File E28476
March 04, 1977

REPORT

On

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

TYCO Electronics Corp
Middletown, PA

DESCRIPTION

PRODUCT COVERED:

Hermetic Cluster Block series; Part Nos. 360051-1, 360052-1, 360033-1, 360050-1,521078-1, 1217263-1, 520805-1, 520866-1, 880631-5, 1380145-1,and 1380145-2 for use in hermetic compressors rated 120-240 V ac, 60 Hz, single phase.

Hermetic Cluster Block series; Cat. Nos. 1217181-1, 1217186-1,1217187-1, 521572-1, 521573-1, 521776-1, 521949-1, 1217200-1, 1217261-1, 1217262-1,1217263-1, 1375735-1, 520995-1, 737110-1, 1604563-1, 521674-1, 521674-2, 521571-1, 521754-1, 1969162-1, 521481-1, 2232326-1, -2, 2232327-1, -2, 1969689-1, 1969689-2, 2825316-1, 284406-3, 284406-1.

USR and CNR, Hermetic Cluster Block series, Cat. No 235280-1, 235280-4.

USR and CNR, Hermetic Cluster Block series, Housing Cat. Nos. 2232326-1 , 2232326-2, 2232327-1, 2232327-2 with contact PN 2825745-1.

USR, Hermetic Cluster Block series,
Housing PN 235280-1, -4 mating with contact PN 62131-5, -6.
Housing PN 235280-1, -4 mating with contact PN 2178453-1.
Housing PN 284406-1, -3 mating with contact PN 2178453-1.
Housing 2825312-1 mating with contact PN 2825313-1.

USR, Hermetic Cluster Block series,
Housing PN 284406-1 mating with this terminal 62131-3, 284633-1.

GENERAL:

Catalog number 235280-4 replaces catalog number 0-235280-4. All references below are to the “old” catalog number.

Part No. 360033-1 consists of molded body Part No. 360033 with receptacle connectors Part No. 62131-1, -2 or -3, a No. 16 AWG lead wire.

Part No. 360050-1 or 1217263-1 consists of molded body Part No. 360050 with receptacle connectors Part No. 62131-1, -2 or -3, a No. 16 or 18 AWG lead wire.

Part No. 360051-1 consists of molded body Part No. 360051 with receptacle connector Part No. 62243-1, -2, -3, -4, 62244-1, -2, -3 or -4. Receptacle connector Part No. 62243-1, -2, -3 or -4 employs No. 12 or 14 AWG wire. Receptacle connector Part No. 62244-1, -2, -3 or -4 employs, No. 16 or 18 AWG wire.

Electrical Contact Series 63453, 63454, 63455, 63906, 63907, 63908, 1217670, 1217671, 1217672, 1742964, 174298 are for use with magnet wire.

The lead wires are provided by the end-use manufacturer.

The molded bodies and the receptacle connectors are assembled by the end-use manufacturer. Each component is shipped in separate cartons.

Part Nos. 521674-1 and 521674-2 are similar to Part No. 1217200-1 except the former employ shorter housing dimensions.

Part Nos. 1742096-1, 1742116-1 and 1742117-1 are similar to Part Nos. 1217174-1, 1217172-1 and 1217173-1 respectively except the insulation support crimp has been removed.

Part No. 521571-1 is similar to Part No. 1217181-1 except the former is provided with keyhole type pin entry holes.

Part No. 521481-1 is similar to Part No. 1217200-1 except the former is provided with keyhole type pin entry holes.

Part No. 521754-1 is similar to Part Nos. 521674-1 and 521674-2 except the former is provided with a decreased base skirt height and an increase in chamfer at the front corners.

Part No. 1380145-1, -2 consists of molded body Part No. 1380145 with receptacle connectors Part No. 62131-x, on 16 or 18 AWG lead wire.

Part No. 880631-5 consists of molded body Part No. 880631 with receptacle connectors Part No. 62131-3, on 16 or 18 AWG lead wire.

Contact Cat. Nos. 63906, 63907, 63908, 1217670, 1217671, and 1217672 are similar to contacts Cat. Nos. 63455, 63454, 1217172, 1217172, 1217174, and 63455 respectively, but with larger cross-section mating surface.

Housing Cat. No. 284406-3 is intended to be used solely with contact PN 62131-3. No electrical ratings.

Housing Cat. No. 284406-3 is intended to be used solely with contact PN 284633-1. Combination only has a voltage rating.

Housing Cat. No. 235280-1, 0-235280-4 is intended to be used solely with contact PN 62131-3. Combination only has a voltage rating.

Housing 235280-1, -4 are intended to be used solely with contact PN 62131-5, -6. Combination only has a voltage rating.

Housing 235280-1, -4 are intended to be used solely with contact PN 2178453-1. Combination only has a voltage rating.

Housing 284406-1, -3 are intended to be used solely with contact PN 2178453-1. Combination only has a voltage rating.

Housing Cat. No. 284406-1 is intended to be used solely with contact PN 284633-1. Combination only has a voltage rating.

Housing Cat. No. 284406-1 is intended to be used solely with contact PN 62131-3. Combination only has a voltage rating.

Housings / Receptacles UL file E28476

Products for Headers having 2.29mm[.090"] Dia. Pins

Housing #	Receptacle #*
360033-( )	62131-( )
360050-( )	63448-( )
521078-( )	1217264-( )
1217262-( )	
1217263-( )	

*Any receptacle listed in this group can be used with any housing in the group.

Products for Headers having 3.18mm[.125"] Dia. Pins

Housing #	Receptacle #**
360051-( )	62243-( )
360052-( )	62244-( )
520995-( )	63453-( )
521481-( )	63454-( )
521571-( )	63455-( )
521572-( )	63906-( )
521573-( )	63907-( )
521674-( )	63908-( )
521754-( )	1217172-( )
521776-( )	1217173-( )
521949-( )	1217174-( )
1217181-( )	1217175-( )
1217186-( )	1217176-( )
1217187-( )	1217670-( )
1217200-( )	1217671-( )
1217261-( )	1217672-( )
1969162-( )	1742096-( )
	1742116-( )
	1742117-( )
	1742657-( )

**Any receptacle listed in this group can be used with any housing in the group.

RATINGS:

Cat. Nos.	Voltage Vac/Vdc	Ampere (A)	Conductor Sizes, AWG Cu
2232326-1, -2, 2232327-1, -2	300	-	18 – 16 AWG str
1380145-1, -2	300	-	18 – 16 AWG str
880631-5	300	-	18 – 16 AWG str
520995-1	600 (1)	--	--
284406-3 housing with this terminal 284633-1	240	--	--
235280-1 housing with this terminal 62131-3	300	--	--
0-235280-4 housing with this terminal 62131-3	300	--	--
235280-1, -4 housing with this terminal 62131-5, -6	300	--	--
235280-1, -4 housing with this terminal 2178453-1	300	--	--
284406-1,-3 housing with this terminal 2178453-1	240	--	--
284406-1 housing with this terminal 62131-3, 284633-1	240	--	--
Housing Cat. Nos. 2232326-1 , 2232326-2, 2232327-1, 2232327-2 with contact PN 2825745-1	**300**	**5**	**20 AWG str**
		7	**18 AWG str**
Housing 2825312-1 mating with contact PN 2825313-1	**300**	**6**	**18 AWG str**
		8	**16 AWG str**
		10	**14 AWG str**

Note (1): 600VAC at 180Hz

USR – Products designated USR have been evaluated to the United States Standards as referenced in the Test Record.

CNR - Products designated CNR have been evaluated to the Canadian Standards as referenced in the Test Record.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

These are components intended for use on refrigeration equipment where the acceptability of the combination has been determined by Underwriters Laboratories Inc.

The following should be determined in judging the acceptability of the combination.

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

*2. **Unless otherwise specified, 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.

2A. The following 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:

Series	Current, A	Maximum Temperature °C	
		Rise	Recorded Temperature
Housing 2825312-1 with contact PN 2825313-1 and mating connector Hermitic Pin	**10**	**20.6**	**45.6**
Housing 2825312-1 with contact PN 2825313-1 and mating connector Hermitic Pin	**8**	**15.6**	**40.6**
Housing 2825312-1 with contact PN 2825313-1 and mating connector Hermitic Pin	**6**	**11.5**	**36.5**
Housing 2232326-1 with contact PN 2825745-1 and mating connector Hermitic Pin	**7**	**15.7**	**40.7**
Housing 2232326-1 with contact PN 2825745-1 and mating connector Hermitic Pin	**5**	**12.8**	**37.8**

3. The lead wire material which is supplied by the end manufacturer is suitable for the end-use application.

4. The lead wires are suitably attached to the receptacle connector.

5. The compressor used with these connectors will operate below the following VA ratings as determined by requirements of the applicable Standard:

Part Nos.	Compressor Rating
360033-1,360050-1, 1217263-1	1200 VA
360051-1 with contact 62243-x	3000 VA
360051-1 with contact 62244-x	1800 VA
360052-1 with contact 62324	3000 VA
360052-1 with contact 62325	1800 VA
880631-5 with contact 62131-x	1600 VA

6. The connectors are intended for use inside compressors that employ Refrigerant Type R12, R22, R500 R502, R410A, R407C, and R134A. Suitability for use with these refrigerants shall be an end use consideration.

7. Fusite terminal connectors Part No. 360051-1 and 360052-1 are for use with terminals provided with a 0.125 in dia electrode and Part No. 360033-1 and 360050-1 are for use with terminals provided with 0.090 in diameter electrodes.

8. Part Nos. 521571-1 and 521754-1 may be used at potentials not exceeding 600 V based on the minimum 3.2mm (1/8 inch) spacings required by UL 1977.

9. 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. Nos.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec	Max Operating Temp, °C
	A	1.5 mm	0	0	0	140	120
	B	1.5 mm	HB	3	0	120	120
	C	1.5 mm	HB	4	0	120	120
	D	1.5 mm	HB	4	0	140	120
2232326-1, 2232327-1	E	0.85 mm	V-0	3	0	120	120
2232326-2, 2232327-2; 2825312-1	F	0.85 mm	V-0	1	0	140	140
284406-3 235280-1	G	0.9 mm	HB	3	1	140	140
284406-1	J	0.9 mm	HB	-	-	75	75
0-235280-4	I	0.9 mm	HB	-	-	140	140
1380145-1	E	0.70 mm	V-0	-	-	120	120
1380145-2	B	0.70 mm	-	-	-	120	120
880631-5	B	0.70 mm	-	-	-	120	120
1969689-1, 1969689-2	B	0.70mm	--	--	--	120	120
2825316-1	H K	0.4mm 0.4mm	V0 V0	0 0	0 0	130 130	130 130
2825312-1	L	0.85 mm	V0	0	0	130	130
2232326-2, 2232327-2	**L**	**0.85 mm**	**V0**	**0**	**0**	**130**	**130**

(#) – Code for Insulating Body Material.

Tyco Raw Material # 1573547

A.

1. Dielectric strength (kV/mm): 23
2. CTI: 3

Tyco Raw Material # 27255

B.

1. Dielectric strength (kV/mm): 23
2. CTI: 0

C. Tyco Raw Material # 18390

1. Dielectric strength (kV/mm): 26
2. CTI: 0

D. Tyco Raw Material # 703378

1. Dielectric strength (kV/mm): 29
2. CTI: 0

E. Tyco Raw Material # 26864-1

1. Dielectric strength (kV/mm): 22
2. CTI: 3

F. Tyco Raw Material # 2136325-1

1. Dielectric strength (kV/mm): 11
2. CTI: 1

G. Tyco Raw Material # 705199-1
1. Dielectric strength (kV/mm): 42
2. CTI: 1

H. Tyco Raw Material # 2136488
1. Dielectric strength (kV/mm): 8
2. CTI: 1

I. Tyco Raw Material # 2136318-1
1. Dielectric strength (kV/mm): 28
2. CTI: 0

J. Tyco Raw Material # 704923-1
1. Dielectric strength (kV/mm): -
2. CTI: -

K. Tyco Raw Material # 705999-1
1. Dielectric strength (kV/mm): 8
2. CTI: 1

*L. Tyco Raw Material # 236919
1. Dielectric strength (kV/mm): 18
2. CTI: 1

10. Dielectric Voltage-withstand testing has been conducted on Cat. Nos. 2232326-1, -2, 2232327-1, -2, 1380145-1, -2, 880631-5, 235280-1 housing with this terminal 62131-3, 0-235280-4 housing with this terminal 62131-3 between adjacent poles at a potential of 1600 V.
Dielectric Voltage-withstand testing has been conducted on 235280-1, -4 housing with this terminal 62131-5, -6 between adjacent poles at a potential of 1600 V.
Dielectric Voltage-withstand testing has been conducted on 235280-1, -4 housing with this terminal 2178453-1 between adjacent poles at a potential of 1600 V.
Dielectric Voltage-withstand testing has been conducted on 284406-1,-3 housing with this terminal 2178453-1 between adjacent poles at a potential of 1480 V.
Dielectric Voltage-withstand testing has been conducted on 284406-1 housing with this terminal 62131-3 between adjacent poles at a potential of 1480 V.

11. The maximum volt-ampere rating should be judged in the end-use application.