



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEX SIR 10.0061X

Issue No: 8

Certificate history:

Status: **Current**

Issue No. 8 (2018-04-05)

Issue No. 7 (2017-05-30)

Date of Issue: **2018-04-05**

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Issue No. 6 (2014-04-08)

Issue No. 5 (2012-05-04)

Applicant: **HMI Elements Ltd.**  
Unit A + B Windmill Industrial Estate  
Showfield Lane  
Malton  
North Yorkshire YO17 6BT  
**United Kingdom**

Issue No. 4 (2012-04-25)

Issue No. 3 (2011-08-22)

Issue No. 2 (2011-08-18)

Issue No. 1 (2010-12-13)

Issue No. 0 (2010-10-26)

Equipment: **1202 Z2 Non-Sparking Industrial PC**

*Optional accessory:*

Type of Protection: **Type nA**

Marking:

Ex nA IIC T4 Gc or  
Ex nA [ic] IIC T4 Gc; (Gc) with i.s. interface board  
Ex tc III C T135°C Dc IP66  
(for ambient temperature ranges see Conditions of manufacture)  
(When used with Rota connectors the equipment is not marked suitable in dust environments)

*Approved for issue on behalf of the IECEx  
Certification Body:*

R A Craig

*Position:*

Certification Support Officer

*Signature:  
(for printed version)*

*Date:*

2018-04-05

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SIRA Certification Service**  
CSA Group  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside, CH5 3US  
United Kingdom

**sira**  
CERTIFICATION





# IECEX Certificate of Conformity

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Date of Issue: 2018-04-05 Page 2 of 4  
Manufacturer: **HMI Elements Ltd.**  
Unit A + B Windmill Industrial Estate  
Showfield Lane  
Malton  
North Yorkshire YO17 6BT  
**United Kingdom**

Additional Manufacturing location(s):

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 apparatus 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:

<b>IEC 60079-0 : 2004</b> Edition:4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
<b>IEC 60079-0 : 2007-10</b> Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
<b>IEC 60079-11 : 2006</b> Edition:5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-15 : 2010</b> Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical 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/SIR/ExTR10.0257/00	GB/SIR/ExTR10.0301/00	GB/SIR/ExTR11.0172/00
GB/SIR/ExTR11.0173/00	GB/SIR/ExTR11.0216/00	GB/SIR/ExTR12.0080/00
GB/SIR/ExTR12.0104/00	GB/SIR/ExTR14.0080/00	GB/SIR/ExTR17.0024/00
GB/SIR/ExTR18.0052/00		

#### Quality Assessment Report:

NO/DNV/QAR09.0001/00



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The 1202 Z2 Non Sparking Industrial Computer is a flange mounting, 15" workstation that is designed for use in industrial conditions. The housing is fabricated from powder coated aluminium and provides an ingress protection of IP66, a touch screen is provided in the cover behind a glass window. The equipment is supplied with 100 to 240 V a.c., 47 to 63 Hz via a 1.5 mm<sup>2</sup> connection cable; the power supply and the connection of peripheral equipment are achieved using cable glands that are fitted in the connection box at the rear of the housing.

The 1202 Z2 contains the following:

\* 15" Display

\* Projected capacitive touchscreen (PCT)

\* One of the following processors:

\*\* Intel® Core™2 Duo 2.16 GHz

\*\* Intel® Celeron™ M 1.86 GHz

\*\* Intel® Core™ Duo 2.0 GHz

\*\* Intel® Atom 1.6 GHz

The 1202 may be stored at temperatures ranging from -40°C to +80°C, however, the lower temperature is limited to -20°C when it is fitted with Hummel HSK-V-Ex stopping plugs.

The equipment may be fitted with a PS2/RS232 Interface, which contains two shunt zener diode interfaces. 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 RS232 interface allows similar connections to a suitable device.

Refer to the Annexe for Parameters and Conditions of Manufacture.

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

1. To prevent the development of hot surfaces exceeding the temperature class, the user shall mount the PC with screen orientated vertically and in landscape.
2. The user/installer shall install the 1202 taking into account any restrictions or special conditions for safe use that are applicable to the previously certified devices that are fitted to the ISIS 1202.
3. When fitted with the keyboard interface, the user shall ensure that the equipment is connected to a barrier safety earth that complies with EN 60079-14:2008 clause 12.2.4.
4. The 1202 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.

**Refer to the Annexe for additional Specific Conditions of Use**



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

**This issue, issue 8, recognises the following change; refer to the certificate annex to view a comprehensive history:**

1. The Applicant's and Manufacturer's name was changed, from **Smart-Ex Technology Limited** to **HMI Elements Ltd** .

### Annex:

[IECEX SIR 10.0061X Iss 8 Annexe.pdf](#)

**Annexe to:** IECEx SIR 10.0061X Issue 8  
**Applicant:** HMi Elements Ltd.  
**Apparatus:** 1202 Z2 Non-Sparking Industrial PC



The nominal supply voltage (Un) is 12 Vdc. Um = 250 Vac or dc. The safety description of the PS2/RS232 Interface is as follows:

Parameter	Keyboard connector (CN2 on interface)	RS232 connector (CN4 on interface)
Uo	5.355 V	13.8 V
Io	0.246 A	0.132 A
Po	0.561 W	0.456 W
Ci	11.33 µF	0
Co (see Notes)	494 µF	2.1 µF
Li	0	0
Lo (see Notes)	660 µH	2295 µH
Notes:		
1. The outputs from CN2 and CN4 should be assessed as separate intrinsically safe circuits.		

### Additional Specific Conditions of Use

5. 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 device 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.
6. When a USB connector or PS/2 multi-pin connector is utilised, the rear of the 1202 shall be located in a position offering a low risk of impact to the connectors.
7. When USB and RJ45 connectors or N-Type connectors are used, transient voltage protection shall be provided by the external circuits to ensure that transient overvoltage's to the connectors cannot exceed 140% of 85 V.
8. The 1202 with 19" screen shall be located where there is a low risk of impact.

### Conditions of Manufacture

1. The dielectric strength test according to IEC 60079-15:2010 Edition 4 clause 6.5.1 shall be applied for 60 seconds without breakdown occurring. The test shall be applied to the overall equipment with individual testing of the backlight inverter.
2. The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the Special Conditions for Safe Use associated with the 1202, in addition, the manufacturer shall provide the user/installer with an appropriate copy of the certificate for each certified device that is fitted.
3. The manufacturer shall mark each 1202 Workstation with one of the following ambient temperature ranges taking into account the limits of the component parts used in its construction
  - -20°C to +55°C 19" versions and when Rota DE2 Connector is fitted
  - -40°C to +55°C 19" versions and when Rota DE2 Connector is fitted
  - -20°C to +60°C 15" versions
  - -40°C to +60°C 15" versions

**Date:** 05 April 2018

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**Form 9530 Issue 1**

### Sira Certification Service

Unit 6 Hawarden Industrial Park,  
 Hawarden, CH5 3US, United Kingdom

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**Annexe to:** IECEx SIR 10.0061X Issue 8  
**Applicant:** HMi Elements Ltd.  
**Apparatus:** 1202 Z2 Non-Sparking Industrial PC



**Full certificate change History**

**Issue 1** – this Issue introduced the following changes:

- 1 The introduction of a 24 V D.C. version, the equipment being supplied with 19 - 29 V d.c. via a 1.5 mm<sup>2</sup> connection cable.
- 2 The use of the 1202 in explosive dust atmospheres was allowed, the marking being amended accordingly.
- 3 The increase in the height and width of the main enclosure by 10 mm was approved
- 4 The introduction of an alternative heat sink on the rear of the main enclosure is sanctioned

**Issue 2** – this Issue introduced the following changes:

- 1 The introduction of heater mats to allow the use of the 1202 at -40°C was approved the marking is modified to recognise this.
- 2 The connection of an intrinsically safe keyboard to the 1202 was endorsed. The equipment is marked Ex nA [ic] IIC T4 Gc (Gc) in this arrangement. This resulted in an additional Condition of Certification.
- 3 The introduction of the IS549 alternative interface board was acknowledged.
- 4 The introduction of marking external connections.

**Issue 3** – this Issue introduced the following changes:

- 1 The introduction of alternative PC boards for use in ambient temperatures of +50°C and +60°C were approved.
- 2 The introduction of connectors for connection to external circuits was recognised.
- 3 The introduction of a fibre media converter and Wi-Fi module was endorsed
- 4 Two new Special Conditions For Safe Use are introduced as a result of these changes.

**Issue 4** – this Issue introduced the following changes:

- 1 The introduction of a number of connector and cable gland options to the range of cable entry options available on the device were approved.
- 2 The introduction of an alternative Wi-Fi module and the inclusion of an alternative inverter board were approved.
- 3 New Conditions of Certification were introduced; condition 17.5 is amended to include +55°C.

**Issue 5** – this Issue introduced the following changes:

- 1 The introduction of a 19" display version of the 1202 was approved, Condition of Manufacture 3 is amended accordingly.
- 2 The option to permit conformal coating of circuits was endorsed.
- 3 The introduction of the option to replace SSD (Solid State Drive) with 4 W rugged HDD (Hard Disk Drive) was acknowledged.

**Issue 6** – this Issue introduced the following changes:

- 1 The modification to the heatsink to allow a lower fin height.
- 2 The introduction of the IS683 AC input filter and modification of the IS557 DC input board.
- 3 The inclusion of an alternative Wi-Fi modules and Fibre Media Converter.
- 4 The inclusion of a glare and reflection reduction coating to the touch screen glass.
- 5 The modification of the gasket tolerances.
- 6 The inclusion of captive fixing screws for the connector Break Out Box (BOB).
- 7 The assessment of the IS641 PS/2 Barrier Card with revised entity parameters for the keyboard connector (CN2 on interface), the previous values are retained below for reference:

Keyboard connector (CN2 on interface)						
Uo	Io	Po	Ci	Co (see Notes)	Li	Lo (see Notes)
5.355 V	0.300 A	0.752 W	11.33 µF	494 µF	0	444 µH

Notes: refer to the table in the description  
The description was modified to reflect this change.

- 8 The introduction of cover plate to the IS549 and IS 556 interface board to provide IP20 to the intrinsically safe connections.
- 9 The introduction of an alternative connector to the range.

**Annexe to:** IECEx SIR 10.0061X Issue 8  
**Applicant:** HMi Elements Ltd.  
**Apparatus:** 1202 Z2 Non-Sparking Industrial PC

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- 10 The introduction of alternative LCD displays to the range.
- 11 The removal of the encapsulant from the existing LED backlight driver.
- 12 Minor alterations to existing drawings; including the rationalisation of drawing suite, the modifications of which do not affect the safety aspects of the equipment.
- 13 A revised manufacturer's documentation list was created to rationalise all previous documents whilst incorporating all modifications included in this assessment.

**Issue 7** – this Issue introduced the following changes:

- 1 The Applicant's and Manufacturer's name was changed:  
From: **iSiS-Ex Limited** To: **Smart-Ex Technology Limited**
- 2 The product name was changed  
From: **iSiS1302 Industrial PC** To: **1202-Z2 Industrial PC**  
The description was amended accordingly

**Issue 8** – this Issue introduced the following change:

- 1 The Applicant's and Manufacturer's name was changed:  
From: **Smart-Ex Technology Limited** To: **HMi Elements Ltd.**
- 2 The description was corrected to recognise the change of product name introduced in the previous issue.