File E28476
Project 4787452246

September 29, 2016

REPORT

On

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

Tyco Electronics Corp
MIDDLETOWN PA 17057-3170, PA

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector, series Monoplug 2.5 Connector, Series number 2232884, 2232885, 2232892, 2406852, 2232893, 2406853, 2232894, 2232895, 2232890, 2406849, 2232891, 2406851, 2305996, 2305997, 2304155, 2306437, 2306443, 2306438, 2305998, 2305999, 2306439, 2306441 2306440, 2306442, may incorporate prefix and suffix number.

USR, CNR Component Connector, series Monoplug 2.5 Connector, Series Nos. 2351084, 2351085, 2351086, 2351087, 2351088, 2351089, 2351090, 2351091, 2351092, 2351093, 2351094, 2351095, 2351101, 2406854, 2352002, 2406856, may incorporate prefix number 0 thru 9, and suffix number 0 thru 9.

*USR, CNR Component Connector, Series RAST 2.5 Standard Timer Housing, Series 2391423, may incorporate prefix number 0 thru 9, and suffix number 0 thru 9.

USR Component Connector, Series RAST 2.5 Standard Timer Housing, 2404460-X.

GENERAL:

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

USR indicates investigation to the standard as indicated in the test records of this report.

CNR indicates investigation to the standard as indicated in the test records of this report.

RATINGS:

Series	Contact	Number of pin	Voltage	Ampere (A)
2232884, 2305996	Fully loaded	2, 3, 4, 5, 6, 7, 8, 9, 10	50V AC	2
2232885, 2305997		11, 12, 13	50V AC	2

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series	Contact	Number of pin	Voltage	Ampere (A)
2304155, 2306437	Fully loaded	2, 3, 4, 5, 6, 7, 8, 9, 10	50V AC	2
2306443, 2306438		11, 12, 13	50V AC	2

Series	Contact	Number of pin	Voltage	Ampere (A)
2232894, 2305998	selectively loaded	2, 3, 4, 5, 6, 7, 8, 9, 10	250VAC	2
2232895, 2305999		11, 12, 13	250VAC	2

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Series	Contact	Number of pin	Voltage	Ampere (A)
2306439, 2306441	selectively loaded	2, 3, 4, 5, 6, 7, 8, 9, 10	250VAC	2
2306440, 2306442		11, 12, 13	250VAC	2

Series	Contact	Number of Pins	Voltage V	Ampere A
2351084, 2351086, 2351088	Fully loaded	2,4,5,6,7	50	2
2351085, 2351087, 2351089		13		
2351101, 2406854		2,3,4,5,6,7,8,9,10		
2232892, 2406852		2,3,4,5,6,7,8,9,10		
2232893, 2406853		11,12,13		

Series	Contact	Number of Pins	Voltage V	Ampere A
2351090, 2351092, 2351094	Selectively loaded	2,7	250	2
2351091, 2351093, 2351095		13		
2232890, 2406849		2,3,5,7,9,10		
2232891, 2406851		11,12,13		
2352002, 2406856		2,3,5,7,9,10		

series	Contact	Number of pin	Voltage	Ampere (A)
2391423	Fully loaded	3, 4, 5, 7, 9	50V AC	2

Series	Contact	Number of Pins	Voltage V	Ampere A
2391423	Selectively loaded	9	250	2

Cat. No.	**Wire Size (AWG)**	**Voltage V**	**Ampere A**
2404460-X	**20**	**50**	**3**

Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The Cat Nos. 2404460-X are designated as follows:

Example: ___X___
I

I: - X = 3 or 5 and represents the number of poles.

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 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:

Cat Nos.	Wire size AWG	Current, A	Maximum Temperature °C		Represent Series
			Rise	Recorded Temperature	
1-2232885-3	24	2	6.6	31.6	2232884, 2232885, 2232892, 2232893, 2232894, 2232895, 2232890, 2232891 2305996, 2305997, 2304155, 2306437, 2306443, 2306438, 2305998, 2305999, 2306439, 2306441 2306440, 2306442
1-2351089-3	24	2	10.8	35.8	2351084, 2351085, 2351086, 2351087, 2351088, 2351089, 2351090, 2351091, 2351092, 2351093, 2351094, 2351095
1-2351095-3	24	2	5.4	30.4	
1-2232893-3	24	2	8.5	33.5	2232890, 2232891, 2232892, 2232893, 2351101, 2352002
1-2232891-3	24	2	6.1	31.1	
2391423-9	24	2	6.5	32.5	2391423
2404460-5	**20**	**3**	**7.4**	**32.4**	**2404460-X**

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.

Series.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI(++)	HAI(++)	RTI Elec	Max Operating Temp, ^{0}C
2232884	A	0.4	V-0	0	0	130	110
2232885		0.4	V-0	0	0	130	110
2232892, 2406852		0.4	V-0	0	0	130	110
2232893, 2406853		0.4	V-0	0	0	130	110
2232894		0.4	V-0	0	0	130	110
2232895		0.4	V-0	0	0	130	110
2232890, 2406849		0.4	V-0	0	0	130	110
2232891, 2406851		0.4	V-0	0	0	130	110
2305996		0.4	V-0	0	0	130	110
2305997		0.4	V-0	0	0	130	110
2304155		0.4	V-0	0	0	130	110
2306437		0.4	V-0	0	0	130	110
2306443		0.4	V-0	0	0	130	110
2306438		0.4	V-0	0	0	130	110
2305998		0.4	V-0	0	0	130	110
2305999		0.4	V-0	0	0	130	110
2306439		0.4	V-0	0	0	130	110
2306441		0.4	V-0	0	0	130	110
2306440		0.4	V-0	0	0	130	110
2306442		0.4	V-0	0	0	130	110
2351101, 2406854		0.4	V-0	0	0	130	110
2352002, 2406856		0.4	V-0	0	0	130	110
2351084	B	0.4	V-0	0	0	150	110
2351085		0.4	V-0	0	0	150	110
2351086		0.4	V-0	0	0	150	110
2351087		0.4	V-0	0	0	150	110
2351088		0.4	V-0	0	0	150	110
2351089		0.4	V-0	0	0	150	110
2351090		0.4	V-0	0	0	150	110
2351091		0.4	V-0	0	0	150	110
2351092		0.4	V-0	0	0	150	110
2351093		0.4	V-0	0	0	150	110
2351094		0.4	V-0	0	0	150	110
2351095		0.4	V-0	0	0	150	110
2391423		0.4	V-0	0	0	130	110
2404460-5	**C**	**0.4**	**V-0**	**0**	**0**	**130**	**105**
2404460-3		**0.4**	**V-0**	**0**	**0**	**130**	**105**

Note:

(#) – Code for Insulating Body Material.

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

A. [redacted]

1. Dielectric strength (kV/mm): 8
2. CTI: 1

B. [redacted]

1. Dielectric strength (kV/mm): 24
2. CTI: 0

*C. TE Raw Material 2136700-9, [redacted]

1. Dielectric strength (kV/mm): 17
2. CTI: 2

Mating Connectors

4. These devices have been assessed with the mating PCB as tabulated below.

Series	Mating PCB Fig. No.
2232884, 2232885, 2232892, 2232893, 2232894, 2232895, 2232890, 2232891 2305996, 2305997, 2304155, 2306437, 2306443, 2306438, 2305998, 2305999, 2306439, 2306441, 2306440, 2306442, 2406849, 2406851, 2406852, 2406853	2
2351084, 2351085, 2351086, 2351087, 2351088, 2351089, 2351090, 2351091, 2351092, 2351093, 2351094, 2351095, 2232890, 2232891, 2232892, 2232893, 2351101, 2352002, 2406849, 2406851, 2406852, 2406853, 2406854, 2406856	3 (##)

Note: (##) – The mating PCB is measured overall 119 mm length by 60 mm width by 1.5 mm thickness and the thickness of copper foil is 35 um. Refer to Test Reference for more information.

5. Series 2391423 was mated with Series 1-2232962-9 for test purposes.

Miscellaneous

6. The enclosure of the device has live parts that may be exposed to user contact when the connector is energized. The device is suitable for use only within an acceptable enclosure.

Terminations

7. The following contacts have been evaluated using the wire sizes, types, and forces as tabulated below.

Cat. No. / Series	Wire Size AWG	Solid / Stranded	Tensile Force lbf
2391430-2	**20**	**Stranded**	**8**