

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20140514-E28476  
**Report Reference** E28476-20061020  
**Issue Date** 2014-MAY-14

**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

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

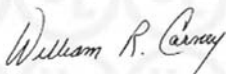
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Only those products bearing the UL Recognized Component Mark should be considered as being covered by UL's Recognition and Follow-Up Service.

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 Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs  
UL LLC

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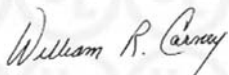
# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20140514-E28476  
**Report Reference** E28476-20061020  
**Issue Date** 2014-MAY-14

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

Component Connector, Series Model(s) DTM 04 or -06 followed by 2,3,4,5,08, or 12, followed by P or S. May be followed by alpha/numeric suffixes denoting minor variations

Model DTP followed by 04 or 06, followed by 2 or 4, followed by P or S May be followed by alpha/numeric suffixes denoting minor variations



William R. Carney, Director, North American Certification Programs  
UL LLC

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File E28476  
Service Request: 1181364

October 20, 2006

REPORT

on

COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL, CONTROL AND POWER  
APPLICATIONS

TYCO ELECTRONICS CORP  
MIDDLETOWN, PA

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Cover Page through Page

## DESCRIPTION

## PRODUCT COVERED:

USR Component Connector, Series Model(s) DTM 04 or -06 followed by 2,3,4,5,08,or 12, followed by P or S. May be followed by alpha/numeric suffixes denoting minor variations

\*Model DTP followed by 04 or 06, followed by 2 or 4, followed by P or S May be followed by alpha/numeric suffixes denoting minor variations

## GENERAL:

These devices are multi-pole connectors intended for factory assembly stranded copper conductors where the acceptability of combinations is determined by Underwriters Laboratories Inc.. The devices are identified as follows:

**USR - Products designated USR have been investigated using US requirements as noted in the Test Record.**

## RATINGS:

Series	Conductor Size	Type Contact	Amperage	Voltage, Vac
* DTM	16, 18, 20	Stamped and formed only	7.5	250
DTP	10,12	10 & 12 Stamped and formed, 12 solid	25	250

Flammability - rating not determined.

Disconnecting Use - see Sec Gen for required marking.

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE 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 - In order to be judged acceptable as a component of electrical equipment, the following conditions should be met.

These devices have not been tested for interrupting the flow of current by connecting or disconnecting the mating connector. These devices should be used only where they will not interrupt the flow of current.

These devices have been subjected to the Temperature test with the rated currents and maximum temperature rise values tabulated below. The conductors terminated by the device and other associated components (including conductor insulation temperature ratings) are to be reviewed in the end-use to determine whether the temperature rise from the connector exceeds their maximum operating temperature ratings.

Series	Conductor Size / Contact Type	Current, A	Maximum Temperature, °C
DTP04-4P and DTP06-4S	10 AWG, Stamped and Formed	25	51
	12 AWG, Stamped and Formed		64
	12 AWG, Solid		56
(+) DTM04-12PA and DTM06-12SA	20 AWG, Stamped and Formed	7.5	61
	16 AWG, Stamped and Formed		45

(+)= Testing on the DTM04-12PA and DTM06-12SA with 20 & 16 AWG Stamped and formed contacts is deemed representative of 18 AWG Stamped and Formed contacts.

These devices may be used at potentials not exceeding 250 V based on Dielectric Voltage-Withstand testing conducted at 1500 V ac.

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.

The operating temperature of these devices should not exceed the temperature ratings of the insulating materials, a maximum temperature of 65°C.

Mold Stress Relief testing was conducted at a temperature of 75°C.

Only the type and size contacts outlined under ratings, may be utilized in these constructions. Refer to the description in the following pages for the exact contact and Pin part nos. and the table below for crimp tools. Use of any other crimp tool would require further evaluation.

The factory assembled contacts have been investigated for the following wire ranges and maximum tensile forces when crimped to Listed or R/C AWM with the crimp tools specified per contact or pin in the table below.

Part No. (+)	Type	Wire,AWG	Tensile Force,lb/N	Crimp tools
Size 20 Pin 1060-20-0122	Stamped & Formed	20	8/36	Production-DTC 20-02-00 Hand Crimp-HDT-48-00
Size 20 Contact 1062-20-0122	Stamped & Formed	18	20/89	Production-DTC 20-02-00 Hand Crimp-HDT-48-00
Size 20 Pin 1060-20-0122	Stamped & Formed	16	20/89	Production-DTC 20-02-00 Hand Crimp-HDT-48-00
Size 12 Pin 0462-203-12141	Solid	12	20/89	Production-HDP400-00 Hand Crimp-HDT-48-00
Size 12 Contact 1062-12-0166	Stamped & Formed	12	20/89	Production-DTC12-02-00 Hand Crimp-DTT-12-00
Size 12 Pin 1060-12-0222	Stamped & Formed	10	20/89	Production-DTC12-02-01 Hand Crimp-DTT-12-01

(+)- The pins and contacts tested above represented the opposing type not tested (e.g. If a pin was tested, it also represents the same size and type contact or a contact/pin plating variation), as the crimp of the same type/AWG size, does not differ dimensionally.

Nomenclature - The Series are designated as follows:

DTM Series Example

Example:  $\frac{\text{DTM}}{\text{I}} \quad \frac{06}{\text{II}} - \frac{3}{\text{III}} \quad \frac{\text{S}}{\text{IV}} \quad \frac{\text{*****}}{\text{V}}$

I: - Series Prefix  
DTM only

\*II: - Type Enclosure  
04 - Receptacle (male)  
06 - Plug (Female)

\*

DTP Series

Example:  $\frac{\text{DTP}}{\text{I}} \quad \frac{06}{\text{II}} - \frac{4}{\text{III}} \quad \frac{\text{P}}{\text{IV}} \quad \frac{\text{****}}{\text{V}}$

I: - Series Prefix  
DTP only

II: - Type Enclosure  
04 - Receptacle  
06 - Plug

III: - Number of Contacts, maybe 2 or 4 only.

IV: - Contact Type  
P - Pin  
S - Socket

V: - Minor order variations not affecting construction as described herein.

Insulating Materials - The following Recognized Component Plastic materials (QMFZ2) are employed for the parts specified.

Parts	Material Manufacturer	TYCO RM#	Grade Designation	Min. Thickness, mm	Max Temp, °C	RTI	Max Regrind
Housings DTM, DTP (+)	TE Proprietary Information			0.5 Internal walls, 1.1 external walls	65	120/65	75%
				0.5 Internal walls, 1.1 external walls	65	65(++)	80%
Wedges				0.84	140	140/140	25%
				0.84	75	75(++)	100%
Wedges for DTM-series Only				0.84	75	75	50%

(+) - Indicates the material was utilized below the Recognized thickness, and was evaluated for Flammability in this investigation in an end-product Flammability per UL746C, Sec. 16 (20 mm Flame), this testing is mold specific and will not be considered representative in any other molds using the same material/thickness.

(++) - Based on the maximum allowable regrind, this material will default to the generic RTI values for this material type

(+++)- These materials will use QMQS2 Recognized Color Concentrates at the let-down ratios specified in the table below.

Material Manufacturer	Grade Designation	Color Concentrate Manufacturer	Concentrate Designation	Colors	Maximum LDR
TE Proprietary Information					



(+++++) - These materials will use QMQS2 Recognized Color Concentrates at the let-down ratios specified in the table below.

Series	Component	Color Concentrate Manufacturer	Concentrate Designation	Colors	TE Raw Material No.	Maximum LDR
DTM	Plug Housing, Receptacle Housing	TE Proprietary Information				
DTP	Plug Housing, Receptacle Housing					
DTM	Plug Housing, Receptacle Housing					
DTP	Plug Housing, Receptacle Housing					
DTM	Plug Housing, Receptacle Housing					
DTM	Plug Housing, Receptacle Housing					