[1] # TYPE EXAMINATION CERTIFICATE

[2] **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. 2**

[4] Product: **HMI touch panel, Model eX700(G) series
HMI/Gateway/PLC, Model eXware series**

[5] Manufacturer: **Exor International S.p.A.**

[6] Address: **Via Monte Fiorino 9, 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. **4789042387.2.1**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013   EN 60079-15:2010   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(G) series: ⟨Ex⟩ **II 3 G   Ex nA IIC T5…T4 Gc**

⟨Ex⟩ **II 3 D   Ex tc IIIC T95°C Dc**

eXware series: ⟨Ex⟩ **II 3 G   Ex nA IIC T5…T4 Gc**

Certification Manager
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[15] <u>Description of Product:</u>
eX700(G) 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. 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 and eX710G), that identifies a different display, with higher readability, and different Adaptor board, but less power consumption than already certified eX721.

eXware series are Human Machine Interfaces (HMIs), Gateway or PLC similar in construction to eX700(G) 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).

eX700(G) series and eXware series may utilize the following Optional Accessories: Models PLCM01, PLCM05 and PLIO03, covered by IECEx ULD 16.0007X 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(G) 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(G) 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(G) 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
15 - TFT color 15.6" widescreen display touchscreen
21 - TFT color 21.5" widescreen display touchscreen

III-   Null - No special features
G - Different Adaptor Board and Display (only for models eX707G and eX710G)

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 – Quad Core CPU and Increased RAM and Flash (only for 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

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.

Temperature range:
The ambient temperature range is -20°C ≤ Tamb ≤ +60°C.
The ambient temperature range is limited to 0°C ≤ Tamb ≤ +50°C when installed with plug-in module, model PLIO03 with Part Number PLIO03xxxxY with Y ≤ 2.

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 data:

Model Type	Power supply voltage	Current consumption
eX705	24 Vdc, Class 2	0.6 A at 24Vdc (max)
eX707(G)	24 Vdc, Class 2	0.7 A at 24Vdc (max)
eX710(G)	24 Vdc, Class 2	1.0 A at 24Vdc (max)
eX715	24 Vdc, Class 2	1.2 A at 24Vdc (max)
eX721	24 Vdc, Class 2	1.7 A at 24Vdc (max)
eXware703	24 Vdc, Class 2	0.35 A at 24Vdc (max)
eXware707	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: 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 ≤ 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

Routine tests:
Routine tests are not required.

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

[17]   Special Conditions of Use:
· The equipment shall only be used in an area of not more than pollution degree 2, as defined in EN 60664-1.
· The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-15.
· 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.
· Only for eX700(G) series: 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.

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

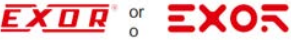[13] **Schedule**
[14] **TYPE EXAMINATION CERTIFICATE No.**
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<u>Additional information</u>
The eX700 series has in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.

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