Certificate of Compliance

Certificate Number:

UL-US-L28476-1129-82805102-7

Report Reference:

E28476-20150828

Issue Date:

2024-05-29

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://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.

David Piecuch
UL Mark Certification Program Manager

CERTIFICATE OF COMPLIANCE

Certificate number UL-US-L28476-1129-82805102-7
Report reference E28476-20150828
Date 2024-05-29

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
Cat. No. HDC, followed by –HA, followed by -010, -016 or -032, followed by MC, FC.	Connector
Cat. No. HDC, followed by -HA, followed by -003, -004, -010, -016 or -032, followed by M, F.	Connector
Cat. NO. HDC, followed by -HD, followed by -007, -008, followed by M, F.	Connector
Cat. No. HDC, followed by -HD, followed by -015, -025, -040, -050, -064, -080 or -128, followed by M, F or FJ	Connector
Cat. No. HDC, followed by -HD, followed by -040, followed by M, F or FJ, followed by 41-80.	Connector
HDC, followed by -HA, followed by -003, -004, followed by MS, FS.	Connector
HDC, followed by -HA, followed by -016, followed by M, F, MC, FC, followed by 17-32.	Connector
HDC, followed by -HD, followed by -007, followed by M1.	Connector
HDC, followed by -HD,, followed by -025, followed by M, F, followed by 26-50.	Connector
HDC, followed by -HD, followed by -064, followed by M, F or FJ, followed by 65-128.	Connectors
HDC, followed by -HDD, followed by -016, -072, -108, -144 or -216, followed by M, F.	Connectors
HDC, followed by -HDD,, followed by -024, -042, followed by M, F, FJ.	Connectors
HDC, followed by -HDD, followed by -072, followed by M, F, followed by 73-144.	Connector
HDC, followed by -HDD, followed by -108, followed by M, F, followed by 109-216.	Connector
HDC, followed by -HQ, followed by -005, -007, -008, -012, -017, followed by M or F.	Connector
HDC, followed by -HQ, followed by 4/2, followed by -M or -F.	Connector
HDC-HD-025F/Z	Connectors
HDC-HD-025M/Z	Connectors
HDC-HQ-002F	Connector
HDC-HQ-002M	Connector
HDC-HQ-002PF	Connector
HDC-HQ-002PM	Connector

David Piecuch
UL Mark Certification Program Manager

CERTIFICATE OF COMPLIANCE

Certificate number UL-US-L28476-1129-82805102-7
Report reference E28476-20150828
Date 2024-05-29

HDC-HQ-003F	Connector
HDC-HQ-003M	Connector
HDC-HQ-003PF	Connector
HDC-HQ-003PM	Connector
HDC-HQ-021F	Connector
HDC-HQ-021M	Connector
HDC-HQ4/2-M	Connectors
HYBRID FEMALE INSERT ASSY, HQ-4/4/6-F	Connectors
HYBRID MALE INSERT ASSY, HQ-4/4/6-M	Connectors
HQ-D-032-F	Connectors
HQ-D-032-M	Connectors

David Piecuch
UL Mark Certification Program Manager

Certificate of Compliance

Certificate Number:

UL-CA-2201340-5

Report Reference:

E28476-20150828

Issue Date:

2024-05-29

Issued to:

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

This certificate confirms 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.

CSA C22.2 No. 182.3, 2nd Ed., Issue Date: 2016-07, Revision Date: 2021-5

Additional Information:
See UL Product iQ® 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.

David Piecuch
UL Mark Certification Program Manager

CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-2201340-5
Report reference E28476-20150828
Date 2024-05-29

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
Cat. No. HDC, followed by –HA, followed by -010, -016 or -032, followed by MC, FC.	Connector
Cat. No. HDC, followed by -HA, followed by -003, -004, -010, -016 or -032, followed by M, F.	Connector
Cat. NO. HDC, followed by -HD, followed by -007, -008, followed by M, F.	Connector
HDC, followed by -HA, followed by -003, -004, followed by MS, FS.	Connector
HDC, followed by -HA, followed by -016, followed by M, F, MC, FC, followed by 17-32.	Connector
HDC, followed by -HD, followed by -007, followed by M1.	Connector
HDC, followed by -HQ, followed by -005, -007, -008, -012, -017, followed by M or F.	Connector
HDC, followed by -HQ, followed by 4/2, followed by -M or -F.	Connector
HDC-HQ-002F	Connector
HDC-HQ-002M	Connector
HDC-HQ-002PF	Connector
HDC-HQ-002PM	Connector
HDC-HQ-003F	Connector
HDC-HQ-003M	Connector
HDC-HQ-003PF	Connector
HDC-HQ-003PM	Connector
HDC-HQ-021F	Connector
HDC-HQ-021M	Connector
HDC-HQ4/2-M	Connectors
HYBRID FEMALE INSERT ASSY, HQ-4/4/6-F	Connectors
HYBRID MALE INSERT ASSY, HQ-4/4/6-M	Connectors
HQ-D-032-F	Connectors
HQ-D-032-M	Connectors

David Piecuch
UL Mark Certification Program Manager

File E28476
Project 2900062.7421762

August 28, 2015

REPORT

on

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

TYCO ELECTRONICS CORP
MIDDLETOWN PA 17057-3170

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector,

Cat. No. HDC, followed by –HA, followed by -003, -004, -010, -016 or -032, followed by M, F.

Cat. No. HDC, followed by –HA, followed by -003, -004, followed by MS, FS.

Cat. No. HDC, followed by –HA, followed by -010, -016 or -032, followed by MC, FC.

Cat. No. HDC, followed by –HA, followed by -016, followed by M, F, MC, FC, followed by 17-32.

Cat. No. HDC, followed by –HD, followed by -007, -008, followed by M, F.

Cat. NO. HDC, followed by -HD, followed by -007, followed by M1.

Cat. No. HDC, followed by –HQ, followed by -005, -007, -008, -012, -017, followed by M or F.

Cat. No. HDC, followed by –HQ, followed by 4/2, followed by -M or -F.

USR Component Connector,

Cat. No. HDC, followed by –HD, followed by -015, -025, -040, -050, -064, -080 or -128, followed by M, F or FJ; Cat. Nos. HDC-HD-025M/Z, HDC-HD-025F/Z.

Cat. No. HDC, followed by –HD, followed by -025, followed by M, F, followed by 26-50.

Cat. No. HDC, followed by –HD, followed by -040, followed by M, F or FJ, followed by 41-80.

Cat. No. HDC, followed by –HD, followed by -064, followed by M, F or FJ, followed by 65-128.

Cat. No. HDC, followed by –HDD, followed by -016, -072, -108, -144 or -216, followed by M, F.

Cat. No. HDC, followed by –HDD, followed by -072, followed by M, F, followed by 73-144.

Cat. No. HDC, followed by –HDD, followed by -108, followed by M, F, followed by 109-216.

Cat. No. HDC, followed by –HDD, followed by -024, -042, followed by M, F, FJ.

USR, CNR Component Connector,

Cat. No. HDC-HQ, followed by -002, followed by M or F.

Cat. No. HDC-HQ, followed by -002, followed by PM or PF.

Cat. No. HDC-HQ, followed by -003, followed by M or F.

Cat. No. HDC-HQ, followed by -003, followed by PM or PF.

Cat. No. HDC-HQ, followed by -021, followed by M or F.

Cat. Nos. HQ-D-032-M, HQ-D-032-F.

Cat. No. HQ, followed by -4/4/6, followed by M or F.

GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire sizes as indicated in Ratings table below where the acceptability of combinations is determined by UL LLC. The devices are identified as follows:

*USR indicates investigation to United States Standards as noted in the Test Record.

*CNR indicates investigation to Canadian National Standards as noted in the Test Record.

RATINGS:

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)
HDC-HA-003M HDC-HA-003F	250	1	1
HDC-HA-004M HDC-HA-004F	250	10	10
HDC-HA-003MS HDC-HA-003FS	400	1	1
HDC-HA-004MS HDC-HA-004FS	400	10	10
HDC-HA-010M	600	1	1
HDC-HA-010F	600	16	16
HDC-HA-016M HDC-HA-016F	600	1	1
HDC-HA-032M HDC-HA-032F	600	16	16

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
HDC-HA-010MC HDC-HA-010FC	600	1	1	24, 20-12
	600	16	16	14-12
HDC-HA-016MC HDC-HA-016FC HDC-HA-032MC HDC-HA-032FC	600	1	1	24, 20-12
	600	16	16	14-12
HDC-HD-007M HDC-HD-007F HDC-HD-007M1	250	1	1	24, 20-14
	250	10	10	14
HDC-HD-008M HDC-HD-008F	50	1	1	24, 20-14
	50	10	10	14
HDC-HD-015M HDC-HD-015F HDC-HD-015FJ	250	10	-	14
HDC-HD-025M HDC-HD-025F HDC-HD-025FJ HDC-HD-050M HDC-HD-050F	250	10	-	14

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
HDC-HD-025M/Z HDC-HD-025F/Z	250	10	-	14
HDC-HD-040M HDC-HD-040F HDC-HD-040FJ HDC-HD-080M HDC-HD-080F HDC-HD-080FJ	250	10	-	14
HDC-HD-064M HDC-HD-064F HDC-HD-064FJ HDC-HD-128M HDC-HD-128F HDC-HD-128FJ HDC-HDD-024FJ HDC-HDD-042FJ	250	10	-	14
HDC-HDD-016M HDC-HDD-016F	600	10	-	14
*HDC-HDD-024M HDC-HDD-024F	600	10	-	14
*HDC-HDD-042M HDC-HDD-042F	600	10	-	14
HDC-HDD-072M HDC-HDD-072F HDC-HDD-144M HDC-HDD-144F	600	10	-	14
HDC-HDD-108M HDC-HDD-108F HDC-HDD-216M HDC-HDD-216F	600	10	-	14
HDC-HQ-005M	400	1	1	24, 20-12
HDC-HQ-005F	400	16	16	14-12
HDC-HQ-007M	400	1	1	24, 20-14
HDC-HQ-007F	400	10	10	14
HDC-HQ-008M	600	1	1	24, 20-12
HDC-HQ-008F	600	16	16	14-12
HDC-HQ-012M	400	1	1	24, 20-14
HDC-HQ-012F	400	10	10	14
HDC-HQ-017M	250	1	1	24, 20-14
HDC-HQ-017F	250	10	10	14
HDC-HQ4/2-M HDC-HQ4/2-F	Power: 600 Signal: 250	Power: 10 Signal: 1	Power: 10 Signal: 1	Power: 16-8 Signal: 24, 20-14
		Power: 40 Signal: 10	-	Power: 10-8 Signal: 14

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
HDC-HQ-002M HDC-HQ-002F	400	40	-	10-8
		40	-	10-8
	400	10	10	18-12
		10	10	18-12
HDC-HQ-002PM HDC-HQ-002PF	830	40	-	10-8
		40	-	10-8
	830	10	10	18-12
		10	10	18-12
HDC-HQ-003M HDC-HQ-003F	400	40	35	8 AWG, 10 mm^2
HDC-HQ-003PM HDC-HQ-003PF	830	40	35	8 AWG, 10 mm^2
HDC-HQ-021M HDC-HQ-021F	50V AC, 120V DC	6.5	5	20 AWG
HDC-HQ-021M HDC-HQ-021F	50V AC, 120V DC	6.5	-	0.5 mm^2
HQ-D-032-M HQ-D-032-F	32	2.2	2.2	22
HQ-D-032-M HQ-D-032-F	-	-	-	24-30
HQ-4/4/6-M, HQ-4/4/6-F	**Power: 600 Signal: 250 Data: 29.9**	**Power: 20 Signal: 10 Data: 1.2**	**Power: 20 Signal: 10 Data: 1.2**	**Power: 12 AWG Signal: 14 AWG Data: 22 AWG**

Disconnecting Use - see Sec Gen for required marking

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.	Contact	Wire size AWG	Current, A	Maximum Temperature, °C		Represent
				Rise	Recorded Temperature	
HDC-HA-004MS mating with HDC-HA-004FS	Pin	24	1	2.3	27.3	HDC-HA-003 HDC-HA-004
	Socket			1.9	26.9	
	Pin	14	10	17.7	42.7	
	Socket			15.6	40.6	
HDC-HA-016MC mating with HDC-HA-016FC	Pin	24	1	3.9	28.9	HDC-HA-010 HDC-HA-016
	Socket			4.3	29.3	
	Pin	14	16	29.6	55	
	Socket			28.0	55.8	
HDC-HD-008M mating with HDC-HD-008F	Pin	24	1	3.2	28.2	HDC-HD
	Socket			2.7	27.7	
	Pin	14	10	14.7	39.7	
	Socket			14.2	39.2	
HDC-HDD-108M mating with HDC-HDD-108F	Pin	14	10	-	70.5	HDC-HD HDC-HDD
	Socket			-	71.4	
HDC-HQ-008M mating with HDC-HQ-008F	Pin	24	1	2.2	27.2	HDC-HQ-005 HDC-HQ-008
	Socket			2.1	27.1	
	Pin	14	16	25.2	50.2	
	Socket			24.3	49.3	
HDC-HQ-017M mating with HDC-HQ-017F	Pin	24	1	4.1	29.1	HDC-HQ-007 HDC-HQ-012 HDC-HQ-017
	Socket			4.1	29.1	
	Pin	14	10	19.1	44.1	
	Socket			19.0	44.0	

Cat Nos.	Contact	Wire size AWG	Current, A	Maximum Temperature, °C	
				Rise	Recorded Temperature
HDC-HQ-002M	Male	10	40	-	57.1
HDC-HQ-002F	Female	10	40	-	56.5
HDC-HQ-002M	Male	18	10	11.9	36.9
HDC-HQ-002F	Female	18	10	12.8	37.8
HDC-HQ-002PM	Male	10	40	-	69.4
HDC-HQ-002PF	Female	10	40	-	64.9
HDC-HQ-002PM	Male	18	10	14.0	39.0
HDC-HQ-002PF	Female	18	10	14.0	39.0
HQ-D-032-M	Male	22	2.2	14.7	39.7
HQ-D-032-F	Female	22	2.2	15.3	40.3

Cat Nos.	Contact	Wire size	Current, A	Maximum Temperature, °C		Represent
				Rise	Recorded Temperature	
HDC-HQ-003PM mating with HDC-HQ-003PF	Pin	8 AWG	USR: 40	30.7	55.7	HDC-HQ-003M HDC-HQ-003F
	Socket	8 AWG	USR: 40	30.9	55.9	
	Pin	10 mm^2	USR: 40	27.6	52.6	
	Socket	10 mm^2	USR: 40	28.3	53.3	
	Pin	8 AWG	CNR: 35	21.2	46.2	
	Socket	8 AWG	CNR: 35	21.9	46.9	
	Pin	10 mm^2	CNR: 35	19.4	44.4	
	Socket	10 mm^2	CNR: 35	20.9	45.9	
HDC-HQ-021M mating with HDC-HQ-021F	Pin	20 AWG	USR: 6.5	41.4	66.4	-
	Socket	20 AWG	USR: 6.5	41.1	66.1	
	Pin	0.5 mm^2	USR: 6.5	81.4	106.4	
	Socket	0.5 mm^2	USR: 6.5	79.6	104.6	
	Pin	20 AWG	CNR: 5	22.5	47.5	
	Socket	20 AWG	CNR: 5	22.2	47.2	

Cat Nos.	Contact	Wire size AWG	Current, A	Maximum Temperature, °C		Represent
				Rise	Recorded Temperature	
HDC-HQ4/2-M mating with HDC-HQ4/2-F	Power Pin	16	10	17.4	42.4	HDC-HQ4/2
	Power Socket			15.7	40.7	
	Signal Pin	24	1	12.2	37.2	
	Signal Socket			13.0	38.0	
	Power Pin	10	40	-	68.6	
	Power Socket			-	63.7	
	Signal Pin	14	10	-	50.4	
	Signal Socket			-	49.3	
HQ-4/4/6-M, mating with HQ-4/4/6-F	**Power Pin**	**12**	**20**	**24.0**	**49.0**	-
	Power Socket	**12**	**20**	**25.1**	**50.1**	
	Signal Pin	**14**	**10**	**19.1**	**44.1**	
	Signal Socket	**14**	**10**	**18.5**	**43.5**	
	Data Pin	**22**	**1.2**	**19.8**	**44.8**	
	Data Socket	**22**	**1.2**	**25.5**	**50.5**	

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.

*Cat. No.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI(++)	HAI(++)	RTI Elec	MSR Test Oven Temp, ^{0}C
*HDC-HA-004MS HDC-HA-004FS	B	0.4 mm	(+)	-	-	130	135
*HDC-HA-016MC HDC-HA-016FC	B for cover C for body	0.8 mm	HB	-	-	80	90
	or B for cover G for body	0.8 mm	(+)	-	-	130	90
*HDC-HD-008M HDC-HD-008F HDC-HD-007M1	A	0.5 mm	(+)	-	-	130	135
*HDC-HDD-072M HDC-HDD-072F	B	0.4 mm	(+)	-	-	130	135
*HDC-HDD-108M HDC-HDD-108F	B	0.4 mm	(+)	-	-	130	135
*HDC-HQ-008M HDC-HQ-008F	B for cover C for body	0.8 mm	HB	-	-	80	90
	or B for cover G for body	0.8 mm	(+)	-	-	130	90
*HDC-HQ-017M HDC-HQ-017F	C	0.8 mm 0.7 mm	HB	-	-	80	90
	or G	0.8 mm 0.7 mm	(+)	-	-	130	90
*HDC-HQ4/2-M HDC-HQ4/2-F	B for cover C for body	0.6 mm for body 0.8 mm on cover	HB	-	-	80	90
	or B for cover G for body	0.6 mm for body 0.8 mm on cover	(+)	-	-	130	90
*HDC-HQ-002PM HDC-HQ-002PF HDC-HQ-002M HDC-HQ-002F	C for body	0.7 mm	HB	-	-	80	90
	or G for body	0.7 mm	(+)	-	-	130	90

Cat. No.	Insulating Material (#)	Measured Minimum Thickness	Flame Class	HWI	HAI	RTI Elec Temp, °C	MSR Test Oven Temp, °C
HDC-HQ-003M HDC-HQ-003F	D	0.6 mm	(+)	-	-	130	140
HDC-HQ-003PM HDC-HQ-003PF	D	0.6 mm	(+)	-	-	130	140
HDC-HQ-021M HDC-HQ-021F	D for cover E for body	0.5 mm	(+)	-	-	130	140
HQ-D-032-M	F	1.4 mm	V-0	4	0	130	140
HQ-D-032-F		1.3 mm					
HQ-4/4/6-M	**F**	**0.45 mm for Insert Body, 0.3 mm for Insert Cover, 1 mm for Contact Cover**	**(+)**	**-**	**-**	**130**	**125**
HQ-4/4/6-F	**F**	**0.45 mm for Insert Body, 0.3 mm for Insert Cover, 1 mm for Contact Cover**	**(+)**	**-**	**-**	**130**	**125**

Note:

(#) – Code for Insulating Body Material.

(+): Thickness is less than the minimum Recognized material thickness of A, B, D, E, **and F**, as such no assigned Flame class. UL 746C (12mm) Flammability test conducted.

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

Spacings Greater than 600 V

Cat. Nos. HDC-HQ-002PM, HDC-HQ-002PF, HDC-HQ-003PM, HDC-HQ-003PF have been evaluated at potentials of 830 V by UL 1740, the Standard for Robots and Robotic Equipment, which covers the end-use products for which the devices were designed.

Spacing on a type 5 device is not evaluated. Only DIELECTRIC VOLTAGE-WITHSTAND TEST is performed at potentials of 2660V. It shall be evaluated for the intended end-use application.

Mating Connectors

4. These devices have only been assessed for use with specific types of connectors within their product family. They have not been assessed to operate with any other similar devices from any other manufacturer.

Terminations

5. Crimp contacts of Cat. Nos. as tabulated below are intended for crimp termination on stranded copper conductor using the tooling shown as tabulated below for information purpose only.

Contacts Cat. Nos.	Conductor Sizes, AWG	Crimp tool
CDM, CDF, DDM, DDF	24, 20-14	ILL. 10
CEM, CEF, DEM, DEF	24, 20-12	ILL. 10
CMM, CMF, DMM, DMF, CMMFP	18-8, 10 mm^2	ILLs. 10, 11
CJM, CJF, DJM, DJF	14	ILL. 12
CAM, CAF, DAM, DAF	20 AWG, 0.5 mm^2	ILL. 15
HDC-HQ-012M, HDC-HQ-012F	**12**	**ILLs. 10, 15**
HMN-D3-2/6-M, HMN-D3-2/6-F	**22**	**-**

5. CONT'D

Contact	Wire Size, AWG	Automatic Tool No.	Crimp Width (mm)	Crimp Height (mm)	Crimp Tensile Strength (Kg MIN)
2316663-1	30	2151110-1	0.90	0.54±0.03	0.5
	28	2151110-1	0.90	0.57±0.03	1.0
2316663-2	28	2151082-1	1.16	0.64±0.03	1.0
	26	2151082-1	1.16	0.67±0.03	2.0
	24	2151082-1	1.16	0.73±0.03	3.0
	22	2151082-1	1.16	0.80±0.03	4.5
2316670-1	30	2151110-1	0.90	0.54±0.03	0.5
	28	2151110-1	0.90	0.57±0.03	1.0
2316670-2	28	2151082-1	1.16	0.64±0.03	1.0
	26	2151082-1	1.16	0.67±0.03	2.0
	24	2151082-1	1.16	0.73±0.03	3.0
	22	2151082-1	1.16	0.80±0.03	4.5
Contact	Wire Size, AWG	Hand Tool No.	Crimp Width (mm)	Crimp Height (mm)	Crimp Tensile Strength (Kg MIN)
2316669-1	30	2305684-1	0.90	0.54±0.05	0.5
	28	2305684-1	0.90	0.57±0.05	1.0
2316669-2	28	2305681-1	1.16	0.64±0.05	1.0
	26	2305681-1	1.16	0.67+0.03/-0.08	2.0
	24	2305681-1	1.16	0.73+0.06/-0.04	3.0
	22	2305681-1	1.16	0.80+0.03/-0.11	4.5
2316671-1	30	2305684-1	0.90	0.54±0.05	0.5
	28	2305684-1	0.90	0.57±0.05	1.0
2316671-2	28	2305681-1	1.16	0.64±0.05	1.0
	26	2305681-1	1.16	0.67+0.03/-0.08	2.0
	24	2305681-1	1.16	0.73+0.06/-0.04	3.0
	22	2305681-1	1.16	0.80+0.03/-0.11	4.5

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.

7. The identified grounding terminal of series HQ has not been evaluated for terminating an equipment-grounding conductor. The Grounding Impedance test has not been **performed, with the exception of Cat. Nos. HQ-4/4/6-M and HQ-4/4/6-F.** The suitability of bonding any exposed dead metal parts of the connector shall be considered during the end product investigation.

8. The suitability and the reliability of the nonmetallic tipped pin CMMFP alternately used with Cat. Nos. HDC-HQ4/2-MHDC-HQ-002M, and HDC-HQ-003M has not been evaluated. Suitability shall be determined in the end-use application; for CNR the temperature rise on the pin shall not exceed 30C, and for USR the temperatures may not exceed the RTI in the material table for the respective Cat. nos. .

9. Temperature Testing of CMMFP series shall be determined suitable in the end use, the nonmetallic pin tip of model CMMFP shall not exceed 150°C.

10. The suitability of specific Recognized Components included within this report have not been evaluated and shall be determined in the end-use application.