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## Solutions for Electronic Specialty Markets (ESM)

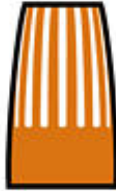
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## [Printer-friendly format](#) **3M™ Highland™ Wire Connector H-31, Orange, 18-14 AWG, 500/Bag**



[\[click to enlarge\]](#)

3M™ 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).

GTIN(UPC/EAN) : 0 00 54007 43118 3  
 3M Id : 80-6109-8426-4

### Additional Information

3M™ Highland™ Color-Coded Wire Connectors are UL Listed, CSA Certified, and work equally well with either solid or stranded wire. H-31, H-33 and H-35 connectors are rated to 600V (1000V in signs and lighting fixtures).

### Learn More . . .

- [Packaging Data](#)
- [Highland Electrical Spring Connectors - Data Sheet \(PDF 12.0 K\)](#)

#### Please Note:

Adobe® Acrobat® Reader is required to view PDF documents.



### Characteristics

<b>Agency Approvals</b>	UL and CSA
<b>China RoHS - Below MCV</b>	Yes
<b>Color</b>	Orange
<b>EU RoHS Compliant</b>	Yes
<b>Maximum Recommended Voltage Rating</b>	600 Volt
<b>Units per Box</b>	500
<b>Wire Range Capabilities</b>	22 to 14



# Highland™ Electrical Spring Connectors



## Data Sheet

### 1.0 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

### 2. 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.

### 3. Regulatory Agencies

**UL Listed** as a Pressure Cable Connector  
Tested per UL Standard 486C  
UL File No. E84147

**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  
90°C (194°F)-CSA

#### Wire Combinations:

Solid or stranded copper conductors only

#### H-29 (Gray) (300 Volts)

3 to 5 No. 22

2 to 4 No. 20

2 or 3 No. 18

2 No. 16

1 No. 20 w/ 1 to 4 No. 22

2 No. 20 w/ 1 to 3 No. 22

3 No. 20 w/ 1 or 2 No. 22

1 No. 18 w/ 1 No. 20 w/ 1 No. 22

1 No. 18 w/ 1 to 4 No. 22

1 No. 18 w/ 1 or 2 No. 20

2 No. 18 w/ 1 No. 20 or No. 22

1 No. 16 w/ 1 No. 18 or No. 22

#### H-30 (Blue)

(300 Volts)

5 No. 22

3 to 5 No. 20

2 to 4 No. 18

2 or 3 No. 16

1 No. 20 w/ 4 No. 22

2 No. 20 w/ 2 or 3 No. 22

3 No. 20 w/ 1 or 2 No. 22

4 No. 20 w/ 1 No. 22

1 No. 18 w/ 2 to 4 No. 20

1 No. 18 w/ 3 or 4 No. 22

1 or 2 No. 18 w/ 1 No. 20 w/ 1 No. 22

2 No. 18 w/ 1 to 3 No. 20

2 No. 18 w/ 1 to 3 No. 22

3 No. 18 w/ 1 or 2 No. 20 or No. 22

4 No. 18 w/ 1 No. 22

1 No. 16 w/ 1 to 4 No. 20

1 No. 16 w/ 1 to 4 No. 22

1 No. 16 w/ 1 or 2 No. 18

2 No. 16 w/ 1 to 3 No. 22

2 No. 16 w/ 1 or 2 No. 20

2 No. 16 w/ 1 No. 18

1 No. 14 w/ 1 to 4 No. 22

1 No. 14 w/ 1 to 3 No. 20

1 No. 14 w/ 1 No. 16

1 No. 14 w/ 1 No. 18

**H-31 (Orange)**

(600 Volts)

5 No. 22  
 3 to 5 No. 20  
 2 to 5 No. 18  
 2 to 3 No. 16  
 2 No. 14  
 1 No. 16 w/ 1 to 4 No. 18  
 2 No. 16 w/ 1 or 2 No. 18  
 1 No. 14 w/ 1 to 3 No. 18  
 1 No. 14 w/ 1 or 2 No. 16  
 2 No. 14 w/ 1 to 3 No. 20 or No. 22

**H-33 (Yellow)**

(600 Volts)

4 or 5 No. 22  
 3 to 5 No. 20  
 2 to 7 No. 18  
 2 to 4 No. 16  
 2 to 3 No. 14  
 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  
 2 No. 14 w/ 1 to 2 No. 18

**H-35 (Red)**

(600 Volts)

3 to 9 No. 18  
 2 to 6 No. 14  
 2 to 4 No. 12  
 2 to 3 No. 10  
 2 No. 14 w/ 1 to 4 No. 18  
 2 No. 14 w/ 1 to 4 No. 16  
 3 No. 14 w/ 1 to 3 No. 16  
 3 No. 14 w/ 1 to 3 No. 18  
 4 No. 14 w/ 1 to 2 No. 16  
 4 No. 14 w/ 1 to 2 No. 18

5 No. 14 w/ 1 No. 16  
 5 No. 14 w/ 1 No. 18  
 1 No. 12 w/ 1 to 4 No. 18  
 1 No. 12 w/ 1 to 4 No. 16  
 1 No. 12 w/ 1 to 5 No. 14  
 2 No. 12 w/ 1 to 3 No. 16  
 2 No. 12 w/ 1 to 3 No. 18  
 2 No. 12 w/ 1 to 4 No. 14  
 3 No. 12 w/ 1 to 2 No. 16  
 3 No. 12 w/ 1 to 2 No. 18  
 3 No. 12 w/ 2 or 3 No. 14  
 4 No. 12 w/ 1 No. 14  
 4 No. 12 w/ 1 No. 16  
 4 No. 12 w/ 1 No. 18  
 1 No. 10 w/ 1 to 3 No. 12  
 1 No. 10 w/ 1 to 3 No. 14  
 2 No. 10 w/ 1 to 3 No. 18  
 2 No. 10 w/ 1 to 3 No. 16  
 2 No. 10 w/ 1 or 2 No. 14  
 2 No. 10 w/ 1 or 2 No. 12

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

**H-29 (Gray)**  
 0,50 mm<sup>2</sup> (3 to 5)  
 0,75 mm<sup>2</sup> (2 to 3)  
 1,0 mm<sup>2</sup> (2)

**H-30 (Blue)**  
 0,50 mm<sup>2</sup> (3 to 5)  
 0,75 mm<sup>2</sup> (2 to 4)  
 1,0 mm<sup>2</sup> (2 to 3)  
 1,5 mm<sup>2</sup> (2)

**H-31 (Orange)**  
 0,75 mm<sup>2</sup> (3 to 5)  
 1,0 mm<sup>2</sup> (2 to 4)  
 1,5 mm<sup>2</sup> (2 to 3)

**H-33 (Yellow)**  
 0,75 mm<sup>2</sup> (3 to 6)  
 1,0 mm<sup>2</sup> (2 to 5)  
 1,5 mm<sup>2</sup> (3 to 4)  
 2,5 mm<sup>2</sup> (2 to 3)

**H-35 (Red)**  
 1,0 mm<sup>2</sup> (5 to 6)  
 1,5 mm<sup>2</sup> (3 to 6)  
 2,5 mm<sup>2</sup> (2 to 5)  
 4 mm<sup>2</sup> (2 to 4)

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