

TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [3] Type Examination Certificate Number: **DEMKO 17 ATEX 1871X Rev. 9**
- [4] Product: **HMI touch panel, eX700 series, HMI/Gateway/PLC, eXware series**
- [5] Manufacturer: **Exor International S.p.A.**
- [6] Address: **Via Monte Fiorino 9, 13 and 13/A, San Giovanni Lupatoto, VR 37057 Italy**
- [7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.
- The examination and test results are recorded in confidential report no. **DK/ULD/ExTR17.0021/09**.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-31:2014**
- except in respect of those requirements listed at item 18 of the Schedule.
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- [11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.
- [12] The marking of the product shall include the following:

eX700 series:  II 3 G **Ex ec IIC T5...T4 Gc**

 II 3 D **Ex tc IIIC T95°C Dc**

eXware series:  II 3 G **Ex ec IIC T5...T4 Gc**

Certification Manager
Thomas Wilson

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2017-11-09

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Certification Body

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Description of Product:

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 EN 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, but instead of touch screen display is provided with a solid front cover and are 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: Models PLCM01, PLCM05 and PLIO03 and PLCM09, covered under this report.

Accessory Modules are installed using an expansion ports 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.

Nomenclature:

eX7	**	G
I	II	III

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 Adapter Board and Display (only for model eX707)
Q – Different main board, 32 bit quad core CPU (model eX710 only)



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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)

PLCM	09	X
I	II	III

- I- Product model name:
PLCM – Plug-in module
- II- Module Function:
09 – Wireless model – 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

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



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The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Environmental Ratings:

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°C to 60°C

PLCM05: Operating temperature range -20°C to 60°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°C up to 60°C	T4
0°C up to 50°C	T5

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	0.5 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
- 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

Routine tests:

Routine tests are not required.

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Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

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Special Conditions of Use:

For eX700 series:

- For EPL Gc,
 1. The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1;
 2. The equipment shall be installed through an end-equipment enclosure that provides a minimum ingress protection of IP54 in accordance with EN IEC 60079-0, suitable for the applicable Gas Group, Temperature Classification and Ambient temperature range; and
 3. 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 EN 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 :

- The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1.



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- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with EN 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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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The trademark  or  or  will be used as the company identifier on the marking label.