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REPORT

ON

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

Hirose Electric Co., Ltd.  
Yokohama, Japan

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## PRODUCT COVERED:

USR, CNR Component - Connectors and optional retainer, Series DF22, may be followed by A, B, C, R, L, AR, AL, BR, BL, B/C, CR, or CL, followed by 1, 2, 3, 4, or 5, followed by S, P, DS, DEP, EP, or RS/P may be followed by alphanumeric characters.

## GENERAL:

These devices are multi-pole connectors employing contacts of the crimp and solder termination type for use in electrical equipment where the acceptability of the combinations is determined by Underwriters Laboratories Inc.

## ELECTRICAL RATING:

Connector Type	Crimp Contact Type	Wire Size(AWG)	USR Rating(Max)), V, A	CNR Rating(Max)), V, A
Retainer				
DF22 t-rRS/P-7.92(Y)	---	--	--	--
Pin Header:				
DF22#-1P-7.92\$(Y)	---	--	600, 43	600, 30
DF22#-2P-7.92\$(Y)	---	--	600, 38.5	600, 28
DF22#-3P-7.92\$(Y)	---	--	600, 38.5	600, 28
DF22#-4P-7.92\$(Y)	---	--	600, 33.5	600, 24
DF22#-5P-7.92\$(Y)	---	--	600, 33.5	600, 24
Socket				
DF22#-1S-7.92C(Y)	DF22a-1012SC#(Y)	10	600, 43	600, 30
		12	600, 38	600, 25
DF22#-2S-7.92C(Y)	DF22a-1012SC#(Y)	10	600, 38.5	600, 28
		12	600, 32	600, 20
DF22#-3S-7.92C(Y)	DF22a-1012SC#(Y)	10	600, 38.5	600, 28
		12	600, 32	600, 20
DF22#-4S-7.92C(Y)	DF22a-1012SC#(Y)	10	600, 33.5	600, 24
		12	600, 30	600, 18
DF22#-5S-7.92C(Y)	DF22a-1012SC#(Y)	10	600, 33.5	600, 24
		12	600, 30	600, 18
DF22#-1S-7.92C(Y)	<b>DF22a-1416SC#(Y)</b>	14	600, 26	600, 20
		16	600, 21	600, 15
DF22#-2S-7.92C(Y), and	<b>DF22a-1416SC#(Y)</b>	14	600, 23	600, 18
DF22#-3S-7.92C(Y)		16	600, 21	600, 15
DF22#-4S-7.92C(Y),	<b>DF22a-1416SC#(Y)</b>	14	600, 22	600, 15
DF22#-5S-7.92C(Y), and		16	600, 19	600, 13
DF22#-4DS-7.92C(Y)				
Plug:				
DF22#-2EP-7.92C(Y), and	DF22a-1416PC#(Y)	14	600, 23	600, 18
DF22#-3EP-7.92C(Y)		16	600, 21	600, 15
DF22#-4EP-7.92C(Y), and	DF22a-1416PC#(Y)	14	600, 22	600, 15
DF22#-4DEP-7.92C(Y)		16	600, 19	600, 13
DF22#-1EP-7.92C(Y)	DF22a-1416PC#(Y)	14	600, 26	600, 20
		16	600, 21	600, 15

Disconnecting Use (see Sec Gen for required marking).

## Nomenclature -

## Pin Header

DF22#-nP-7.92\$(YY)

DF22: Series name

#: keying, A, B, C, R, L, AR, AL, BR, BL, CR, CL, or blank

n: number of contact 1-5

P: type (Pin Header)

7.92: contact pitch

\$: kind of terminal: DSA (straight pin header) DS (right angle pin header)

(YY): customer specifications, blank or (01)-(99)

## Socket

(1) DF22#-nS-7.92C(YY)

DF22: Series name

#: keying, A, B, C, R, L, AR, AL, BR, BL, CR, CL, or blank

n: number of contact 1-5

S: type (Socket)

7.92: contact pitch

C: solderless terminal case

(YY): customer specifications, blank or (01)-(99)

(2) DF22#-4DS-7.92C(YY)

DF22: Series name

#: keying, A, B, C, R, L, AR, AL, BR, BL, CR, CL, or blank

4: number of contact 4

DS: type (Socket)

7.92: contact pitch

C: solderless terminal case

(YY): customer specifications, blank or (01)-(99)

## Plug

(1) DF22#-qEP-7.92C(YY)

DF22: Series name

#: keying, A, R, L, AR, AL, or blank

q: number of contact 1-3

EP: type (plug)

7.92: contact pitch

C: solderless terminal case

(YY): customer specifications, blank or (01)-(99)

(2) DF22#-4DEP-7.92C(YY)

DF22: Series name

#: keying, A, R, L, AR, AL, or blank

4: number of contact 4

DEP: type (plug)

7.92: contact pitch

C: solderless terminal case

(YY): customer specifications, blank or (01)-(99)

## Crimp Contact

DF22a-wb#(YY)

a: crimp type can be: A or blank

**b: contact type S or SC (socket contact), P (plug contact)**

#: stand for packaging and contact plating A, F, FA, or blank

w: wire size can be 1012 (10 or 12 AWG for Socket contact only) or 1416 (14 or 16 AWG)

YY: customer specification, blank or (01)-(99)

Retainer

\* **DF22t-rRS/P-7.92 (YY)**

DF22: Series name

\* **t: RS/P, B/C or none: stands for applicable connector (DF22) type.**

r: number of contact **1-5**

7.92: contact pitch

(YY): customer specifications, blank or (01)-(99)

**\*TECHNICAL CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):**

\* Use - For use only on complete equipment where the acceptability of the combination is determined by **UL LLC**.

**USR - Products designated USR have been investigated using US requirements as noted in the Test Record.**

**CNR - Products designated CNR have been investigated using Canadian requirements as noted in the Test Record.**

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\* Conditions of Acceptability - **For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC.**

1. These devices should be used only where they will not interrupt the current.
2. Pin Header Model DF2#-2P-7.92\$(YY) mated with Socket Model DF22#-2S-7.92C(YY) have been investigated for a current of 15 A using No. 16 AWG connectors (carried by each pole) with a maximum temperature rise of 21°C and a current of 18 A using No. 14 AWG connectors (carried by each pole) with a maximum temperature rise of 23°C.
3. The placement of these devices within the equipment enclosure should be such that spacings between the live parts and the equipment are suitable for the particular application.
4. The factory assembly contacts shown in Ills. 2, 3A and 6 have been investigated for the following wire ranges (and maximum tensile forces.)

<u>Contact No.</u>	<u>Wire Range (AWG)</u>	<u>Tensile Force (lb)</u>
<b>DF22a-1416PC#(YY)</b>	14	20
DF22a-1416PC#(YY)	16	20
DF22a-1012SC#(YY)	10	20
DF22a-1012SC#(YY)	12	20

5. Contact No. DF22a-1416SC#(YY) shown in Ill. 3 was not subject to a Conductor Secureness Test. Consideration should be given to conduct this test in the end product.
6. **USR:** The operating temperature of these devices should not exceed the temperature ratings of the insulating materials. These materials may be used interchangeably at a maximum temperature of 85°C.

7. CNR: The operating temperature rise of these devices should not exceed 30°C.
8. Plug Model DF22#-4dep-7.92C(Y Y) mated with Socket Model DF22#-4DS-7.92C(Y Y) have been investigated for a current of 13 A using No. 16 AWG connectors (carried by each pole) with a maximum temperature rise of 23.5°C.
9. Plug Model DF22#-3EP-7.92C(Y Y) mated with Socket Model DF22#-3S-7.92C(Y Y) have been investigated for a current of 15 A using No. 16 AWG connectors (carried by each pole) with a maximum temperature rise of 26.1°C and a current of 18 A using No. 14 AWG connectors (carried by each pole) with a maximum temperature rise of 29.6°C.
10. Plug Model DF22#-1EP-7.92C(Y Y) mated with Socket Model DF22#-1S-7.92C(Y Y) have been investigated for a current of 20 A using No. 14 AWG connectors with a maximum temperature rise of 24°C.
11. These devices have been subjected to the Temperature test described in UL 1977, the Standard for Component Connectors for Use in Data, Signal, Control and Power Applications, with the rated currents and maximum temperature rise values tabulated below. The conductors terminated by the device and other associated components are to be reviewed in the end-use to determine whether the temperature rise from the connector exceeds their maximum operating temperature ratings.

Connector Model	Contact Model	No. AWG	USR/CNR Current	USR/CNR Max. Temp Rise
<b>DF22#-3S-7.92C</b>	<b>DF22a-1012SC#(Y Y)</b>	<b>10</b>	<b>38.5 A/28 A</b>	<b>85°C/30°C</b>
DF22#-5S-7.92C	DF22a-1012SC#(Y Y)	10	<b>33.5 A/24 A</b>	<b>85°C/30°C</b>
DF22#-5S-7.92C	DF22a-1012SC#(Y Y)	12	25 A/20 A	42°C/28°C

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