



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

Certificate No.: **IECEX CML 22.0092X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2022-12-14
Applicant: **HMI Elements Limited**
Unit A & B
Windmill Industrial Estate, Showfield Lane
Malton, North Yorkshire, YO17 6BT
United Kingdom
Equipment: **1302-Z2 Industrial PC**
Optional accessory:
Type of Protection: **Non-incendive, intrinsic safety, dust**
Marking: Ex nA IIC T4 Gc or Ex nA [ic] IIC T4 Gc
Ex tc IIIC T135°C Dc or Ex tc [ic] IIIC T135°C Dc
Ta= -40°C to +55°C or +60°C
Note: The ambient temperature range and intrinsically safe output marking is dependent upon options fitted.

Approved for issue on behalf of the IECEx
Certification Body:

A Snowdon

Position:

Certification Manager

Signature:
(for printed version)

A Snowdon

Date:
(for printed version)

2022-12-14

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Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Page 2 of 3

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Manufacturer: **HMI Elements Limited**
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Manufacturing locations: **HMI Elements Limited**
Unit A & B
Windmill Industrial Estate, Showfield Lane
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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 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-15:2010](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

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

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 Report:

[GB/CML/ExTR22.0234/00](#)

Quality Assessment Report:

[NO/DNV/QAR09.0001/09](#)



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Page 3 of 3

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The 1302 Z2 Industrial PC is a flange mounting, 19" workstation that is designed for use in industrial conditions. The housing is fabricated from anodized aluminium and provides an ingress protection of IP66. A touch screen is fitted within the glass window in the lid.

See Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex for specific conditions of use.

Annex:

[IECEX CML 22.0092X Annex Issue 0.pdf](#)

Annexe to: IECEx CML 22.0092X, Issue 0
Applicant: HMi Elements Ltd.
Apparatus: 1302 Z2 Industrial PC

Description

The 1302 Z2 Industrial PC is a flange mounting, 19" workstation that is designed for use in industrial conditions. The housing is fabricated from anodized aluminium and provides an ingress protection of IP66. A touch screen is fitted within the glass window in the lid.

The equipment can be either AC powered via an auto ranging 90 – 260 V a.c., 50 to 60 Hz or DC powered via an 18 – 35 (24 nominal) V d.c. supply. The power supply and the connection of peripheral equipment are achieved using certified cable glands or connectors that are fitted in the connection plate at the rear of the housing.

The 1302 can contain the following components:

- AC or DC power supply
- 19" LED backlit LCD Display
- Projected capacitive touchscreen (PCT)
- PC board including a 10 W Dual Core Intel Atom processor and up to 4 GB of RAM
- Up to 2 solid state disk drives
- Heater mat
- Air circulating fan
- Wi-Fi module
- Fibre Media converter

The above components are listed on the GA, drawing D100090, which also details other optional devices that may be fitted.

The equipment may be fitted with a PS2 Interface, which contains a shunt zener diode interface. The PS2 interface allows the equipment to be connected to a computer or similar device in the non-hazardous area and a suitably-certified external keyboard in a zone 2 hazardous area. The safety description of the PS2 interface is as follows:

Keyboard connector (CN8 interface)
$U_o = 5.355 \text{ V}$
$I_o = 0.246 \text{ A}$
$P_o = 0.649 \text{ W}$
$C_i = 11.33 \mu\text{F}$
$C_o \text{ (IIC)} = 988 \mu\text{F}$
$L_i = 0$



Certificate Annex IECEx
 Version: 9.0 Approval: Approved

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Lo (IIC) = 1320 μ H

NOTE – lumped inductance in the connected equipment must not exceed 13.2 μ H, excluding the cable.

The equipment may be fitted with an intrinsically safe horn output. The safety description of the output is as follows:

Horn connector
Uo = 27.81 V
Io = 0.089 A
Po = 0.617W
Ci = 0
Co (IIC) = 275nF*
Li = 0
Lo (IIC) = 10.1mH*

* As per clause 10.1.5.2 of IEC 60079-11, if the connected equipment contains both lumped capacitance and inductance then either:

- The total Li of the external equipment, excluding the cable, shall not exceed 101 μ H, or
- The total Ci of the external equipment, excluding the cable, shall not exceed 2.75nF, or
- The total Li of the external equipment, excluding the cable, shall not exceed 5mH, and the total Ci of the external equipment, excluding the cable, shall not exceed 137nF

Conditions of Manufacture

The following are conditions of manufacture:

- Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

- ii. An electrical strength test shall be carried out on the fixed and free mating halves of the mains supply connector when potted. The test shown in the table below shall be applied between all connector pins and between the connector pins and earth as required by clause 6.5.1 of IEC 60079-15:2010

Maximum Rated Voltage (V)	Dielectric Test Voltage (Vac)	Test Duration (sec)
260	1520 +5%/-0%	>60

Alternatively, the above test voltage may be increased by 1.2 times and tested for at least 100mS as stated in clause 23.2.1 of IEC 60079-15:2010

Specific Conditions of Use

The following conditions relate to the safe installation and/or use of the products:

- i. To prevent the development of hot surfaces exceeding the temperature class, the user shall mount the PC with screen orientated vertically and in landscape.
- ii. The user/installer shall install the 1302 taking into account any restrictions or special conditions for safe use that are applicable to the previously certified devices that are fitted to the 1302.
- iii. When fitted with an intrinsically safe interface (i.e. when the equipment coding includes “[ic]”), the user shall ensure that the equipment is connected to a barrier safety earth that complies with IEC 60079-14:2007 clause 12.2.4.
- iv. The 1302 Workstations shall be installed and used within the ambient temperature range that is marked on the product, however, when the products are being stored, the lower temperature remains the same, but the maximum temperature may be raised to 80°C.

v. When the following external connectors are used, transient voltage protection shall be provided by the external circuits to ensure that transient over-voltages to the connectors cannot exceed 140% of 85 V.

- Amphenol Socapex RJ45 connectors.
- Amphenol Socapex USB connectors, except when connected to a client/slave device that derives power from the 1302 PC's internal power rails.
- N-Type connectors, except when connected to an Antenna.
- Amphenol PT02 or PT07 series connectors with the following exceptions:

Connector (x = 2 or 7)	Function
PT0xA-12-3P	AC Power (input)
PT0xA-12-4P	DC Power (input)
PT0xA-12-10P	Intrinsically safe horn only (output)
PT0xA-12-10S	When used for LAN or USB and connected to a client/slave device that derives power from the 1302 PC

vi. When fitted with external connectors the following conditions shall be met:

- a. The connectors shall be electrically isolated before any attempt is made to remove the covers or join or separate the two halves.
- b. Following disconnection, the energised power supply shall only be connected to the connector part incorporating the socket connections.
- c. The plug and connector part containing the pin connections shall not be connected to equipment containing a power supply or energy storage devices likely to cause the plug to remain energised after disconnection
- d. When separated, the flameproof caps shall be fitted and locked immediately and before any associated supply cables are re-energised.

vii. The 1302 shall be located where there is a low risk of impact.

viii. When a non-conducting coating is applied to the outside face of the glass, the equipment may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high pressure steam) which might cause a build up of electrostatic charge on non-conducting surfaces. Additionally, cleaning of the equipment shall be done with a damp cloth.



- ix. When used for the power supply the PT02 or PT07 series fixed connectors shall only be mated with the following free connectors complying with MIL-C-26482.
- Amphenol PT06x-12-3S connector when used for AC input power. Connector back shell to be potted and a routine electrical strength test carried out in accordance with drawing D100205
x = backshell types U, US, UT or UW
 - Amphenol PT06W-12-4S connector
- x. This equipment may incorporate intrinsically safe devices that shall be installed taking into account the entity parameters that have been defined by the manufacturer for the product that has been supplied.