



# Wire Connector O/B+

## Data Sheet



WIRE  
CONNECTOR  
LISTED  
314R



### Application

Use a 3M™ Wire Connector O/B+ to electrically connect two or more conductor ends in a pigtail application and insulate the connection.

### Wire

#### AWG Range

COPPER conductors only, No. 22 thru No. 12 solid and/or stranded

#### METRIC Range

COPPER conductors only, 0,5 mm<sup>2</sup> thru 2,5 mm<sup>2</sup> ridged (solid or stranded) and flexible  
(See wire matrix for specific wire combinations.)

### Construction

#### Spring

Spring steel, corrosion-resistant coating

#### Insulator

Flame retardant, polypropylene and thermoplastic elastomer, color coded orange/blue

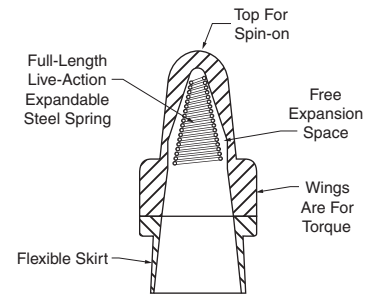
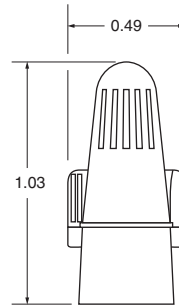
### Weight

0.0025 lbs. (1,13 gm)

### Performance Test

The following tests were performed to the specifications of UL Standard 486C and CSA Standard C22.2 No. 188-M1983.

Static-Heating	Pass
Secureness	Pass
Pullout	Pass
Dielectric Voltage Withstand	Pass
Secureness-Of-Insulation	Pass
Flammability	Pass



### Other Test

Salt Spray	Pass
Per MIL-STS-1344A Method 1001.1	
Vibration	Pass
Per MIL-STS-1344A Method 2005.1	
UV Exposure	Pass
Per ASTM G-53-77	

### Fluid Immersion Test

Connectors were immersed in the following chemicals for seven days at 23°C ±2°C with no effect on appearance or loss of material strength.

### Typical Reagents and Materials From ASTM D 543-87 and MIL-STD-1344A

- Acetic Acid
- Acetone
- Detergent Solution, Heavy Duty
- Ethyl Alcohol (95%)
- Ethyl Alcohol (50%)
- Heptane
- Hydrogen Peroxide Solution 28%
- Methyl Alcohol
- Sodium Hydroxide Solution
- Mineral Spirit
- Lubricating Oil

## Engineering Specification

3M™ Wire Connector O/B+ is capable of connecting two or more wires in a pigtail application, in the wire range of No. 22 thru No. 12 AWG solid and/or stranded copper conductors. The connector shall be constructed with an active (live) spring with a corrosion resistant coating. The connector shall be UL LISTED and CSA Certified as a pressure wire connector. The connector shall be voltage rated 600 volts maximum, building wire, 1000 volts maximum, signs and lighting fixtures (luminaries). The connector shall have a maximum operating temperature of 105°C (221°F).

## Regulatory Agencies

### UL Listed

as a Pressure Wire Connector tested per UL Standard 486C

UL File No. E23438

Operating Temperature: 105°C (221°F)

Voltage Rating: 600 volts max. building wire  
1000 volts max. signs and lighting fixtures (luminaries)

Flammability Rating: UL94 V-2

### CSA Certified

CSA Standard C22.2 No. 188-M1983

CSA File No. LR15503

Operating Temperature: 105°C (221°F)

Voltage Rating: 600 volts max. building wire  
1000 volts max. signs and lighting fixtures (luminaries)

Flammability Rating: C22.2 No. 0.6 V-2

### Federal Specification W-S-610

“Commercial Package Only”

Type	Class	Kind	Style
1	1	cu	G

## Installation Instructions

### CAUTION

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

1. Strip wire insulation:  
22–16 AWG = 5/8" 14–12 AWG = 1/2"
2. 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.
3. Turn connector onto wires in clockwise direction until secure.
4. To remove, turn connector counter-clockwise.

# Wire Matrix

Metric Wire Combination			
Cross Section Capacity		1,0 mm <sup>2</sup> through 5,0 mm <sup>2</sup>	
Conductor Combinations	Quantity	Size	Type
	2-6	0,5 mm <sup>2</sup>	sol./str.
	2-5	0,75 mm <sup>2</sup>	sol./str.
	2-4	1,0 mm <sup>2</sup>	sol./str.
	2-4	1,5 mm <sup>2</sup>	sol./str.
	3	2,5 mm <sup>2</sup>	sol.

\*Only AWG wire size combinations are UL LISTED or CSA Certified.

22 STR	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
	5	●●										
	6	●										
22 SOL	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
	5	●●										
	6	●										
20 STR	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
	5	●●										
20 SOL	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
	5	●●										
18 STR	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
18 SOL	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
16 STR	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
16 SOL	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
	4	●●●										
14 STR	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
14 SOL	1	●●●●●●										
	2	●●●●●										
	3	●●●●										
12 STR	1	●●●●●●										
	2	●●●●●										
12 SOL	1	●●●●●●										
	2	●●●●●										
<b>O/B+</b>	1 2 3 4 5 6	1 2 3 4 5 6	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	1 2	1	1
	22 STR	22 SOL	20 STR	20 SOL	18 STR	22 STR	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL



LISTED  
WIRE  
CONNECTOR  
314R

Underwriters Laboratories  
Standard NO. UL 486C  
3M File NO. E23438



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



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TO  
EUROPEAN UNION  
COUNTRIES

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