

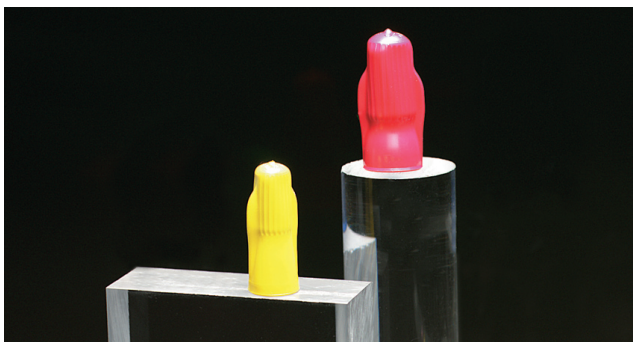
# Spring Connectors and Tools

## 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 and R

3M Scotchlok Electrical Spring Connectors Y and R 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

# 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<br>(1000V in signs, lighting fixtures and luminaries) | 2#22-3#12<br>3#14<br>(1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector T/R+         | Quick bite, compact size wide wire range                | 600V<br>(1000V in signs, lighting fixtures and luminaries) | up to 5#12s<br>(2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )   | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector R/Y+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 2#18-2#8<br>5#12<br>(2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector T/Y+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 2#22-3#12<br>3#14<br>(1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector B/G+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 4#14-2#6-3#8<br>(10,0 mm <sup>2</sup> -31,6 mm <sup>2</sup> )   | 221°F<br>(105°C) | UL SP CE †              | —              |
| 3M™ Scotchlok™ Connector R | Insulated w/vinyl skirt and live spring and steel shell | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 9#18, 4-6#16, 2-5#14,<br>2-5#12, 1-3#10<br>(5,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )                 | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Scotchlok™ Connector Y | Insulated w/vinyl skirt and live spring and steel shell | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 5-8#22, 4-6#20, 2-5#18,<br>2-3#16, 1-3#14, 1-2#12,<br>1#10 (2,0 mm <sup>2</sup> -17,5 mm <sup>2</sup> ) | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |

## Ordering Information for Spring Connectors

| Connector                            | UPC<br>(054007-) | Inner Unit<br>Pack | Case Qty. (connectors)<br>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™ 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<br>Number | Description                      | Application   | UPC<br>(054007-) | Inner<br>Unit Pack | Case<br>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           |

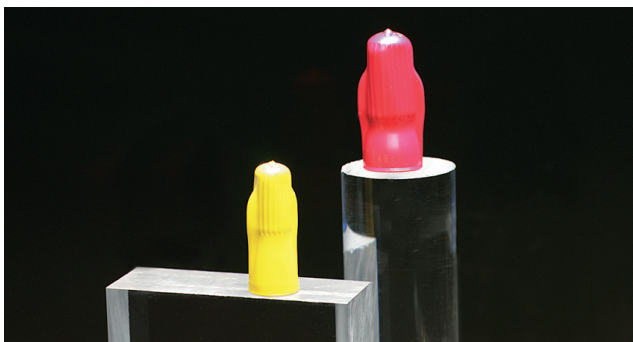
# Spring Connectors and Tools

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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.

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3M Scotchlok Electrical Spring Connectors Y and R 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

# 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<br>(1000V in signs, lighting fixtures and luminaries) | 2#22-3#12<br>3#14<br>(1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector T/R+         | Quick bite, compact size wide wire range                | 600V<br>(1000V in signs, lighting fixtures and luminaries) | up to 5#12s<br>(2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )   | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector R/Y+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 2#18-2#8<br>5#12<br>(2,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector T/Y+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 2#22-3#12<br>3#14<br>(1,0 mm <sup>2</sup> -5,0 mm <sup>2</sup> )  | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Connector B/G+         | Flexible skirt w/square wire                            | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 4#14-2#6-3#8<br>(10,0 mm <sup>2</sup> -31,6 mm <sup>2</sup> )   | 221°F<br>(105°C) | UL SP CE †              | —              |
| 3M™ Scotchlok™ Connector R | Insulated w/vinyl skirt and live spring and steel shell | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 9#18, 4-6#16, 2-5#14,<br>2-5#12, 1-3#10<br>(5,0 mm <sup>2</sup> -16,0 mm <sup>2</sup> )                 | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |
| 3M™ Scotchlok™ Connector Y | Insulated w/vinyl skirt and live spring and steel shell | 600V<br>(1000V in signs, lighting fixtures and luminaries) | 5-8#22, 4-6#20, 2-5#18,<br>2-3#16, 1-3#14, 1-2#12,<br>1#10 (2,0 mm <sup>2</sup> -17,5 mm <sup>2</sup> ) | 221°F<br>(105°C) | UL SP CE †              | WCD-P<br>WCD-H |

## Ordering Information for Spring Connectors

| Connector                            | UPC<br>(054007-) | Inner Unit<br>Pack | Case Qty. (connectors)<br>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™ 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<br>Number | Description                      | Application   | UPC<br>(054007-) | Inner<br>Unit Pack | Case<br>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           |