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

- Color-coded wire connectors with a unique soft shell
- Flexible, yet durable, and provide a compact, fully insulated connection that won't cut or abrade wires
- Torque fins are engineered to provide a comfortable and secure grip
- Installation fast and back-off easy



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

- Quick-spin, wing-torque design of 312 and 512 Electrical Spring Connectors is easy on your fingers. Generous expansion room accommodates a wide range of solid or stranded wire
- Use 512G (green) for grounding connections
- The 212 connector combines 3M quality and economy into one connector
- Features a tough, impact-resistant, thermoplastic insulator



5

Highland™ Wire Connectors

- Economical and reliable
- Quick and easy to match the right connector to the size of the wire
- 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



DON'T FORGET!

Multiple Connecting

Wire Connector Driver pg. 7

Identifying

















Wire Identification pg. 110

Splicing

Heat Shrink pg. 132



Specification Information for 3M™ Spring Connectors

| Connector | Features/ Description | Maximum Voltage Rating | Wire Range* AWG (mm ²) | Temperature Rating | UL, CSA or CE Certified | Suggested 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP † | 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 SP † | 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 SP † | — |
| Highland™ H-29 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-30 |  Easy-grip shell/ general use | 300V | 22-16 AWG [Three 20 AWG Min.] [Three 16 AWG Max.] (1,5-3,0 mm ²) | 221° F (105° C) | UL SP | — |
| Highland H-31 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-33 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-35 |  Easy-grip shell/ general use | 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 SP | — |

*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 3M™ 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 |



3M WCD Wire Connector Drivers

- For multiple connecting jobs, these drivers quickly spin on the connector and position the wire bundle
- Fits 3M Performance Plus connectors, 3M 212, 312 and 512 connectors, and Scotchlok Y, R and G connectors
- WCD-H is a hand driver. WCD-P is a power driver that fits a standard chuck

Specification and Ordering Information for 3M 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 |



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- Installation fast and back-off easy



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

- Quick-spin, wing-torque design of 312 and 512 Electrical Spring Connectors is easy on your fingers. Generous expansion room accommodates a wide range of solid or stranded wire
- Use 512G (green) for grounding connections
- The 212 connector combines 3M quality and economy into one connector
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- Economical and reliable
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















DON'T FORGET!

| | |
|-----------------------|---------|
| Multiple Connecting | |
| Wire Connector Driver | pg. 7 |
| Identifying | |
| Wire Identification | pg. 110 |
| Splicing | |
| Heat Shrink | pg. 132 |



Specification Information for 3M™ Spring Connectors

| Connector | Features/ Description | Maximum Voltage Rating | Wire Range* AWG (mm ²) | Temperature Rating | UL, CSA or CE Certified | Suggested 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP 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 SP † | 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 SP † | 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 SP † | — |
| Highland™ H-29 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-30 |  Easy-grip shell/ general use | 300V | 22-16 AWG [Three 20 AWG Min.] [Three 16 AWG Max.] (1,5-3,0 mm ²) | 221° F (105° C) | UL SP | — |
| Highland H-31 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-33 |  Easy-grip shell/ general use | 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 SP | — |
| Highland H-35 |  Easy-grip shell/ general use | 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 SP | — |

*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 3M™ 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 |



3M WCD Wire Connector Drivers

- For multiple connecting jobs, these drivers quickly spin on the connector and position the wire bundle
- Fits 3M Performance Plus connectors, 3M 212, 312 and 512 connectors, and Scotchlok Y, R and G connectors
- WCD-H is a hand driver. WCD-P is a power driver that fits a standard chuck

Specification and Ordering Information for 3M 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 |