

Spring Connectors and Tools

3M™ O/B+, R/Y+, B/G+ 3M “Performance +” Wire Connectors



14

Because of their increased wire range, just three “Performance +” Wire Connectors handle the work of seven standard connectors. O/B+ replaces the orange, blue and gray wire nut style connectors, as well as 70% of the yellow wire nut

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.

Scotchlok™ Y, R, G and B Electrical Spring Connectors



15

Scotchlok Y, R, G and B Electrical Spring Connectors 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™ R/Y+ Connector

13

3M 212, 312, 512 and 512G Electrical Spring Connectors



16

The quick-spin, wing-torque design of 312 and 512 Electrical Spring Connectors 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 and the 512 (red) connector for 2 #18 to 5 #12 AWG. The 512G (green) is used for grounding connections.



Features — Advantages — Benefits

Spring Connectors

3M “Performance +” Connectors (O/B+, R/Y+, B/G+)

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

Scotchlok Electrical Spring Connectors (Y, R, G, B)

Soft outer shell	Easy on the fingers	Easy to use
Soft 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

3M Electrical Spring and Grounding Connectors (212, 312, 512, 512G)

Hard shell	Easy to grip	Easy to use
Wings	Easy to turn	Easy to use

Highland™ Connectors (H-29, H-30, H-31, H-33, H-35)

Low price	Economical	Save money
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The 212 connector combines 3M quality and economy into one connector. Designed for speed and efficiency, 212 connectors spin-on quickly and tighten-down easily. They're engineered for easy back-off, too. The live inner spring action delivers uniform holding power on common #22 to #10 AWG wire combinations. The 212 connector is UL Listed and features a tough, impact-resistant, thermoplastic insulator.

Highland™ Wire Connectors



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).

17

Highland color-coded wire connectors are UL Listed, CSA Certified, and work equally well with either solid or stranded wire. H-29 and H-30 connectors are rated to 300V. H-31, H-33 and H-35 connectors are rated to 600V (1000V in signs and lighting fixtures).

3M™ WCD Wire Connector Drivers

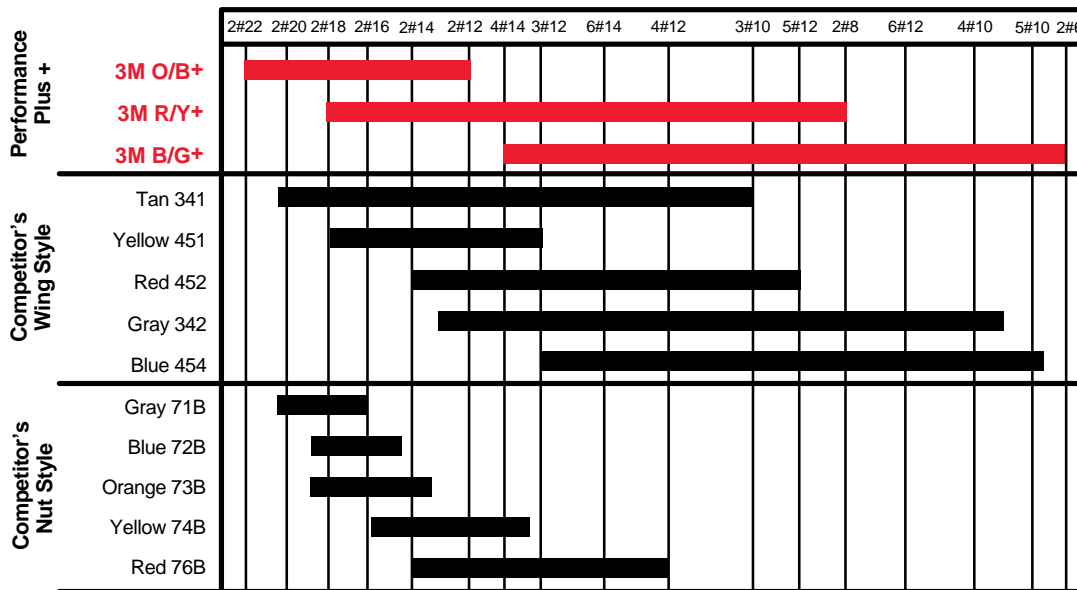


18

















These application tools for 3M "Performance +" O/B+ and R/Y+; 3M 212, 312, and 512; and 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.

Wire Range for 3M "Performance +" Connectors



Specification Information for Spring Connectors

Connector	Features/ Description	Maximum Voltage Rating	Wire Range* AWG (mm ²)	Temp. Rating	UL, CSA or CE Certified	Tools
3M™ O/B+	 Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#22-2#12 3#14 (1,0 mm ² -5,0 mm ²)	221°F (105°C)	UL SF CE †	WCD-P WCD-H
3M R/Y+	 Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	2#18-2#8 5#12 (2,0 mm ² -16,0 mm ²)	221°F (105°C)	UL SF CE †	WCD-P WCD-H
3M B/G+	 Flexible skirt w/square wire	600V (1000V in signs, lighting fixtures and luminaries)	4#14-2#6-3#8 (10,0 mm ² -31,6 mm ²)	221°F (105°C)	UL SF CE †	—
Scotchlok™ R	 Insulated w/vinyl skirt and live spring	600V (1000V for signs, lighting fixtures and luminaries)	9#18, 4-6#16, 2-5#14, 2-5#12, 1-3#10 (5,0-16,0 mm ²)	221°F (105°C)	UL SF CE †	WCD-P WCD-H
Scotchlok Y	 Insulated w/vinyl skirt and live spring	600V (1000V for 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 (2,0-17,5 mm ²)	221°F (105°C)	UL SF CE †	WCD-P WCD-H
Scotchlok B	 Insulated w/vinyl skirt and live spring	600V (1000V for signs, lighting fixtures and luminaries)	3-6#12, 2-6#10, 2-3#8, 1-2#6 stranded (12,0-36,0 mm ²)	221°F (105°C)	UL SF CE †	—
Scotchlok G	 Insulated w/vinyl skirt and live spring	600V (1000V for signs, lighting fixtures and luminaries)	3-7#14, 2-6#12, 2-4#10, 2#8 (8,0-24,0 mm ²)	221°F (105°C)	UL SF CE †	WCD-P WCD-H
3M 212	 Insulated electrical connector w/live spring	600V (1000V for signs, lighting fixtures and luminaries)	1#16 to 1#22, 3#12, 4#14 (5,0-16,0 mm ²)	221°F (105°C)	UL CE †	WCD-P WCD-H
3M 312	 Nylon Insulated w/live spring	600V (1000V for signs, lighting fixtures and luminaries)	5-7#22, 3-6#20, 2-6#18 2-6#16, 1-4#14, 1-3#12 (1,5-10,0 mm ²)	221°F (105°C)	UL SF †	WCD-P WCD-H
3M 512	 Nylon insulated w/live spring	600V (1000V for 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 (2,0-16,0 mm ²)	221°F (105°C)	UL SF †	WCD-P WCD-H
3M 512G	 Nylon insulated grounding connector	600V (1000V for 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 (4,0-15,0 mm ²)	221°F (105°C)	UL SF †	—
Highland™ H-29	 Round wire spring	300V	22-16 AWG [One 22 AWG/One 20 AWG Min.] [Two 16 AWG Max.] (1,5-2,5 mm ²)	221°F (105°C)	UL SF	—
Highland H-30	 Round wire spring	300V	22-16 AWG [Three 20 AWG Min.] [Three 16 AWG Max.] (1,5-3,0 mm ²)	221°F (105°C)	UL SF	—
Highland H-31	 Round wire spring	600V (1000V in signs, lighting fixtures and luminaries)	18-14 AWG [Two 18 AWG Min.] [Two 14 AWG Max.] (2,0-4,0 mm ²)	221°F (105°C)	UL SF	—
Highland H-33	 Round wire spring	600V (1000V in signs, lighting fixtures and luminaries)	18-12 AWG [Two 18 AWG Min.] [Three 14 AWG Max] (2,0-0,5 mm ²)	221°F (105°C)	UL SF	—
Highland H-35	 Round wire spring	600V (1000V in signs, lighting fixtures and luminaries)	18-10 AWG [Three 18 AWG Min.] [Three 10 AWG Max.] (2,5-16,0 mm ²)	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

Product Number	UPC (054007-)	Inner Unit Pack	Case Qty. (connectors) Distributor Order Qty.
3M™ O/B+	43152	100/box	1,000 box
	43153	500/jug	10,000 bulk
3M R/Y+	43154	100/box	1,000 box
	43155	500/jug	4,000 bulk
3M B/G+	43150	50/box	500 box
	43151	250/jug	2,000 bulk
Scotchlok™ R	20058	100/box	1,000 box
	70489	500/bag	5,000 bulk
Scotchlok Y	20041	100/box	1,000 box
	15769	500/bag	10,000 bulk
Scotchlok B	42033	50/box	500 box
Scotchlok G	21346	100/box	1,000 box
	70488	500/bag	2,500 bulk
3M 212 (Tan)	11792	100/box	1,000 box
	13202	500/bag	10,000 bulk
3M 312 (Yellow)	08159	100/box	1,000 box
	08160	500/bag	10,000 bulk
3M 512 (Red)	08161	100/box	1,000 box
	08162	500/bag	10,000 bulk
3M 512G (Green)	49950	50/box	500 box
	50232	500/bag	10,000 bulk
Highland™ H-29 (Gray)	43133	100/box	1,000 box
	43134	—	1,000 bin
	43135	—	25,000 keg (loose)
Highland H-30 (Blue)	43122	100/box	1,000 box
	43123	—	1,000 bin
	43124	—	10,000 keg (loose)
Highland H-31 (Orange)	43117	100/box	1,000 box
	43118	500/bag	10,000 bulk
	43119	—	1,000 bin
	43120	—	10,000 keg
Highland H-33 (Yellow)	43136	100/box	1,000 box
	43138	500/bag	5,000 bulk
	43137	—	1,000 bin
	43139	—	5,000 keg
Highland H-35 (Red)	49764	100/box	1,000 box
	49765	250/bag	2,500 bulk
	49766	—	1,000 bin

Specification and Ordering Information for Application Tools

Product Number	Description	Application	UPC (054007-)	Inner Unit Pack	Case Qty.
WCD-P	Power driver using a standard chuck, drill or screw driver	Tools for 3M O/B+, R/Y+, Scotchlok Y, R, G and 3M 212, 312, and 512.	49919	—	10
WCD-H	Hand driver	Tools for 3M O/B+, R/Y+, Scotchlok Y, R, G and 3M 212, 312, and 512.	49948	—	10