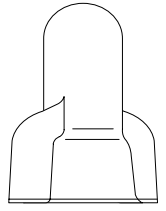




# Insulated Electrical Spring Connector 312



## Data Sheet

### Application:

Use a 312 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

COPPER conductors only, No. 22 thru No. 10 solid or stranded wire.

METRIC Range

COPPER conductors only, 0.75 mm<sup>2</sup> thru 4.0 mm<sup>2</sup> rigid (solid or stranded) and flexible.

(See wire matrix for specific wire combinations.)

### Construction:

Spring —Spring steel, Corrosion resistant coating

Insulator —Flame retardant nylon, Color—Yellow

### Weight:

0.004 lb. (1.8 gm)

### Abbreviations:

UL: Underwriters Laboratories

AWG: American Wire Gauge

CU: Copper sol.: solid, str.: stranded, mm: millimeters, mm<sup>2</sup>: square millimeters,

°C: degrees Celsius, °F: degrees Fahrenheit, gm: gram, lb.: pound

### Engineering Specification:

Electrical Spring Connector (3M™ part No. 312) shall be capable of connecting wires within the range of No. 22 thru No. 10 solid or stranded copper conductors, in a pigtail application. The connector shall constructed of an active (live) spring and covered by a 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 connector shall be voltage rated 600 volts maximum, building wire, 1000 volts maximum, signs, fixtures and luminaries. The connector shall have a maximum operating temperature of 105°C.

### Regulatory Agencies:

U.L. Listed — as a Pressure Cable Connector

Tested per UL Standard 486C

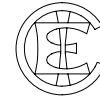
U.L. File No. E23438



LISTED 540H



Canadian Standards Association  
Standard NO. 22.2  
NO. 188-M1983  
3M File NO. LR15503



IEC Publications  
685-1 and 685-2-4  
3M File NO. E95240

OPERATING TEMPERATURE: 105°C (221°F)

VOLTAGE RATING: 600 volts maximum building wire;  
1000 volts maximum in signs and lighting fixtures  
(luminaries).

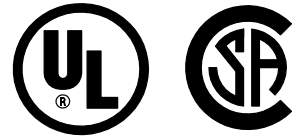
### Federal Specification W-S-610:

#### Commercial Package Only

Type	Class	Kind	Style
1	1	cu	G

# 312

AWG Wire Combinations  
copper to copper conductors



LISTED 540H

22 SOL OR STR	1 2 3 4 5																		
20 SOL OR STR	1 2 3 4 5																		
18 SOL OR STR	1 2 3 4 5																		
16 STR	1 2 3 4																		
16 SOL	1 2 3 4																		
14 STR	1 2 3 4																		
14 SOL	1 2 3 4																		
12 STR	1 2																		
12 SOL	1 2																		
10 STR	1																		
10 SOL	1																		
		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4	1 2 3 4	1 2 3	1 2 3	1 2 3	1 2	1 2								
		22 SOL OR STR	20 SOL OR STR	18 SOL OR STR	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL									

□ = 300 volts  
● = 600 volts  
All 14 thru 10 AWG wire combination are 600 volt UL Listed when using insulation such as TW and THHN

UL Listed single wire terminations:  
No. 8, 10, 12 and 14

## HOW TO READ THIS CHART

EXAMPLE 1:

2 No. 16 sol + 4 No. 16 sol (=6) may be connected using a 312 connector

EXAMPLE 2;

3 No. 14 str + 1 No. 14 str (=4) may be connected using a 312 connector

## Installation Instructions:



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

- Strip wire insulation to length specified in , according to size.
- Firmly grasp wires, making sure insulation ends are even and tightly bundled (wires may be twisted or untwisted). Slip connector over wire.

- Turn connector onto wires in a clockwise direction until secure.
- To remove, turn connector counter-clockwise.

Conductor Size	Strip Length
22 –16 AWG (0,75 – 1,5 mm <sup>2</sup> )	5/8" (15,9 mm)
14 – 8 AWG (2,5 – 4,0 mm <sup>2</sup> )	1/2" (12,7 mm)

# Metric Wire Combinations



## International Electrotechnical Commission

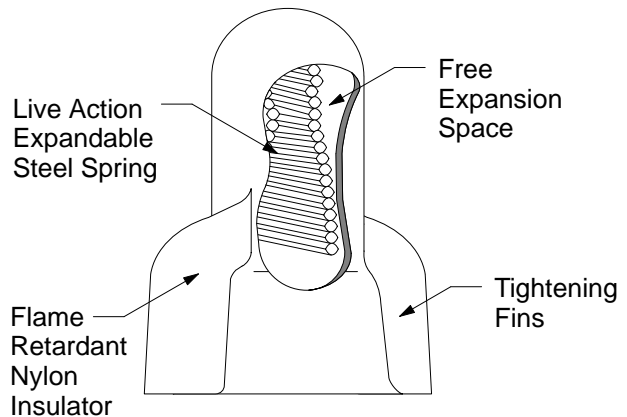
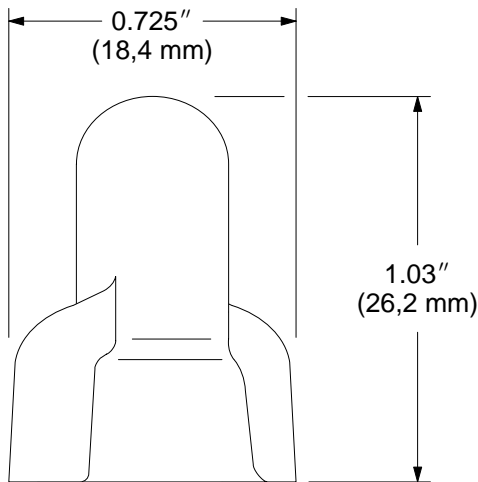
Rated Capacity: 1,5 – 10,0 mm  
 Voltage rating: 600 volts maximum  
 Reusability: Reusable for same capacity or larger  
 Wire Type: Copper only

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>	2 – 6
1,0 mm <sup>2</sup>	2 – 6
1,5 mm <sup>2</sup>	2 – 6
2,5 mm <sup>2</sup>	2 – 4
4,0 mm <sup>2</sup>	2

**NOTE: Only AWG wire combinations are UL Listed**



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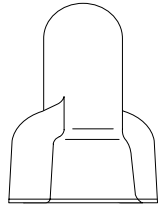


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(See wire matrix for specific wire combinations.)

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U.L. Listed — as a Pressure Cable Connector

Tested per UL Standard 486C

U.L. File No. E23438



LISTED 540H



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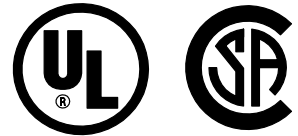
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LISTED 540H

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12 STR	1 2																		
12 SOL	1 2																		
10 STR	1																		
10 SOL	1																		
		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4	1 2 3 4	1 2 3	1 2 3	1 2 3	1 2	1 2								
		22 SOL OR STR	20 SOL OR STR	18 SOL OR STR	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL									

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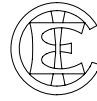
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# Metric Wire Combinations



## International Electrotechnical Commission

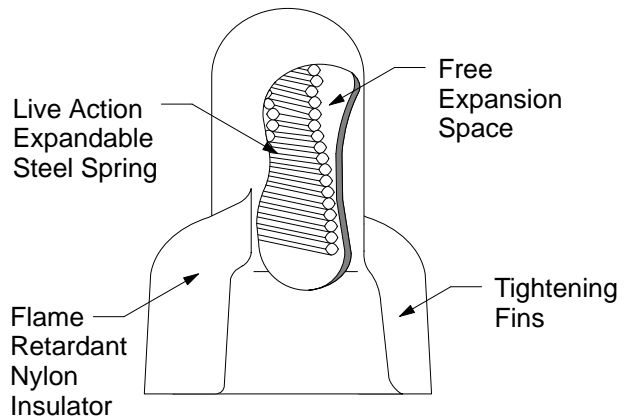
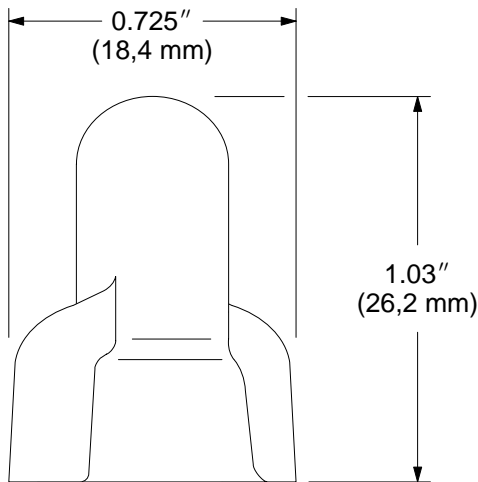
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 Voltage rating: 600 volts maximum  
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4,0 mm <sup>2</sup>	2

**NOTE: Only AWG wire combinations are UL Listed**



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