

CERTIFICATE OF COMPLIANCE

Certificate Number E52653
Report Reference E52653-2012-12-26
Date 2021-March-22

Issued to: HIROSE ELECTRIC CO., LTD.
2-6-3 NAKAGAWA CHUOH
TSUZUKI-KU
YOKOHAMA-SHIKANAGAWA 224-8540 JP

**This is to certify that
representative samples of**

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

See Addendum Page for Product Designation(s).

Have been investigated 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.

Standard(s) for Safety: UL 1977-Component Connector for Use in Data, Signal, Control and Power Applications, CSA C22.2 No. 182.3-16-Special Use Attachment Plugs, Receptacles and Connectors

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure 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.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number E52653
Report Reference E52653-2012-12-26
Date 2021-March-22

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

USR, CNR Component Connector,

Series DF60:

(Socket Type Connector)

Cat. Nos. DF60, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60A, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60AR, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

(In-line Plug Type Connector)

Cat. Nos. DF60, followed by -1EP thru -5EP, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60A, followed by -1EP thru -4EP, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1EP thru -5EP, followed by -10.16C, may be followed by (01) thru (99).

(Header Type Connector)

Cat. Nos. DF60, followed by -1P thru -6P, followed by -10.16DS, may be followed by (01) thru (99).

Cat. Nos. DF60, followed by -1P thru -6P, followed by -10.16DSA, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1P thru -6P, followed by -10.16DS, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1P thru -6P, followed by -10.16DSA, may be followed by (01) thru (99).

Cat. No. DF60-2P-20.32DSA(91).



Bruce Mahrenholz, Director North American Certification Program

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File E52653
Project 12CA43823

Issued: December 26, 2012
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REPORT

on

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

Hirose Electric Co Ltd
Tokyo Japan

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector,

Series DF60:

(Socket Type Connector)

Cat. Nos. DF60, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60A, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60AR, followed by -1S thru -6S, followed by -10.16C, may be followed by (01) thru (99).

(In-line Plug Type Connector)

Cat. Nos. DF60, followed by -1EP thru -5EP, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60A, followed by -1EP thru -4EP, followed by -10.16C, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1EP thru -5EP, followed by -10.16C, may be followed by (01) thru (99).

(Header Type Connector)

Cat. Nos. DF60, followed by -1P thru -6P, followed by -10.16DS, may be followed by (01) thru (99).

Cat. Nos. DF60, followed by -1P thru -6P, followed by -10.16DSA, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1P thru -6P, followed by -10.16DS, may be followed by (01) thru (99).

Cat. Nos. DF60R, followed by -1P thru -6P, followed by -10.16DSA, may be followed by (01) thru (99).

Cat. No. DF60-2P-20.32DSA(91).

GENERAL:

These devices are single and multi-pole connectors intended for factory assembly on copper wire sizes as indicated in Ratings table below as well as printed wiring boards 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.

ELECTRICAL RATINGS:

Connector Cat. No.	Contact Part No.	Wire Size (AWG Str	Voltage , V (AC/DC)	Amps per Pole, A							
				1		2		3		4 to 6	
				USR	CNR	USR	CNR	USR	CNR	USR	CNR
Socket	Crimp			65	50	65	45	55	42	55	42
DF60-(a)S- 10.16C	DF60-8SC(c) DF60-8PC(c)(07)	8	600								
DF60R-(a)S- 10.16C	DF60A-8PC(c)										
DF60A-(a)S- 10.16C	DF60-8PC(c)	8	600	45		40		40		38	
DF60AR-(a)S- 10.16C	DF60-1012PC(c)	10	600	38		31				30	
DF60AR-(a)S- 10.16C		12	600	30		26				25	
DF60AR-(a)S- 10.16C	DF60-1012SC(c)	10	600	55	40	55	35	50	34	45	33
DF60-(b)EP- 10.16C	DF60- 1012PC(c)(07)	12	600	45	31	40	28	40	28	35	27
DF60A-(d)EP- 10.16C											
DF60R-(b)EP- 10.16C											
Header DF60-(a)P- 10.16DS DF60-(a)P- 10.16DSA DF60R-(a)P- 10.16DS DF60R-(a)P- 10.16DSA	Solder Header Pin	-	600	Max. 65	Max. 50	Max. 65	Max. 45	Max. 55	Max. 42	Max. 55	Max. 42
Note: (a) represents pole number (1 thru 6). (b) represents pole number (1 thru 5). (d) represents pole number (1 thru 4). (c) represents A or FA, indicating packaging differences.											

Flammability - V0

Disconnecting Use - see Sec Gen for required marking

ELECTRICAL RATINGS: (CONT'D)

Connector Cat. No.	Contact Part No.	Wire Size (AWG) , Str	Voltage , V (AC/DC)	Amps per Pole, A								
				1		2		3		4 to 6		
				USR	CNR	USR	CNR	USR	CNR	USR	CNR	
Socket	Crimp											
DF60-(a)S- 10.16C(91) DF60R-(a)S- 10.16C(91)	DF60-8SC(c) DF60-8PC(c)(07) DF60A-8PC(c)	8	1000	65	30	65	30	55	30	55	30	
DF60A-(a)S- 10.16C(91)	DF60-8PC(c)	8	1000	45	30	40	30	40	30	38	30	
DF60A-(a)S- 10.16C(91)	DF60-1012PC(c)	10	1000	38	30	31	30	31	30	30		
DF60AR-(a)S- 10.16C(91)	DF60-1012SC(c)	12	1000	30		26		26		25		
DF60AR-(a)S- 10.16C(91) DF60-(b)EP- 10.16C(91) DF60A-(d)EP- 10.16C(91) DF60R-(b)EP- 10.16C(91)	DF60- 1012PC(c)(07)	10	1000	55	30	55	30	50	30	45	30	
		12	1000	45	30	40	28	40	28	35	27	
Header DF60-(a)P- 10.16DS(91) DF60-(a)P- 10.16DSA(91) DF60R-(a)P- 10.16DS(91) DF60R-(a)P- 10.16DSA(91)	Solder Header Pin	-	1000	Max. 65	Max. 30	Max. 65	Max. 30	Max. 55	Max. 30	Max. 55	Max. 30	
DF60-2P- 20.32DSA(91)				-	-	Max. 65	Max. 30	-	-	-	-	
Note: (a) represents pole number (1 thru 6). (b) represents pole number (1 thru 5). (d) represents pole number (1 thru 4). (c) represents A or FA, indicating packaging differences.												

Flammability - V0

Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The series DF60 **except In-line plug type** are designated as follows:

Example:

DF60	A	R	-6	S	-10.16	C	(zz)
I	II	III	IV	V	VI	VII	VIII

I: Series Name: DF60

II: Look Style

Non designation: Standard type

A: Robust type

III: Guide Key Style -

Non designation: Inside type

R: Right type

IV: Number of Contacts -

Header Type: 1, 2, 3, 4, 5 and 6

Socket Type: 1, 2, 3, 4, 5 and 6

*

V: Connector Style -

P: Pin header

S: Socket

*

VI: Contact Pitch: 10.16 mm **or 20.32 mm**

VII: Housing Style -

C: Crimp housing

DS: Right angle pin header

DSA: Straight pin header

VIII: Customer specifications:

None or (01) to (99): Indicating packaging differences or Insulator material color variations. Except for (91).

(91): The rated voltage is intended to be 1000 Vac/dc.

NOMENCLATURE: The series DF60 In-line plug type are designated as follows:

Example:

DF60	A	R	-6	S	-10.16	C	(zz)
I	II	III	IV	V	VI	VII	VIII

I: Series Name: DF60

II: Look Style

Non designation: With Flange

A: Without Flange

III: Guide Key Style -

Non designation: Inside type

R: Right type

IV: Number of Contacts -

Plug Socket Type (In-line plug type): 1, 2, 3, 4 and 5

V: Connector Style -

EP: In-line plug

VI: Contact Pitch: 10.16 mm

VII: Housing Style -

C: Crimp housing

DS: Right angle pin header

DSA: Straight pin header

VIII: Customer specifications:

None or (01) to (99): Indicating packaging differences or Insulator material color variations. Except for (91).

(91): The rated voltage is intended to be 1000 Vac/dc.