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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 -HE, followed by -006, -010, -016, -024, -032, -048, followed by M, F, MSS or FSS.

Cat. No. HDC, followed by -HE, followed by -016, followed by M, F, MSS or FSS, followed by 17-32.

Cat. No. HDC, followed by -HE, followed by -024, followed by M, F, MSS or FSS, followed by 25-48.

Cat. No. HDC, followed by -HES or -HEC, followed by -006, -010, -016, -024, -032 or -048, followed by M or F.

Cat. No. HDC, followed by -HE, followed by -006, 010, 016, 024, followed by MS, FS, MC, FC.

Cat. No. HDC, followed by -HE, followed by -016, followed by MS, FS, MC, FC, followed by 17-32.

Cat. No. HDC, followed by -HE, followed by -024, followed by MS, FS, MC, FC, followed by 25-48.

Cat. No. HDC, followed by -HVE, -HVES or -HVEC, followed by -003, -006, -010, followed by M or F.

Cat. No. HDC, followed by -HEE, followed by -010, -015, -018, -032, -046, -064, -092, followed by M or F.

Cat. No. HDC, followed by -HEE, followed by -032, followed by M or F, followed by 33-64.

Cat. No. HDC, followed by -HEE, followed by -046, followed by M or F, followed by 47-92.

Cat. No. HEEE, followed by -020, -032, -040, -048, -064, -072, -080, -096, -128, -144, followed by -M or -F.

Cat. No. HEEE, followed by -040, followed by -M or -F, followed by 41-80.

Cat. No. HEEE, followed by -048, followed by -M or -F, followed by 49-96.

Cat. No. HEEE, followed by -064, followed by -M or -F, followed by 65-128.

Cat. No. HEEE, followed by -072, followed by -M or -F, followed by 73-144.

Cat. No. HDC, followed by -HEAV, followed by -006, -010, -016, -024, followed by M, F, MS, FS.

## 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-HE-006M HDC-HE-006F HDC-HES-006M HDC-HES-006F	500	1	1
HDC-HE-006MSS HDC-HE-006FSS	500	16	-
HDC-HE-010M HDC-HE-010F HDC-HES-010M HDC-HES-010F	500	1	1
HDC-HE-010MSS HDC-HE-010FSS	500	16	-
HDC-HE-016M HDC-HE-016F HDC-HE-032M HDC-HE-032F HDC-HES-016M HDC-HES-016F HDC-HES-032M HDC-HES-032F	500	1	1
HDC-HE-016MSS HDC-HE-016FSS HDC-HE-032MSS HDC-HE-032FSS	500	16	-
HDC-HE-024M HDC-HE-024F HDC-HE-048M HDC-HE-048F HDC-HES-024M HDC-HES-024F HDC-HES-048M HDC-HES-048F	500	1	1
HDC-HE-024MSS HDC-HE-024FSS HDC-HE-048MSS HDC-HE-048FSS	500	16	-

## and Report

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)
HDC-HVES-003M HDC-HVES-003F	830	1	1
HDC-HVE-003M HDC-HVE-003F	830	16	16
HDC-HVES-006M HDC-HVES-006F	830	1	1
HDC-HVE-006M HDC-HVE-006F	830	16	16
HDC-HVES-010M HDC-HVES-010F	830	1	1
HDC-HVE-010M HDC-HVE-010F	830	16	16
HDC-HEAV-006M HDC-HEAV-006F	500	1	1
HDC-HEAV-006MS HDC-HEAV-006FS	500	16	-
HDC-HEAV-010M HDC-HEAV-010F	500	1	1
HDC-HEAV-010MS HDC-HEAV-010FS	500	16	-
HDC-HEAV-016M HDC-HEAV-016F	500	1	1
HDC-HEAV-016MS HDC-HEAV-016FS	500	16	-
HDC-HEAV-024M HDC-HEAV-024F	500	1	1
HDC-HEAV-024MS HDC-HEAV-024FS			

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
HDC-HEC-006M HDC-HEC-006F	500	1	1	24, 20-12
	500	16	-	14-12
HDC-HEC-010M HDC-HEC-010F	500	1	1	24, 20-12
	500	16	-	14-12
HDC-HEC-016M HDC-HEC-016F	500	1	1	24, 20-12
HDC-HEC-032M HDC-HEC-032F	500	16	-	14-12
HDC-HEC-024M HDC-HEC-024F	500	1	1	24, 20-12
HDC-HEC-048M HDC-HEC-048F	500	16	-	14-12

## and Report

Cat. Nos.	Voltage Vac/Vdc	USR Ampere (A)	CNR Ampere (A)	Conductor Sizes, AWG Str
HDC-HVEC-003M	830	1	1	24, 20-12
HDC-HVEC-003F	830	16	16	14-12
HDC-HVEC-006M	830	1	1	24, 20-12
HDC-HVEC-006F	830	16	16	14-12
HDC-HVEC-010M	830	1	1	24, 20-12
HDC-HVEC-010F	830	16	16	14-12
HDC-HEE-010M	500	1	1	24, 20-12
HDC-HEE-010F	500	16	-	14-12
HDC-HEE-018M	500	1	1	24, 20-12
HDC-HEE-018F	500	16	-	14-12
HDC-HEE-032M	500	1	1	24, 20-12
HDC-HEE-032F				
HDC-HEE-064M	500	16	-	14-12
HDC-HEE-064F				
HDC-HEE-046M	500	1	1	24, 20-12
HDC-HEE-046F				
HDC-HEE-092M	500	16	-	14-12
HDC-HEE-092F				
HEEE-020-M	400	1	1	24, 20-12
HEEE-020-F	400	16	-	14-12
HEEE-032-M	400	1	1	24, 20-12
HEEE-032-F	400	16	-	14-12
HEEE-040-M	500	1	1	24, 20-12
HEEE-040-F				
HEEE-080-M	500	16	-	14-12
HEEE-080-F				
HEEE-048-M	400	1	1	24, 20-12
HEEE-048-F				
HEEE-096-M	400	16	-	14-12
HEEE-096-F				
HEEE-064-M	500	1	1	24, 20-12
HEEE-064-F				
HEEE-128-M	500	16	-	14-12
HEEE-128-F				
HEEE-072-M	400	1	1	24, 20-12
HEEE-072-F				
HEEE-144-M	400	16	-	14-12
HEEE-144-F				

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-HEC-024M mating with HDC-HEC-024F	Pin	14	16	-	66.4	HDC-HE
	Socket			-	62.6	
HDC-HVEC-010M mating with HDC-HVEC-010F	Pin	24	1	2.2	27.2	HDC-HVE HDC-HVES HDC-HVEC
	Socket	14	16	2.0	27.0	
	Pin			22.3	47.3	
	Socket	22.2	47.2			
HDC-HEE-046M mating with HDC-HEE-046F	Pin	14	16	-	72.2	HDC-HE HDC-HEE
	Socket			-	71.2	
HEEE-072-M mating with HEEE-072-F	Pin	24	1	7.9	32.9	HDC-HE HDC-HEE HDC-HEEE
	Socket			7.7	32.7	
	Pin	14	16	-	111.1	
	Socket			-	109.6	
HDC-HEAV-016MS mating with HDC-HEAV-016FS	Pin	14	16	-	69.9	HDC-HEAV HDC-HEAV-S
	Socket			-	66.5	
HDC-HEAV-024MS mating with HDC-HEAV-024FS	Pin	24	1	1.5	26.5	HDC-HEAV HDC-HEAV-S
	Socket			1.6	26.6	

## 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-HEC-024M HDC-HEC-024F	B for cover C for body	0.8 mm	HB	-	-	80	80
HDC-HVEC-010M HDC-HVEC-010F	B for cover C for body	0.8 mm	HB	-	-	80	80
HDC-HEE-046M	B for cover C for body	0.8 mm	HB	-	-	80	80
HDC-HEE-046F		0.5 mm for body 0.8 mm for cover					
HEEE-072-M	B	0.7 mm	(+)	-	-	130	125
HEEE-072-F		0.6 mm					
HDC-HEAV-024MS HDC-HEAV-024FS	C	0.4 mm	HB	-	-	80	80

Note:

(#) - Code for Insulating Body Material.

(+): Thickness is less than the minimum Recognized material thickness of 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
CEM, CEF, DEM, DEF	24, 20-12	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.