

CERTIFICATE OF COMPLIANCE

Certificate Number 20150520-E28476
Report Reference E28476-20010809
Issue Date 2015-MAY-20

Issued to: TYCO ELECTRONICS CORP
2901 FULLING MILL RD,
MIDDLETOWN PA 17057-3170.

This is to certify that representative samples of COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER APPLICATIONS
See Addendum Page for Models/Product

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1977, Component Connectors for Use in Data, Signal, Control and Power Applications and CAN/CSA C22.2 No. 182.3-M1987 .

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>




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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USR, CNR Component Connectors - Vertical Screwless Connectors and In-Line Vertical Screwless Connectors.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connectors - Vertical Screwless Connectors and In-Line Vertical Screwless Connectors.

GENERAL:

These devices are multipole connectors employing solder terminals intended for soldering to a printed wiring board, or installation onto discrete wire where the acceptability of combinations is determined by UL LLC. The devices are identified as follows:

USR - Indicates investigation to United States Standards UL 1977.

CNR - Indicates investigation to Canadian National Standards C22.2 No. 182.3-M1987.

ELECTRICAL RATING (Max):

* USR - **6** A, 600 V

* CNR - **5.3** A, 600 V

(Refer to Condition of Acceptability No. 2)

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following conditions should be met.

1. These devices should be used only where they will not interrupt current.
2. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise and recorded temperature (adjusted to 25°C ambient) values tabulated below:

Connector, Cat No.	Conductor Sizes - Cu	Current	Maximum Temperature °C	
			Rise	Recorded Temperature
Vertical Screwless	No. 18 AWG	2A	4	29
Vertical Screwless	No. 18 AWG Solid	5.3A	28.0	52.0
Vertical Screwless	No. 18 AWG Solid	6A	36.3	60.0
1-2008552-2	20 AWG str Tin-Tipped	1A	0.8	25.8
1811398-1 (representing 1811444-1, 1811957-1)	20 AWG str Tin-Tipped	5A	23.9	48.9

3. The suitability of the mounting means shall be determined in the end use.
4. The electrical and mechanical suitability of the wiring terminals shall be determined in the end use.
5. The placement of these devices within the equipment enclosure should be such that spacings between the live parts and the equipment are suitable for the particular application.
6. The adjacent poles may be used at potentials not exceeding 600 Volts based on the spacings requirements of Paragraph 11.1 of UL 1977.
7. The electrical and mechanical contact between the connector and the printed circuit board is to be judged in the end-use equipment.
8. The suitability of the insulating materials used in the molded bodies shall be judged in the end-use equipment.
9. The operating temperature of these devices should not exceed the temperature of the insulating materials. These materials may be used interchangeably at a max temperature of 130°C.
11. No Conductor Secureness Tests were performed. Crimp contacts should be evaluated in the end-use applications.

12. Wire, size, type of insulation and connection for use in pin, receptacles and headers should be evaluated in the end-use applications.
13. Dielectric-Voltage-Withstand testing has been conducted between adjacent poles and to foil covering the insulating body at a potential of 3000 V ac.