2007	A-23
2014	A-23
10-398	B-55
10-466	B-54
11-111	B-27
11-113	B-27
11-200	B-27
11-201	B-27
1219-00-1621	E-26
2006S	A-32
2006SB	A-32
2007B	A-32
2011S	A-32
2011SB	A-32
2014B	A-32
23-001	B-110
23-002	B-110
23-003	B-110
23-004	B-110
23-005	B-110
23-006	B-110
23-007	B-110
23-008	B-110
23-027	B-110
23-035S	B-110
23-036S	B-110
23-041S	B-110
23-042S	B-110
24-033	B-110
30-024	A-17, B-11
30-026	A-17, B-11
30-030	A-17, B-11
30-031	A-17, B-11
30-032	A-17, B-11
30-040	A-17, B-11
30-059	A-2
30-060	A-5
30-061	A-5
30-062	A-5
30-063	A-5
30-064	A-5
30-065	A-6
30-066	A-5
30-071	A-2
30-072	A-2
30-073	A-2
30-073J	A-2
30-074	A-2
30-074J	A-2
30-076	A-2
30-076J	A-2
30-082	A-8
30-083	A-8
30-087J	A-9
30-088J	A-9
30-090J	A-9
30-092	A-3
30-092J	A-3
30-102	A-8
30-1032	A-9
30-1032J	A-9
30-1033	A-9
30-1033J	A-9
30-1034	A-9
30-1034J	A-9
30-1039	A-9
30-1039J	A-9
30-103X	A-8
30-1042	A-8
30-1042J	A-8
30-144	A-4
30-148	A-18
30-151	A-2
30-152	A-2
30-153	A-2
30-159	A-2
30-160	A-5
30-160Y	A-6
30-161	A-5
30-162	A-5
30-163	A-5
30-1632	A-9
30-1633	A-9
30-1634	A-9
30-1639	A-9
30-1642	A-8
30-164Y	A-6
30-165	A-6
30-171	A-2
30-172	A-2
30-173	A-2
30-174	A-2
30-1742	A-8
30-176	A-2
30-187	A-9
30-188	A-9
30-190	A-9
30-192	A-3
30-210	A-17
30-211	A-17
30-222	A-17
30-244J	A-4
30-245	A-18
30-249	A-18
30-251	A-2
30-252	A-2
30-253	A-2
30-259	A-2
30-260	A-5
30-261	A-5
30-262	A-5
30-263	A-5
30-264	A-5
30-265	A-6
30-266	A-5
30-271	A-2
30-272	A-2
30-273	A-2
30-274	A-2
30-276	A-2
30-292	A-3
30-310	A-17
30-311	A-17
30-3183	A-10
30-3184	A-10
30-322	A-17
30-3284	A-10
30-3285	A-10
30-3286	A-10
30-3287	A-10
30-3288	A-10
30-3289	A-10
30-330	A-7, B-34
30-331	A-7, B-34
30-3310	A-10
30-3311	A-10
30-332	A-7, B-34
30-333	A-7, B-34

Numerical Index

Item	Page
30-3385	A-10
30-3390	A-10
30-3392	A-10
30-3394	A-10
30-3395	A-10
30-3396	A-10
30-3399	A-10
30-340	A-4
30-3402	A-10
30-3404	A-10
30-341	A-4
30-3410	A-10
30-3412	A-10
30-3413	A-10
30-341J	A-4
30-342	A-4
30-3429	B-23
30-3430	B-22
30-3470	A-10
30-3471	A-10
30-3480	A-10
30-3496	A-10
30-3498	A-10
30-352J	A-8
30-353XJ	A-8
30-3570	A-10
30-3571	A-10
30-3580	A-10
30-3594	A-10
30-360	A-5
30-360Y	A-6
30-361	A-5
30-362	A-5
30-3627	A-2
30-3628	A-2
30-3629	A-2
30-363	A-5
30-364	A-5
30-364Y	A-6
30-365	A-6
30-372	A-8
30-382J	A-8
30-383X	A-8
30-383XJ	A-8
30-401	A-16
30-402	A-16
30-410	A-16
30-411	A-16
30-412	A-16
30-415	A-18
30-417	A-18
30-425	B-23, B-26
30-426	E-16
30-428	B-19
30-429	B-23
30-430	B-22
30-433	B-20, E-15
30-433F	B-20, E-15
30-441J	A-4
30-4429	B-25
30-4430	B-24
30-445	A-16
30-447	A-16
30-451	A-3
30-451J	A-3
30-452	A-3
30-452J	A-3
30-454	A-3
30-479	E-14
30-481	E-14
30-482	E-14
30-483	E-14
30-496	E-17
30-499	E-17
30-500	E-14
30-502	E-14
30-503	E-14
30-510	A-16
30-511	A-16
30-512	A-16
30-515	A-17
30-517	A-16
30-521	E-14
30-522	E-14
30-541	A-4
30-5429	B-25
30-5430	B-24
30-551	A-3
30-552	A-3
30-554	A-3
30-556	E-14
30-559	E-14
30-560	E-14
30-570	E-14
30-572	E-14
30-573	E-14
30-576	E-14
30-577	E-14
30-578	E-14
30-579	E-14
30-580	E-14
30-581	E-14
30-582	E-14
30-586	E-14
30-587	E-14
30-591	E-14
30-593	E-14
30-594	E-14
30-599	E-14
30-603	E-10
30-610	A-16
30-615	A-14
30-640J	A-4
30-641	A-4
30-642	A-4
30-644J	A-4
30-645	A-18
30-648	A-18
30-649	A-18
30-651	A-3
30-651J	A-3
30-652	A-3
30-652J	A-3
30-654	A-3
30-673	A-2
30-674	A-2
30-682	A-8
30-682L	A-8
30-683	A-8
30-687	A-9
30-688	A-9
30-690	A-9
30-696	E-17
30-760	A-5
30-764	A-5
30-765	A-6
30-766	A-5
30-793	E-10
30-801	A-2
30-802	A-2
30-803	A-2
30-809	A-2
30-840	A-4
30-841	A-4
30-842	A-4
30-851	A-3
30-852	A-3
30-854	A-3
30-871	A-2
30-872	A-2
30-873	A-2
30-874	A-2
30-876	A-2
30-902	A-7
30-9429	B-48,B-50
30-9430	B-48, B-49, B-50
30-944	A-4
30-992	A-3
30-B2216	A-23
30-C1212	A-23
30-C1212D	A-23
30-C1212N	A-23
30-C1212P	A-23
30-C1216	A-23
30-C1216D	A-23
30-C1216N	A-23
30-C1216P	A-23
30-C1222	A-23
30-C1222N	A-23
30-C1226	A-23
30-C1226N	A-23
30-C1616	A-23
30-C1616D	A-23
30-C1616N	A-23
30-C1616P	A-23
30-C1622	A-23
30-C1622N	A-23
30-C1626	A-23
30-C1626N	A-23
30-C2012	A-23
30-C2012N	A-23
30-C2012T	A-23
30-C2016	A-23
30-C2016N	A-23
30-C2016T	A-23
30-C2022	A-23
30-C2022D	A-23
30-C2022N	A-23
30-C2022P	A-23
30-C2026	A-23
30-C2026D	A-23
30-C2026N	A-23
30-C2026P	A-23
30-C2216	A-23
30-C2216N	A-23
30-C2216T	A-23
30-C2222	A-23
30-C2222D	A-23
30-C2222N	A-23
30-C2222P	A-23
30-C2226	A-23
30-C2226D	A-23
30-C2226N	A-23
30-C2226P	A-23
30-C2616	A-23
30-C2616N	A-23
30-C2616T	A-23
30-C2626D	A-23

Item	Page
30-C2626N	A-23
30-C2626P	A-23
30-HC2	A-23
30-HC6	A-23
30-HS2	A-23
30-S1212	A-23
30-S1212D	A-23
30-S1212N	A-23
30-S1212P	A-23
30-S1222	A-23
30-S1222N	A-23
30-S2212	A-23
30-S2212	A-23
30-S2212N	A-23
30-S2212T	A-23
30-S2222	A-23
30-S2222D	A-23
30-S2222N	A-23
30-S2222P	A-23
31-004	B-4
31-010	B-4
31-012	B-4
31-033	B-4
31-035	B-4
31-036	B-4
31-038	B-4
31-050	B-4
31-051	B-4
31-052	B-4
31-055	B-4
31-056	B-4
31-057	B-4
31-058	B-4
31-059	B-4
31-066	B-4
31-067	B-4
31-073	B-4
31-074	B-4
31-085	B-6
31-090	B-5
31-091	B-5
31-092	B-5
31-093	B-5
31-094	B-6
31-096	B-5
31-097	B-5
31-141	B-5
31-144	B-5
31-148	B-6
31-150	B-5
31-152	B-5
31-155	B-5
31-156	B-6
31-158	B-6
31-159	B-6
31-160	B-5
31-162	B-5
31-164	B-6
31-165	B-5
31-166	B-6
31-186	B-5
31-187	B-5
31-189	B-5
31-190	B-5
31-207	B-5
31-208	B-5
31-2128	B-4
31-2143	B-9
31-276	B-10
31-277	B-10
31-278	B-10
31-291	B-10
31-295	B-10
31-298	B-10
31-2982	B-4
31-314	B-14
31-315	B-14
31-322	B-15
31-323	B-15
31-324	B-15
31-325	B-15
31-326	B-15
31-327	B-15
31-338	B-14
31-340	B-14
31-344	B-14
31-347	B-15
31-348	B-14
31-351	B-9
31-352	B-7
31-355	B-9
31-358	B-9
31-365	B-9
31-371	B-10
31-375	B-10
31-378	B-10
31-381	B-9
31-385	B-9
31-3855	B-10
31-388	B-9
31-391	B-9
31-395	B-9
31-398	B-9
31-421	B-10
31-425	B-10
31-435	B-10
31-466	B-15
31-467	B-15
31-468	B-15
31-469	B-15
31-470	B-15
31-471	B-15
31-472	B-15
31-473	B-15
31-475	B-15
31-476	B-15
31-477	B-15
31-479	B-15
31-480	B-15
31-481	B-15
31-541	B-6
31-542	B-5
31-544	B-5
31-552	B-5
31-554	B-5
31-601	B-11
31-605	B-11
31-611	B-7
31-612	B-7
31-631	B-7
31-633	B-7
31-643	B-7
31-644	B-7
31-647	B-7
31-648	B-7
31-651	B-7
31-839	B-14
31-840	B-14
31-841	B-14
31-844	B-14
31-845	B-14
31-846	B-14
31-849	B-14
31-850	B-14
31-851	B-14
31-853	B-14
31-854	B-14
31-855	B-14
31-856	B-14
31-857	B-14
33-296	E-17
33-320	E-15
33-410	E-23
33-485	E-16
33-505	E-25
33-506	E-25
33-620	E-24
33-623	E-24
33-624	E-24
33-630	E-24
33-631	E-10
33-632	E-10
33-652	E-25
33-700	E-17, E-25
33-704	E-25
33-706	E-23
33-719	E-18
33-750	E-25
33-770	E-7
33-771	E-7
33-772	E-8
33-773	E-8
33-774	E-7
33-775	E-7
33-776	E-8
33-780	E-7
33-856	E-9
33-864	E-9
33-866	E-9
33-892	E-7
33-917	E-24
33-920	E-23
33-926	E-27
33-927	E-27
33-928	E-27
33-929	E-27
33-931	E-27
33-945	E-23
33-960-BP	E-26
33-960-KB	E-26
33-960-VP	E-26
33-961-10	E-26
33-961-20	E-26
33-961-30	E-26
33-961-40	E-26
33-961-50	E-26
33-961-60	E-26
33-963-10	E-3
33-963-11	E-3
33-974	E-4
33-981	E-4
33-982	E-4
33-983	E-4
33-987	E-4
33-990-FA01	E-2
33-990-FA02	E-2
33-990-FA03	E-2
33-990-FA04	E-2

Numerical Index

Item	Page
33-990-FA05	E-2
33-991	E-2
33-992	E-2
33-993	E-2
33-993-FA01	E-2
33-993-FA02	E-2
33-993-FA03	E-2
33-993-FA04	E-2
33-993-FA05	E-2
34-001	B-51
34-002	B-48, B-49, B-51
34-003	B-51
34-012	B-51
34-015	B-51
34-016	B-51
35-001	B-26
35-008	B-23
35-012	B-22
35-019	B-27
35-020	B-27
35-021	B-27
35-028	B-23
35-029	B-23
35-031	B-29
35-031B	B-29
35-032	B-29
35-032B	B-29
35-033	B-29
35-033B	B-29
35-036	B-22
35-037	B-22
35-038	B-22
35-039	B-22
35-042	E-15
35-043	E-15
35-046	E-15
35-052	B-22
35-053	B-29
35-056	B-29
35-057	B-29
35-075	B-35
35-078	B-28
35-083	B-35
35-085	B-29
35-087	E-21
35-088	B-65, E-21
35-093	E-21
35-096	B-35
35-097	B-35
35-098	B-35
35-100	B-23
35-102	B-23
35-1091	E-21
35-1298	B-37
35-1299	B-42
35-1300	B-41
35-1301	B-41
35-1302	B-42
35-146	B-30
35-147	B-30
35-150	B-37, B-38
35-151	B-37, B-38
35-152	B-38
35-154	B-37, B-39
35-156	B-37, B-39
35-158	B-39
35-161	B-39
35-164	B-37, B-39
35-166	B-37, B-39
35-168	B-39
35-183	B-37, B-38
35-184	B-38
35-185	E-16
35-186	B-37, B-38
35-187	B-30
35-188	B-38
35-189	B-30
35-190	B-38
35-191	B-38
35-192	B-30
35-193	B-37, B-38
35-194	B-37, B-38
35-195	B-38
35-196	B-38
35-200	B-40
35-202	B-40
35-203	B-40
35-204	B-39
35-205	B-30
35-210	B-27
35-219	B-40
35-238	B-27
35-242	B-27
35-259	B-31
35-260	B-13, B-31
35-261	B-13, B-31
35-262	B-13, B-31
35-263	B-13, B-31
35-264	B-13, B-31
35-271	B-13, B-31
35-272	B-13, B-31
35-273	B-13, B-31
35-274	B-31
35-275	B-31
35-285	B-30
35-286	B-30
35-287	B-30
35-290	B-42
35-291	B-42
35-292	A-7, B-42
35-293	B-42
35-294	B-42
35-295	A-7, B-42
35-296	B-42
35-297	B-37
35-298	B-37
35-299	B-42
35-300	B-30
35-301	B-30
35-3012	B-22
35-302	B-55
35-3028	B-23
35-3029	B-23
35-3038	B-22
35-3052	B-22
35-311	B-54
35-312	B-55
35-316	B-55
35-325	B-54
35-338	B-55
35-340	B-60
35-341	B-60
35-342	B-60
35-343	B-60
35-3430	B-22
35-344	B-60
35-345	B-60
35-346	B-60
35-347	B-60
35-348	B-60
35-349	B-60
35-350	B-60
35-351	B-60
35-352	B-60
35-353	B-60
35-355	B-60
35-356	B-60
35-357	B-60
35-358	B-60
35-359	B-60
35-360	B-60
35-361	B-60
35-362	B-60
35-363	B-60
35-364	B-60
35-365	B-60
35-366	B-60
35-367	B-60, B-62
35-368	B-60, B-62
35-369	B-60
35-370	B-60
35-371	B-60
35-372	B-60
35-373	B-60
35-374	B-60
35-375	B-60
35-376	B-60
35-377	B-60
35-378	B-60
35-379	B-60
35-380	B-60
35-381	B-60
35-382	B-60
35-383	B-60
35-384	B-60
35-385	B-60
35-386	B-60
35-387	B-60
35-388	B-60
35-389	B-60
35-390	B-60
35-391	B-61, B-62
35-392	B-61, B-62
35-393	B-61, B-62
35-394	B-61, B-62
35-3951	B-50
35-3952	B-50
35-396	B-61, B-62
35-397	B-61
35-398	B-61
35-400	B-61
35-401	B-61
35-4012	B-24
35-402	B-55
35-4028	B-24
35-4029	B-24
35-403	B-55
35-4036	B-24
35-4038	B-24
35-404	B-40
35-4052	B-24
35-406	B-40
35-407	E-17
35-410	B-56
35-412	B-35
35-418	B-56
35-427	B-56
35-430	B-22

Item	Page
35-440	B-22
35-441	B-56
35-4430	B-24
35-4431	B-25
35-462	B-56
35-465	E-16
35-474	B-56
35-478	E-17
35-479	E-17
35-485	E-17
35-492	E-17
35-495	E-16
35-497	E-17
35-5012	B-24
35-5028	B-24
35-5029	B-24
35-5036	B-24
35-5038	B-24
35-505	B-55
35-5052	B-24
35-511	B-57
35-512	B-57
35-513	B-57
35-514	B-57
35-515	B-57
35-516	B-57
35-517	B-57
35-518	B-61
35-520	B-57
35-521	B-57
35-522	B-57
35-523	B-57
35-524	B-57
35-535	B-56
35-536	B-61, B-62
35-537	B-61, B-62
35-538	B-61, B-62
35-5430	B-24
35-5431	B-25
35-5792	B-53
35-5799	B-53
35-5805	B-53
35-598	B-61
35-599	B-61
35-655	B-55
35-688	A-7, B-33
35-690	B-38
35-691	B-38
35-692	B-38
35-693	B-38
35-694	B-38
35-695	B-38

Item	Page
35-696	B-38
35-698	B-40
35-726	B-65
35-727	B-65
35-728	B-65
35-729	B-65
35-730	B-65
35-731	B-65
35-732	B-65
35-781	B-26
35-781-1	B-26
35-782	B-26
35-784BLK	B-55
35-790	B-52
35-794	B-53
35-800	B-52
35-805	B-53
35-808	B-52
35-809	B-52
35-810	B-65
35-811	B-65
35-812	B-65
35-813	B-65
35-814	B-65
35-815	B-65
35-816	B-65
35-817	B-65
35-818	B-65
35-819	B-64, B-65
35-820	B-65
35-821	B-65
35-822	B-65
35-823	B-65
35-824	B-65
35-825	B-65
35-826	B-65
35-827	B-65
35-828	B-65
35-829	B-65
35-862	B-65
35-864	B-65
35-866	B-65
35-870	B-63
35-871	B-63
35-872	B-63
35-892	B-65
35-893	B-65
35-896	B-65
35-897	B-65
35-898	B-65
35-899	B-65
35-9029	B-48, B-49, B-50

Item	Page
35-9038	B-48, B-49, B-50
35-905	B-36
35-9052	B-48, B-49, B-50
35-908	A-7, B-34
35-909	B-34
35-910	B-36
35-9100	B-48
35-9101	B-49
35-9102	B-48
35-9103	B-50
35-9104	B-50
35-9108	B-49
35-911	B-34
35-912	B-34
35-913	B-34
35-914	B-34
35-9147	B-49, B-50
35-915	B-34
35-9150	B-48, B-49, B-50
35-9151	B-48, B-49, B-50
35-9166	B-48, B-49, B-50
35-9168	B-48, B-49, B-50
35-9193	B-48, B-49, B-50
35-9194	B-48, B-49, B-50
35-9196	B-48, B-50
35-922	B-35
35-923	B-35
35-926	B-35
35-927	B-35
35-9290	B-48, B-50
35-9291	B-48, B-50
35-9292	B-48, B-50
35-9294	B-48, B-50
35-9295	B-48, B-50
35-9296	B-48, B-50
35-9297	B-50
35-9305	B-49
35-933	B-41
35-933ST	B-41
35-933STD	B-41
35-9340	B-48, B-49, B-50
35-9350	B-48, B-49, B-50
35-9351	B-49
35-9352	B-48
35-9353	B-50
35-940	B-36
35-941	B-36
35-942	B-36
35-943	B-36
35-9430	B-48, B-49, B-50
35-950	B-54
35-950BLK	B-54

Item	Page
35-965	B-55
35-965BLK	B-55
35-966	B-55
35-966BLK	B-55
35-969	B-54
35-9690	B-50
35-971	B-65
35-972	B-65
35-975	B-54
35-975BLK	B-54
35-976	B-65
35-977	B-65
35-978	B-65
35-979	B-65
35-988	A-7, B-34
35-995	B-55
36-043	B-67
36-044	B-67
36-046	B-67
36-048	B-67
36-054	B-66
36-055	B-66
36-056	B-67
36-057	B-66
36-058	B-66
36-059	B-66
36-060	B-66
36-065	B-66
36-066	B-66
36-067	B-66
36-070	B-67
36-071	B-67
36-072	B-67
36-073	B-67
36-075	B-66
36-085	B-66
36-086	B-66
36-087	B-66
36-088	B-66
36-090	B-66
36-095	B-66
36-096	B-66
36-240	B-41
36-241	B-41
36-242	B-41
36-243	B-41
36-244	B-41
36-245	B-41
36-246	B-41
36-248	B-41
36-249	B-41
36-250	B-64

Numerical Index

Item	Page
36-251	B-64
36-252	B-64
36-253	B-64
36-254	B-64
36-255	B-64
36-256	B-64
36-257	B-64
36-258	B-64
36-259	B-64
36-260	B-64
36-261	B-64
36-262	B-64
36-266	B-64
36-269	B-64
36-270	B-64
36-271	B-64
36-272	B-64
36-273	B-64
36-300	B-58
36-301	B-58
36-302	B-58
36-303	B-58
36-304	B-58
36-305	B-58
36-306	B-58
36-307	B-58
36-308	B-58
36-309	B-58
36-310	B-58
36-311	B-58
36-312	B-58
36-313	B-58
36-314	B-58
36-315	B-58
36-316	B-58
36-317	B-58
36-318	B-58
36-350	B-62
36-351	B-62
36-352	B-62
36-353	B-62
36-354	B-62
36-355	B-62
36-356	B-62
36-357	B-62
36-358	B-62
36-359	B-62
36-360	B-62
36-361	B-62
36-362	B-62
36-363	B-62
36-364	B-62
36-365	B-62
36-366	B-62
36-403	B-63
36-404	B-63
36-405	B-63
36-413	B-63
36-415	B-63
36-417	B-63
36-419	B-63
36-421	B-63
36-422	B-63
36-423	B-63
36-432	B-63
38-500	B-27
4010-00-0136	B-4
41-697	B-80
41-900	B-68
41-995	B-68
42-001	B-98
42-002	B-98
42-003	B-98
42-011	B-98
42-012	B-98
42-015	B-98
42-051	B-98
42-052	B-98
42-101	B-98
42-102	B-98
42-103	B-98
42-104	B-98
42-151	B-98
42-152	B-98
42-201	B-98
42-251	B-98
42-252	B-98
42-301	B-79
42-399	B-79
44-101	B-79
44-102	B-79
44-103	B-79
44-104	B-79
44-105	B-79
44-106	B-79
44-107	B-79
44-108	B-79
44-109	B-79
44-110	B-79
44-111	B-79
44-148	B-79
44-151	B-79
44-152	B-79
44-154	B-79
44-1791	B-98
44-1807	B-93
44-1809	B-92
44-1810	B-92
44-1830	B-97
44-1833	B-97
44-289	B-97
44-292	B-97
44-295	B-97
44-296	B-97
44-298	B-97
44-299	B-97
44-314	B-97
44-353	B-97
44-355	B-97
44-358	B-97
44-364	B-97
44-410	B-97
44-753	B-79
44-764	B-94
44-768	B-94
44-769	B-94
44-772	B-90, B-95
44-774	B-91
44-778	B-91
44-782	B-93
44-783	B-88, B-90, B-91, B-92
44-785	B-89, B-90, B-91, B-92
44-786	B-89, B-90, B-91, B-93
44-789	B-88, B-89, B-90, B-91, B-95
44-790	B-98
44-791	B-89, B-90, B-98
44-792	B-93
44-793	B-93
44-800	B-88, B-89, B-90, B-91, B-98
44-801	B-98
44-804	B-90
44-806	B-91
44-807	B-88, B-89, B-90, B-91, B-93
44-808	B-95
44-809	B-88, B-89, B-90, B-91, B-92
44-810	B-88, B-89, B-90, B-91, B-92
44-815	B-89, B-90
44-816	B-89, B-90
44-817	B-95
44-818	B-88, B-90, B-90, B-91, B-93
44-819	B-89, B-90, B-91, B-93
44-820	B-90, B-91, B-95
44-821	B-95
44-822	B-93
44-823	B-93
44-824	B-89, B-90, B-91, B-95
44-825	B-91, B-95
44-829	B-95
44-830	B-97
44-832	B-97
44-833	B-88, B-90, B-97
44-841	B-97
44-843	B-97
44-846	B-95
44-847	B-95
44-848	B-89, B-97
44-849	B-88, B-89, B-90, B-97
44-862	B-97
44-863	B-97
44-865	B-97
44-877	B-97
44-878	B-97
44-880	B-97
44-881	B-97
44-890	B-97
44-892	B-96
44-892BK	B-96
44-893	B-96
44-894	B-96
44-895	B-96
44-896	B-96
44-898	B-96
44-901	B-96
44-906	B-88
44-907	B-89, B-96
44-912	B-96
44-914	B-96
44-916	B-48, B-49, B-88, B-90, B-91, B-96
44-918	B-96
44-941	B-91
44-956	B-48, B-49, B-90, B-92
44-957	B-48, B-49, B-90, B-92
44-969	B-88
44-970	B-88
44-971	B-89
44-972	B-89
44-973	B-88
44-974	B-90
44-975	B-91
44-979	B-90

Item	Page
44-990	B-96
44-991	B-96
44-992	B-96
45-025	B-18
45-074	B-19, E-21
45-089	C-3
45-090	C-2
45-090-341	C-3
45-091	C-2
45-092	B-20, C-2
45-092-341	C-3
45-093	C-2
45-095	C-3
45-096	C-2
45-097	C-2
45-098	C-2
45-098-341	C-3
45-099	C-2
45-101	B-19
45-111	E-20
45-118RS	B-19
45-120	B-16, B-18
45-120-341	B-18
45-121	B-16, B-18
45-123	B-16, B-19
45-124	B-16, B-18
45-125	B-16, B-18
45-125-341	B-18
45-128	B-20
45-144	E-21
45-1551	C-7
45-1551-1	C-7
45-1608	C-7
45-1608-1	C-7
45-1609	C-7
45-1609-1	C-7
45-1610	C-7
45-1610-1	C-7
45-1611	C-7
45-1611-1	C-7
45-162	E-19
45-163	E-19
45-1633	C-7
45-1633-1	C-7
45-164	E-19
45-165	E-19
45-1654	C-7
45-1654-1	C-7
45-167	E-19
45-168	E-19
45-169	C-4

Item	Page
45-170	C-4, C-7
45-171	C-4, C-7
45-172	C-4
45-173	C-4, C-7
45-174	C-4, C-7
45-175	C-4, C-7
45-176	C-4, C-7
45-177	C-4, C-7
45-178	C-4, C-7
45-179	C-4
45-1924	C-7
45-1924-1	C-7
45-1925	C-7
45-1925-1	C-7
45-1957	C-7
45-1957-1	C-7
45-1987	C-7
45-1987-1	C-7
45-2118	C-7
45-2118-1	C-7
45-2120	C-7
45-2120-1	C-7
45-2131	C-7
45-2131-1	C-7
45-2132	C-7
45-2132-1	C-7
45-2133	C-7
45-2133-1	C-7
45-227	B-20
45-235	B-20
45-247	B-18
45-248	B-18
45-249	B-18
45-2500	C-7
45-2500-1	C-7
45-2541	C-7
45-2541-1	C-7
45-2542	C-7
45-2542-1	C-7
45-2543	C-7
45-2543-1	C-7
45-2544	C-7
45-2544-1	C-7
45-2564	C-7
45-2564-1	C-7
45-2565	C-7
45-2565-1	C-7
45-260	B-20
45-2618	C-7
45-2618-1	C-7
45-262	B-20, C-3, E-20

Item	Page
45-264	C-3, E-20
45-265	C-3, E-20
45-2685	C-7
45-2685-1	C-7
45-2692	C-7
45-2692-1	C-7
45-2693	C-7
45-2693-1	C-7
45-2697	C-7
45-2697-1	C-7
45-274	E-20
45-282	C-3, E-20
45-290	C-2
45-292	B-20, C-2
45-292-341	C-3
45-321	E-20
45-332	E-28
45-334	E-28
45-335	E-28
45-336	E-28
45-337	E-29
45-338	E-29
45-339	E-29
45-341	E-29
45-344	E-29
45-350	E-28
45-352	E-28
45-357	E-29
45-358	E-29
45-359	E-29
45-360	E-29
45-415	B-16, B-17
45-416	B-16, B-17
45-417	B-16, B-17
45-418	B-16, B-17
45-425-341	B-17
45-429	B-20
45-514	E-19
45-520	E-20
45-521	E-20
45-522	E-20
45-523	E-20
45-524	E-20
45-526	E-20
45-605	E-21
45-615	B-16, B-17
45-618	B-16, B-17
45-621	B-17, B-18
45-631	C-5
45-632	C-5
45-633	C-5

Item	Page
45-634	C-5
45-635	C-5, C-7
45-636	C-5
45-637	C-7
45-638	C-5
45-639	C-5
45-640	C-7
45-641	C-5
45-671	C-2
45-671-341	C-3
45-672	C-2
45-672-341	C-3
45-673	C-2
45-674	C-2
45-715	B-16, B-17
45-716	B-16, B-17
45-718	B-16, B-17
45-777	B-19
45-778	B-19
45-890	C-5
45-891	C-5
45-892	C-5
45-893	C-5
45-894	C-5
45-895	C-5
45-9120	B-48, B-49, B-50
45-915	B-16, B-17
45-918	B-16, B-17
46-007	B-75
46-202	B-78
46-203	B-78
46-204	B-78
46-310	B-76
46-312	B-76
46-313	B-76
46-315	B-76
46-316	B-76
46-318	B-76
46-319	B-76
46-321	B-76
46-322	B-76
46-324	B-76
46-325	B-76
46-327	B-76
46-328	B-76
46-330	B-76
46-343	B-77
46-344	B-77
46-346	B-77
46-347	B-77
46-348	B-77

Numerical Index

Item	Page
46-350	B-77
46-351	B-77
46-352	B-77
46-354	B-77
46-356	B-77
46-357	B-77
46-358	B-77
46-369	B-77
46-371	B-77
46-372	B-77
46-381	B-76
46-382	B-76
46-383	B-76
46-384	B-76
46-400	B-75
46-401	B-75
46-402	B-75
46-403	B-75
46-404	B-75
46-405	B-75
46-410	B-75
46-600	B-76
46-601	B-76
46-602	B-76
46-603	B-76
46-604	B-76
46-605	B-76
46-606	B-76
46-607	B-76
46-608	B-76
46-609	B-76
46-610	B-76
46-941	B-78
46-950	B-78
46-951	B-78
46-952	B-78
46-953	B-78
46-954	B-78
46-955	B-78
46-956	B-78
4LB-920	C-7
61-010	D-16, D-21
61-025	D-17
61-030	D-18
61-035	D-18
61-040	D-18
61-051	D-18
61-059	D-12, D-21
61-063	B-48, B-49, D-18
61-065	D-16, D-21
61-070	D-16
61-072	D-16
61-076	D-16, D-21
61-085	D-16, D-21
61-086	D-16, D-21
61-090	D-16, D-21
61-092	D-15, D-21
61-096	D-16, D-21
61-164	D-12, D-21, D-22
61-165	D-21
61-175	D-12
61-176	D-12
61-177	D-13
61-179	D-12, D-13
61-182	D-12
61-183	D-12
61-184	D-13
61-197	D-6
61-2003	D-13
61-2004	D-13
61-201	D-16
61-310	D-5, D-8, D-21
61-312	D-5, D-8, D-21, D-22
61-331	D-20
61-334	D-20
61-340	D-5, D-7, D-21, D-22
61-342	D-5, D-7, D-21, D-22
61-361	D-5, D-7, D-21, D-22
61-445	D-21
61-457	D-14
61-461	D-6, D-19, D-20
61-465	D-6, D-21
61-484	D-5, D-6, D-21, D-22
61-486	D-5, D-6, D-21, D-22
61-497	D-5, D-21, D-22
61-498	D-5, D-6, D-21, D-22
61-500	D-18
61-501	D-18
61-520	D-19
61-521	D-19
61-532	D-17
61-534	D-17
61-565	D-6, D-9, D-19
61-605	D-5, D-8, D-21
61-610	D-5, D-8, D-21, D-22
61-614	D-5, D-8, D-21, D-22
61-685	D-19
61-686	D-18
61-688	D-19
61-702	D-2, D-4, D-21, D-22
61-704	D-2, D-4, D-21, D-22
61-744	D-2, D-4, D-21, D-22
61-746	D-2, D-4, D-21, D-22
61-763	D-2, D-3, D-21, D-22
61-765	D-2, D-3, D-21, D-22
61-773	D-2, D-3, D-21, D-22
61-775	D-2, D-3, D-21, D-22
61-795	D-15, D-22
61-796	D-15
61-797	D-14, D-22
61-807	D-13
61-810	D-14
61-811	D-14
61-813	D-14
61-819	D-14
61-820	D-14
61-830	D-13
61-844	D-10
61-844CC	D-10
61-844HAN	D-10
61-844LS	D-10
61-844USB	D-10
61-846	D-10
61-846BAT	D-10
61-846CAR	D-10
61-846DT	D-10
61-846HC	D-10
61-846PS	D-10
61-848	D-10
61-848SW	D-10
61-890	D-21, D-22
61-902	D-6, D-20
61-906	D-6
61-920	D-15
61-954	D-9
61-956	D-9
61-958	D-9, D-22
62-140	E-9
62-160	E-9
62-164	E-3, E-9
62-200	E-9
74-001	B-12
74-002	B-12
74-003	B-12
74-006	B-12
74-010	B-13
74-011	B-13
74-012	B-13
74-013	B-13
74-019	B-12, B-13
74-020	B-12, B-13
74-021	B-12, B-13
74-026	B-12
74-027	B-12
74-028	B-12
74-031	B-12
74-032	B-12
74-034	B-12
74-037	B-13
74-046	B-12
74-047	B-12
770200L	B-87
770204L	B-87
770205L	B-87
770212L	B-87
770213L	B-87
772240	B-73
772241	B-73
772242	B-73
772271	B-73
772451	B-73
772453	B-73
774000	B-81
774002	B-82
774003	B-81
774004BK	B-83
774005	B-81
774006	B-83
774007	B-82
774008	B-81
774009	B-81
774010	B-81
774011	B-81
774012	B-81
774013	B-81
774014	B-81
774015	B-81
774015BK	B-81
774016	B-81
774017	B-82
774018	B-82
774019	B-83
774020	B-82
774021	B-84
774022	B-84
774026BK	B-85
774026K	B-85
774027	B-81
774031	B-84
774032	B-84
774034	B-84
774035	B-84
774037	B-84
774038	B-85

Item	Page
774039	B-85
774040	B-83
774040BK	B-83
774045	B-83
774049BK	B-85
774056	B-83
774059	B-85
774059BK	B-85
774061	B-85
774062	B-85
774085	B-84
774088BK	B-81
774089	B-81
774089BK	B-81
774092	B-81
774093	B-81
774094	B-81
774096	B-82
774097	B-82
774100	B-81
774103	B-81
774111BK	B-81
774113	B-73
774115	B-81
774117	B-82
774136	B-73
775101	B-80
775102	B-80
775103	B-80
775104	B-80
775111	B-86
776111	B-86
776112BK	B-86
776211	B-86
776212BK	B-86
776311	B-86
776312BK	B-86
777111	B-86
777112	B-86
777121	B-86
777121BK	B-86
777131	B-87
777211	B-86
777212	B-86
777212BK	B-86
777221	B-86
777221BK	B-86
777231	B-87
777311	B-86
777321	B-86
777321BK	B-86

Item	Page
777331	B-87
777331BK	B-87
778111	B-86
778211	B-86
78-0100	B-45
78-0101	B-45
78-0102	B-44
78-0102-25	B-44
78-0103	B-44
78-0104-25	B-44
78-0105-25	B-44
78-0106-25	B-44
78-0107	B-45
78-0108	B-45
78-0111	B-45
78-0111-10	B-45
78-0112	B-45
78-0113	B-45
78-0113-10	B-45
78-0114	B-45
78-0114-10	B-45
78-0200	B-44
78-0200-25	B-44
78-0201	B-44
78-0201-25	B-44
78-0202	B-44
78-0202-25	B-44
78-0203	B-44
78-0203-25	B-44
78-0204	B-44
78-0205	B-44
78-0205-25	B-44
78-0206	B-44
78-0206-25	B-44
78-0207	B-45
78-0207-25	B-45
78-0209	B-44
78-0210	B-44
78-0211	B-44
78-0212	B-44
78-0213	B-44
78-0213-25	B-44
78-0214	B-44
78-0214-25	B-44
78-0215-25	B-44
78-0216-25	B-44
78-0217	B-45
78-0217-25	B-45
78-0218	B-45
78-0219	B-44
78-0219-25	B-44

Item	Page
78-0220	B-44
78-0220-25	B-44
78-0221	B-44
78-0221-25	B-44
78-0222	B-44
78-0222-25	B-44
78-0223	B-44
78-0224	B-44
78-0224-25	B-44
78-0225	B-44
78-0225-25	B-44
78-0226	B-45
78-0227	B-45
78-0228	B-45
78-0229	B-45
78-0230	B-45
78-0231	B-45
78-0232	B-45
78-0233	B-45
80-012	B-109
80-033	B-110
80-075	B-109
80-255	B-109
80-265	B-109
80-454	B-109
80-461	B-109
80-475	B-109
80-504	B-109
82-001	B-109
82-002	B-109
82-003	B-109
82-004	B-109
82-005	B-109
82-006	B-109
83-001	B-26
83-0131	A-11
83-0141	A-11
83-0221	A-11
83-0231	A-11
83-0241	A-11
83-0331	A-11
83-0341	A-11
83-0351	A-11
83-0421	A-11
83-0431	A-11
83-0441	A-11
83-0451	A-11
83-0511	A-11
83-0521	A-11
83-0531	A-11
83-0541	A-11

Item	Page
83-0611	A-11
83-0621	A-11
83-0631	A-11
83-2121	A-11
83-2131	A-11
83-2141	A-11
83-2151	A-11
83-2221	A-11
83-2231	A-11
83-2241	A-11
83-2251	A-11
83-2331	A-11
83-2341	A-11
83-2351	A-11
83-2361	A-11
83-2371	A-11
83-3261	A-13
83-3271	A-13
83-3281	A-13
83-6111	A-12
83-6121	A-12
83-6131	A-12
83-6161	A-12
83-6171	A-12
83-6211	A-12
83-6221	A-12
83-6231	A-12
83-7011	A-11
83-7021	A-11
83-7031	A-11
83-7051	A-11
83-7061	A-11
83-7071	A-11
83-7081	A-11
83-7091	A-11
83-7101	A-11
83-7111	A-11
83-7121	A-11
83-7131	A-11
83-7151	A-11
83-7161	A-11
83-7171	A-11
83-7201	A-11
83-7211	A-11
83-7221	A-11
83-7231	A-11
83-8001	A-12
83-8011	A-12
83-8101	A-13
83-8111	A-13
83-8631	A-12

Numerical Index

Item	Page
83-9001	A-13
83-9011	A-13
83-9021	A-13
83-9031	A-13
83-9041	A-13
83-9051	A-13
83-9071	A-13
83-9081	A-13
83-9091	A-13
83-9281	A-13
83-9291	A-13
83-9301	A-13
83-9351	A-13
83-9361	A-13
83-9371	A-13
83-9401	A-13
83-9411	A-12
83-9421	A-12
83-9441	A-12
83-9451	A-12
83-9471	A-12
83-9481	A-12
83-9501	A-12
83-9511	A-12
83-9521	A-12
83-9541	A-12
83-9551	A-12
83-9571	A-12
83-9581	A-12
83-9591	A-12
83-9601	A-12
83-9611	A-12
83-9621	A-12
83-9631	A-12
83-9771	A-13
83-9781	A-13
83-9791	A-13
83-9801	A-13
83-9911	A-12
83-9921	A-12
83-9931	A-12
83-9971	A-12
83-9981	A-12
83-9991	A-12
84-016	E-15
84-017	E-15
84-018	E-15
84-0241	A-11
84-0341	A-11
84-2241	A-11
84-2341	A-11
84-6171	A-12
84-7111	A-11
84-7161	A-11
84-7171	A-11
84-7221	A-11
84-9011	A-13
84-9021	A-13
84-9031	A-13
84-9081	A-13
84-9091	A-13
84-9281	A-13
84-9291	A-13
84-9301	A-13
84-9581	A-12
84-9771	A-13
84-9781	A-13
84-9791	A-13
85-017	E-15
85-030	E-15
85-031	E-16
85-035	E-15
85-036	E-15
85-037	E-15
85-038	E-16
85-039	E-15
85-053	E-15
85-057	E-15
85-065	E-15
85-066	E-15
85-067	E-15
85-070	E-16
85-132	E-22
85-133	E-22
85-134	E-22
85-135	E-22
85-137	E-22
85-138	E-22
85-147	E-18
85-311	E-22
85-323	E-22
85-332	E-22
85-333	E-22
85-334	E-22
85-339	E-16
85-340	E-16
85-344	E-18
85-345	E-18
85-346	E-18
85-366	E-18
85-379	E-18
85-380	E-18
85-396	E-18
85-480	E-16
85-502	E-16
85-545	E-16
85-590	E-16
85-770	E-19
85-771	E-19
85-780	E-19
85-900	E-18
85-925	E-18
85-936	E-16
85-950	E-18
85-960	E-18
86-396	E-18
86-502	E-16
86-925	E-18
87-925	E-18
88-843	B-26
89-044	E-12
89-045	E-12
89-047	E-12
89-048	E-12
89-049	E-12
89-050	E-12
89-1047	E-12
89-1211	E-12
89-127	E-12
89-165	E-15
89-202	A-14
89-203	A-14
89-204	A-14
89-206	A-14
89-208	A-14
89-210	A-14
89-211	E-12
89-212	A-14
89-224	A-15
89-229	A-15
89-230	A-15
89-233	A-15
89-234	A-15
89-235	A-15
89-236	A-15
89-237	A-15
89-238	A-15
89-239	A-15
89-302	A-14
89-304	A-14
89-306	A-14
89-308	A-14
89-310	A-14
89-312	A-14
89-314	A-15
89-317	A-15
89-323	A-15
89-324	A-15
89-330	A-15
89-334	A-15
89-335	A-15
89-336	A-15
89-337	A-15
89-338	A-15
89-339	A-15
89-402	A-14
89-404	A-14
89-406	A-14
89-408	A-14
89-410	A-14
89-412	A-14
89-414	A-15
89-417	A-15
89-423	A-15
89-424	A-15
89-430	A-15
89-434	A-15
89-435	A-15
89-436	A-15
89-437	A-15
89-438	A-15
89-439	A-15
89-500	E-15
89-504	A-14
89-5047	E-12
89-5048	E-12
89-5049	E-12
89-505	A-14
89-5050	E-12
89-506	A-14
89-507	A-14
89-508	A-14
89-509	A-14
89-512	A-14
89-513	A-14
89-514	A-15
89-516	A-15
89-518	A-15
89-520	A-15
89-525	A-15
89-570	E-12
89-580	E-12
89-582	E-12
89-608	A-15

Item	Page
89-610	A-15
89-612	A-15
89-614	A-15
90-052	B-73
90-063	B-63
90-067	B-63
90-070	B-63
90-073	B-63
90-082	B-63
90-085	B-63
90-088	B-63
90-091	B-63
90-170	B-63
90-173	B-63
90-176	B-63
92-212	E-12
92-572	E-12
92-582	E-12
92-610	E-12
92-611	E-12
92-650	E-12
92-651	E-12
92-654	E-12
92-655	E-12
92-656	E-12
92-659	E-12
92-660	E-12
92-704	E-12
92-705	E-12
B-11-50-0-C	B-80
B-11-50-0-D	B-80
B-11-50-35-C	B-80
B-11-50-9-C	B-80
B-11-50-9-D	B-80
B-14-120-0-L	B-80
B-14-120-9-C	B-80
B-14-50-0-C	B-80
B-14-50-0-D	B-80
B-14-50-9-C	B-80
B-14-50-9-D	B-80
B-14-50MT-9-C	B-80
B-24-175-0-L	B-80
B-24-175-9-L	B-80
B-36-175-9-L	B-80
B-4-18-0-C	B-80
B-4-18-9-C	B-80
B-48-175-9-L	B-80
B-6-40-0-C	B-80
B-6-40-9-C	B-80
B-6-40-9-M	B-80
B-8-50-0-C	B-80
B-8-50-0-M	B-80
B-8-50-35-C	B-80
B-8-50-9-C	B-80
B-8-50-9-M	B-80
B-8-50MT-0-C	B-80
B-8-50MT-9-C	B-80
B1-1	A-19
B1-250JR	A-19
B1-500JR	A-19
B1-B	A-19
B1-SK	A-19
B102	A-30
B104	A-30
B106	A-30
B108	A-30
B112	A-30
B2-1	A-19
B2-350JR	A-19
B2-500JR	A-19
B2-B	A-19
B2-SK	A-19
B4-1	A-19
B4-B	A-19
BCS1-1	B-74
BCS1-5	B-74
BCS1-5M	B-74
BCS1-JR	B-74
BCS2-1	B-74
BCS2-5	B-74
BCS2-5M	B-74
BCS2-JR	B-74
BGR-1	A-19
BGR-B	A-19
BMP-1000-9-C	B-80
BMP-750-9-C	B-80
BP-958	D-9
BPCSRB-JR	B-74
BPCXMBJR	B-74
BPCXSW-JR	B-74
BPS2-1	B-74
BPS2-5	B-74
BPS2-50	B-74
BPS2-5M	B-74
BPS2-JRL	B-74
BPS2/2-25	B-74
BPS2/2-50	B-74
BPS2B-JR	B-74
BPS3-1	B-74
BPS3-2	B-74
BPS3-50	B-74
BPS3-JRL	B-74
BPS4-50	B-74
BPSTCKR-15	B-74
BSER2-25	B-74
BSER4/0-5	B-74
BSER6-50	B-74
BSEU2-25	B-74
BSEU6-50	B-74
BT2-1	A-19
BT2-500JR	A-19
BT2-SK	A-19
BTC1/0-10	A-21
BTC2/0-14	A-21
BTC250-4	A-21
BTC350-1/0	A-21
BTC4/0-10	A-21
BTC4/0-2	A-21
BTC4/0-6	A-21
BTC500-1/0	A-21
BTC500-14	A-21
BTC500-4	A-21
BTC750-250	A-21
C-230	D-6, D-15
C-24	A-32
C-290	D-21
C-50	D-13
C-795	D-15
C-90	D-16, D-21
C-956	D-9
C24	B-26
F-958	D-9
FDX-CP-3	E-2
FDX2-CP-3	E-2
H-2909	C-3
IA-3240	B-88
IA-3241	B-90
IA-4990	B-91
IC-958	D-9
IT-BAG	B-73
IT1_5I-C	B-70
IT1_5I-C0	B-70
IT1_5I-M	B-70
IT1_5I-M0	B-70
IT1_5IMH-C	B-72
IT1_5IMH-C0	B-72
IT1_5M-C	B-70
IT1_5M-C0	B-70
IT1000CCL2-C	B-69
IT1000MP-C	B-72
IT1000MP-C0	B-72
IT11H-L	B-71
IT11H-L0	B-71
IT125CCL-C	B-69
IT14H-L	B-71
IT14H-L0	B-71
IT1LPMB-C	B-73
IT1M-C	B-70
IT1M-C0	B-70
IT1M-M	B-70
IT1MID-C	B-68
IT1SMB-C	B-72
IT1SMB-C0	B-72
IT250CCL-C	B-69
IT250CCL-C0	B-69
IT2I-C	B-70
IT2I-C0	B-70
IT2I-M	B-70
IT2I-M0	B-70
IT2LH-C	B-71
IT2LH-C0	B-71
IT2M-C	B-70
IT2M-C0	B-70
IT2M-M	B-70
IT2S-C	B-69, B-71
IT2S-C0	B-69, B-71
IT2S-C35	B-69
IT2S-M	B-69, B-71
IT2S-M0	B-69, B-71
IT2SID-C	B-68
IT2SMB-C	B-72
IT2SMB-C0	B-72
IT2SMH-C	B-69, B-72
IT2SMH-C0	B-69, B-72
IT2SMH-M	B-69, B-72
IT375CCL2-C	B-69
IT375CCL2-C0	B-69
IT3I-C	B-70
IT3I-C0	B-70
IT3S-C	B-69, B-71
IT3S-C0	B-69, B-71
IT3S-C35	B-69
IT3S-D	B-69, B-71
IT3S-D0	B-69, B-71
IT3SMH-C	B-72
IT3SMH-C0	B-72
IT4I-C	B-70
IT4I-C0	B-70
IT4LH-L	B-71
IT4LH-L0	B-71
IT4LHMH-C	B-72
IT4LHMH-C0	B-72
IT4S-C	B-69, B-71
IT4S-C0	B-69, B-71
IT4S-D	B-69, B-71
IT4S-D0	B-69, B-71
IT4SMH-C	B-72
IT500CCL2-C	B-69

Numerical Index

Item	Page
IT5LH-L	B-71
IT5LH-L0	B-71
IT5S-C	B-71
IT5S-CO	B-71
IT625CCL2-C	B-69
IT6EH-C0	B-71
IT750CCL2-C	B-69
IT750MP-C	B-72
IT750MP-C0	B-72
IT7H-L	B-71
IT7H-L0	B-71
IT7LH-L	B-71
IT7LH-L0	B-71
K-2422	A-17
K-7920	E-4
K-8906R	B-28
K-8909	B-28
K-8926	B-28
K-8947R	B-28
KB-0173	B-6
L-1953	C-3
L-4419	C-2
L-4419M	C-3
L-4420	C-2
L-4421	C-2
L-4421M	C-3
L-4422	C-2
L-4452	C-3
L-4453	C-2
L-4994	C-2
L-5210	C-4, C-7
L-5211	C-4, C-7
L-5212	C-6
L-5215	C-6
L-5217	C-6
L-5269	C-6
L-5270	C-3, C-6
L-5361	C-2
L-5361M	C-3
L-5436	C-4
L-5559	C-4, C-7
L-5560	C-4, C-7
L-5561	C-7
L-5562	C-4, C-7
L-5563	C-4, C-7
L-5564	C-4, C-7
L-5616	C-6
L-5617	C-6
L-5618	C-6
L-5619	C-6
L-5620	C-2, C-3, E-28
L-7486	B-20
L-7625	C-4
L-8762	C-3
L-8763	C-2
L-9038	C-6
L-9039	C-6
L-9225	E-19
L-9226	E-19
L-9300	C-4
LA-2358	C-3
LA-3953	C-3, E-20
LA-4102	E-17
LA-4123	B-36
LA-4124	B-36
LA-4173	E-16
LA-4233	E-8
LANTEK10GBKIT	E-2
LB-1001	C-2
LB-1001M	C-3
LB-1002	C-2
LB-1002M	C-3
LB-1003	C-2
LB-1004	C-2
LB-1089	C-6
LB-1090	C-6
LB-1091	C-5, C-6
LB-1092	C-6
LB-1151	C-5
LB-1152	C-5, E-28
LB-1153	C-5, E-28
LB-1154	C-5
LB-1155	C-3, C-5
LB-1156	C-5
LB-118	C-6
LB-1184	C-6
LB-1186	C-6
LB-1188	C-6
LB-1189	C-6
LB-1190	C-6
LB-1194	C-6
LB-1195	C-3, C-6
LB-1421	C-2, C-3
LB-1747	E-17
LB-1748	E-21
LB-197	C-6
LB-198	C-6
LB-661	E-28
LB-718	C-6
LB-719	C-6
LB-720	C-6
LB-721	C-6
LB-722	C-6
LB-727	C-6
LB-728	C-6
LB-729	C-6
LB-730	C-6
LB-731	C-6
LB-740	C-3, E-20
LB-742	C-3
LB-743	C-3, E-20
LB-861	E-27
LB-882	C-6
LB-883	C-6
LB-895	C-6
LB-896	C-6
LB-911	C-5
LB-912	C-5
LB-913	C-5
LB-914	C-5
LB-915	C-5, C-7
LB-916	C-5
LB-917	C-7
LB-918	C-5
LB-919	C-5
LB-920	C-5, C-7
LB-921	C-5
LT2-CP-3	E-2
MGKLX2	E-3, E-5
MGKLZ2	E-5, E-6
MGKZX3	E-3, E-5, E-6
MGKSX1	E-3, E-5, E-6
P-100	B-13
P-2710	B-11
PA-830	D-13
R150002	E-5
R150005	E-5
R151000	E-5, E-6
R151001	E-5, E-6
R151002	E-5, E-6
R151003	E-6
R153000	E-5
R160001	E-5
RC-954	D-9
SFP13X0	E-4
SFP-850	E-4
TL-100	D-20
TL-102	D-16, D-20
TL-104	D-20
TL-497	D-6
TL-532A	D-13
TL-795	D-15
TL-796	D-15
TL-797	D-15
TL-797RP	D-15
TL-80	D-16
TL-82	D-16
TL-956	D-9
TLA1-956	D-9
TLA2-956	D-9
TLAC-956	D-9
TLBP-956	D-9
TLF-252	D-20
TLGP-956	D-9
TLOP-956	D-9
TR-958	D-9
VFF5	E-28
WGR-1	A-20
WGR-500JR	A-20
WGR-B	A-20
WGR-SK	A-20
WT1-1	A-20
WT1-B	A-20
WT1-SK	A-20
WT2-1	A-20
WT2-B	A-20
WT2-SK	A-20
WT3-1	A-20
WT3-B	A-20
WT3-SK	A-20
WT4-1	A-20
WT4-B	A-20
WT4-SK	A-20
WT41-1	A-20
WT41-500JR	A-20
WT41-B	A-20
WT41-SK	A-20
WT51-1	A-20
WT51-500JR	A-20
WT51-B	A-20
WT51-SK	A-20
WT52-1	A-20
WT52-500JR	A-20
WT52-B	A-20
WT52-SK	A-20
WT54-1	A-20
WT54-B	A-20
WT6-1	A-20
WT6-B	A-20
WT6-SK	A-20

Merchandising

Point-of-purchase communication is an important aspect of IDEAL sales strategy. We are committed to helping our distributors move our products off their shelves. To do that, we've developed a variety of exciting, useful ways to increase a store's association with IDEAL and to build repeat customers.

Wall Displays

Floor Displays

Counter Displays

Rolling Displays

SCREWDRIVER BITS DISPLAY

IDEAL introduces a new counter top Grand Stand Display, the perfect way to display our complete Made in America Bit Line. This heavy duty display holds 25 of our most popular bits.

WIRE TERMINATION

Let IDEAL be your one solution for all Wire Termination needs. Our new rolling two-sided display allows you to showcase all your wire termination products in one display.

BENDER AND FISH TAPE

IDEAL is the industry leader in Benders and Fish Tapes. This rolling display allows you to stock a variety of fish tapes and benders with additional hanging space for related hand tools on the side panels.

TEST AND MEASUREMENT

Our 2′ × 3′ wall display makes the perfect addition to your counter area to show our complete line of Test and Measurement equipment. This display is available in either a Residential or Commercial Version.

HAND TOOLS

Gondolas make the perfect display for the wide variety of IDEAL Hand Tools. Available in preset Profit Centers to maximize your investment.

IDEAL INDUSTRIES, INC.
Corporate Headquarters
1375 Park Ave. • Sycamore, IL 60178, USA
ph: 815-895-5181 • 800-435-0705 in USA
fax: 815-895-9470 • 800-533-4483 in USA
email: ideal@idealindustries.com

CUSTOMER SERVICE
800-435-0705
email: ideal@idealindustries.com

QUALITY HOTLINE
800-304-3578
email: quality@idealindustries.com

TECHNICAL HOTLINE
800-338-4495
email: techsupt@idealindustries.com

For a list of global locations, visit us at **idealindustries.com**

IDEAL®

WIRE TERMINATION

TOOLS & SUPPLIES

STRIPMASTER® WIRE STRIPPERS

TEST & MEASUREMENT

DATACOMM / NETWORKS

IDEAL INDUSTRIES, INC.
1375 Park Avenue, Sycamore, IL 60178, USA / 815-895-5181 • 800-435-0705 in USA
International offices: Australia • Brazil • Canada • China • Germany • Mexico • Puerto Rico • UK
For complete sales office contact information, visit us at:
www.idealindustries.com

Rev. 4/12
Printed in U.S.A.

Form No. P-070
©2012 IDEAL INDUSTRIES, INC.