

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-L52653-311-32014102-5
Report Reference E52653-20141023
Date 10-Jun-2022

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

This is to certify 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.

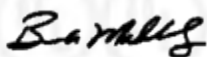
Standard(s) for Safety: CSA C22.2 No. 182.3, 2nd Ed., Issue Date: 2016-07, Revision Date: 2021-5

Additional Information: See the UL Online Certifications Directory 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.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

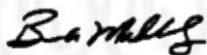


CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-L52653-311-32014102-5
Report Reference E52653-20141023
Date 10-Jun-2022

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

Model	Category Description
DF62W Series, DF62W-2EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-2S-2.2C(**)	Component Connectors
DF62W Series, DF62W-3EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-3P-2.2DSA	Component Connectors
DF62W Series, DF62W-3S-2.2C(**)	Component Connectors
DF62W Series, DF62W-4EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-4S-2.2C(**)	Component Connectors
DF62W Series, DF62W-6EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-6S-2.2C(**)	Component Connectors
DF62W Series, DF62W-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-9P-2.2DSA	Component Connectors
DF62W Series, DF62W-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WA-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WA-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WB-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WB-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-2EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-2S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-3EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-3S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-4EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-4S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-6EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-6S-2.2C	Component Connectors
DF62W Series, DF62WC-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WD-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WE-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WE-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WEA-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WZ-6P-2.2DSA(**)	Component Connectors
DF62W Series, DF62WZ-9P-2.2DSA	Component Connectors



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L52653-111-32014102-5
Report Reference E52653-20141023
Date 10-Jun-2022

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

This is to certify 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.

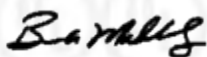
Standard(s) for Safety: UL 1977, 3rd Ed., Issue Date: 2016-01-07, Revision Date: 2020-11-17

Additional Information: See the UL Online Certifications Directory 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.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>

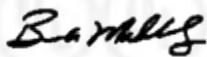


CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L52653-111-32014102-5
Report Reference E52653-20141023
Date 10-Jun-2022

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

Model	Category Description
DF62W Series, DF62W-2EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-2S-2.2C(**)	Component Connectors
DF62W Series, DF62W-3EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-3P-2.2DSA	Component Connectors
DF62W Series, DF62W-3S-2.2C(**)	Component Connectors
DF62W Series, DF62W-4EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-4S-2.2C(**)	Component Connectors
DF62W Series, DF62W-6EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-6S-2.2C(**)	Component Connectors
DF62W Series, DF62W-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62W-9P-2.2DSA	Component Connectors
DF62W Series, DF62W-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WA-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WA-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WB-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WB-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-2EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-2S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-3EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-3S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-4EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-4S-2.2C(**)	Component Connectors
DF62W Series, DF62WC-6EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-6S-2.2C	Component Connectors
DF62W Series, DF62WC-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WC-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WD-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WE-9EP-2.2C(**)	Component Connectors
DF62W Series, DF62WE-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WEA-9S-2.2C(**)	Component Connectors
DF62W Series, DF62WZ-6P-2.2DSA(**)	Component Connectors
DF62W Series, DF62WZ-9P-2.2DSA	Component Connectors



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



File E52653
Project 4786563329

October 23, 2014

REPORT

on

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

Hirose Electric Co Ltd
Kanagawa Japan

Copyright © 2014 UL LLC

UL LLC authorizes the above named company to reproduce this Report only for purposes as described in the Conclusion. The Report should be reproduced in its entirety; however to protect confidential product information, the Construction Details Descriptive pages may be excluded.

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector DF62W Series,

***(Socket)** Cat. Nos. DF62W-2S-2.2C(**), DF62W-3S-2.2C(**), DF62W-4S-2.2C(**), DF62W-6S-2.2C(**), DF62W-9S-2.2C(**), DF62WA-9S-2.2C(**), DF62WB-9S-2.2C(**), DF62WC-9S-2.2C(**), DF62WD-9S-2.2C(**), DF62WE-9S-2.2C(**), **DF62WC-2S-2.2C(**), DF62WC-3S-2.2C(**), DF62WC-4S-2.2C(**), DF62WC-6S-2.2C(**), DF62WEA-9S-2.2C(**).**

(Extension Plug) Cat. Nos. DF62W-2EP-2.2C(**), DF62W-3EP-2.2C(**), DF62W-4EP-2.2C(**), DF62W-6EP-2.2C(**), DF62W-9EP-2.2C(**), DF62WA-9EP-2.2C(**), DF62WB-9EP-2.2C(**), DF62WC-9EP-2.2C(**), DF62WE-9EP-2.2C(**), DF62WC-2EP-2.2C(**), DF62WC-3EP-2.2C(**), DF62WC-4EP-2.2C(**), DF62WC-6EP-2.2C(**).

(Pin header) Cat. Nos. DF62W-3P-2.2DSA(**), DF62W-9P-2.2DSA(**), DF62WZ-9P-2.2DSA(**), DF62WZ-6P-2.2DSA(**).

"(**)" denotes minor differences, may be 01-99 or blank, indicating packaging differences, plating variations or Insulator material color variations.

GENERAL:

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

* 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.

*

RATINGS:

Cat. Nos.	Voltage, (Vac/Vdc)	Contact Type	Ampere (A)	Conductor Sizes, AWG, Cu, Str	
DF62W-2S-2.2C(**)	29.9	DF62W-2022SC(\$)	4	20	
DF62W-3S-2.2C(**)			3	22	
DF62W-4S-2.2C(**)		DF62W-2226SC(\$)	3	22	
DF62W-6S-2.2C(**)			2	24	
DF62W-9S-2.2C(**)			1	26	
DF62WA-9S-2.2C(**)			3	22	
DF62WB-9S-2.2C(**)		29.9	DF62W-2226SC(\$)	2	24
DF62WD-9S-2.2C(**)				1	26
DF62WE-9S-2.2C(**)	1		28		
DF62WC-2S-2.2C(**)	1		30		
DF62WC-3S-2.2C(**)	DF62W-2830SC(\$) A		1	30	
DF62WC-4S-2.2C(**)		1	28		
DF62WC-6S-2.2C(**)	29.9	DF62W-2022SC(\$)	4	20	
DF62WC-9S-2.2C(**)			3	22	
DF62WEA-9S-2.2C(**)		DF62W-2226SC(\$)	3	22	
			2	24	
		1	26		
DF62W-2EP-2.2C(**)	29.9	DF62W-EP2022PC(\$)	4	20	
DF62W-3EP-2.2C(**)			3	22	
DF62W-4EP-2.2C(**)		DF62W-EP2226PC(\$)	3	22	
DF62W-6EP-2.2C(**)			2	24	
DF62W-9EP-2.2C(**)			1	26	
DF62WA-9EP-2.2C(**)			3	22	
DF62WB-9EP-2.2C(**)		29.9	DF62W-EP2226PC(\$)	2	24
DF62WE-9EP-2.2C(**)				1	26
DF62WC-2EP-2.2C(**)	DF62W-EP2226PC(\$)		3	22	
DF62WC-3EP-2.2C(**)			2	24	
DF62WC-4EP-2.2C(**)	DF62W-EP2830PC(\$) A		1	26	
DF62WC-6EP-2.2C(**)		1	28		
DF62WC-9EP-2.2C(**)		1	30		
DF62W-3P-2.2DSA(**)	29.9	-	4	-	
DF62W-9P-2.2DSA(**)				(PWB)	
DF62WZ-6P-2.2DSA(**)					
DF62WZ-9P-2.2DSA(**)					

Note: (\$) represents A, F, FA or None.

*Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The series DF62W are designated as follows:

Example:

DF62W	A	-9	S	-2.2	C	(**)
I	II	III	IV	V	VI	VII

I: Series Name: DF62W

II: Variant of wire seal (Nine Contacts Type Only), **mouting** or housing -
None: Standard Type

(Wire seal variation)

A: A Type

B: B Type

C: C Type

D: D Type (Optional Wire Seal)

E: E Type

EA: E type without using the contact No. 5.

(Housing variation)

Z: Z Type (**Six or** Nine contacts type only)

III: Number of Contacts -

2: Two contacts

3: Three contacts

4: Four contacts

6: Six contacts

9: Nine contacts

IV: Connector Style -

S: Female contact

EP: Male contact for extension plug

P: Pin header

V: Contact Pitch - 2.2 mm

VI: Termination Style -

C: Crimp type

DSA: Straight pin header

*VII: Customer specifications -

(01) to (99) or Blank: Indicating packaging differences, plating variations or Insulator material variations **as well as color.**

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 values tabulated below.

Cat Nos.	Current, (A)	Wire Size, AWG	Maximum Temperature Rise, °C	Represent Series
DF62W-9S-2.2C(**) (Contact, Part No. DF62W-2226SCF), DF62W-9EP-2.2C(**) (Contact, Part No. DF62W-EP2226PCF)	3	22	21.2	DF62W-2S-2.2C(**) DF62W-3S-2.2C(**) DF62W-4S-2.2C(**) DF62W-6S-2.2C(**) DF62WA-9S-2.2C(**) DF62WB-9S-2.2C(**) DF62WC-9S-2.2C(**) DF62WD-9S-2.2C(**) DF62WE-9S-2.2C(**) DF62WC-2S-2.2C(**) DF62WC-3S-2.2C(**) DF62WC-4S-2.2C(**) DF62WC-6S-2.2C(**) DF62WEA-9S-2.2C(**)
	2	24	14.2	DF62W-2EP-2.2C(**) DF62W-3EP-2.2C(**) DF62W-4EP-2.2C(**) DF62W-6EP-2.2C(**) DF62WA-9EP-2.2C(**) DF62WB-9EP-2.2C(**) DF62WC-9EP-2.2C(**) DF62WE-9EP-2.2C(**) DF62WC-2EP-2.2C(**) DF62WC-3EP-2.2C(**) DF62WC-4EP-2.2C(**) DF62WC-6EP-2.2C(**)
	1	26	5.6	DF62W-2EP-2.2C(**) DF62W-3EP-2.2C(**) DF62W-4EP-2.2C(**) DF62W-6EP-2.2C(**) DF62WA-9EP-2.2C(**) DF62WB-9EP-2.2C(**) DF62WC-9EP-2.2C(**) DF62WE-9EP-2.2C(**) DF62WC-2EP-2.2C(**) DF62WC-3EP-2.2C(**) DF62WC-4EP-2.2C(**) DF62WC-6EP-2.2C(**)
DF62W-9S-2.2C (Contact, Part No. DF62W-2022SCF), DF62W-9EP-2.2C (Contact, Part No. DF62W-EP2022PCF)	4	20	29.7	DF62W-2EP-2.2C(**) DF62W-3EP-2.2C(**) DF62W-4EP-2.2C(**) DF62W-6EP-2.2C(**) DF62WA-9EP-2.2C(**) DF62WB-9EP-2.2C(**) DF62WC-9EP-2.2C(**) DF62WE-9EP-2.2C(**) DF62WC-2EP-2.2C(**) DF62WC-3EP-2.2C(**) DF62WC-4EP-2.2C(**) DF62WC-6EP-2.2C(**)
	3	22	21.4	DF62W-2EP-2.2C(**) DF62W-3EP-2.2C(**) DF62W-4EP-2.2C(**) DF62W-6EP-2.2C(**) DF62WA-9EP-2.2C(**) DF62WB-9EP-2.2C(**) DF62WC-9EP-2.2C(**) DF62WE-9EP-2.2C(**) DF62WC-2EP-2.2C(**) DF62WC-3EP-2.2C(**) DF62WC-4EP-2.2C(**) DF62WC-6EP-2.2C(**)
DF62W-9S-2.2C DF62W-9P-2.2DSA	4	20 (+)	20.9	DF62W-3P-2.2DSA(**) DF62WZ-9P-2.2DSA(**) DF62WZ-6P-2.2DSA(**)
Note (+): Connected testing wires to soldering pins for PWB mounting				

Table (Cont'd)

Cat Nos.	Current, (A)	Wire Size, AWG	Maximum Temperature Rise, °C	Represent Series
DF62WC-9S-2.2C(**) (Contact, Part No. DF62W-2830SC(\$A), mating with DF62WC-9EP-2.2C(**) (Contact, Part No.DF62W- EP2830PC(\$A)	1	30	13.2	DF62WC-2S-2.2C(**) DF62WC-3S-2.2C(**) DF62WC-4S-2.2C(**) DF62WC-6S-2.2C(**) DF62WC-2EP-2.2C(**) DF62WC-3EP-2.2C(**) DF62WC-4EP-2.2C(**) DF62WC-6EP-2.2C(**)