



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	<b>IECEX ULD 17.0019X</b>	Page 1 of 5	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 9	<a href="#">Issue 8 (2022-11-25)</a>
Date of Issue:	2023-07-28		<a href="#">Issue 7 (2022-09-14)</a>
Applicant:	<b>Exor International S.p.A.</b> Via Monte Fiorino 9 , 13 and 13/A, San Giovanni Lupatoto, VR 37057, <b>Italy</b>		<a href="#">Issue 6 (2021-11-22)</a>
Equipment:	<b>HMI touch panel and HMI/Gateway/PLC, eX700 series and eXware series</b>		<a href="#">Issue 5 (2021-05-28)</a>
Optional accessory:	Model PLCM01, PLCM05, PLIO03 and PLCM09X		<a href="#">Issue 4 (2021-01-11)</a>
Type of Protection:	<b>Increased Safety "ec" and Dust Ignition Protection by Enclosure "tc"</b>		<a href="#">Issue 3 (2020-07-23)</a>
Marking:	<b>For eX700 series:</b> Ex ec IIC T5...T4 Gc Ex tc IIIC T95°C Dc <b>For eXware series:</b> Ex ec IIC T5...T4 Gc -20°C ≤ Tamb ≤ +60°C or 0°C ≤ Tamb ≤ +50°C See Annex to CoC for additional information.		<a href="#">Issue 2 (2019-09-05)</a>
			<a href="#">Issue 1 (2018-07-09)</a>
			<a href="#">Issue 0 (2017-11-09)</a>

Approved for issue on behalf of the IECEx  
Certification Body:

**Katy A. Holdredge**

Position:

**Senior Staff Engineer**

Signature:  
(for printed version)

Date:  
(for printed version)

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Manufacturer: **Exor International S.p.A.**  
Via Monte Fiorino 9 , 13 and 13/A,  
San Giovanni Lupatoto, VR 37057,  
**Italy**

Manufacturing locations: **Exor International S.p.A.**  
Via Monte Fiorino 9 , 13 and 13/A,  
San Giovanni Lupatoto, VR 37057,  
**Italy**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

#### Test Reports:

[DK/ULD/ExTR17.0021/00](#)  
[DK/ULD/ExTR17.0021/03](#)  
[DK/ULD/ExTR17.0021/06](#)  
[DK/ULD/ExTR17.0021/09](#)

[DK/ULD/ExTR17.0021/01](#)  
[DK/ULD/ExTR17.0021/04](#)  
[DK/ULD/ExTR17.0021/07](#)

[DK/ULD/ExTR17.0021/02](#)  
[DK/ULD/ExTR17.0021/05](#)  
[DK/ULD/ExTR17.0021/08](#)

#### Quality Assessment Report:

[DK/ULD/QAR16.0002/04](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

eX700 Series are Human Machine Interfaces (HMIs) with a touch screen display. They are intended to be panel-mounted and only the front face has been investigated as the enclosure and IP66 rating minimum in accordance with IEC 60079-0. All models are to be powered by a Class 2 or limited power supply (LPS).

Only models eX707 and eX710 may be followed by G (eX707G, eX707MG and eX710G), that identifies a different display with higher readability, and different Adaptor board, but less power consumption than already certified eX721.

Only models eX707, eX710, eX712, eX715 and eX721 may be followed by M (eX707M, eX710M, eX712M, eX715M and eX721M), that identifies a different main board.

Only model eX710 may be followed by Q (eX710Q), that identifies a 32 bit quad core CPU.

eXware series are Human Machine Interfaces (HMIs), Gateway or PLC similar in construction to eX700 series, provided with a solid front cover instead of touch screen display and intended to be mounted within a suitable Ex certified panel. All models are to be powered by a Class 2 or limited power supply (LPS).

Only model eXware707 may be followed by M (eXware707M), that identifies same main board used on models eX7xxM.

eX700 series and eXware series may utilize the following Optional Accessories: Model PLCM01, PLCM05, PLIO03 and PLCM09X, covered under this report.

Accessory Modules are installed using an expansion port at the rear cover of the HMIs. These Accessory Modules are communication, input and output modules for the HMIs models covered by this report. The modules are secured to the rear cover by two fasteners and one or two screws.

The PLCM01 module is a communication module designed to let the operator panel connect to the CAN network. The PLCM05 modules are bus extenders to mechanically adapt plug-in modules to the host HMI device.

The PLCM09X module is a Wireless Modem - UMTS/GSM.

The PLIO03 module is multifunction digital and analogue I/O module. Digital Inputs can be configured as encoder inputs, counter inputs and period/frequency measurement. Digital outputs are source type with feedback of output driver fault status. Analog Input programmable as voltage inputs, current inputs.

Additionally, they can be configured to support industrial temperature sensors like thermocouple and PT100 (RTD). Analog Outputs programmable as voltage outputs and current outputs. Additional PT 100 channel for cold junction compensation. To be used for thermocouples.

For Part Number with last digit "Y" ≤ 2, PLIO03 is for an ambient temperature range of 0 °C ≤ Tamb ≤ +50°C, fixing eX700 series and eXware series to Temperature Class T5. For Part Number with last digit "Y" > 2, PLIO03 is for ambient temperature range of -20°C ≤ Tamb ≤ +60°C, fixing eX700 series and eXware series to Temperature Class T4.

All accessory modules mentioned above are intended to be mounted only with the appropriate main unit covered by this certificate and are not to be used separately.

**Please see Annex for additional information.**

## SPECIFIC CONDITIONS OF USE: YES as shown below:

### For eX700 series:

- For EPL Gc,
  - The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1;
  - The equipment shall be installed through an end-equipment enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0, suitable for the applicable Gas Group, Temperature Classification and Ambient temperature range; and
  - Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.
- For EPL Dc, the equipment shall be installed through an end-equipment enclosure that provides a minimum ingress protection of IP6X in accordance with IEC 60079-0, suitable for the applicable Dust Group, Temperature Classification and Ambient temperature range.
- Care shall be taken not to allow layers of dust to form on the graphic panel in a way that might cause the accumulation of static charges.
- Ambient temperature and Temperature Class – see instructions.
- eX700 series have only been evaluated for low risk of mechanical impact.

### For eXware series:



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- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.
- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.
- Ambient temperature and Temperature Class – see instructions.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

Issue 1: Addition of models eX707G and eX710G to eX700 series; new eXware series; accessory model PLCM09X and alternate Ethernet connectors for all models.

Issue 2: Addition of alternate accessory module PLIO03 with extended operating temperature range  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$  to be mounted on eX700(G) series and eXware series.

Issue 3: Addition of Model eX712 to eX700(G) series and documentation update to the installation guide for Xware.

Issue 4: Revision of "Specific Conditions of Use" to include specific details for dust application for eX700(G) series.

Issue 5: Addition of new models eX707M, eX707MG, eX710Q, eX710M, eX712M, eX715M and eX721M for eX700 series. Addition of new models eXware707M for eXware series. Addition of alternate main boards and alternate LCD display model. No changes to electrical, environmental and temperature ratings from previous evaluation.

Issue 6: Updates IEC 60079-0 to Edition 7. Update from IEC 60079-15, Edition 4, type of protection "nA" to IEC 60079-7, Edition 5.1, type of protection "ec". Addition of alternate gasket for eX700 series and revisions to drawings.

Issue 7: Addition of alternate Gap Pad material.

Issue 8: Addition of trademark and updates to drawings list.

Issue 9: Addition of the PLCM01, PLCM05 and PLIO03 accessories previously covered under IECEx ULD 16.0007X. Replacement of the display module model FLC-101HML0000SA2 with model FLC-101HMLG000003 having a new board model 3013.

## **Annex:**

[Annex to IECEx ULD 17.0019X Issue 9\\_1.pdf](#)



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## TYPE DESIGNATION

Nomenclature:

eX7	**	G
I	II	III

Where:

- I - Product model name:  
eX7 – eX700 series
- II - Display touchscreen model:  
05 - TFT color 5" widescreen display touchscreen  
07 - TFT color 7" widescreen display touchscreen  
10 - TFT color 10.1" widescreen display touchscreen  
12 - TFT color 12.3" widescreen display touchscreen  
15 - TFT color 15.6" widescreen display touchscreen  
21 - TFT color 21.5" widescreen display touchscreen
- III - Product configuration:  
Null – No special features.  
G – Different Adaptor Board and Display (Only for models eX707 and eX710)  
M – Different main board, 64 bit quad core CPU (not for model eX705)  
MG – Different main board, 64 bit quad core CPU, Different Adaptor Board and Display (only for model eX707)  
Q – Different main board, 32 bit quad core CPU (model eX710 only)

eXware	***	Q
I	II	III

- I- Product model name:  
eXware - eXware series
- II- Cover Dimension:  
703 - 5" solid front cover  
707 - 7" solid front cover
- III- Product configuration:  
Null – No special features  
Q – Different main board, 32 bit quad core CPU (only for eXware707)  
M – Different main board, 64 bit quad core CPU (only for model eXware707)



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PLCM	09	X
I	II	III

I- Product model name:

PLCM – Plug-in module

II- Module Function:

09 – Wireless modem – UMTS/GSM

III- Product configuration

X – Radiofrequency power up to 2 W

PLCM	xx	_****
I	II	III

I – PLC's interface model name:

PLCM – Plug-in module

II – Module function:

01 – Communication module (CAN interface)

05 – Plug-in extenders

III – Software specification:

Blank – Plug-in module CAN

CDS – Plug-in module CAN + activation license for CODESYS runtime

NE – CAN open module without bus extension connector

NEC – CAN open module without bus extension connector + activation license for CODESYS runtime

\*\*\* – Up to any four alphanumeric characters, specifying software

PLIO	03	_****
I	II	III

I – PLC's interface model name:

PLIO – Multifunction digital and analog I/O module

II – Module function:

03 – Programmable module with 20 digital and 4 analog Inputs, 12 digital and 4 analog Outputs, plus 1 PT100 input

III – Software specification:

Blank – I/O module

CDS – I/O module + activation license for CODESYS runtime

\*\*\* – Up to any four alphanumeric characters, specifying software



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PLIO	03	U0P	Y
I	II	III	IV

I – PLC's interface model name:

PLIO – Multifunction digital and analog I/O module

II – Module function:

03 – Programmable module with 20 digital and 4 analog Inputs, 12 digital and 4 analog Outputs, plus 1 PT100 input

III – Software specification:

“U0P” or any three or four alphanumeric characters, specifying software

IV – Ambient temperature range specification:

Y ≤ 2 is operating temperature range 0°C ≤ Tamb ≤ +50°C (vertical installation), 12-30Vdc

Y > 2 is operating temperature range -20°C ≤ Tamb ≤ +60°C (vertical installation), 12-30Vdc

## PARAMETERS RELATING TO THE SAFETY

Electrical ratings:

Model Type	Power supply voltage	Current consumption
eX705	24 Vdc, Class 2	0.6 A at 24Vdc (max)
eX707xx	24 Vdc, Class 2	0.7 A at 24Vdc (max)
eX710x	24 Vdc, Class 2	1.0 A at 24Vdc (max)
eX712x	24 Vdc, Class 2	1.1 A at 24Vdc (max)
eX715x	24 Vdc, Class 2	1.2 A at 24Vdc (max)
eX721x	24 Vdc, Class 2	1.7 A at 24Vdc (max)
eXware703	24 Vdc, Class 2	0.35 A at 24Vdc (max)
eXware707x	24 Vdc, Class 2	0.50 A at 24Vdc (max)
eXware707Q	24 Vdc, Class 2	0.55 A at 24Vdc (max)

Accessory modules type (24Vdc powered from Operator Interface Terminal):

- PLCM01: one D-Sub for CAN network interface. Communication protocol CAN 2.0, max speed 1 Mbit. For electrical rating refers to the host HMI models covered by this report.
- PLCM05: bus extender to mechanically adapt PLIO03 to the host HMI device covered by this report. For electrical rating refers to the host HMI models covered by this report and PLIO03 ratings.
- PLCM09X: 2 x Digital Inputs (12÷30 Vdc, 3mA); 2 x Digital Outputs (12 - 30 Vdc, 0.5A).
- PLIO03 (part number PLIO03xxxxY): 20xDigital Inputs voltage 12÷30 Vdc, 9mA; 12xDigital Outputs voltage 12÷30 Vdc, 0.5A; 4xAnalog inputs 0÷10 Vdc, 4-20mA; 4xAnalog outputs: 0÷10 Vdc, 4-20mA.





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## Environmental Ratings:

Ingress protection: IP66 (face of HMI eX700 series to mounting panel only)

The ambient temperature range is  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$ .

The ambient temperature range is limited to  $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$  when installed with plug-in module, model PLIO03 with Part Number PLIO03xxxxY with  $Y \leq 2$ .

PLCM01: Operating temperature range  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$

PLCM05: Operating temperature range  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$

PLIO03: with Part Number PLIO03xxxxY where:

-  $Y \leq 2$  is operating temperature range  $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +50^{\circ}\text{C}$  (vertical installation), 12-30Vdc

-  $Y > 2$  is operating temperature range  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$  (vertical installation), 12-30Vdc

The relation between maximum ambient temperature and the assigned temperature class is as follow:

Maximum ambient temperature range	Temperature Class
$-20^{\circ}\text{C}$ up to $60^{\circ}\text{C}$	T4
$0^{\circ}\text{C}$ up to $50^{\circ}\text{C}$	T5

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

Label for Model eX710 used as an example for all eX700 series:

1	<b>Trademark Marchio</b> eX710 24V  1.00A, Class 2 P.N.: EX710U5P1	3
3	V.: 120201A01000000 S.N.: AA000 11FV000000561AA 1706	
2		4
4	IND. CONT. EQ FOR HAZ. LOC. CLASS I DIV 2 - GROUPS A, B, C, D LISTED 21KN Operating Temperature Code T5...T4 0°C ≤ Tamb ≤ +50°C or -20°C ≤ Tamb ≤ +60°C For Use on a Flat Surface of a Type 12, 4X Enclosure	
5	Exor International S.p.A. Via Monte Fiorino 9-13 IT-37057 San Giovanni Lupatoto (VR)	6
7	DEMKO 17 ATEX 1871X II 3G Ex ec IIC T5...T4 Gc II 3D Ex tc IIIC T95°C Dc	
8	IECEX: IECEX ULD 17.0019X Ex ec IIC T5...T4 Gc Ex tc IIIC T95°C Dc	

1	Trademark Marchio <b>EXOR</b> or <b>EXOS</b> or <b>CORVINA</b>
2	CE Marking / Marcatura CE
3	Model, ratings, serial number, production date Modello, consumo, serial number, data produzione
4	cULus Marking / Marchiatura cULus
5	Address / Indirizzo
6	Warning read installation guide / Avvertenza lettura guida installazione
7	ATEX Marking / Marcatura ATEX
8	IECEX Marking / Marcatura IECEX

Label for Model eXware703 used as an example for all eXware series:

1	<b>Trademark Marchio</b> eXware703 24V  0.35A, Class 2 P.N.: EXW703U0P1	3
3	V.: 121005B02201000 S.N.: AA000 1 1LG000000561AA 1816	
2		
4	IND. CONT. EQ FOR HAZ. LOC. CLASS I DIV 2 - GROUPS A, B, C, D LISTED 21KN Operating Temperature Code T5...T4 0°C ≤ Tamb ≤ +50°C or -20°C ≤ Tamb ≤ +60°C	
5	Exor International S.p.A. Via Monte Fiorino 9-13 IT-37057 San Giovanni Lupatoto (VR)	6
7	DEMKO 17 ATEX 1871X II 3G Ex ec IIC T5...T4 Gc	
8	IECEX: IECEX ULD 17.0019X Ex ec IIC T5...T4 Gc	

1	Trademark Marchio <b>EXOR</b> or <b>EXOS</b> or <b>CORVINA</b>
2	CE Marking / Marcatura CE
3	Model, ratings, serial number, production date Modello, consumo, serial number, data produzione
4	cULus Marking / Marchiatura cULus
5	Address / Indirizzo
6	Warning read installation guide / Avvertenza lettura guida installazione
7	ATEX Marking / Marcatura ATEX
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Label for Model eX707G used as an example also for eX710G series:

1	<b>Trademark</b> <b>Marchio</b>	<b>eX707G</b> <b>24V<math>\frac{1}{1}</math> 0.70A, Class 2</b> <b>P.N.: EX707GU5P1</b>	3
3	<b>V.:</b> 120408A04002000 <b>S.N.:</b> AA000 1 2HX000000561AA 1816		
2			
4	<b>IND. CONT. EQ FOR HAZ. LOC.</b> <b>CLASS I DIV 2 - GROUPS A, B, C, D</b>		
	<b>Operating Temperature Code T5...T4</b> <b>0°C ≤ Tamb ≤ +50°C or -20°C ≤ Tamb ≤ +60°C</b> <b>For Use on a Flat Surface of a Type 12, 4X Enclosure</b>		
5	<b>Exor International S.p.A.</b> Via Monte Fiorino 9-13 IT-37057 San Giovanni Lupatoto (VR)		6
7	<b>DEMKO 17 ATEX 1871X</b> <b>II 3G Ex ec IIC T5...T4 Gc</b> <b>II 3D Ex tc IIIC T95°C Dc</b>		
8	<b>IECEX: IECEX ULD 17.0019X</b> <b>Ex ec IIC T5...T4 Gc</b> <b>Ex tc IIIC T95°C Dc</b>		

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4	cULus Marking / Marchiatura cULus
5	Address / Indirizzo
6	Warning read installation guide / Avvertenza lettura guida installazione
7	ATEX Marking / Marcatura ATEX
8	IECEX Marking / Marcatura IECEX

Label for Model PLCM09X accessory used as an example for accessory series.

1	<b>Trademark</b> <b>Marchio</b>	<b>PLCM09X</b> <b>P.N.: PLCM09U9P2</b>	3
3	<b>V.:</b> 051900A00000000 <b>S.N.:</b> AA000 0225000000561AA 1816		
2			
4	<b>Exor International S.p.A.</b> Via Monte Fiorino 9-13 IT-37057 San Giovanni Lupatoto (VR)		5

1	Trademark / Marchio <b>EXOR</b> or <b>EXOS</b> or <b>CO.VINA</b>
2	CE Marking / Marcatura CE
3	Model, serial number, production date / Modello, serial number, data produzione
4	Address / Indirizzo
5	Warning read installation guide / Avvertenza lettura guida installazione