

CERTIFICATE OF COMPLIANCE

Certificate Number 20160524-E28476
Report Reference E28476-20101202
Issue Date 2016-MAY-24

Issued to: TYCO ELECTRONICS CORP
2901 FULLING MILL RD
MIDDLETOWN PA 17057

**This is to certify that
representative samples of**


COMPONENT - CONNECTORS FOR USE IN DATA,
SIGNAL, CONTROL AND POWER APPLICATIONS
See Addendum Page for Models

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
CAN/CSA C22.2 No. 182.3-M1987 - Special use
attachment plugs, receptacles, and connectors

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.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog
number, model number or other product designation as specified under "Marking" for the particular
Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products
that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:
, may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is
required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual
recognitions.

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

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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 Cool Splice In-Line LED Connector Cat. Nos. 293545-1, 293545-2, 293545-3, 293545-4, 2213800-1, 2213800-2, 2213800-3, 2213800-4.


Bruce Mahrenholz, Director North American Certification Program
UL LLC

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Cool Splice In-Line LED Connector Cat. Nos. 293545-1, 293545-2, 293545-3, 293545-4, **2213800-1, 2213800-2, 2213800-3, 2213800-4.**

GENERAL:

293545-1, 293545-2, **2213800-1, 2213800-2** are devices are splices intended for factory assembly on No. 18 AWG solid copper conductor and 18 AWG stranded copper, and 293545-3, and 293545-4, **2213800-3, 2213800-4** are intended for factory assembly on 20 and 22 AWG solid/stranded conductor where the acceptability of combinations is determined by Underwriters Laboratories Inc.

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.

RATINGS:

Cat. Nos.	Wire Size	Current, A	Voltage
293545-1, 293545-2, 2213800-1, 2213800-2	18 AWG	5	600 Vac/ 400 Vdc
	18 AWG	6.2	24 Vac/dc
293545-3, 293545-4, 2213800-3, 2213800-4	20 AWG	5	600 Vac / 400 Vdc
	22 AWG	3.5	600 Vac / 400 Vdc

Disconnecting Use - see Sec Gen for required marking.
Not suitable for disconnect use.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

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

Conditions of Acceptability - The following are among the considerations to be made when evaluating the device in the end-use product.

Interruption of Current

1. These devices are not suitable for interrupting the flow of current by connecting or disconnecting the mating connector.

Current-Carrying Capability and Current Ratings

2. These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise values tabulated below. **Note, 293545-1, 293545-2, 293545-3 and 293545-4 were representative of 2213800-1, 2213800-2, 2213800-3, 2213800-4 respectively.**

Cat No.	Current, A	Maximum Temperature Rise, °C
293545-2	5 (18 AWG wire)	10.8
293545-1	5 (18 AWG wire)	8.5
293545-2	6.2 (18 AWG wire)	13.6
293545-1	6.2 (18 AWG wire)	13.0
293545-3	5 (20 AWG wire)	9.6
	3.5 (22 AWG wire)	6.4
293545-4	5 (20 AWG wire)	9.8
	3.5 (22 AWG wire)	7.7

Insulating Materials

3. These devices employ insulating materials with properties as tabulated below at the minimum thickness employed in the connector housing, the suitability of the insulating materials based on the documented values shall be determined in the end-use application. Please note the values specified in the table when multiple materials are indicated represent the minimum values for the group of materials.

Cat. No.	Insulating Material (#)	Flame Class	HWI	HAI	RTI Elec	RTI Str	Max Operating Temp, °C
293545-1, 293545-2, 293545-3, and 293545-4; 2213800-1, 2213800-2, 2213800-3, 2213800-4	A	++	--	--	130	125	130
293545-1, 293545-2, 293545-3, and 293545-4; 2213800-1, 2213800-2, 2213800-3, 2213800-4	B	++	--	--	125	115	125

(#) - Code for Insulating Body Material.

- A. Tyco Electronics Raw Material No. 705374 - **Clear**
 1. Dielectric strength (kV/mm): 24
 2. CTI: 3
- B. Tyco Electronics Raw Material No. 2136584 - **Clear**
 1. Dielectric strength (kV/mm): 25
 2. CTI: 2

++ - End product flame test conducted

Terminations

4. 293545-1 and 293545-2, **2213800-1, 2213800-2** devices are not suitable for use other than with No. 18 AWG conductors. 293545-3 and 293545-4, **2213800-3, 2213800-4** are not suitable for use other than with No. 20-22AWG conductors.

Miscellaneous

5. These devices are suitable for factory wiring only.

6. The Cool Splice Connector Cat. Nos. 293545-2, 293545-4 were evaluated for IP 67 ratings in accordance with IEC 60529, DEGREES OF PROTECTION REQUIRED BY ENCLOSURE, Edition 2.1, revised 2009-10-01. **These devices were representative of 2213800-2 and 2213800-4.**