CERTIFICATE OF COMPLIANCE

Certificate Number	UL-US-2013774-2
Report Reference	E52653-20210115
Date	19-Jul-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

CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-2013774-2
Report Reference E52653-20210115
Date 19-Jul-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
FX2-*P-1.27DSL**, *: 80, 100 **: (01) thru (99) or blank	Connectors
FX2CA-*S-1.27DSAL**, *: 60, 80, 100 **: (01) thru (99) or blank	Connectors
FX2M10-*S-1.27DSAL**, *: 60, 68, 80, 100 **: (01) thru (99) or blank	Connectors
FX2M10-*S-1.27DSL**, *: 60 **: (01) thru (99) or blank	Connectors
FX2M11-*S-1.27DSAL**, *: 60 **: (01) thru (99) or blank	Connectors
FX2M8-*P-1.27DSL**, *: 60, 68, 80 **: (01) thru (99) or blank	Connectors
FX2M8A-*P-1.27DSL**, *: 60, 100 **: (01) thru (99) or blank	Connectors
FX2M8CA-*S-1.27DSAL**, *: 68, 80 **: (01) thru (99) or blank	Connectors

Bruce Mahrenholz, Director North American Certification Program

UL LLC

CERTIFICATE OF COMPLIANCE

Certificate Number	UL-CA-2010926-2
Report Reference	E52653-20210115
Date	19-Jul-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

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-2010926-2
Report Reference E52653-20210115
Date 19-Jul-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
FX2-*P-1.27DSL**, *: 80, 100 **: (01) thru (99) or blank	Connectors
FX2CA-*S-1.27DSAL**, *: 60, 80, 100 **: (01) thru (99) or blank	Connectors
FX2M10-*S-1.27DSAL**, *: 60, 68, 80, 100 **: (01) thru (99) or blank	Connectors
FX2M10-*S-1.27DSL**, *: 60 **: (01) thru (99) or blank	Connectors
FX2M11-*S-1.27DSAL**, *: 60 **: (01) thru (99) or blank	Connectors
FX2M8-*P-1.27DSL**, *: 60, 68, 80 **: (01) thru (99) or blank	Connectors
FX2M8A-*P-1.27DSL**, *: 60, 100 **: (01) thru (99) or blank	Connectors
FX2M8CA-*S-1.27DSAL**, *: 68, 80 **: (01) thru (99) or blank	Connectors

Bruce Mahrenholz, Director North American Certification Program

UL LLC

File E52653

Project 4789626877

January 15, 2021

REPORT

on

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

Hirose Electric Co Ltd
Kanagawa, Japan

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connector, Series FX2

(Plug)
Cat. No. FX2M8A-*P-1.27DSL**
Notes: *: 60, 100
**: (01) thru (99) or blank

Cat. No. FX2M8-*P-1.27DSL**
Notes: *: 60, 68, 80
**: (01) thru (99) or blank

Cat. No. FX2-*P-1.27DSL**
Notes: *: 80, 100
**: (01) thru (99) or blank

(Receptacles)
Cat. No. FX2M10-*S-1.27DSL**
Notes: *: 60
**: (01) thru (99) or blank

Cat. No. FX2M10-*S-1.27DSAL**
Notes: *: 60, **68**, 80, 100
**: (01) thru (99) or blank

Cat. No. FX2M11-*S-1.27DSAL**
Notes: *: 60
**: (01) thru (99) or blank

Cat. No. FX2M8CA-*S-1.27DSAL**
Notes: *: 68, 80
**: (01) thru (99) or blank

Cat. No. FX2CA-*S-1.27DSAL**
Notes: *: 60, 80, 100
**: (01) thru (99) or blank

GENERAL:

These devices are multi-pole connectors intended for factory assembly on 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.

RATINGS:

Cat. Nos.	Voltage, Vac	Ampere (A)	Conductor Sizes, AWG
FX2M8A-*P-1.27DSL**	125	0.5	N/A (+)
FX2M8-*P-1.27DSL**	125	0.5	N/A (+)
FX2-*P-1.27DSL**	125	0.5	N/A (+)
FX2M10-*S-1.27DSL**	125	0.5	N/A (+)
FX2M10-*S-1.27DSAL**	125	0.5	N/A (+)
FX2M11-*S-1.27DSAL**	125	0.5	N/A (+)
FX2M8CA-*S-1.27DSAL**	125	0.5	N/A (+)
FX2CA-*S-1.27DSAL**	125	0.5	N/A (+)

(+) Soldering pins for printed wiring boards.

Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The Series FX2(Plug) are designated as follows:

Example: FX2M8A-68P-1.27DLS(91)

FX2	M8	A	-	68	P	-	1.27	DS	L	(91)
a	b	c		d	e		f	g	h	i

a) - Series name
FX2

b) - Type no.
none: General Type
M8: Type with simple lock

c) - Type no.
none: General Type
A: Anti-intrusion construction

d) - Number of contacts
60: 60 poles
68: 68 poles
80: 80 poles
100: 100 poles

e) - Contact type
P: Plug

f) - contact pitch
1.27: 1.27mm

g) - Connector type
DS: Horizontal Mounting

h) - Connector type
L: PWB Locking Pin

i) - Additional suffix (01) through (99) or blank

NOMENCLATURE: The Series FX2(Receptacles) are designated as follows:

Example: FX2M8CA-68S-1.27DSAL(81)

FX2	M	8	CA	-	68	S	-	1.27	DSA	L	(81)
a	b	c	b		e	f		g	h	i	j

a) - Series name
FX2

b) - Simple lockable construction
M: Type with simple lock
None: General type (non simple lock type)

c) - Terminal construction type (Product height variation)
8: +8 mm (2 point contact)
10: + 10 mm (2 point contact)
11: + 11 mm (2 point contact)
None: General type(1 point contact)

d) - Terminal fixation construction
CA: Insert mold type
None: Press-fit type

e) - Number of contacts
60: 60 poles
68: 68 poles
80: 80 poles
100: 100 poles

f) - Contact type
S: Receptacles

g) - contact pitch
1.27: 1.27mm

h) - Connector type
DS: Horizontal Mounting
DSA: Vertical Mounting

i) - Connector type
L: PWB Locking Pin

j) - Additional suffix (01) through (99) or blank

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.	Current, A	Maximum Temperature °C	
		Rise	Recorded Temperature
FX2M8A-100P-1.27DSL(91) Mating with FX2M10-100S-1.27DSAL(91)	0.5	12.6	37.6
FX2-100P-1.27DSL(71) Mating with FX2CA-100S-1.27DSAL(71)	0.5	12.6	37.6
FX2M10-60S-1.27DSL(91) Mating with FX2M8A-60P-1.27DSL(91)	0.5	9.4	34.6
FX2M11-60S-1.27DSAL Mating with FX2M8A-60P-1.27DSL(91)	0.5	18.1	43.1