

Certificate of Compliance

Certificate Number:

UL-US-L28476-17-71602991-10

Report Reference:

E28476-19920617

Issue Date:

2024-03-08

Issued to:

TYCO Electronics Corp 2901 Fulling Mill Rd Middletown, PA 17057 United States

This certificate confirms 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.

UL 1977, Edition 4, Issue Date 2022-12-07

Additional Information:

See UL Product iQ® at https://ig.ulprospector.com for additional information.

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Look for the UL Recognized Component Mark on the product.



UL Mark Certification Program Manager



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Report reference 41TE28476-19920617

Date 2024-03-08

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

Model	Product Description		
1103599	Connectors		
1534856	Connectors		
1740313	Connectors		
2371882	AMPSEAL Connector Series		
2371883	AMPSEAL Connector Series		
2371884	AMPSEAL Connector Series		
2371885	AMPSEAL Connector Series		
AMPSEAL Connector Series, 2387364	Connectors		
AMPSEAL Connector Series, 2436887	Connectors		
AMPSEAL Connector Series, 2437600	Connectors		
AMPSEAL Connector Series, 2437601	Connectors		
AMPSEAL Connector Series, 2437602	Connectors		
AMPSEAL Connector Series, 2437603	Connectors		
AMPSEAL Connector Series, 2437604	Connectors		
AMPSEAL Connector Series, 2437605	Connectors		
AMPSEAL Connector Series, 2437606	Connectors		
AMPSEAL Connector Series, 2437607	Connectors		
AMPSEAL Connector Series, 2445465	Connectors		
770520	Connectors		
770669	Connectors		
770670	Connectors		
770678	Connectors		
770680	Connectors		
770854	Connectors		
776087	AMPSEAL Connector Series		
776163	Connectors		
776164	Connectors		
776180	Connectors		
776200	AMPSEAL Connector Series		
776228	AMPSEAL Connector Series		
776230	AMPSEAL Connector Series		
776231	AMPSEAL Connector Series		
776261	AMPSEAL Connector Series		
776262	AMPSEAL Connector Series		
776266	AMPSEAL Connector Series		
776267	AMPSEAL Connector Series		
776275	AMPSEAL Connector Series		



UL Mark Certification Program Manager



Certificate number UL-US-L28476-17-71602991-10

Report reference 41TE28476-19920617

Date 2024-03-08

776276	AMPSEAL Connector Series
776279	AMPSEAL Connector Series
776280	AMPSEAL Connector Series
776519	Connectors
19920617, AMP Seal Connector Series	AMP Seal Connectors

David Piecuch

UL Mark Certification Program Manager





Certificate of Compliance

Certificate Number:

UL-US-L28476-1111-71602991-3

Report Reference:

E28476-19920617

Issue Date:

2024-03-08

Issued to:

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UL 1977, Edition 4, Issue Date 2022-12-07

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AMPSEAL Connector Series, 2437607	Connectors		
AMPSEAL Connector Series, 2445465	Connectors		
770520	Connectors		
770669	Connectors		
770670	Connectors		
770678	Connectors		
770680	Connectors		
770854	Connectors		
776087	AMPSEAL Connector Series		
776163	Connectors		
776164	Connectors		
776180	Connectors		
776200	AMPSEAL Connector Series		
776228	AMPSEAL Connector Series		
776230	AMPSEAL Connector Series		
776231	AMPSEAL Connector Series		
776261	AMPSEAL Connector Series		
776262	AMPSEAL Connector Series		
776266	AMPSEAL Connector Series		
776267	AMPSEAL Connector Series		

David Piecuch

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Certificate number UL-US-L28476-1111-71602991-3

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Date 2024-03-08

776275	AMPSEAL Connector Series
776276	AMPSEAL Connector Series
776279	AMPSEAL Connector Series
776280	AMPSEAL Connector Series
776519	Connectors
19920617, AMP Seal Connector Series	AMP Seal Connectors



UL Mark Certification Program Manager





Certificate of Compliance

Certificate Number:

UL-US-L28476-1149-71602991-4

Report Reference:

E28476-19920617

Issue Date:

2024-03-08

Issued to:

TYCO Electronics Corp 2901 Fulling Mill Rd Middletown, PA 17057 United States

This certificate confirms that representative samples of:

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See Addendum Page for Product Designation(s).

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UL 1977, Edition 4, Issue Date 2022-12-07

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1534856	Connectors		
1740313	Connectors		
2371882	AMPSEAL Connector Series		
2371883	AMPSEAL Connector Series		
2371884	AMPSEAL Connector Series		
2371885	AMPSEAL Connector Series		
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AMPSEAL Connector Series, 2437607	Connectors		
AMPSEAL Connector Series, 2445465	Connectors		
770520	Connectors		
770669	Connectors		
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776087	AMPSEAL Connector Series		
776163	Connectors		
776164	Connectors		
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776200	AMPSEAL Connector Series		
776228	AMPSEAL Connector Series		
776230	AMPSEAL Connector Series		
776231	AMPSEAL Connector Series		
776261	AMPSEAL Connector Series		
776262	AMPSEAL Connector Series		
776266	AMPSEAL Connector Series		
776267	AMPSEAL Connector Series		

David Piecuch

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Certificate number UL-US-L28476-1149-71602991-4

Report reference 41TE28476-19920617

Date 2024-03-08

776275	AMPSEAL Connector Series
776276	AMPSEAL Connector Series
776279	AMPSEAL Connector Series
776280	AMPSEAL Connector Series
776519	Connectors
19920617, AMP Seal Connector Series	AMP Seal Connectors



UL Mark Certification Program Manager





Certificate of Compliance

Certificate Number:

UL-US-2225460-1

Report Reference:

E28476-19920617

Issue Date:

2024-03-08

Issued to:

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UL 1977, Edition 4, Issue Date 2022-12-07

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Certificate number UL-US-2225460-1 Report reference 41TE28476-19920617

Date 2024-03-08

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Model	Product Description		
1103599	Connectors		
1534856	Connectors		
1740313	Connectors		
AMPSEAL Connector Series, 2387364	Connectors		
AMPSEAL Connector Series, 2436887	Connectors		
AMPSEAL Connector Series, 2437600	Connectors		
AMPSEAL Connector Series, 2437601	Connectors		
AMPSEAL Connector Series, 2437602	Connectors		
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AMPSEAL Connector Series, 2437605	Connectors		
AMPSEAL Connector Series, 2437606	Connectors		
AMPSEAL Connector Series, 2437607	Connectors		
AMPSEAL Connector Series, 2445465	Connectors		
770520	Connectors		
770669	Connectors		
770670	Connectors		
770678	Connectors		
770680	Connectors		
770854	Connectors		
776163	Connectors		
776164	Connectors		
776180	Connectors		
776519	Connectors		



UL Mark Certification Program Manager





Certificate of Compliance

Certificate Number:

UL-US-2225461-1

Report Reference:

E28476-19920617

Issue Date:

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Issued to:

TYCO Electronics Corp 2901 Fulling Mill Rd Middletown, PA 17057 United States

This certificate confirms 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.

UL 1977, Edition 4, Issue Date 2022-12-07

Additional Information:

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Certificate number UL-US-2225461-1
Report reference 41TE28476-19920617

Date 2024-03-08

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1103599	Connectors		
1534856	Connectors		
1740313	Connectors		
AMPSEAL Connector Series, 2387364	Connectors		
AMPSEAL Connector Series, 2436887	Connectors		
AMPSEAL Connector Series, 2437600	Connectors		
AMPSEAL Connector Series, 2437601	Connectors		
AMPSEAL Connector Series, 2437602	Connectors		
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AMPSEAL Connector Series, 2437607	Connectors		
AMPSEAL Connector Series, 2445465	Connectors		
770520	Connectors		
770669	Connectors		
770670	Connectors		
770678	Connectors		
770680	Connectors		
770854	Connectors		
776163	Connectors		
776164	Connectors		
776180	Connectors		
776519	Connectors		



UL Mark Certification Program Manager



File E28476 Project 92ME14652

Issued: June 17, 1992

Revised: January 12, 2010

REPORT

on

* COMPONENT - Connectors For Use In Data, Signal, Control and Power Applications

Amp Incorporated Harrisburg, PA

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DESCRIPTION

PRODUCT COVERED:

USR - Component Connector - "AMPSEAL" Connector Series.

* Cat Nos. 770669, 770680, 770670, 770678, 770520, 770854, 776163, 776164, 776519, 776180, 1740313, 1534856, 1103599, 2437600, 2437601, 2437602, 2437603, 2437604, 2437605, 2437606, 2437607, 2436887, 2445465, 2387364, 2371882, 2371883, 2371884, 2371885, 776087, 776200, 776228, 776230, 776231, 776261, 776262, 776266, 776267, 776273, 776275, 776276, 776279, 776280, 776286, 776260, 776263, 776274, 776277.

GENERAL:

* These devices are multi-pole connectors employing contacts of the crimp termination type for use in electrical equipment where the acceptability of the combinations is determined by **UL LLC**.

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

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

* Use - For use only with complete equipment where the acceptability of the combination is determined by **UL LLC**.

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 the current.
- 2. These devices have not been tested for current-carrying capability.
- 3. The suitability of the mounting means shall be determined in the end use.
- 4. The acceptability of the grounding connection shall be determined by the end product use engineer.
- 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 electrical and mechanical suitability of the wiring terminals shall be determined in the end use.
- 7. The suitability of the insulating materials used in the molded bodies shall be judged in the end-use equipment.

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- 8. The adjacent poles may be used at potentials not exceeding 250 V based on the spacings requirements of Paragraph 11.1 of UL 1977. Dielectric testing has not been performed.
- 9. The electrical and mechanical contact between the connector and the printed wiring board is to be judged in the end-use equipment.
- 10. The factory assembled contacts have been investigated for the following wire ranges (and maximum tensile forces):

*

Part No.	Wire Range (AWG)	Tensile Force (lb)
770520-1	16	20
770854		20
770520-3		
770520-1	20	8
770854		
770520-3		
770520-5	20/22	8/8
770520-8		
770520-6	22/24	8/6
1-770520-1		

11. "AMPSEAL" Connector Series have been evaluated to UL 50, the Standard for Enclosures for Electrical Equipment, Non-Environmental Considerations Twelfth Edition, and UL 50E, the Standard for Enclosures for Electrical Equipment, Environmental Considerations First Edition, for the environmental rating of UL Type 6. All of the appropriate tests associated with the UL Type 6 rating were completed and found to be compliant with the UL Type 6 rating. Any additions or changes in "AMPSEAL" Connector Series construction will require a reinvestigation of the UL Type 6 rating. AMPSEAL Plug Reduced Seal Cat Nos. 2371882 (8pin), 2371883 (14pin), 2371884 (23pin), 2371885 (35pin), 2387364 (23 pin) have not been evaluated for Type 6 ratings.

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12. 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 (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec	Max Operating Temp, °C
1740312-1 Pin Housing, 23p 1534857-1 Pin Housing, 23p and 1103599 Header Assy, 35pin	A	0.9 mm	V0	0	0	120	120
Plug Housing	В	0.6 mm	(+)	3 (++)	4 (++)	120(++)	120
Plug Cap	В	-	-	-	-	-	_
*Plug Wedge	C	0.72 mm	V0	3	4	120	120
Header	D	4.0 mm	VO, 5VA	0	0	130	120

- (#) Code for Insulating Body Material.
- (+): Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class.
- (++): These PLCs are based on the minimum Recognized material thickness.

TE Proprietary Information *A.

- 1. Dielectric strength (kV/mm): 19
- 2. CTI: 0

*B. TE Proprietary Information

- 1. Dielectric strength (kV/mm): 31

2. CTI: 2 TE Proprietary Information c.

- 1. Dielectric strength (kV/mm): 31
- 2. CTI: 2

TE Proprietary Information *D.

- 1. Dielectric strength (kV/mm): 27
- 2. CTI: 3

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13. Accessories (such as: sealed lugs, hardware, etc) has not been investigated and should be evaluated the end-use equipment.

Model Nomenclature:

Catalog	Catalog Description
Base Part Number	
776286	Plug, 8pin, Standard Seal
776273	Plug,14pin, Standard Seal
770680 (@@)	Plug,23pin, Standard Seal
776164	Plug,35pin, Standard Seal
2371882	Plug, 8pin, Reduced Seal
2371883	Plug, 14pin, Reduced Seal
2371884	Plug, 23pin, Reduced Seal
2371885	Plug, 35pin, Reduced Seal
776279	Header, 8pin, RA, No Seal
776280	Header, 8pin, RA, Seal
776275	Header, 8pin, ST, No Seal
776276	Header, 8pin, ST, Seal
776266	Header, 14pin, RA, No Seal
776267	Header, 14pin, RA, Seal
776261	Header, 14pin, ST, No Seal
776262	Header, 14pin, ST, Seal
770669	Header, 23pin, RA, No Seal
776087	Header, 23pin, RA, Seal
776200	Header, 23pin, ST, No Seal
776228	Header, 23pin, ST, Seal
776180	Header, 35pin, RA, No Seal
776163	Header, 35pin, RA, Seal
776230	Header, 35pin, ST, No Seal
776231	Header, 35pin, ST, Seal
1103599	Pin Header, 35pin
770520	Socket Terminal
776282	Locking Wedge, 8pin, (part of plug)
776269	Locking Wedge, 14pin, (part of plug)
770676	Locking Wedge, 23pin, (part of plug)
776168	Locking Wedge, 35pin, (part of plug)
2437600	Header, 8pin, ST, Seal
2437601	Header, 8pin, RA, Seal
2437602	Header, 14pin, ST, Seal
2437603	Header, 14pin, RA, Seal
2437604	Header, 23pin, ST, Seal
2437605	Header, 23pin, RA, Seal
2437606	Header, 35pin, ST, Seal
2437607	Header, 35pin, RA, Seal
2436887	Header, 35pin, ST, Seal
2445465	Header, 23pin, ST, Seal
2387364 (@)	Plug, 23pin, Standard and Reduced Seal

Note:

^{1.} Standard Seal Plug has Red Wedge Lock

^{2.} Reduced Seal Plug has Yellow Wedge Lock

^{@ - 2387364} has black or grey housing, gray wedge lock, and blue wire seal. @@ - 770680 had black, NC, gray, or blue housing, red wedge lock, and green wire seal.