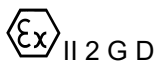




EU Type Examination Certificate CML 19ATEX1320X Issue 0

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **1301-Z1 Industrial Computer**
- 3 Manufacturer **HMI Elements Ltd.**
- 4 Address Unit A & B,
Windmill Industrial Estate,
Malton,
North Yorkshire,
YO17 6BT, United Kingdom
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:
EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-11:2012 EN 60079-18:2014
EN 60079-31:2014 EN 60079-7:2015 EN 60079-28:2015
- 10 The equipment shall be marked with the following:



II 2 G D

Without media converter:

Ex db eb mb *{option}* IIC T4 Gb

Ex tb *{option}* IIIC T90°C Db

-40°C ≤ Ta ≤ +60°C

With media converter:

Ex db eb mb op is *{option}* IIC T4 Gb

Ex tb op is *{option}* IIIC T90°C Db

-40°C ≤ Ta ≤ +55°C

{option} = [ib] if Horn interface fitted and no WiFi antenna is fitted

{option} = ib if WiFi antenna is fitted



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11 Description

The 1301-Z1 Industrial Computer is a stand-alone rugged PC with 19" touchscreen for use in hazardous areas requiring equipment protection level Gb or Db.

The equipment comprises a metallic IP66 rated enclosure with a sealed toughened glass display front panel and touchscreen. An internal flameproof compartment houses the power supply, computer unit, and multiple boards and interfaces. The display and touchscreen are encapsulated and are connected to circuits within the flameproof compartment via line bushings or glands.

Multiple wired, optical, and wireless outputs are provided for the connection of external equipment, including intrinsically safe connections which are connected to circuits within the flameproof compartment via intrinsically safe barrier circuits.

The intrinsically safe connections have the following parameters:

Connector	Output parameters
Horn interface	Uo = 26.0V Io = 88mA Po = 0.57W Ci = 0 Li = 0
WiFi Antenna	Capacitively coupled

The following electrical connections to the equipment are not intrinsically safe and are made via cable glands or separately certified connectors:

Connector/entry	Rating
AC supply in	100Vac – 240Vac 50/60Hz, 1.3A
Ethernet*	+/- 2.5V 100mA
USB	5.5V 500mA
RS232	+/- 12V 100mA
RS485	3.5V 100mA

*The equipment may optionally be supplied with an externally mounted separately certified intrinsically safe barrier attached to the ethernet port. Refer to the barrier certificate for electrical parameters.

The equipment may be supplied with an "op is" fibre optic communication port.



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12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	29/04/2020	R12513A/00	Issue of prime certificate

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. The flameproof enclosure, complete with blanking plugs, shall be subjected to an overpressure test at a minimum pressure of 25 bar in accordance with EN 60079-1:2014 clause 16. There shall be no damage or permanent deformation of the enclosure nor shall there be any leakage through the enclosure walls. The lid and base of the flameproof enclosure may be tested separately.
- iii. Each mains fuse assembly shall be visually inspected. No damage shall be evident, such as cracks in the compound, exposure of encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion, or softening.
- iv. Each mains fuse assembly shall be subjected to an electric strength test in accordance with EN 60079-18 Clause 9.2 using a test voltage of 1500Vac applied between the terminals and the surface of the encapsulant (covered in foil), for a period of 1 second.

Alternatively:

- a. A voltage of 20% higher may be applied for 0.1 second.
- b. A d.c. test voltage is allowed as an alternative to the a.c. test voltage and shall be 170% of the specified a.c. r.m.s. test voltage.

Alternatively, the equipment may be subjected to batch testing in accordance with EN60079-18 Annex C.

- v. Each display assembly shall be visually inspected. No damage shall be evident, such as cracks in the compound, exposure of encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion, or softening.
- vi. Each display assembly shall be subjected to an electric strength test in accordance with EN 60079-18 Clause 9.2 using a test voltage of 500Vac applied between the terminals and the frame of the equipment, for a period of 1 second.

Alternatively:

- a) A voltage of 20% higher may be applied for 0.1 second.
- b) A d.c. test voltage is allowed as an alternative to the a.c. test voltage and shall be 170% of the specified a.c. r.m.s. test voltage.



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- vii. The equipment shall be subjected to an electric strength test in accordance with the requirements of EN 60079-7 Clause 6.1 using a test voltage of 1500Vac applied between the supply terminals and frame, for a period of 1 second.

Alternatively, a d.c. test voltage is allowed as an alternative to the a.c. test voltage and shall be 170% of the specified a.c. r.m.s. test voltage.
- viii. The manufacturer shall ensure that any equipment certified cable glands, bushings, breather drains, and connectors fitted to the equipment meet the requirements of EN IEC 60079-0:2018, EN60079-1:2014, EN60079-31:2014 and EN60079-7:2015 as appropriate, and that all conditions of use and relevant ratings are adhered to. All such parts shall be suitable for use at a service temperature range -40°C to 70°C. Any such parts fitted to the exterior of the equipment enclosure shall provide a minimum ingress protection of IP66. If any such parts do not meet the requirements of EN60079-31:2014, then the equipment shall not be marked as being suitable for use in explosive dust environments.
- ix. Entries into the equipment for all non intrinsically safe connections shall be via suitably certified cable glands or via suitably certified Ex d e t plugs and sockets. If any such connectors do not meet the requirements of EN 60079-31:2014, then the equipment shall not be marked as being suitable for use in explosive dust environments.
- x. When fitted with a Cotsworks Fibre optic transceiver, the manufacturer shall ensure that all conditions of safe use detailed on certificate IECEX TUR 17.0028X are complied with.
- xi. When fitted with an external Solexy RF barrier, the manufacturer shall ensure that all conditions of use detailed on certificate TUV CY18ATEX0206158X are complied with and that a copy of the certificate is provided to the end user.
- xii. When fitted with an external Solexy ethernet barrier, the manufacturer shall ensure that all conditions of use detailed on certificate TUV CY18ATEX0206141X are complied with and that a copy of the certificate is provided to the end user.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. When installed in area requiring equipment protection level Db, under certain extreme circumstances, the coated metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces e.g. where a charge-generating mechanism (such as wind-blown dust or steam generation) is possible. In addition, the equipment shall only be cleaned with a damp cloth.
- ii. The bolts securing the lid of the flameproof compartment shall be M6 x 1mm x 24 mm (min) to 36 mm (max) alloy steel hexagon socket head types with a material grade of 12.9 or better.
- iii. When the equipment is supplied with an externally mounted ethernet barrier, the user shall refer to the certificate of the barrier for details of the output parameters of the barrier.

Certificate Annex

Certificate Number CML 19ATEX1320X
Equipment 1301 Industrial Computer
Manufacturer HMI Elements Ltd.



The following documents describe the equipment or component defined in this certificate:

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Drawing No	Sheets	Rev	Approved date	Title
D100440	1 to 13	A4	29/04/2020	1301_Z1 - General Assembly
D100427	1 to 2	A4	29/04/2020	1301-Z1 - Specification Plate and warning labels
D100419	1 to 2	A7	29/04/2020	1301-Z1 - Electrical Block Wiring Diagram
D100429	1 to 2	A2	29/04/2020	1301-Z1 - Primary Side Mains wiring.
D100417	1 of 1	A0	29/04/2020	1301-Z1 - SA1417 - Potted Dual fuse assembly
D100443	1 to 3	A2	29/04/2020	Power terminals and fuse Assembly
D100421	1 of 1	A1	29/04/2020	1301-Z1 - SA1464 - AC input Over Voltage Protection Board & EMI filter
D100442	1 of 4	A2	29/04/2020	Secondary Side Low Voltage Exe Wiring
D100428	1 of 1	A1	29/04/2020	1301-Z1 - Ex e Breakout Board
D100396	1 to 9	A6	29/04/2020	Ex d Enclosure Assembly Certification Drawing
D100402	1 of 1	A1	29/04/2020	Rear Heater Mat
D100403	1 of 1	A1	29/04/2020	Front Heater Mat
D100404	1 of 1	A1	29/04/2020	1301_Z1 - CPU Adapter Plate
D100418	1 of 1	A1	29/04/2020	1301-Z1 - Bios Battery Backup Circuit
D100399	1 to 4	A4	29/04/2020	Weatherproof External Seal
D100401	1 to 7	A5	29/04/2020	1301_Z1 - Earth Stud Arrangement
D100425	1 to 10	A1	29/04/2020	IS Interface segregation
D100414	1 to 2	A0	29/04/2020	SA1320- IS Horn Board Circuit Schematic and PCB Layout
D100415	1 to 18	A0	29/04/2020	SA1320_A2 - IS horn Board Circuit Description
D100365	1 to 2	A1	29/04/2020	1801_Z1 potted antenna barrier
D100348	1 of 1	A1	29/04/2020	N-type Bulkhead Connector Drawing
D100423	1 to 3	A0	29/04/2020	1301-Z1 - Amphenol PT07 Jam nut Type Connectors
D100441	1 to 4	A1	29/04/2020	Ex m - Encapsulated assembly - Drawing
D100420	1 to 8	A0	29/04/2020	1301-Z1 – LCD Void Filling Procedure
D100431	1 to 3	A0	29/04/2020	1301-Z1 - Touchscreen controller fuse placement assembly
D100432	1 to 3	A0	29/04/2020	1301 Z1 - Backlight Controller Fuse Placement Assembly

Certificate Annex

Certificate Number CML 19ATEX1320X
Equipment 1301 Industrial Computer
Manufacturer HMI Elements Ltd.



Drawing No	Sheets	Rev	Approved date	Title
D100433	1 to 4	A0	29/04/2020	1301 Z1 - Lightbar Fuse placement assembly
D100434	1 to 4	A0	29/04/2020	1301 Z1 - LCD Fuse Placement Assembly
D100435	1 to 3	A0	29/04/2020	1301 Z1 - Camera Fuse Placement Assembly
D100436	1 to 3	A0	29/04/2020	Bluetooth Fuse Placement Assembly
D100437	1 to 3	A2	29/04/2020	1301-Z1 Ex m interconnect board
D100438	1 of 2	A1	29/04/2020	Front Heater Matt Trace Layout
D100422	1 of 1	A1	29/04/2020	1301-Z1 TOSA Control and label drawing
D100444	1 of 1	A0	29/04/2020	1301-Z1 potting procedure