

Certificate of Compliance

Certificate Number:

UL-US-2222619-10

Report Reference:

E52653-20220526

Issue Date:

2025-01-23

Issued to:

**HIROSE ELECTRIC CO., LTD.
2-6-3 NAKAGAWA CHUOH
TSUZUKI-KU YOKOHAMA-SHI, Kanagawa 224-8540
Japan**

This certificate confirms 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.

UL 1977, Edition 4, Issue Date 2022-12-07

Additional Information:

See UL Product iQ® 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.



A handwritten signature in black ink, appearing to read 'David Piecuch'.

David Piecuch
UL Mark Certification Program Owner

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 UL Solutions Customer Service at <https://www.ul.com/contact-us>.

CERTIFICATE OF COMPLIANCE

Certificate number UL-US-2222619-10
Report reference E52653-20220526
Date 2025-01-23

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

Model	Product Description
Series ZE05 , ZE05, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by S-HU/R.	Connectors
Series ZE05 , ZE05, followed by H or None, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by P-2H, followed by (01) thru (99) or None.	Connectors
Series ZE05 , ZE05, followed by H or None, followed by -2, -4, -8D, -12D, -16D or -24D, followed by P-2V, followed by (01) thru (99) or None.	Connectors



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 UL Solutions Customer Service at <https://www.ul.com/contact-us>.

Certificate of Compliance

Certificate Number:

UL-CA-2540203-0

Report Reference:

E52653-20220526

Issue Date:

2025-01-23

Issued to:

**HIROSE ELECTRIC CO., LTD.
2-6-3 NAKAGAWA CHUOH
TSUZUKI-KU YOKOHAMA-SHI, Kanagawa 224-8540
Japan**

This certificate confirms 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.

**CSA C22.2 No. 182.3, 2nd Ed., Issue Date: 2016-07, Revision
Date: 2021-5**

Additional Information:

See UL Product iQ® 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.



A handwritten signature in black ink, appearing to read 'David Piecuch'.

David Piecuch
UL Mark Certification Program Owner

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 UL Solutions Customer Service at <https://www.ul.com/contact-us>.

CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-2540203-0
Report reference E52653-20220526
Date 2025-01-23

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

Model	Product Description
Series ZE05 , ZE05, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by S-HU/R.	Connectors
Series ZE05 , ZE05, followed by H or None, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by P-2H, followed by (01) thru (99) or None.	Connectors
Series ZE05 , ZE05, followed by H or None, followed by -2, -4, -8D, -12D, -16D or -24D, followed by P-2V, followed by (01) thru (99) or None.	Connectors



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 UL Solutions Customer Service at <https://www.ul.com/contact-us>.

File E52653
Project 4790291896

May 26, 2022

REPORT

on

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

Hirose Electric Co Ltd
Kanagawa, Japan

Copyright © 2022 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 **and** CNR Component Connector, Series ZE05:

- (Receptacle)
Cat. Nos. ZE05, followed by H or None, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by P-2H, followed by (01) thru (99) or None.

Cat. Nos. ZE05, followed by H or None, followed by -2, -4, -8D, -12D, -16D or -24D, followed by P-2V, followed by (01) thru (99) or None.
- (Plug)
Cat. Nos. ZE05, followed by -2, -4, -5, -8D, -12D, -16D, -20D or -24D, followed by S-HU/R.

GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire 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:

Series	Voltage (Vac/Vdc)	Ampere (A)	Conductor Sizes, AWG, Stranded
(Receptacle) ZE05	60	2	N/A (+)
(Plug) ZE05	60	2	22 ~ 20
Note (+): Soldering pins for printed wiring boards.			

Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The (Receptacle) Series ZE05 are designated as follows:

<Receptacle>

Example: ZE05H-24DP-2H(01)

ZE05	H	-	24D	P	-	2	H	(01)
I	II	-	III	IV	-	IV	V	VI

I - Series Designation:

ZE05: Series ZE05

II - Retention Tab:

H: SMT

None: Through-Hole

III - Number of Poles:

(For Series ZE05 with suffix H (Right Angle))

2, 4 or 5: 2, 4 or 5 poles, Single Low type

8D, 12D, 16D, 20D or 24D: 8, 12, 16, 20 or 24 poles, Double Low type

(For Series ZE05 with suffix V (Straight))

2 or 4: 2 or 4 poles, Single Low type

8D, 12D, 16D or 24D: 8, 12, 16 or 24 poles, Double Low type

IV - Connector Type:

P: Receptacle

V - Pitch:

2: 2.0 mm

VI - Product Type:

H: Right Angle

V: Straight

VI - Customer specification: (No-construction issue)

(01) thru (99) or None: Indicating packaging differences, plating variations or Insulator material color variations.

NOMENCLATURE: (CONT'D) The (Plug) Series ZE05 are designated as follows:

<Plug>

Example: ZE05-24DS-HU/R

ZE05	-	24D	S	-	HU/R
I	-	III	IV	-	IV

I - Series Designation:
ZE05: Series ZE05

II - Number of Poles:
2, 4 or 5: 2, 4 or 5 poles, Single Low type
8D, 12D, 16D, 20D or 24D: 8, 12, 16, 20 or 24 poles, Double Low type

III - Connector Type:
S: Plug

IV - Product Type:
HU/R: Housing with retainer installed

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.	Conductor Size (AWG), Str/CU	Current, A	Maximum Temperature °C	
			Rise	Recorded Temperature
(Receptacle) ZE05H-24DP-2H mating with (Plug) ZE05-24DS-HU/R	22	2	11.1	36.1