

# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-US-L52653-12-50304102-3  
**Report Reference** E52653-20140305  
**Date** 28-Aug-2021

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

**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

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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>
PQ50-20P-PC	Component Connector
PQ50-20S-FL	Component Connector
PQ50S-36P	Component Connector
PQ50S-36S	Component Connector
PQ50S-48P	Component Connector
PQ50S-48P-PCLM	Component Connector
PQ50S-48P-PCLMA, may be followed by (01) to (99)	Connectors
PQ50S-48P-PCM	Component Connector
PQ50S-48P-PCMA, may be followed by (01) to (99)	Connectors
PQ50S-48S	Component Connector
PQ50S-48S-FLM	Component Connector
PQ50S-48S-FLMA, may be followed by (01) to (99)	Connectors



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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-CA-2133836-0  
**Report Reference** E52653-20140305  
**Date** 28-Aug-2021

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

**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.

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and covered under UL's Follow-Up Services.

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**Certificate Number** UL-CA-2133836-0  
**Report Reference** E52653-20140305  
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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>
PQ50-20P-PC	Component Connector
PQ50-20S-FL	Component Connector
PQ50S-36P	Component Connector
PQ50S-36S	Component Connector
PQ50S-48P	Component Connector
PQ50S-48P-PCLM	Component Connector
PQ50S-48P-PCLMA, may be followed by (01) to (99)	Connectors
PQ50S-48P-PCM	Component Connector
PQ50S-48P-PCMA, may be followed by (01) to (99)	Connectors
PQ50S-48S	Component Connector
PQ50S-48S-FLM	Component Connector
PQ50S-48S-FLMA, may be followed by (01) to (99)	Connectors



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File E52653  
Project 4786181978

Issued: March 5, 2014  
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REPORT

on

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

Hirose Electric Co., Ltd.  
**\*Kanagawa**, Japan

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## DESCRIPTION

## PRODUCT COVERED:

\* USR, CNR Component Connector, PQ50S series, Cat. Nos. PQ50-20P-PC, PQ50-20S-FL, PQ50S-36P, PQ50S-36S, PQ50S-48P, PQ50S-48P-PCM, **PQ50S-48P-PCMA**, PQ50S-48P-PCLM, **PQ50S-48P-PCLMA**, **PQ50S-48S**, PQ50S-48S-FLM and **PQ50S-48S-FLMA**; may be followed by (01) to (99).

## GENERAL:

These devices are multi-pole connectors intended for factory assembly on copper wire sizes 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 (V)	Ampere (A)	Contact Type	Conductor Sizes, AWG (Cu, Str)
*PQ50S-48P, <b>PQ50S-48P-PCM</b> , <b>PQ50S-48P-PCMA</b> , PQ50S-48P-PCLM and <b>PQ50S-48P-PCLMA</b> (plug connectors)	300	5	PQ50S-1822Pxxx PQ50SA-1822Pxxx	18
		3.5		20
		3		22
		2	PQ50S-2428Pxxx PQ50SA-2428Pxxx	24
		1.5		26
		1		28
* <b>PQ50S-48S</b> , PQ50S-48S-FLM and <b>PQ50S-48S-FLMA</b> (receptacle connector)	300	5	PQ50S-1822Sxxx	18
		3.5		20
		3		22
		2	PQ50S-2428Sxxx	24
		1.5		26
		1		28

## RATINGS: (CONT'D)

Cat. Nos.	Voltage (V)	Ampere (A)	Contact Type	Conductor Sizes, AWG (Cu, Str)
PQ50-20P-PC, PQ50S-36P (Plug connectors)	300	5	PQ50S-1618Pxxx	16
		5	PQ50SA-1618Pxxx	18
		5	PQ50S-1822Pxxx PQ50SA-1822Pxxx	18
		3.5		20
		3		22
		2	PQ50S-2428Pxxx PQ50SA-2428Pxxx	24
		2		26
		1.5		28
PQ50-20S-FL, PQ50S-36S (Receptacle connector)	300	5	PQ50S-1618Sxxx	16
		5		18
		5	PQ50S-1822Sxxx	18
		3.5		20
		3		22
		2	PQ50S-2428Sxxx	24
		2		26
		1.5		28

Disconnecting Use - see Sec Gen for required marking

NOMENCLATURE: The Series PQ50S are designated as follows:

Example:

PQ50S	-48	P	-PCM		(zz)
I	II	III	IV		V

I: Series Name: PQ50S

II: Number of Contacts  
48: 48 Contacts  
20 or 36: 36 Contacts

III: Connector Style -  
P: Plug Connector  
S: Socket Connector

IV: Cover Style -  
Non designation: without cover case  
\* **-PC, -PCM or -PCMA:** Straight type Plug Case  
\* **-PCLM or -PCLMA:** Right angle type Plug Case  
\* **-FL, -FLM or -FLMA:** Housing Case for socket connector

V: Customer specifications: None or (01) to (99)

\* Cat. Nos. PQ50S-48P-PCM and **PQ50S-48P-PCMA** are identical to Cat. No. PQ50S-48P except for employing Plug Case and Cable Clamp.

Cat. Nos. PQ50S-48P-PCLM and **PQ50S-48P-PCLMA** are identical to Cat. No. PQ50S-48P-PCM except for cover type including a cable clamp.

Cat. Nos. PQ50S-48S-FLM and **PQ50S-48P-FLMA** are identical to Cat. No. PQ50S-48S except for employing Housing Case.



## 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.	Wire Size, AWG (Same size for all poles)	Current, A	Maximum Temperature Rise, °C
PQ50S-48S-FLM mating with PQ50S-48P-PCM	18	5	28.1
	20	3.5	24.2
	22	3	29.8
	24	2	23.3
	26	1.5	23.5
	28	1	16.8
<b>PQ50-20P-PC</b> mating with <b>PQ50-20S-FL</b>	<b>18</b>	<b>5</b>	<b>22.6</b>
	<b>18</b>	<b>5</b>	<b>21.7</b>
	<b>20</b>	<b>3.5</b>	<b>19.1</b>
	<b>22</b>	<b>3</b>	<b>19.8</b>
	<b>26</b>	<b>2</b>	<b>23.5</b>
	<b>28</b>	<b>1.5</b>	<b>20.4</b>

\*