



# 3M™ Highland™ Electrical Spring Connectors

## Data Sheet

### Application

Use the 3M™ Highland™ Electrical Spring Connectors to electrically connect two or more wire ends in a pigtail application and insulate the connection. The wire range shall be 22 thru 10 AWG solid or stranded copper wire.

### Construction

Spring—Steel, plated  
Insulator—Vinyl

### Engineering Specification

The Highland Electrical Spring Connectors shall be capable of connecting two or more wires in a pigtail application, in the wire range of No. 22 thru No. 10 solid or stranded copper conductors. The connectors shall be constructed of a plated steel spring, covered by a vinyl insulator. The connectors shall be UL Listed and CSA Certified.

### Regulatory Agencies

**UL Listed** as a Pressure Cable Connector

Tested per UL Standard 486C

UL File No. E23438

**CSA Certified** as a Pressure Cable Connector

Tested to CSA Standard C22.2

No. 0,188-M1983

CSA File No. 58960

### Specifications

#### Max. Voltage rating

300V or 600V Building Wire

1000V Signs, Lighting Fixtures and Luminaries

#### Max temperature rating

105°C (221°F)-UL

For Regulatory information including RoHS, REACH, please [www.3m.com/regs](http://www.3m.com/regs)

### Installation Instructions

#### WARNING

Working around energized systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling electrical equipment. De-energize and ground all electrical systems before installing product.

**CAUTION:** Turn power off before installing or removing connector. All electrical work should be done according to appropriate electrical codes.

- Strip the wire insulation according to the strip lengths in the package instructions.
- Firmly grasp wires, making sure insulation ends are even and tightly bundled. (Wires may be twisted or untwisted.) Lead stranded wires slightly. Slip the connector over wire tips.
- Turn connector onto wires in clockwise direction until secure. Pull each conductor moderately to confirm that they are firmly secured.


**Metric wire combinations (copper only)  
not UL Listed or CSA Certified.**


Size	H-29 Gray	H-30 Blue	H-31 Orange	H-33 Yellow	H-35 Red
0,50 mm2	3 to 5	3 to 5			
0,75 mm2	2 to 3	2 to 4	3 to 5	3 to 6	-
1,0 mm2	2	2 to 3	2 to 4	2 to 5	5 to 6
1,5 mm2	-	2	2 to 3	3 to 4	3 to 6
2,5 mm2		-		2 to 3	2 to 5
4 mm2		-			2 to 4

## Wire combination

### Solid or stranded copper conductors only

<b>H-29 (Gray) (300 Volts)</b>	<b>H-30 (Blue) (300 Volts)</b>	<b>H-35 (Red) (600 Volts)</b>
3 to 5 No. 22	5 No. 22	3 to 9 No. 18
2 to 4 No. 20	3 to 5 No. 20	2 to 6 No. 14
2 or 3 No. 18	2 to 4 No. 18	2 to 4 No. 12
2 No. 16	2 or 3 No. 16	2 to 3 No. 10
1 No. 20 w/ 1 to 4 No. 22	1 No. 20 w/ 4 No. 22	2 No. 14 w/ 1 to 4 No. 18
2 No. 20 w/ 1 to 3 No. 22	2 No. 20 w/ 2 or 3 No. 22	2 No. 14 w/ 1 to 4 No. 16
3 No. 20 w/ 1 or 2 No. 22	3 No. 20 w/ 1 or 2 No. 22	3 No. 14 w/ 1 to 3 No. 16
1 No. 18 w/ 1 No. 20 w/ 1 No. 22	4 No. 20 w/ 1 No. 22	3 No. 14 w/ 1 to 3 No. 18
1 No. 18 w/ 1 to 4 No. 22	1 No. 18 w/ 2 to 4 No. 20	4 No. 14 w/ 1 to 2 No. 16
1 No. 18 w/ 1 or 2 No. 20	1 No. 18 w/ 3 or 4 No. 22	4 No. 14 w/ 1 to 2 No. 18
2 No. 18 w/ 1 No. 20 or No. 22	1 or 2 No. 18 w/ 1 No. 20 w/ 1 No. 22	5 No. 14 w/ 1 No. 16
1 No. 16 w/ 1 No. 18 or No. 22	2 No. 18 w/ 1 to 3 No. 20	5 No. 14 w/ 1 No. 18
<b>H-31 (Orange)(600 Volts)</b>	2 No. 18 w/ 1 to 3 No. 22	1 No. 12 w/ 1 to 4 No. 18
5 No. 22	3 No. 18 w/ 1 or 2 No. 20 or No. 22	1 No. 12 w/ 1 to 4 No. 16
3 to 5 No. 20	4 No. 18 w/ 1 No. 22	1 No. 12 w/ 1 to 5 No. 14
2 to 5 No. 18	1 No. 16 w/ 1 to 4 No. 20	2 No. 12 w/ 1 to 3 No. 16
2 to 3 No. 16	1 No. 16 w/ 1 to 4 No. 22	2 No. 12 w/1 to 3 No. 18
2 No. 14	1 No. 16 w/ 1 or 2 No. 18	2 No. 12 w/ 1 to 4 No. 14
1 No. 16 w/ 1 to 4 No. 18	2 No. 16 w/ 1 to 3 No. 22	3 No. 12 w/ 1 to 2 No. 16
2 No. 16 w/ 1 or 2 No. 18	2 No. 16 w/ 1 or 2 No. 20	3 No. 12 w/ 1 to 2 No. 18
1 No. 14 w/ 1 to 3 No. 18	2 No. 16 w/ 1 No. 18	3 No. 12 w/ 2 or 3 No. 14
1 No. 14 w/ 1 or 2 No. 16	1 No. 14 w/ 1 to 4 No. 22	4 No. 12 w/ 1 No. 14
2 No. 14 w/ 1 to 3 No. 20 or No. 22	1 No. 14 w/ 1 to 3 No. 20	4 No. 12 w/ 1 No. 16
<b>H-33 (Yellow) (600V)</b>	1 No. 14 w/ 1 No. 16	4 No. 12 w/ 1 No. 18
4 or 5 No. 22	1 No. 14 w/ 1 No. 18	1 No. 10 w/ 1 to 3 No. 12
3 to 5 No. 20		1 No. 10 w/ 1 to 3 No. 14
2 to 7 No. 18		2 No. 10 w/ 1 to 3 No. 18
2 to 4 No. 16		2 No. 10 w/ 1 to 3 No. 16
2 to 3 No. 14		2 No. 10 w/ 1 or 2 No. 14
2 No. 12		2 No. 10 w/ 1 or 2 No. 12
2 No. 18 w/ 2 to 4 No. 16		
1 or 2 No. 16 w/ 1 to 3 No. 18		
1 No. 14 w/ 1 to 4 No. 16		
1 No. 14 w/ 1 to 3 No. 18		
2 No. 14 w/ 1 to 2 No. 16		

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**3M**

**Electrical Markets Division**

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

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