

# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-US-L52653-12-52309102-8  
**Report Reference** E52653-20190325  
**Date** 15-Feb-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 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, 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* 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

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-L52653-12-52309102-8  
**Report Reference** E52653-20190325  
**Date** 15-Feb-2022

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

<b>Model</b>	<b>Category Description</b>
<b>IX</b> , IX32G, , may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -8S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX34G, , may be followed by -SM, followed by -B-10S-CV, followed by (7.0) or (4.2), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX40G, , may be followed by -HR, -SM or -RW, followed by -A or -B, followed by -10P-JC(7.0), may be followed by (01) thru (99).	In-Line Jack
<b>IX</b> , IX40G, IX30G or IX31G, , may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -10S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX61, IX60 or IX80, , followed by G or G2, followed by -A, -B or -C, followed by 10P, may be followed by (01) thru (99).	Receptacles



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-2000690-8  
**Report Reference** E52653-20190325  
**Date** 15-Feb-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 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:** CSA C22.2 NO. 182.3, 2nd Ed., Issue Date: 2016-07-01, Revision Date: 2019-01-01

**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

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-2000690-8  
**Report Reference** E52653-20190325  
**Date** 15-Feb-2022

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

<b>Model</b>	<b>Category Description</b>
<b>IX</b> , IX32G, , may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -8S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX34G, , may be followed by -SM, followed by -B-10S-CV, followed by (7.0) or (4.2), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX40G, , may be followed by -HR, -SM or -RW, followed by -A or -B, followed by -10P-JC(7.0), may be followed by (01) thru (99).	In-Line Jack
<b>IX</b> , IX40G, IX30G or IX31G, , may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -10S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).	Plugs
<b>IX</b> , IX61, IX60 or IX80, , followed by G or G2, followed by -A, -B or -C, followed by 10P, may be followed by (01) thru (99).	Receptacles



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/>



\*

Project 4788654396  
March 25, 2019

REPORT

on

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

Hirose Electric Co Ltd  
Kanagawa Japan

Copyright © 2019 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, Series IX:

\*

Receptacles, Cat. Nos. IX61, **IX60** or **IX80**, followed by G or G2, followed by -A, -B or -C, followed by 10P, may be followed by (01) thru (99).

\*Plugs, Cat. Nos. IX40**G**, **IX30G** or **IX31G**, may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -10S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).

**In-Line Jack, Cat. Nos. IX40G, may be followed by -HR, -SM or -RW, followed by -A or -B, followed by -10P-JC(7.0), may be followed by (01) thru (99).**

Plugs, Cat. Nos. IX34G, may be followed by -SM, followed by -B-10S-CV, followed by (7.0) or (4.2), may be followed by (01) thru (99).

Plugs, Cat. Nos. IX32G, may be followed by -HR, -SM or -RW, followed by -A, -B or -C, followed by -8S, followed by -CV, -CVL1 or -CVL2, followed by (7.0), may be followed by (01) thru (99).

## GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire sizes or printed wiring board, only as indicated in Ratings table below, 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)	Ampere (A)	Conductor Sizes, AWG (Str)
IX61G-A-10P(**), IX61G-B-10P(**) IX60G-A-10P(**), IX60G-B-10P(**) IX80G-A-10P(**), IX80G-B-10P(**) IX61G2-A-10P(**), IX61G2-B-10P(**), IX61G2-C-10P(**)	29	1.5	(+)
IX40G-A-10S-CV(7.0)(**), IX40G-B-10S-CV(7.0)(**) IX40G-C-10S-CV(7.0)(**), IX40G-A-10S-CVL1(7.0)(**), IX40G-A-10S-CVL2(7.0)(**) IX40G-B-10S-CVL1(7.0)(**), IX40G-B-10S-CVL2(7.0)(**) <b>IX40G-A-10P-JC(7.0)(**), IX40G-B-10P-JC(7.0)(**)</b>	29	1.0	22 - 28
IX30G-A-10S-CV(7.0)(**), IX30G-B-10S-CV(7.0)(**), IX30G-C-10S-CV(7.0)(**) IX30G-A-10S-CVL1(7.0)(**), IX30G-A-10S-CVL2(7.0)(**), IX30G-B-10S-CVL1(7.0)(**), IX30G-B-10S-CVL2(7.0)(**)	29	1.0	26 - 28
IX31G-A-10S-CV(7.0)(**), IX31G-B-10S-CV(7.0)(**), IX31G-C-10S-CV(7.0)(**) IX31G-A-10S-CVL1(7.0)(**), IX31G-A-10S-CVL2(7.0)(**) IX31G-B-10S-CVL1(7.0)(**), IX31G-B-10S-CVL2(7.0)(**)	29	1.5	24 - 25
IX32G-A-8S-CV(7.0)(**), IX32G-B-8S-CV(7.0)(**), IX32G-C-8S-CV(7.0)(**), IX32G-A-8S-CVL1(7.0)(**), IX32G-A-8S-CVL2(7.0)(**), IX32G-B-8S-CVL1(7.0)(**), IX32G-B-8S-CVL2(7.0)(**),	29	1.5	22
IX34G-SMB-10S-CV(7.0)(**), IX34G-SMB-10S-CV(4.2)(**)	29	1.5	24
(+) Mounted on printed wiring boards.			

## NOMENCLATURE:

The Series IX, Receptacle are designated as follows:

Example:

<u>IX</u>	<u>61</u>	<u>G</u>	<u>-A</u>	<u>-10</u>	<u>P</u>	<u>(**)</u>
I	II	III	IV	V	VI	VII

I: - Series Name: IX

II: - Mounting Angle Style

61: Vertical right angle

60: Horizontal right angle

80: Vertical

III: - G: Correspond to Gigabit Ethernet

G2: Correspond to Gigabit Ethernet and PoE

IV: - Mating Key Style

-A: A key

-B: B key

-C: C key

V: - Number of Poles

-10: 10 poles

VI: - Contact Style

P: Male contact

VII: - Customer Specifications

(01) to (99) or blank: Indicating packing differences or plating variations (**Contact area: Au plating or Au & Pd plating**).



## NOMENCLATURE: (CONT'D)

The Series IX, Plug are designated as follows:

	40	G							(**)
IX			-HR	A	-10	S	-CV	(7.0)	
I	II	III	IV	V	VI	VII	VIII	IX	X

I: - Series Name: IX

II: - Terminal Style

- 40: Soldering
- 30: IDC type, guide parts attached for 26 to 28 AWG
- 31: IDC type, guide parts attached for 24 AWG to 25 AWG
- 32: IDC type, guide parts attached for 22 AWG
- 34: IDC type, guide parts built-in for 24 AWG

III: - G: Correspond to Gigabit Ethernet

IV: - Cover Case Logo Style

- Blank: HRS logo
- HR: HATING logo
- SM: SEIMENS logo
- RW: Rockwell logo

IV: - Mating Key Style

- A: A key
- B: B key
- C: C key

VI: - Number of Poles

- 8: 8 poles
- 10: 10 poles

VII: - Contact Style

- S: Female contact
- P: Male contact**

VIII: - Cable Outlet Direction

- CV: Straight.
- CVL1: Right angle downward cabling
- CVL2: Right angle upward cabling
- JC: In-line jack**

IX: - Applicable Cable Diameter

- (7.0): Sheath outside diameter 7.0 mm.
- (4.2): Sheath outside diameter 4.2 mm.

X: - Customer Specifications

- (01) to (99) or blank: Indicating packing differences or plating variations (Contact area: Au plating or Au & Pd plating).

## 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.

## Current-Carrying Capability and Current Ratings

1. 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.	Current, A	Wire Size, AWG	Maximum Temperature °C	
			Rise	Recorded Temperature
IX30G-A-10S-CV(7.0), Mating with IX60G-A-10P	1.0	28	21.7	46.7
*IX34G-SMB-10S-CV(7.0), Mating with IX80G-B-10P	1.5	24	28.3	53.3
IX31G-A-10S-CVL1(7.0)(**), Mating with IX61G2-A-10P(**)	1.5	25	25.8	50.8
IX32G-A-8S-CVL1(7.0)(**), Mating with IX61G2-A-10P(**)	1.5	22	20.0	45.0
<b>IX40G-A-10P-JC(7.0)(**)</b> <b>Mating with IX40G-A-10S-CV *</b> <b>(7.0)(**)</b>	<b>1.0</b>	<b>28</b>	<b>8.4</b>	<b>33.4</b>

## Insulating Materials

2. 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.

(Cont'd)