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REPORT

on

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

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## 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 -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. 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.

## 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, UL 1977.

CNR indicates investigation to Canadian National Standards, C22.2 No. 182.3.

## 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 HDC-HA-010F	250	1	1
	250	16	16
HDC-HA-016M HDC-HA-016F	250	1	1
HDC-HA-032M HDC-HA-032F	250	16	16

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

## and Report

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
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	250	10	-	14
HDC-HDD-016M HDC-HDD-016F	250	10	-	14
HDC-HDD-024M HDC-HDD-024F HDC-HDD-024FJ	250	10	-	14
HDC-HDD-042M HDC-HDD-042F HDC-HDD-042FJ	250	10	-	14
HDC-HDD-072M HDC-HDD-072F HDC-HDD-144M HDC-HDD-144F	250	10	-	14
HDC-HDD-108M HDC-HDD-108F HDC-HDD-216M HDC-HDD-216F	250	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	500	1	1	24, 20-12
HDC-HQ-008F	500	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: 40 Signal: 10	Power: 10 Signal: 1 -	Power: 16-8 Signal: 24, 20-14 Power: 10-8 Signal: 14

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		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	

### 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	Max Operating Temp, °C
HDC-HA-004MS HDC-HA-004FS	B	0.4 mm	(+)	-	-	130	125
HDC-HA-016MC HDC-HA-016FC	B for cover C for body	0.8 mm	HB	-	-	80	80
HDC-HD-008M HDC-HD-008F	A	0.5 mm	(+)	-	-	130	125
HDC-HDD-072M HDC-HDD-072F	B	0.4 mm	(+)	-	-	130	125
HDC-HDD-108M HDC-HDD-108F	B	0.4 mm	(+)	-	-	130	125
HDC-HQ-008M HDC-HQ-008F	B for cover C for body	0.8 mm	HB	-	-	80	80
HDC-HQ-017M	C	0.8 mm	HB	-	-	80	80
HDC-HQ-017F		0.7 mm					
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	80

Note:

(#) - Code for Insulating Body Material.

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

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

\*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	16-8	ILLs. 10, 11
CJM, CJF, DJM, DJF	14	ILL. 12

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. The suitability of bonding any exposed dead metal parts of the connector shall be considered during the end product investigation.