

# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-US-2230522-1  
**Report Reference** E28476-20090527  
**Date** 29-Mar-2023

**Issued to:** TYCO Electronics Corp  
2901 Fulling Mill Rd Middletown, PA 17057  
United States

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

ECBT2 - Connectors for Use in Data, Signal, Control and  
Power Applications - Component

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the  
component requirements in the Standard(s) indicated on  
this Certificate. UL Recognized components are incomplete  
in certain constructional features or restricted in  
performance capabilities and are intended for installation in  
complete equipment submitted for investigation to UL LLC.


**Standard(s) for Safety:** UL 1977, Edition 4, Issue Date 2022-12-07

**Additional Information:** See the UL Online Certifications Directory at  
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

  
Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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Report Reference E28476-20090527  
Date 29-Mar-2023

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

Model	Category Description
1-2303812-1	Connectors
1-2303812-2	Connectors
1-2303812-3	Connectors
1-2303812-4	Connectors
1-2303813-1	Connectors
1-2303813-2	Connectors
1-2303813-3	Connectors
1-2303813-4	Connectors
1-2303815-1	Connectors
1-2303815-2	Connectors
1-2303815-3	Connectors
1-2303815-4	Connectors
1-2303816-1	Connectors
1-2303816-2	Connectors
1-2303816-3	Connectors
1-2303816-4	Connectors
1-2322907-1	Connectors
1-2322907-2	Connectors
2-2303812-1	Connectors
2-2303812-2	Connectors
2-2303812-3	Connectors
2-2303812-4	Connectors
2-2303813-1	Connectors
2-2303813-2	Connectors
2-2303813-3	Connectors
2-2303813-4	Connectors
2-2303815-1	Connectors
2-2303815-2	Connectors
2-2303815-3	Connectors
2-2303815-4	Connectors
2-2303816-1	Connectors
2-2303816-2	Connectors
2-2303816-3	Connectors
2-2303816-4	Connectors
2-2322907-2	Connectors
2298173-1	Connectors
2298173-2	Connectors
2298173-3	Connectors
2298173-4	Connectors

  
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# CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2230522-1  
Report Reference E28476-20090527  
Date 29-Mar-2023

2303454-1	Connectors
2323768-1	Connectors
2323768-2	Connectors
2323768-3	Connectors
2323768-4	Connectors
2332444-1	Connectors
2332444-2	Connectors
2375997-1	Connectors
2375997-2	Connectors
2375997-3	Connectors
2375997-4	Connectors
<b>20090527, Model Series DT</b>	Connectors

*Deborah Jennings-Conner*

Deborah Jennings-Conner, VP Regulatory Services

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-CA-2215593-3  
**Report Reference** E28476-20090527  
**Date** 29-Mar-2023

**Issued to:** TYCO Electronics Corp  
2901 Fulling Mill Rd Middletown, PA 17057  
United States

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

ECBT8 - Connectors for Use in Data, Signal, Control and  
Power Applications Certified for Canada - Component  
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the  
component requirements in the Standard(s) indicated on  
this Certificate. UL Recognized components are incomplete  
in certain constructional features or restricted in  
performance capabilities and are intended for installation in  
complete equipment submitted for investigation to UL LLC.


**Standard(s) for Safety:** CSA C22.2 No. 182.3, 2nd Ed., Issue Date: 2016-07,  
Revision Date: 2021-5

**Additional Information:** See the UL Online Certifications Directory at  
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

  
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Certificate Number UL-CA-2215593-3  
Report Reference E28476-20090527  
Date 29-Mar-2023

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

Model	Category Description
1-2303812-1	Connectors
1-2303812-2	Connectors
1-2303812-3	Connectors
1-2303812-4	Connectors
1-2303813-1	Connectors
1-2303813-2	Connectors
1-2303813-3	Connectors
1-2303813-4	Connectors
1-2303815-1	Connectors
1-2303815-2	Connectors
1-2303815-3	Connectors
1-2303815-4	Connectors
1-2303816-1	Connectors
1-2303816-2	Connectors
1-2303816-3	Connectors
1-2303816-4	Connectors
1-2322907-1	Connectors
1-2322907-2	Connectors
2-2303812-1	Connectors
2-2303812-2	Connectors
2-2303812-3	Connectors
2-2303812-4	Connectors
2-2303813-1	Connectors
2-2303813-2	Connectors
2-2303813-3	Connectors
2-2303813-4	Connectors
2-2303815-1	Connectors
2-2303815-2	Connectors
2-2303815-3	Connectors
2-2303815-4	Connectors
2-2303816-1	Connectors
2-2303816-2	Connectors
2-2303816-3	Connectors
2-2303816-4	Connectors
2-2322907-2	Connectors
2298173-1	Connectors
2298173-2	Connectors
2298173-3	Connectors
2298173-4	Connectors

  
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2323768-2	Connectors
2323768-3	Connectors
2323768-4	Connectors
2332444-1	Connectors
2332444-2	Connectors
2375997-1	Connectors
2375997-2	Connectors
2375997-3	Connectors
2375997-4	Connectors
Model Series DT, followed by 04 or 06, followed by 2, 3, 4, 6, 08, or 12, followed by S or P. May be followed by alphanumeric suffixes.	Connectors

*Deborah Jennings-Conner*

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File E28476  
Service Request: 1181364

May 27, 2009

REPORT

on

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

TYCO ELECTRONICS CORP  
MIDDLETOWN, PA

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - Component Connectors, Models DT, followed by 04 or 06, followed by 2, 3, 4, 6, 08, or 12, followed by S or P. May be followed by alphanumeric suffixes.

USR, CNR - Component Connectors Cat. Nos. **X-2298173-Y, X-2303454-Y, x-2303812-y, x-2303813-y, x-2303815-y, x-2303816-y X-2322907-Y, X-2323768-Y, X-2332444-Y, X-2375997-Y** where x = 1, 2 and y = 1-4

## GENERAL:

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

RATINGS: 250V, no current rating.

Disconnecting Use - see Sec Gen for required marking.



## and Report

## NOMENCLATURE:

DT    04-            3    S    —    -    —  
I    II            III   IV   V           VI

I - Designates Deutsch DT Series.

II - Indicates Connector Type.

04 - Receptacle (male)  
06 - Plug (female)

III - Indicates Number of Contacts.

12 max.

IV - Indicates Contact Type.

S - Socket  
P - Pin

V - Polarizing Position (if applicable) **A, B, C, D.**

VI - Special Modifications.

The following table lists Cat. Nos. that are identical in construction

Cat. No.	Identical Construction	Identical Construction	Identical Construction
1-2303812-1	DT04-2P-TE31	DT04-2P-CE01	
1-2303812-2	DT04-2P-TN31	DT04-2P-E003	DT04-2P-EP04
1-2303812-3	DT04-2P-TN32	DT04-2P-E005	
1-2303812-4	DT04-2P-TE32	DT04-2P-CE03	
2-2303812-1	DT04-2P-TE81	DT04-2P-CE04	
2-2303812-2	DT04-2P-TN81	DT04-2P-E008	
2-2303812-3	DT04-2P-TN82	DT04-2P-EE01	
2-2303812-4	DT04-2P-TE82	DT04-2P-CE09	
1-2303813-1	DT04-3P-TE31	DT04-3P-CE01	
1-2303813-2	DT04-3P-TN31	DT04-3P-E003	DT04-3P-EP04
1-2303813-3	DT04-3P-TN32	DT04-3P-E005	
1-2303813-4	DT04-3P-TE32	DT04-3P-CE03	
2-2303813-1	DT04-3P-TE81	DT04-3P-CE04	
2-2303813-2	DT04-3P-TN81	DT04-3P-E008	
2-2303813-3	DT04-3P-TN82	DT04-3P-EE01	
2-2303813-4	DT04-3P-TE82	DT04-3P-CE09	
1-2303815-1	DT06-2S-TE31	DT06-2S-CE01	
1-2303815-2	DT06-2S-TN31	DT06-2S-E003	DT06-2S-EP04
1-2303815-3	DT06-2S-TN32	DT06-2S-E005	DT06-2S-EP06

## and Report

The following table lists Cat. Nos. that are identical in construction

Cat. No.	Identical Construction	Identical Construction	Identical Construction
1-2303815-4	DT06-2S-TE32	DT06-2S-CE03	DT06-2S-CE05
2-2303815-1	DT06-2S-TE81	DT06-2S-CE04	
2-2303815-2	DT06-2S-TN81	DT06-2S-E008	
2-2303815-3	DT06-2S-TN82	DT06-2S-EP11	
2-2303815-4	DT06-2S-TE82	DT06-2S-CE13	
1-2303816-1	DT06-3S-TE31	DT06-3S-CE01	
1-2303816-2	DT06-3S-TN31	DT06-3S-E003	DT06-3S-EP04
1-2303816-3	DT06-3S-TN32	DT06-3S-E005	DT06-3S-EP06
1-2303816-4	DT06-3S-TE32	DT06-3S-CE05	
2-2303816-1	DT06-3S-TE81	DT06-3S-CE04	
2-2303816-2	DT06-3S-TN81	DT06-3S-E008	
2-2303816-3	DT06-3S-TN82	DT06-3S-EP11	
2-2303816-4	DT06-3S-TE82	DT06-3S-CE13	
<b>2298173-1</b>	<b>DT04-08PA-P089</b>		
<b>2298173-2</b>	<b>DT04-08PB-P089</b>		
<b>2298173-3</b>	<b>DT04-08PC-P089</b>		
<b>2298173-4</b>	<b>DT04-08PD-P089</b>		
<b>2303454-1</b>	<b>DT04-6P-LE14</b>		
<b>2323768-1</b>	<b>DT04-12PA-CE04</b>		
<b>2323768-2</b>	<b>DT04-12PB-CE04</b>		
<b>2323768-3</b>	<b>DT04-12PC-CE04</b>		
<b>2323768-4</b>	<b>DT04-12PD-CE04</b>		
<b>1-2322907-1</b>	<b>DT04-2P-TR32-100K</b>		
<b>1-2322907-2</b>	<b>DT04-2P-TR31-4700</b>		
<b>2-2322907-2</b>	<b>DT04-2P-TR31-750</b>		
<b>2332444-1</b>	<b>DT04-3P-EP10-120</b>		
<b>2332444-2</b>	<b>DT04-3P-P006-120</b>		
<b>2375997-1</b>	<b>DT04-08PA-P093</b>		
<b>2375997-2</b>	<b>DT04-08PB-P093</b>		
<b>2375997-3</b>	<b>DT04-08PC-P093</b>		
<b>2375997-4</b>	<b>DT04-08PD-P093</b>		

and Report

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 **UL LLC**.

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 not been subjected to the Temperature test and as a result do not have an assigned current rating. The device's current carrying capability is to be reviewed in the end-use by measuring temperatures on the connector housing and/or terminals when current is flowing through the connector under conditions of normal use.

\*

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.

## and Report

Part	Insulating Material #	Manufacturer	Min Thickness (mm)	Flame Class	HWI	HAI	RTI Elec	Max Operating Temp, °C
Housing	A (1) Proprietary Info (+++)	Proprietary Info	1.02	(+)	0 (++)	0 (++)	120 (++)	120
	C (3) Proprietary Info	Proprietary Info	1.02	(+)	-	-	65 (++)	65
	D Proprietary Info	Proprietary Info	1.02	V-0	0	0	125	125
	F (3) RM# - Proprietary Info	Proprietary Info	1.02	V-0	0	0	65	65
	I Proprietary Info	Proprietary Info	1.02	(+)	0	0	65	65
Weld Cap	A (2) Proprietary Info	Proprietary Info	1.3	##	0 (++)	0 (++)	120 (++)	120
	C (3) Proprietary Info	Proprietary Info	1.3	(+)	-	-	65 (++)	65
	F (3) RM# - Proprietary Info	Proprietary Info	1.3	V-0	0	0	65	65
	I Proprietary Info	Proprietary Info	1.3	(+)	0	0	65	65
Wedge, Plug	B Proprietary Info	Proprietary Info	0.56	--	4	2	130	120
	E Proprietary Info (+++)	Proprietary Info (+++)	0.56	--	-	-	75(###)	75(###)
	G Proprietary Info (4) (5) (+++)	Proprietary Info	0.56	(+)	-	-	75(###)	75(###)
	H Proprietary Info (4) (5) (+++)	Proprietary Info	0.56	(+)	-	-	75(###)	75(###)
Wedge, Receptacle	B Proprietary Info	Proprietary Info	0.56	--	4	2	130	120
	E Proprietary Info (+++)	Proprietary Info (+++)	0.56	--	-	-	75(###)	75(###)
	G Proprietary Info (4) (5) (+++)	Proprietary Info	0.56	(+)	-	-	75(###)	75(###)
	H Proprietary Info (4) (5) (+++)	Proprietary Info	0.56	(+)	-	-	75(###)	75(###)

Note: (1) Maximum 80% regrind; (2) Maximum 100% regrind (3) Maximum 75% Regrind (4) Maximum 40% regrind (5)Maximum 100% regrind, Orange, Grey, Black, Brown colors only

(#) - Code for Insulating Body Material.

(##) - No contact anywhere with the terminals so as such, no Flame testing required.

(###): These materials are being used above the regrind percentage allowed by their Component Recognition. These will default to their generic RTI values.

(+): Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL 746C 12mm Flammability test conducted.

(++): These PLCs are based on the minimum Recognized material thickness.

(+++): These materials will use QMOS2 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
Proprietary Info				OR, GN	1:33.33
				GN, BK	1:50
				GY, BL	1:33.3
				GN, BN, OR, BL,	1:25
				GR, BK	1:50
				GY, BL	1:33.3
				BN, OR, BL, GN	1:25
				<b>GY, BK, GN, BN</b>	<b>1:20</b>

A. Proprietary Info

\* Housing colors: Brown, Gray, Green, Black **and Natural (with colorant added as shown in Table)**

- 1. Dielectric strength (kV/mm): --
- 2. CTI: 4

B. Proprietary Info

- 1. Dielectric strength (kV/mm): 30
- 2. CTI: 0

C. Proprietary Info

Housing colors: Brown, Gray, Green, and Black

- 1. Dielectric strength (kV/mm): --
- 2. CTI: --

D. Proprietary Info

Proprietary Info

Housing colors: Brown, Gray, Green, and Black

1. Dielectric strength (kV/mm): 10
2. CTI: 2

and Report

E. Proprietary Info

Housing colors: Orange, Green

1. Dielectric strength (kV/mm): --
2. CTI: --

F. Proprietary Info

Housing colors: Black, and Gray

1. Dielectric strength (kV/mm): --
2. CTI: 2

G. Proprietary Info

Housing colors: Grey, Black, Green, Brown, Blue, Orange

1. Dielectric strength (kV/mm): --
2. CTI: --

\*H. Proprietary Info

Housing colors: Grey, Black, Green, Brown, Blue, Orange

1. Dielectric strength (kV/mm): --
2. CTI: --

I. Proprietary Info

Housing colors: Black, Grey

1. Dielectric strength (kV/mm): 14.3
2. CTI: 3

The following crimp contacts have been evaluated for the wire sizes as tabulated below:

Stamped and Formed Type -

Pin/Contact	Wire Size, AWG	Force, lbf
1060-14-0122 / 1062-14-0122	14 - 18	20
1060-16-0122 / 1062-16-0122	14 - 18	20

Solid Type -

Pin/Contact	Wire Size, AWG	Force, lbf
0460-215-16141 / 0462-209-16141	14	20
0460-202-16141 / 0462-201-16141	16, 18	20
	20	8