

# 3M™ Electrical Spring Connectors 512

## Data Sheet

### Application

Use a 3M™ Electrical Spring Connector 512 connector to electrically connect two or more wire ends in a pigtail application and insulate the connection, or to insulate a single wire end.

### Wire Range

AWG Range: Solid or stranded copper conductors only. No. 20 thru No. 8 (0,75 mm<sup>2</sup> thru 6,0 mm<sup>2</sup>).

### Construction

Spring - Spring Steel, Corrosion-Resistant Coating  
 Insulator - Flame-Retardant Nylon  
 Color - Red

### Weight

.006 lb. (2,7 gm)

### Engineering Specification

3M Electrical Spring Connector 512 shall be capable of connecting wires within the range of No. 20 thru No. 8 solid or stranded copper conductors in a pigtail application. The connector shall be constructed of an active (live) spring and covered by a flame-retardant nylon insulator. The spring shall have a corrosion resistant coating. The connector shall be UL Listed as a pressure cable connector and be CSA Certified. The connectors shall be voltage rated 600 volts maximum, building wire,

1000 volts maximum signs, fixtures, and luminaires. The connector shall have a maximum operating temperature of 105°C.

### Regulatory Agencies

**UL Listed** as a Pressure Cable Connector  
 Tested per UL Standard 486C  
 UL File No. E23438

**CSA Certified**-CSA Standard C22.2 No. 0, 188-M1983  
 CSA File No. LR15503

Operating Temperature: 105°C (221°F)  
 Voltage Rating: 600 volts max. building wire  
 1000 volts max. signs and luminaires.  
 Flammability Rating: C22.2 No. 0.6 V-2

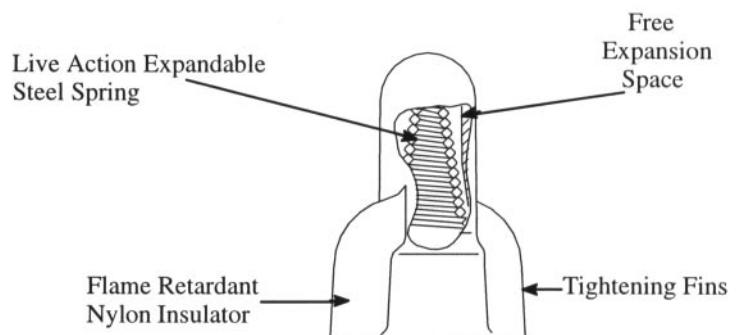
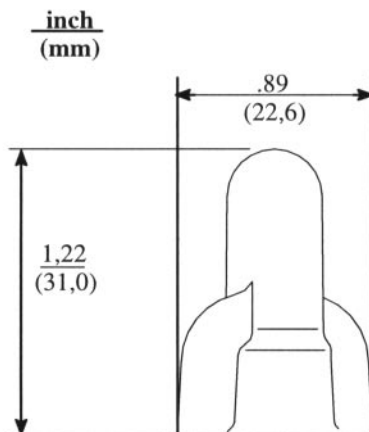
**Classified** in accordance with IEC (International Electrotechnical Commission) publications 685-1 and 685-2-4. UL-IEC file No. E95240.

Operating Temperature: 105°C (221°F)  
 Voltage Rating: 600 volts max. building wire;  
 1000 volts max. signs and fixtures  
 Flammability Rating: UL94 V-2

### Federal Specification W-S-610:

“Commercial package only”

| Type | Class | Kind | Style |
|------|-------|------|-------|
| 1    | 1     | cu   | G     |





## Installation Instructions

### WARNING

Turn power off before installing or removing terminal. All electrical work should be done according to appropriate electrical codes.

1. Strip wire insulation to length specified in chart to the right, according to conductor size.
2. Firmly grasp wires, making sure insulation ends are even and tightly bundled. (wires may be twisted or untwisted). Slip connector over wire tips.
3. Turn connector onto wires in a clockwise direction until secure.
4. To remove, turn connector counter-clockwise.

| Conductor Size                        | Strip Length   |
|---------------------------------------|----------------|
| 20-16 AWG (0,75-1,5 mm <sup>2</sup> ) | 3/4" (19,0 mm) |
| 14-8 AWG (2,5-4,0 mm <sup>2</sup> )   | 5/8" (15,9 mm) |

## Metric Wire Combinations

### International Electrotechnical Commission



Rated Capacity: 2,0-16,0 mm<sup>2</sup>  
Voltage Rating: 600 volts maximum  
Reusability: Reusable for same capacity or larger  
Wire Type: Copper only


See installation instructions for conductor strip lengths.


I.E.C. Metric Wire Matrix:  
Twist-on connecting devices for the combination of rigid (solid or stranded) and flexible conductors.

| Conductor Size       | Quantity |
|----------------------|----------|
| 0,75 mm <sup>2</sup> | 3-6      |
| 1,0 mm <sup>2</sup>  | 2-6      |
| 1,5 mm <sup>2</sup>  | 2-6      |
| 2,5 mm <sup>2</sup>  | 2-6      |
| 4,0 mm <sup>2</sup>  | 2-4      |
| 6,0 mm <sup>2</sup>  | 2        |

**Only AWG combinations are UL Listed or CSA Certified.**

3M is a trademark of 3M Company.

 is a trademark of Underwriters Laboratories.

 is a trademark of Canadian Standards Association.

 is a trademark of International Electrotechnical Commission.

**IMPORTANT NOTICE:** All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

**Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

**3M**

Electrical Markets Division  
6801 River Place Blvd.  
Austin, TX 78726-9000  
800.245.3573  
FAX: 800.245.0329  
[www.3M.com/electrical](http://www.3M.com/electrical)

Please recycle  
© 3M 2017. All rights reserved.  
78-8126-5512-0 Rev B

# 3M™ Electrical Spring Connectors 512

## Data Sheet

### Application

Use a 3M™ Electrical Spring Connector 512 connector to electrically connect two or more wire ends in a pigtail application and insulate the connection, or to insulate a single wire end.

### Wire Range

AWG Range: Solid or stranded copper conductors only. No. 20 thru No. 8 (0,75 mm<sup>2</sup> thru 6,0 mm<sup>2</sup>).

### Construction

Spring - Spring Steel, Corrosion-Resistant Coating  
 Insulator - Flame-Retardant Nylon  
 Color - Red

### Weight

.006 lb. (2,7 gm)

### Engineering Specification

3M Electrical Spring Connector 512 shall be capable of connecting wires within the range of No. 20 thru No. 8 solid or stranded copper conductors in a pigtail application. The connector shall be constructed of an active (live) spring and covered by a flame-retardant nylon insulator. The spring shall have a corrosion resistant coating. The connector shall be UL Listed as a pressure cable connector and be CSA Certified. The connectors shall be voltage rated 600 volts maximum, building wire,

1000 volts maximum signs, fixtures, and luminaires. The connector shall have a maximum operating temperature of 105°C.

### Regulatory Agencies

**UL Listed** as a Pressure Cable Connector  
 Tested per UL Standard 486C  
 UL File No. E23438

**CSA Certified**-CSA Standard C22.2 No. 0, 188-M1983  
 CSA File No. LR15503

Operating Temperature: 105°C (221°F)  
 Voltage Rating: 600 volts max. building wire  
 1000 volts max. signs and luminaires.  
 Flammability Rating: C22.2 No. 0.6 V-2

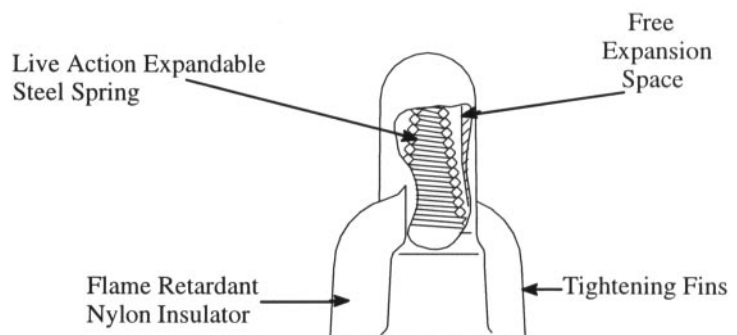
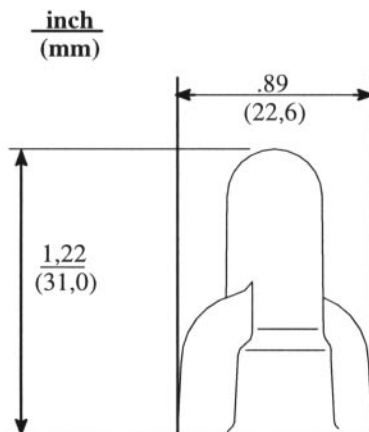
**Classified** in accordance with IEC (International Electrotechnical Commission) publications 685-1 and 685-2-4. UL-IEC file No. E95240.

Operating Temperature: 105°C (221°F)  
 Voltage Rating: 600 volts max. building wire;  
 1000 volts max. signs and fixtures  
 Flammability Rating: UL94 V-2

### Federal Specification W-S-610:

“Commercial package only”

| Type | Class | Kind | Style |
|------|-------|------|-------|
| 1    | 1     | cu   | G     |







## Installation Instructions

### **⚠ WARNING**

Turn power off before installing or removing terminal. All electrical work should be done according to appropriate electrical codes.

1. Strip wire insulation to length specified in chart to the right, according to conductor size.
2. Firmly grasp wires, making sure insulation ends are even and tightly bundled. (wires may be twisted or untwisted). Slip connector over wire tips.
3. Turn connector onto wires in a clockwise direction until secure.
4. To remove, turn connector counter-clockwise.

| Conductor Size                        | Strip Length   |
|---------------------------------------|----------------|
| 20-16 AWG (0,75-1,5 mm <sup>2</sup> ) | 3/4" (19,0 mm) |
| 14-8 AWG (2,5-4,0 mm <sup>2</sup> )   | 5/8" (15,9 mm) |

## Metric Wire Combinations

### International Electrotechnical Commission



Rated Capacity: 2,0-16,0 mm<sup>2</sup>  
Voltage Rating: 600 volts maximum  
Reusability: Reusable for same capacity or larger  
Wire Type: Copper only


See installation instructions for conductor strip lengths.


I.E.C. Metric Wire Matrix:  
Twist-on connecting devices for the combination of rigid (solid or stranded) and flexible conductors.

| Conductor Size       | Quantity |
|----------------------|----------|
| 0,75 mm <sup>2</sup> | 3-6      |
| 1,0 mm <sup>2</sup>  | 2-6      |
| 1,5 mm <sup>2</sup>  | 2-6      |
| 2,5 mm <sup>2</sup>  | 2-6      |
| 4,0 mm <sup>2</sup>  | 2-4      |
| 6,0 mm <sup>2</sup>  | 2        |

**Only AWG combinations are UL Listed or CSA Certified.**

3M is a trademark of 3M Company.

 is a trademark of Underwriters Laboratories.

 is a trademark of Canadian Standards Association.

 is a trademark of International Electrotechnical Commission.

**IMPORTANT NOTICE:** All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

**Warranty; Limited Remedy; Limited Liability.**

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

**3M**

Electrical Markets Division  
6801 River Place Blvd.  
Austin, TX 78726-9000  
800.245.3573  
FAX: 800.245.0329  
[www.3M.com/electrical](http://www.3M.com/electrical)

Please recycle  
© 3M 2017. All rights reserved.  
78-8126-5512-0 Rev B