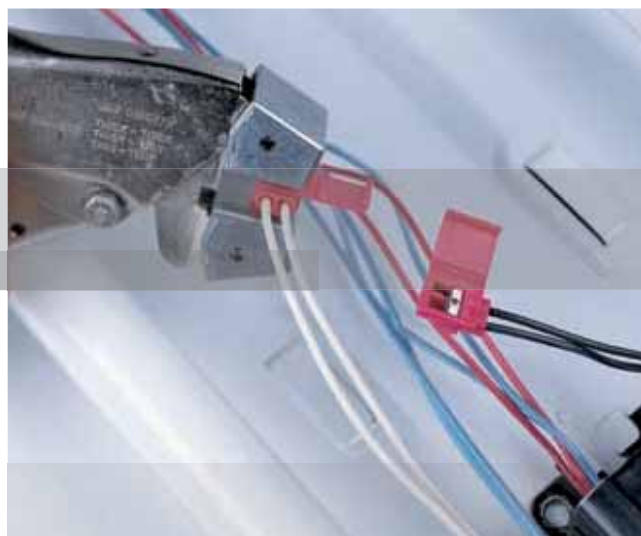


# Wire Connectors

Spring Connectors and Tools	32
Crimp Sleeve Connectors	37
Insulation Displacement Connectors and Tools	38
Scotchlok Connectors and Tools	42
Moisture Guard Connector	46



3M™ Scotchlok™ 557 IDC Connector

The best connectors do more than fit the application; they also fit your hand, and they feel good to use. At 3M, we design connectors that are as comfortable and easy to use as they are dependable.

Our complete line provides a wide range of connector choices. Simply choose the connector that fits your personal preference, as well as the application. We give you plenty of choices.

Start with the unique 3M™ Performance Plus Wire Connectors. See just how easy it is to work with three sizes instead of seven and still cover the entire 600-volt copper wire range. The 3M Scotchlok™ connectors are our original color-coded line of wire connectors designed with



3M™ O/B+ Connector

the exact features requested most by electricians. 3M wire connectors are durable for regular or low-voltage systems in construction, industrial, maintenance, OEM or irrigation. 3M Highland™ wire connectors offer an affordable alternative with no compromise to quality.

It's all here—right at your fingertips—with 3M's family of easy-to-use, versatile and highly reliable wire connectors.

## Quick, reliable splices are a snap and a squeeze

For over 50 years, 3M has been designing connectors with the reliability and ease of installation that electricians demand. From the very first Scotchlok insulation displacement connector (IDC) to today's improved models, 3M has always provided connection technology that saves time and money.

The latest series of IDCs has kept all that was good about the original connector—the design, the shape, the element technology and the color-coding.

Choose from 38 different 3M IDCs that meet a variety of uses, including fluorescent ballast installation and replacement, fixture and appliance wiring, automotive and marine wiring and control circuit wiring. Whatever the application, 3M has the connector to make your job easier.

# Spring Connectors and Tools

## 3M™ Performance Plus Wire Connectors (T/R+, T/Y+, O/B+, R/Y+, B/G+)

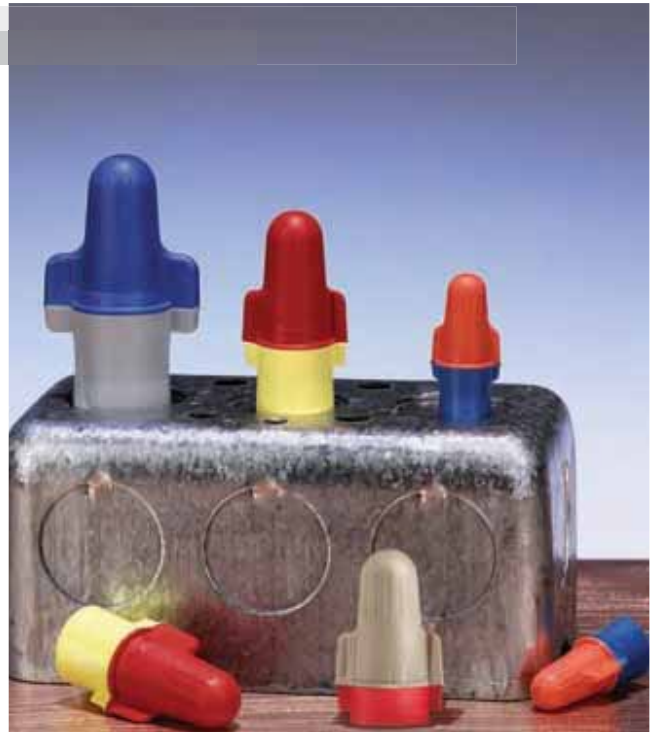
Because of their increased wire range, just four Performance Plus Wire Connectors handle the work of seven standard connectors. T/R+ replaces the yellow, tan and red connectors in the majority of field applications. T/Y+ replaces the yellow, orange, blue and gray wire nuts in most applications. O/B+ replaces the orange, blue and gray wire connector style connectors, as well as 70% of the yellow wire connector and wing style connectors. R/Y+ replaces both red and yellow wing style connectors. B/G+ covers both the large blue and gray connectors. This simplifies selection of the right connector for a wide range of wiring jobs. There's also less inventory to manage, and a better chance you'll have the connector you need to do every job.

## 3M™ Scotchlok™ Electrical Spring Connectors Y, R, G and B

3M Scotchlok Electrical Spring Connectors Y, R, G and B are the original color-coded wire connectors with a unique soft shell that is easy on the fingers. They're flexible, yet durable, and provide a compact, fully insulated connection that won't cut or abrade wires. Their torque fins are engineered to provide a comfortable and secure grip, which makes installation fast and back-off easy.



3M™ Scotchlok™ Electrical Spring Connectors



3M™ Performance Plus Wire Connectors

## 3M™ Electrical Spring and Grounding Connectors 312, 412, 512 and 512G

The quick-spin, wing-torque design of Electrical Spring and Grounding Connectors 312, 412 and 512 is easy on your fingers. The day's last connection will feel almost as good as the first. Generous expansion room accommodates a wide range of solid or stranded wire. Use the 312 (yellow) connector for wire combinations from 3 #20 to 3 #12 AWG, the 412 (tan) connector for 2 #20 to 3 #10 AWG and the 512 (red) connector for 2 #18 to 5 #12 AWG. The 512G (green) is used for grounding connections.



3M™ Electrical Spring and Grounding Connectors

## 3M™ Highland™ Wire Connectors

3M Highland Wire Connectors make it quick and easy to match the right connector to the size of the wire.

The shells are designed to withstand temperatures up to 221°F (105°C). Highland color-coded wire connectors are UL Listed, CSA Certified, and work equally well with either solid or stranded wire.



3M™ Highland™ Wire Connectors

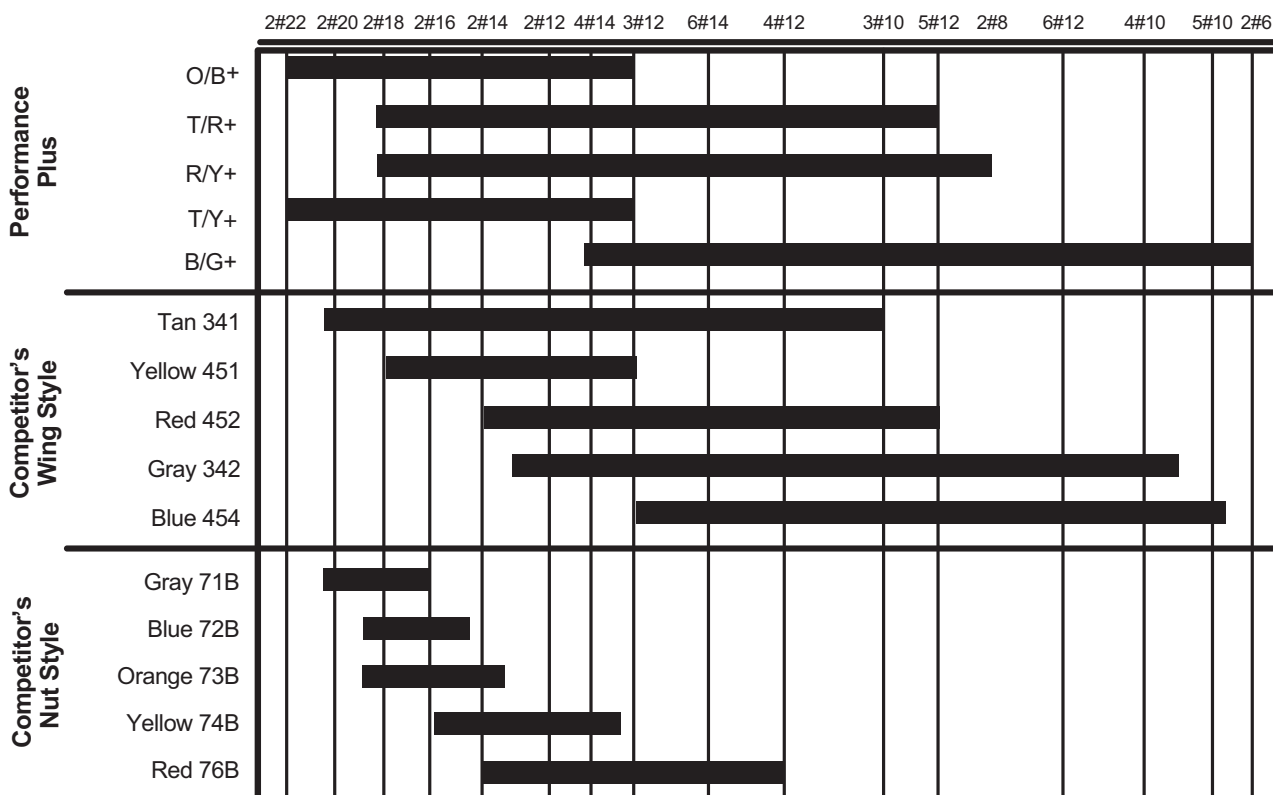
## 3M™ Wire Connector Drivers WCD

These application tools for 3M Performance Plus O/B+, R/Y+, T/R+ and T/Y+; 3M 212, 312, and 512; and 3M Scotchlok™ Y, R, and G connectors quickly spin on the connector and position the wire bundle in the box. The WCD-H is a hand driver and the WCD-P is a power driver that fits a standard chuck.



3M™ Wire Connector Drivers WCD

## Wire Range for 3M Performance Plus Wire Connectors











# SPRING CONNECTORS

FEATURES	ADVANTAGES	BENEFITS
<b>3M PERFORMANCE PLUS WIRE CONNECTORS (T/R+, T/Y+, O/B+, R/Y+, B/G+)</b>		
Wires feed deeper	Increases level of pull-out	Security
Wide wire ranges	Three connectors replace seven	Saves money and time
Flexible skirt	Covers overstripped wires	Safety
New internal design	Smoother and faster installation	Improves quality and saves time
<b>3M SCOTCHLOK ELECTRICAL SPRING CONNECTORS (Y, R, G, B)</b>		
Soft outer shell	Easy on the fingers	Easy to use
Steel inner shell	No wire poke-through	Safety
Compact design	Fit into tight places	Easy to use
Able to back off	Rewire if needed	Saves time
<b>3M ELECTRICAL SPRING AND GROUNDING CONNECTORS (312, 412, 512, 512G)</b>		
Hard shell	Easy to grip	Easy to use
Wings	Easy to turn	Easy to use
<b>3M HIGHLAND™ WIRE CONNECTORS (H-29, H-30, H-31, H-33, H-35)</b>		
Low price	Economical	Save money

## Specifications for Spring Connectors

Connector	Features/Description	Maximum Voltage Rating	Wire Range* AWG (mm <sup>2</sup> )	Temp. Rating	UL, CSA or CE Certified	Tools
3M™ Connector O/B+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#22-3#12 3#14 (1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Connector T/R+	Quick bite, compact size wide wire range	600V (1000V in signs, lighting fixtures and luminaries)	up to 5#12s (2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Connector R/Y+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#18-2#8 5#12 (2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Connector T/Y+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#22-3#12 3#14 (1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Connector B/G+	Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	4#14-2#6-3#8 (10,0 mm <sup>2</sup> -31,6 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	—
3M™ Scotchlok™ Connector R	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	9#18, 4-6#16, 2-5#14, 2-5#12, 1-3#10 (5,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Scotchlok™ Connector Y	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	5-8#22, 4-6#20, 2-5#18, 2-3#16, 1-3#14, 1-2#12, 1#10 (2,0 mm <sup>2</sup> -17,5 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H
3M™ Scotchlok™ Connector B	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	3-6#12, 2-6#10, 2-3#8, 1-2#6 stranded (12,0 mm <sup>2</sup> -36,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	—
3M™ Scotchlok™ Connector G	Insulated w/vinyl skirt and live spring and steel shell	600V (1000V in signs, lighting fixtures and luminaries)	3-7#14, 2-6#12, 2-4#10, 2#8 (8,0 mm <sup>2</sup> -24,0 mm <sup>2</sup> )	221°F (105°C)	UL SP CE <sup>†</sup>	WCD-P WCD-H

## Specifications for Spring Connectors

Connector	Features/Description	Maximum Voltage Rating	Wire Range* AWG (mm <sup>2</sup> )	Temp. Rating	UL, CSA or CE Certified	Tools
 3M™ Connector 312	Nylon insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	5-7#22, 3-6#20, 2-6#18 2-6#16, 1-4#14, 1-3#12 (1,5 mm <sup>2</sup> -10,0 mm <sup>2</sup> )	221°F (105°C)	UL SF <sup>†</sup>	WCD-P WCD-H
 3M™ Connector 412	Nylon insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	5-7#22, 3-6#20, 2-6#18 2-6#16, 1-4#14, 1-4#12 (1,5 mm <sup>2</sup> -10,0 mm <sup>2</sup> )	221°F (105°C)	UL SF <sup>†</sup>	WCD-P WCD-H
 3M™ Connector 512	Nylon insulated w/live spring	600V (1000V in signs, lighting fixtures and luminaries)	2-10#18, 2-7#16, 1-6#14, 1-5#12, 1-3#10, 1-2#8, 1#6 (2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )	221°F (105°C)	UL SF <sup>†</sup>	WCD-P WCD-H
 3M™ Connector 512G	Nylon insulated grounding connector	600V (1000V in signs, lighting fixtures and luminaries)	2-5#14, 2-5#12, 2-3#10, 1#14 w/1-4#12, 2#14 w/ 1-3#12, 3#14 w/2 or 3 #12, 4#14 w/1#12, 1#14 w/1- 3#10, 2#14 w/1 or 2#10, 3#14 w/1#10, 1#12 w/1 or 2#10, 2#12 w/1#10 (4,0 mm <sup>2</sup> -15,0 mm <sup>2</sup> )	221°F (105°C)	UL SF <sup>†</sup>	—
 3M Highland™ Connector H-29	Round wire spring	300V	22-16 AWG [Two 22 AWG/One 20 AWG Min.] [Two 16 AWG Max.] (1,5 mm <sup>2</sup> -2,5 mm <sup>2</sup> )	221°F (105°C)	UL SF	—
 3M Highland™ Connector H-30	Round wire spring	300V	22-16 AWG [Two 22 AWG Min.] [Three 16 AWG Max.] (1,5 mm <sup>2</sup> -3,0 mm <sup>2</sup> )	221°F (105°C)	UL SF	—
 3M Highland™ Connector H-31	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-14 AWG [Two 18 AWG Min.] [Two 14 AWG Max.] (2,0 mm <sup>2</sup> -4,0 mm <sup>2</sup> )	221°F (105°C)	UL SF	—
 3M Highland™ Connector H-33	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-12 AWG [Three 18 AWG Min.] [Three 14 AWG Max.] (2,0 mm <sup>2</sup> -0,5 mm <sup>2</sup> )	221°F (105°C)	UL SF	—
 3M Highland™ Connector H-35	Round wire spring	600V (1000V in signs, lighting fixtures and luminaries) Depending upon combinations	18-10 AWG [Three 18 AWG Min.] [Two #10 AWG Max.] (2,5 mm <sup>2</sup> -16,0 mm <sup>2</sup> )	221°F (105°C)	UL SF	—

\*For information on additional Cu wire connections, refer to package or consult 3M technical service.

† UL Listed E23438 and CSA Certified LR15503

## Ordering Information for Spring Connectors

Connector	UPC (054007-)	Inner Unit Pack	Case Qty. (connectors) Distributor Order Qty.
3M™ Connector O/B+	43152	100/box	1,000 box
	43153	500/jug	10,000 container
3M™ Connector T/R+	54454*	100/box	1,000 box
	54455*	750/jug	6,000 jug
	54456*	N/A	25,000 keg
3M™ Connector R/Y+	43154	100/box	1,000 box
	43155	500/jug	4,000 container
3M™ Connector T/Y+	55218*	100/box	1,000 box
	55219*	500/jug	10,000 container
3M™ Connector B/G+	43150	50/box	500 box
	43151	250/jug	2,000 container

\*UPC prefix 051128-

## Ordering Information for Spring Connectors

Connector	UPC (054007-)	Inner Unit Pack	Case Qty. (connectors) Distributor Order Qty.
3M™ Scotchlok™ Connector R	20058	100/box	1,000 box
	70489	500/bag	5,000 bag
3M™ Scotchlok™ Connector Y	20041	100/box	1,000 box
	15769	500/bag	10,000 bag
3M™ Scotchlok™ Connector B	42033	50/box	500 box
3M™ Scotchlok™ Connector G	21346	100/box	1,000 box
	70488	500/bag	2,500 bag
3M™ Connector 312 (Yellow)	08159	100/box	1,000 box
	08160	500/bag	10,000 bag
	53952*	500/jug	10,000 case
3M™ Connector 412 (Tan)	54451*	100/box	1,000 box
	54452*	500/bag	10,000 bag
	54453*	20,000/keg	20,000 keg
	55695*	500/jug	4,000 box
3M™ Connector 512 (Red)	08161	100/box	1,000 box
	08162	500/bag	10,000 bag
	53953*	250/jug	5,000 case
3M™ Connector 512G (Green)	49950	50/box	500 box
	50232	500/bag	10,000 bag
3M Highland™ Connector H-29 (Gray)	43133	100/box	1,000 box
	43134	N/A	1,000 bin
	43135	N/A	25,000 keg (loose)
3M Highland™ Connector H-30 (Blue)	43122	100/box	1,000 box
	43123	N/A	1,000 bin
	43124	N/A	10,000 keg (loose)
3M Highland™ Connector H-31 (Orange)	43117	100/box	1,000 box
	43118	500/bag	10,000 bulk
	43119	N/A	1,000 bin
	43120	N/A	10,000 keg
3M Highland™ Connector H-33 (Yellow)	43136	100/bag	1,000 bag
	43137	N/A	1,000 bin
	43138	500/bag	5,000 bag
	43139	N/A	5,000 keg
3M Highland™ Connector H-35 (Red)	43140	100/box	1,000 box
	43141	N/A	1,000 bulk
	43142	250/bag	2,500 bag

\*UPC prefix 051128-

## Specifications and Ordering Information for Application Tools

Product Number	Description	Application	UPC (054007-)	Inner Unit Pack	Case Qty.
WCD-P	Power driver for wire connectors	Tools for 3M O/B+, R/Y+, 3M Scotchlok Y, R, G and 3M 212, 312, and 512.	49919	N/A	10
WCD-H	Hand driver for wire connectors	Tools for 3M O/B+, R/Y+, 3M Scotchlok Y, R, G and 3M 212, 312, and 512.	49948	N/A	10

# Crimp Sleeve Connectors

## 3M™ Scotchlok™ Insulated Electrical Crimp Sleeve Connectors S-11 and S-31

UL Listed and CSA Certified, 3M Scotchlok electrical crimp sleeve connectors make fast work of splicing 22 to 10 AWG copper conductors. Smooth flared entry makes wire insertion fast—simply twist conductors together and crimp. The S-11 and S-31 (copper), and MN14CEC/ST and MN10CEC/ST (steel) are insulated, closed-end crimp sleeve connectors. With a rugged, yet resilient nylon insulator, use these connectors in light fixtures, appliances and other electrical OEM applications.



### Specifications for Nylon Insulated Closed End Connectors (Copper Insert)



Product Number	UPC (054007-)	Wire Range (AWG)	Copper Wire Combinations	L	Barrel Length	Barrel I.D.
S-11 (copper)*	16733 bulk	22-14	See chart below.	0.76	0.31	0.091
	16732 boxed	22-14	See chart below.	0.76	0.31	0.091
S-31 (copper)*	16735 bulk	18-10	See chart below.	0.85	0.34	0.152
	16734 boxed	18-10	See chart below.	0.85	0.34	0.152

\*UL Listed and CSA Certified for use with TH-440 and TH-450 Crimping Tools.

### Specifications for Crimp Sleeve Connectors (Nylon Insulated)



Product Number	UPC (054007-)	Maximum Voltage Rating*	AWG (mm) Wire Range O.D.*	Temperature Rating	Inner Unit Pack	Case Qty.
S-11	16732	600V	2#22, 2#18, 2#16 stranded (0,6–2,6 mm <sup>2</sup> )	221°F (105°C)	100/box	1,000
	16733	600V	2#22, 2#18, 2#16 stranded (0,6–2,6 mm <sup>2</sup> )	221°F (105°C)	1,000/bag	10,000
S-31	16734	600V	2#18, 3#14 (1,6–6,6 mm <sup>2</sup> )	221°F (105°C)	50/box	500
	16735	600V	2#18, 3#14 (1,6–6,6 mm <sup>2</sup> )	221°F (105°C)	500/bag	5,000

\*1000V for signs, lighting fixtures and luminaries.  
Note: See package for complete wire listings.



S-11



S-31

# Insulation Displacement Connectors and Tools

## 3M™ Scotchlok™ IDC Connectors for Electrical Applications



The latest series of 3M Scotchlok Insulation Displacement Connectors (IDCs) has kept all that was good about the original connector—the design, the shape, the element technology and the color-coding. Each model, however, also incorporates a full wire range capability, an increased port size that accommodates up to 0.155" (4,0 mm) insulation sizes, double “U” elements and a solvent-resistant plastic construction. Choose from 38 different 3M IDCs to meet a variety of uses, including fluorescent ballast installation and replacement, fixture and appliance wiring, automotive and marine wiring, and control circuit wiring.

## 3M™ Scotchlok™ IDC Connectors for Communication Applications



Over 30 years ago, 3M introduced the industry’s original U element connector, the 3M Scotchlok Connector UR.

The latest series of connectors—the 3M Scotchlok connectors UR2, UY2 and UB2A—features that same originality in technological advantages, building on the successful Scotchlok connector’s design, shape, color-coded cap concepts and element technology. The Series 2 connectors additionally offer full wire range capability, increased port size to accommodate up to 0.082" (2,08 mm) insulation sizes, double elements in all products and a solvent-resistant plastic construction.

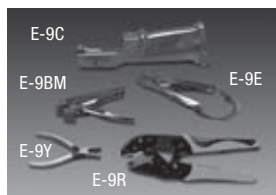
## 3M™ Crimping Tools E-9BM, E-9C, E-9E, E-9Y and E-9R

The 3M Crimping Tool E-9BM is used with most Scotchlok connectors, and has parallel closing action



with adjustable jaws and a high mechanical advantage. The 3M Cartridge Tool E-9C with Case holds connectors (in cartridges) firmly in place, allowing the craftsperson use of the other

hand for guiding wires. A time saving tool, the E-9C tool holds cartridges of UR2, UR, UY2, UY, or UAL connectors. The Crimping Tool E-9E is a parallel closing-action tool for use with Scotchlok butt and tap connectors. The Crimping Tool’s E-9Y stepped jaws and long nose provide parallel crimping action. Its features include a side wire cutter, cushioned handles and a return spring. The Crimping Tool E-9R features single-stroke, parallel crimping action with a work-saving 10:1 mechanical



advantage over applied hand force. The tool’s innovative ratchet-release design indicates a positive crimp by automatically releasing after each successful connection.

The E-9R tool is compatible with all 3M™ Scotchlok™ Connectors including UY, UR, UY2, UR2, UP2, UAL, UP3, UB, 211 and UB2A units across the entire range of applicable wire sizes.

# INSULATION DISPLACEMENT CONNECTORS

FEATURES	ADVANTAGES	BENEFITS
Squeeze-shut connector	No wire stripping or twisting	Saves time
Crimp with slip-joint pliers	No special tools required	Saves money
Unique "U" contact, fully insulated	Provides dependable connections	Safety
No need to cut run wire	Faster installation, minimum clean-up	Saves time
No need to twist on	Easy on hands	Easy to use




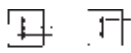






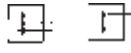











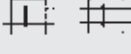




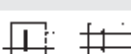






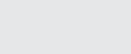


## CONNECTING TIPS

**Quick, reliable splices are a squeeze. And a snap.**



- 3M Scotchlok Insulation Displacement Connectors (IDCs) are easy to use and save time—to install one, just squeeze—no stripping or twisting. Our unique "U" contact provides a dependable electrical connection.
- A "live-spring" joint is made by driving the "U" contact down into the connector.
  - As the "U" contact is pressed into the connector, it grasps the conductors as it displaces the insulation.
  - Contact grips the conductor and holds with a firm, resilient pressure.

## Specifications for 3M™ Scotchlok™ Insulation Displacement Connectors












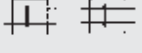










Connector	Type Connection	Features/Description	Maximum Insulation O.D. in. (mm)	Wire Range AWG (mm²)	Operating Temperature	UL, CSA or CE Certified	Suggested 3M Tools/Mate
 314*		Moisture-resistant seal Flame retardant	0.155" (3,9 mm)	22-14 (0,5-1,5 mm²) Solid/Stranded	221°F (105°C)	  ††	E-9BM
 314U*		Dry environment applications Flame retardant	0.155" (3,9 mm)	22-14 (0,5-1,5 mm²) Solid/Stranded	221°F (105°C)	  ††	E-9BM
 316IR		Moisture-resistant applications	0.155" (3,9 mm)	22-16 (0,5-1,0 mm²) Solid/Stranded	221°F (105°C)	N/A	E-9BM
 557		Dual element connection Flame retardant	0.120" (3,05 mm)	22-16 (0,5-1,5 mm²) Solid/Stranded	221°F (105°C)	   ††	E-9BM
 558		Flame retardant	0.120" (3,05 mm)	22-16 (0,5-1,5 mm²) Solid/Stranded	221°F (105°C)	   ††	E-9BM
 560		Flame retardant	0.145" (3,68 mm)	18-16 (0,75-1,0 mm²) Solid/Stranded 14 (1,5 mm²) Stranded	221°F (105°C)	   ††	E-9BM
 560B		Run and tap Splicing Flame retardant	0.145" (3,68 mm)	18-16 (0,75-1,0 mm²) Solid/Stranded 14 (1,5 mm²) Stranded	194°F (90°C)	 ††	E-9BM
 560N		Flame retardant	0.145" (3,68 mm)	18-16 (0,75-1,0 mm²) Solid/Stranded 14 (1,5 mm²) Stranded	221°F (105°C)	  ††	E-9BM
 562		Run and tap Splicing Flame retardant	0.190" (4,82 mm)	12 (2,5 mm²) Solid/Stranded 10 (4,0 mm²) Stranded	194°F (90°C)	  ††	E-9BM

\* Also tested in accordance with UL Standard for Portable Electric Lamps, UL 153, Section 15 when housed within the body of the lamp.

† UL Listed 70512 and/or CSA Certified LR15503

†† UL Listed 23438 and/or CSA Certified LR15503

# Specifications for 3M™ Scotchlok™ Insulation Displacement Connectors

Connector	Type Connection	Features/Description	Maximum Insulation O.D. in. (mm)	Wire Range AWG (mm <sup>2</sup> )	Operating Temperature	UL, CSA or CE Certified	Suggested 3M Tools/Mate	
	564		Double Run	0.145" (3,68 mm)	18-14 (0,75-1,5 mm <sup>2</sup> ) Solid/Stranded	194°F (90°C)	CE	E-9BM
	567		Dual element connection Flame retardant	0.145" (3,68 mm) Tap 0.190" (4,82 mm) Run	18-14 (0,75-1,5 mm <sup>2</sup> ) Tap 12-10 (2,5-4,0 mm <sup>2</sup> ) Run Solid/Stranded	221°F (105°C)	UL SF CE ††	E-9BM
	804		Moisture-resistant applications Flame retardant	0.145" (3,68 mm)	18-16 (0,75-1,5 mm <sup>2</sup> ) Solid/Stranded 14 (1,5 mm <sup>2</sup> ) Stranded	167°F (75°C)	UL ††	E-9BM
	804U		Run & Tap Flame retardant	0.145" (3,68 mm)	18-16 (0,75-1,5 mm <sup>2</sup> ) Solid/Stranded 14 (1,5 mm <sup>2</sup> ) Stranded	167°F (75°C)	UL ††	E-9BM
	901		Disconnect	0.145" (3,68 mm)	18-14 (0,75-1,5 mm <sup>2</sup> ) Solid/Stranded	194°F (90°C)	N/A	E-9BM MNG14-156DM
	905		Low voltage (automotive) applications	0.110" (2,79 mm) Tap 0.145" (3,68 mm) Run	22-18 (0,5-0,75 mm <sup>2</sup> ) Tap 18-14 (0,75-1,5 mm <sup>2</sup> ) Run Solid/Stranded	194°F (90°C)	CE	E-9BM
	905N		Low voltage (automotive) applications	0.110" (2,79 mm) Tap 0.145" (3,68 mm) Run	22-18 (0,5-0,75 mm <sup>2</sup> ) Tap 18-14 (0,75-1,5 mm <sup>2</sup> ) Run Solid/Stranded	194°F (90°C)	N/A	E-9BM
	951		T-tap disconnect Flame retardant	0.150" (3,81 mm)	22-18 (0,5-0,75 mm <sup>2</sup> ) Solid/Stranded	221°F (105°C)	UL SF ††	E-9BM Mate: 0.250" male tab MNG18-250 DMI
	952		T-tap disconnect Flame retardant	0.150" (3,81 mm)	18-14 (0,75-1,5 mm <sup>2</sup> ) Solid/Stranded	221°F (105°C)	UL SF †	E-9BM Mate: 0.250" male tab MNG14-250 DMI
	953		T-tap disconnect Flame retardant	0.150" (3,81 mm)	12 (3,0 mm <sup>2</sup> ) Solid/Stranded	221°F (105°C)	UL SF †	E-9BM Mate: 0.250" male tab MNG10-250 DMI
	972		Auto fuse holder	0.150" (3,81 mm)	18-14 (0,75-1,5) Solid/Stranded	194°F (90°C)	N/A	E-9BM

\* Also tested in accordance with UL Standard for Portable Electric Lamps, UL 153, Section 15 when housed within the body of the lamp.

† UL Listed 70512 and/or CSA Certified LR15503

†† UL Listed 23438 and/or CSA Certified LR15503

## Ordering Information for 3M™ Scotchlok™ Insulation Displacement Connectors

Product Number	UPC (054007-)	Inner Unit Pack	Case Qty.
314	09230	50/box	500 box
	09231	N/A	1,000 bin
314U	09232	50/box	500 box
	09233	N/A	1,000 bin
316IR	50419	30/bag	300 bulk
557	21494	100/box	1,000 box
	21502	500/bag	5,000 bulk
558	14861	100/box	1,000 box
	14879	N/A	5,000 bulk
560	00839	100/box	1,000 box
	00840	500/bag	5,000 bulk
560B	20090	100/box	1,000 box
	20181	500/bag	5,000 bulk
560N	09513	500/bag	5,000 bulk
562	11032	100/box	1,000 box
	11040	N/A	1,000 bin
564	06118	500/bag	5,000 bulk
567	14887	100/box	1,000 box
	14895	—	1,000 bin
804	06134	25/box	250 box
	06135	500/bag	5,000 bulk
	50187	50/bag	1,000 bulk
	50188	N/A	1,000 bulk
804U	50767	500/bag	5,000 bulk
901	06106	50/box	500 box
	06107	500/bag	5,000 bulk
905	06128	N/A	10,000 box
	06129	N/A	1,000 bulk
905N	06124	N/A	1,000 bulk
951	12312	50/box	500 box
	12313	—	1,000 bin
952	08427	50/box	500 box
	08428	—	1,000 bin
953	12314	50/box	500 box
	12315	—	1,000 bin
972	06171	25/box	250 box
	06172	—	1,000 bin

# Specifications for 3M™ Scotchlok™ Connectors and Tools

Connector	Type Connector	Special Features	Maximum Insulation O.D.		PIC-unfilled and PIC-filled		Pulp or Paper	
			Metric (mm)	Inches	AWG	Metric (mm)	AWG	Metric (mm)
UR2 		Gel-Filled Polypropylene Cat.5	2,08 mm	0.082"	26-19	0,4-0,9 mm	N/A	N/A
UR2-D 		Dry Polypropylene	2,08 mm	0.082"	26-19	0,4-0,9 mm	26-19	0,4-0,9 mm
UR 		Gel-Filled Polycarbonate Cat. 5	1,52 mm	0.060"	26-19	0,4-0,9 mm	N/A	N/A
UY2 		Gel-Filled Polypropylene Cat.5	2,08 mm	0.082"	26-19	0,4-0,9 mm	N/A	N/A
UY2-D 		Dry Polypropylene	2,08 mm	0.082"	26-19	0,4-0,9 mm	26-19	0,4-0,9 mm
UY 		Gel-Filled Polycarbonate Cat.5	1,52 mm	0.060"	26-22	0,4-0,7 mm	N/A	N/A
557-TG2* 		Gel-Filled Polypropylene	3,0 mm	0.12"	22-16	0,6-1,3 mm	N/A	N/A
UP2 		Dry Flame Retardant UL Listed Polycarbonate	1,52 mm	0.060"	26-22	0,4-0,7 mm	26-22	0,4-0,7 mm
UP3 		Dry Flame Retardant UL Listed Polycarbonate	1,52 mm	0.060"	26-19	0,4-0,9 mm	26-19	0,4-0,9 mm
UAL 		Gel-Filled For Aluminum Polycarbonate	Outside parts: 2,08 mm Middle parts: 1,88 mm	Outside parts: 0.082" Middle parts: 0.074"	20-17 AL 24-19 CU	0,8-1,2 AL 0,5-0,9 CU	N/A	N/A
211 		Gel-Filled Polypropylene Cat. 5	2,08 mm	0.082"	26-19	0,4-0,9 mm	N/A	N/A

\*Inline and drop wire connectors can only be used with E-9BM.

## Specifications for 3M™ Scotchlok™ Connectors and Tools

Connector	Type Connector	Special Features	Maximum Insulation O.D.		PIC-Unfilled and PIC-Filled		Pulp or Paper	
			Metric (mm)	Inches	AWG	Metric (mm)	AWG	Metric (mm)
UB2A 		Gel-Filled Polypropylene Cat. 5	2,08 mm	0.082"	26-19	0,4-0,9 mm	N/A	N/A
UB2A-D 		Dry Polypropylene	2,08 mm	0.082"	26-19	0,4-0,9 mm	26-19	0,4-0,9 mm
UG 		Gel-Filled Polycarbonate	Butt 1,67 mm Tap 1,12 mm	0.066" 0.044"	26-19 26-22	0,4-0,9 mm 0,4-0,6 mm	N/A	N/A
UPB 		Dry UL Listed Flame Retardant Polycarbonate	1,27 mm	0.050"	26-22	0,4-0,7 mm	26-22	0,4-0,7 mm
UDW2* 		Full Pair Drop Pair Polycarbonate	4,4 mm	0.175"	19-16	0,9-1,3 mm	N/A	N/A
U1B* 		Gel-Filled Full Pair Polycarbonate	3,18 mm	0.125"	19-16	0,9-1,3 mm	N/A	N/A
U1R* 		Gel-Filled Full Pair Polycarbonate	3,18 mm	0.125"	24-19	0,5-0,9 mm	N/A	N/A
UCC 		Gel-Filled Polycarbonate	1,52 mm	0.060"	26-22	0,4-0,7 mm	N/A	N/A
UPC 		UL Listed Flame Retardant Polycarbonate	1,52 mm	0.060"	26-22	0,4-0,7 mm	26-22	0,4-0,7 mm

To reduce fatigue, use tool within each group with highest mechanical advantage, indicated in ( ).



E-9BM  
(10:1)



E-9C  
(7:1)



E-9E  
(4:1)



E-9Y\*\*  
(3:1)



E-9R  
(10:1)



E-9J  
(10:1)

\*Inline and drop wire connectors can only be used with E-9BM. \*\*Not recommended for 19 gauge (0.9 mm) conductor and larger.

## Ordering Information for 3M™ Scotchlok™ Connectors

Connector	Box Packaging Weight kg (lbs.) Min. Order UPC	Bulk Packaging Weight kg (lbs.) Min. Order UPC	Cartridge Packaging Weight kg (lbs.) Min. Order UPC	Jar Packaging Weight kg (lbs.) Min. Order UPC	Clamshell Packaging Weight kg (lbs.) Min. Order UPC	
UR2	100/box, 1000/cs. 1.36 (3) 1000 connectors 051115-26201	500/box, 5000/cs. 6.7 (15.2) 5000 connectors 051115-26200	10/cart, 100/pak., 1000/cs. 2.09 (4.6) 1000 connectors 051115-26202	500/btl., 5000/cs. 5.9 (13.1) 10 btls. 051115-26116	25/pak, 1000/cs. 1.8 (3.9) 40 pkgs. 051115-26117	50/pak, 1000/cs. 1.54 (3.4) 20 pkgs. 051115-26212
UR2-D	N/A N/A N/A N/A	N/A N/A N/A N/A	10/cart, 100/pak., 1000/cs. 2.09 (4.6) 1000 connectors 054007-71475	500/jar, 10/cs. 5.98 (13.19) 5000 connectors 051115-30060	N/A N/A N/A N/A	
UR	100/box, 1000/cs. 1.36 (3) 1000 connectors 051115-26230	N/A N/A N/A N/A	10/cart, 100/pak., 1000/cs. 2.09 (4.6) 1000 connectors 051115-26232	500/btl., 5000/cs. 5.9 (13.1) 10 btls. 051115-26115	25/pak, 250/cs. .45 (1.0) 10 pkgs. 051115-26238	
UY2	100/box, 1000/cs. 0.9 (1.3) 1000 connectors 051115-26121	1000/box, 5000/cs. 2.8 (6.1) 5000 connectors 051115-26224	12/cart, 120/pak., 1200/cs. 1.4 (3.5) 1200 connectors 051115-26225	500/btl., 10/cs. 3.8 (8.3) 10 btls. 051115-26118	25/pak, 1000/cs. 1.3 (2.8) 40 pkgs. 051115-26119	50/pak, 1000/cs. 1.08 (2.4) 20 pkgs. 051115-26213
UY2-D	N/A N/A N/A N/A	N/A N/A N/A N/A	12/cart, 120/pak., 1200/cs. 1.4 (3.5) 1200 connectors 054007-71478	500/jar, 10/cs. 3.76 (8.3) 5000 connectors 051115-30059	N/A N/A N/A N/A	
UY	100/box, 1000/cs. 0.9 (1.3) 1000 connectors 051115-26214	1000/box, 5000/cs. 2.8 (6.1) 5000 connectors 051115-26221	16/cart, 160/pak., 1600/cs. 1.4 (3.5) 1600 connectors 051115-26223	500/btl., 5000/cs. 2.8 (6.1) 10 btls. 051115-26098	25/pak, 250/cs. .45 (1.0) 10 pkgs. 051115-26237	
557-TG2	N/A N/A N/A N/A	500/bag, 5000/box 9.09 (20) 5000 connectors 051138-57359	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	
UP2	N/A N/A N/A N/A	1000/box, 5000/cs. 2.4 (5.4) 5000 connectors 054007-33420	16/cart, 160/pak., 1600/cs. 1.4 (3.2) 1600 connectors 054007-32698	N/A N/A N/A N/A	N/A N/A N/A N/A	
UP3	100/box, 1000/cs. 1.22 (2.7) 1000 Connectors 051115-16230	1000/box, 5000/cs. 7.31 (13.3) 5000 connectors 054007-33419	10/cart, 100/pak., 1000/cs. 2.0 (4.4) 1000 connectors 054007-32700	N/A N/A N/A N/A	N/A N/A N/A N/A	
UAL	100/box, 1000/cs. 1.22 (2.7) 1000 connectors 051115-26188	N/A N/A N/A N/A	10/cart, 100/pak., 1000/cs. 2.1 (4.7) 1000 connectors 051115-26187	N/A N/A N/A N/A	N/A N/A N/A N/A	
211	100/box, 1000/cs. 1.2 (2.6) 1000 connectors 051115-26185	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	
UB2A	100/box, 1000/cs. 1.2 (2.6) 1000 connectors 051115-26189	N/A N/A N/A N/A	N/A N/A N/A N/A	500/jar, 5000/cs. 4.43 (9.78) 5000 connectors 051115-26193	25/pak., 1000/cs. 1.5 (3.4) 40 pkgs. 051115-26120	
UB2A-D	100/box, 1000/cs. (2.60) 1000 connectors 054007-92694	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	

## Ordering Information for 3M™ Scotchlok™ Connectors

Connector	Box Packaging Weight kg (lbs.) Min. Order UPC	Bulk Packaging Weight kg (lbs.) Min. Order UPC	Cartridge Packaging Weight kg (lbs.) Min. Order UPC	Jar Packaging Weight kg (lbs.) Min. Order UPC	Clamshell Packaging Weight kg (lbs.) Min. Order UPC
UG	100/box, 1000/cs. (2.50) 1000 connectors 051115-26197	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
UPB	N/A N/A N/A N/A	1000/box, 5000/cs. 3.0 (6.6) 5000 connectors 054007-33416	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
UDW2	25/bag, 100/box N/A 100 connectors 051115-19144	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
U1B	100/box, 1000/cs. (16.00) 1000 connectors 051115-22636	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
U1R	100/box, 1000/cs. (16.20) 1000 connectors 051115-22637	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
UCC	N/A N/A N/A N/A	1000/box, 5000/cs. 2.31 (5.1) 5000 connectors 051115-26194	16/cart, 160/pak., 1600/cs. 1.6 (3.5) 1600 connectors 051115-26195	500/jar, 5000/cs. 2.8 (6.1) 5000 connectors 051115-26196	N/A N/A N/A N/A
UPC	N/A N/A N/A N/A	1000/box, 5000/cs. 2.16 (4.76) 5000 connectors 054007-33557	16/cart, 160/pak., 1600/cs. 1.5 (3.0) 1600 connectors 054007-33721	N/A N/A N/A N/A	N/A N/A N/A N/A

Tools	E-9BM Crimping	E-9C Cartridge	E-9R Crimping	E-9E Crimping	E-9Y Crimping*	E-9Y-P Crimping	E-9J Crimping
Packaging kg (lbs.)/ cs.	4.3 (9.5)	1/cs. 0.91 (2)	1/bag, 10/cs. 2.59 (5.7)	1/bag, 10/cs. 2.7 (6)	1/bag, 10/cs. 1.53 (3.3)	1/pouch, 10/cs. 1.53 (3.3)	1/bag, 10/cs. 4.1 (9.02)
Minimum Order	10 each	1 each	10 each	10 each	10 each	10 each	10 each
UPC	054007-33482	054007-34211	051138-87649	054007-10577	054007-15625	051115-22987	051115-19004-9

\*Not recommended for 19 AWG and larger.

# Moisture Guard Connector

The 3M™ Moisture Guard Connector (MGC) provides a convenient way to connect wires for landscape irrigation and lighting applications. Just press the MGC cap and a metal element inside pushes through the wire insulation to make a secure, reliable connection. The grease in the MGC protects against moisture while the MGC housing is UV resistant for above-ground applications.



## Ordering Information for Moisture Guard Connector

Product Number	UPC (051128-)	Description	Min. Order Qty.
MGC (25/bag)	56827-9	3M™ Moisture Guard Connector - 25/Bag	250
MGC (100/jug)	56828-6	3M™ Moisture Guard Connector - 100/Jug	400