

# 3M™ Wire Connector O/B+

Data Sheet

September 2013

## Product Description

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

## Agency Approvals & Self Certifications



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

### 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

## Applications

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.)

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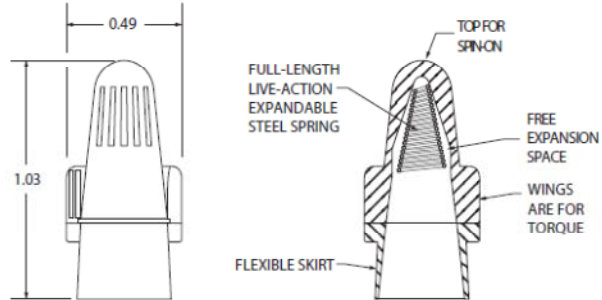
## Specifications - Product

Weight: 0.0025 lbs. (1,13 gm)

Construction:

Spring: Spring steel, corrosion-resistant coating

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



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## Specifications – Engineering/ Architectural

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.

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## Typical Physical and Electrical Properties

Performance Test (The following tests were performed to the specifications of UL Standard 486C and CSA Standard C22.2 No. 188-M1983.) unless stated	
Test	Typical Value
Static -Heating	Pass
Secureness	Pass
Pullout	Pass
Dielectric Voltage Withstand	Pass
Secureness-Of-Insulation	Pass
Flammability	Pass
Salt Spray (Per MIL-STS-1344A Method 1001.1)	Pass
Vibration (Per MIL-STS-1344A Method 2005.1)	Pass
UV Exposure (Per ASTM G-53-77)	Pass

## Fluid Immersion Test

Typical Reagents and Materials From ASTM D 543-87 and MIL-STD-1344A (Connectors were immersed in the following chemicals for seven days at 23°C ±2°C.	
Acetic Acid	Pass
Acetone	Pass
Detergent Solution, Heavy Duty	Pass
Ethyl Alcohol (95%)	Pass
Ethyl Alcohol (50%)	Pass
Heptane	Pass
Hydrogen Peroxide Solution 28%	Pass
Methyl Alcohol	Pass
Sodium Hydroxide Solution	Pass
Mineral Sprit	Pass
Lubricating Oil	Pass

## Installation Techniques

### CAUTION

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

- Strip wire insulation:  
22–16 AWG = 5/8" 14–12 AWG = 1/2"
- Firmly grasp wires, making sure insulation ends are even and tightly bundled. (Wires may be twisted or untwisted.) Slip the connector over wire tips.
- Turn connector onto wires in clockwise direction until secure.
- To remove, turn connector counter-clockwise.

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## 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															
O/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	18 SOL	16 STR	16 SOL	14 STR	14 SOL	12 STR	12 SOL				

## 3M™ Wire Connector O/B+

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**Shelf-Life & Storage**

This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

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**Availability**

Please contact your local distributor; available from [3M.com/electrical](http://3M.com/electrical) {Where to Buy} or call 1-800-245-3573.

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