



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

Certificate No.: IECEx SIR 18.0059X

Issue No: 0

Certificate history:

Issue No. 0 (2018-10-25)

Status: **Current**

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Date of Issue: **2018-10-25**

Applicant: **Online Electronics Ltd.**
Online House
Blackburn Business Park
Woodburn Road
Aberdeen
Aberdeenshire AB21 0PS
United Kingdom

Equipment: **4003 Non-Intrusive PIG Detector**

Optional accessory:

Type of Protection: **Flameproof and Intrinsic Safety**

Marking:

Where the IS sensor is internal

Ex db [ia Ga] IIC T* Gb

Where the IS sensor is external

Ex db ia [ia Ga] IIC T* Ga/Gb

Ta* = -50°C to +100°C

* Refer to Specific Conditions of Use for applicable temperature class and ambient temperature range.

Approved for issue on behalf of the IECEx

C Ellaby

Certification Body:

Position:

Deputy Certification Manager

Signature:

(for printed version)

Date:

2018-10-25

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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Manufacturer: **Online Electronics Ltd.**
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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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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/ExTR18.0187/00](#)

Quality Assessment Report:

[GB/TRC/QAR11.0002/05](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Online 4003 PIG Signaller is a non-intrusive magnetic pig signaller which detects, signals, and logs the passage of magnetic pigs along a pipeline. A separate intrinsically safe sensor may also be used which is external to the housing. Events are signalled as they occur via an OLED dot matrix display and indication LEDs positioned around the perimeter of the display. Logged events can be viewed locally on the dot matrix display and/or transmitted remotely over several optional interfaces.

Refer to Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annexe.

Annex:

[IECEX SIR 18.0059X Annexe Iss 0.pdf](#)

Annexe to: IECEx SIR 18.0059X Issue 0
Applicant: Online Electronics
Apparatus: 4003 Non-Intrusive PIG Detector



EQUIPMENT

The Online 4003 PIG Signaller is a non-intrusive magnetic pig signaller which detects, signals, and logs the passage of magnetic pigs along a pipeline. A separate intrinsically safe sensor may also be used which is external to the housing. Events are signalled as they occur via an OLED dot matrix display and indication LEDs positioned around the perimeter of the display. Logged events can be viewed locally on the dot matrix display and/or transmitted remotely over several optional interfaces.

The 4003 can be powered from internal batteries or from an external +30 VDC supply. Batteries can be fitted to provide backup power should the external supply fail. The 4003 uses either 4 off individual 'D' sized cells which can either all be Alkaline (DURACELL LR20) primary cells or NiMH (Annsman Max E) secondary cells. The 4003 also caters for 2 off Lithium (SAFT LS33600) primary cells, this option being configured at manufacture.

The 4003 can be supplied with an epoxy coated Aluminium Alloy 6082-T6 or uncoated 316L Stainless Steel housing and comes with 3 off Metric, NPT or NPSM entries with suitably certified blanking elements installed. Certified adaptors are used for other thread types.

The 4003 remote sensor is available in its own metal housing and is connected to the main unit via solid or flexible conduit. An optional junction box provides 2 entries for external electrical and signal connections.

Ratings

Externally Powered Variant:

Standard

Voltage: 30 VDC
Current: 125 mA
Power: 1 W

Remote Communications

Voltage: 30 VDC
Current: 125 mA
Power: 5 W

Internal Anti-condensation Heater

Voltage: 30 VDC
Current: 125 mA
Power: 10 W

Internally Powered Variant:

Duracell Industrial LR20 (Primary)

Voltage: 6.0 VDC
Current: 2000 mA
Capacity: 18 Ah
Power: 1W

Saft LS33600 (Primary)

Voltage: 14.4 VDC
Current: 250 mA
Capacity: 17 Ah
Power: 1 W

ANSMANN MaxE D (Secondary)

Voltage: 5.2 VDC
Current: 8000 mA
Capacity: 8.5 Ah
Power: 1 W

Annexe to: IECEx SIR 18.0059X Issue 0
Applicant: Online Electronics
Apparatus: 4003 Non-Intrusive PIG Detector



Specific Conditions Of Use

- The Temperature class of the equipment is listed as T6 to T4 and ambient temperature range of the equipment is listed between -50°C and +100°C. This is dependent upon a configurable matrix in relation to the product configuration. Refer to the table below.

Without IS interface to relay

Power Supply	Temperature Class		
	T6	T5	T4
External supply (1 W)	-50°C to +73°C (+78°C*)	-50°C to +88°C (+93°C*)	-50°C to +100°C
External supply (5 W)	-50°C to +70°C	-50°C to +85°C	-50°C to +98°C
External supply (10 W)	-50°C to +60°C	-50°C to +75°C	-50°C to +85°C
Alkaline battery (DURACELL, LR20)	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Lithium battery (SAFT, LS33600)	-40°C to +73°C	-40°C to +80°C	-40°C to +80°C
NiMH battery (ANSMANN, 8500)	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C

With IS interface to relay

Power Supply	Temperature Class		
	T6	T5	T4
External supply (1 W)	-40°C to +73°C (+78°C*)	-40°C to +82°C	-40°C to +82°C
External supply (5 W)	-40°C to +70°C	-40°C to +72°C	-40°C to +72°C
External supply (10 W)	-40°C to +59°C	-40°C to +59°C	-40°C to +59°C
Alkaline battery* (DURACELL, LR20)	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Lithium battery* (SAFT, LS33600)	-40°C to +73°C (+78°C*)	-40°C to +80°C	-40°C to +80°C
NiMH battery* (ANSMANN, 8500)	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C

Note 1 - When batteries are fitted as a back-up supply in an externally powered unit, the ambient range of the battery takes precedence over the ambient range of the external supply.

Note 2 - * With no external or remote sensor attached to the flameproof enclosure.

- The enclosures paint coated surface may be non-conducting and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall ensure that the equipment shall not be used in a location where the external conditions are conducive to the build-up of electrostatic charge on non-conductive surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.
- Internal and external threaded holes and securing screws are provided for earthing and equipotential bonding. Protective earthing conductors employed shall be greater or equal to the size of the phase conductors, equipotential conductors shall have a minimum cross sectional area of 4mm². The end user shall ensure conductors cannot be readily loosened or twisted. Light metals shall not be used unless special precautions are taken to guard against corrosion.
- If the batteries used in this equipment need to be changed, then they shall only be replaced with the same type; i.e. either Alkaline (DURACELL LR20) primary cells or Lithium (SAFT LS33600) primary cells NiMH (Annsman Max E) secondary cells.
- Batteries shall only be changed and/or charged outside of the hazardous area.
- External power and signals shall only be supplied according to manufacturer's instructions using suitable cable and suitably certified flameproof 'Ex db' cable glands.
- The temperature at the cable entry point may exceed +70°C; only cables suitable for use at this temperature shall be used.
- The equipment contains a shunt zener diode interface, which requires connection to a suitable earth in accordance with IEC 60079-14.

Sira Certification Service

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Annexe to: IECEx SIR 18.0059X Issue 0
Applicant: Online Electronics
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9. All wirings for external connection shall be made using suitable crimp ferrules to prevent accidental disconnection as per IEC 60079-11:2011 Cl. 6.2.2.
10. The IS terminal blocks shall be covered by the plastic covers after field-wiring.
11. The sensor cable length shall not exceed 20 meters.
12. All wires shall have insulation with minimum radial thickness of 1.0 mm and conductor size of at least 0.05 mm (diameter).
13. When the relay is used in the intrinsically safe interface, connection of any relay contacts to non-intrinsically safe circuits is not permitted. Once the contacts are connected to any non-IS circuits, they are no longer be acceptable for IS interface.

Conditions of Manufacture

1. The manufacturer shall fit suitably certified blanking devices that are certified to the same edition of EN 60079-0 and EN 60079-1 to which this equipment is certified.
2. The products covered by this certificate incorporate components that are used as part of other certified equipment; it is therefore the responsibility of the manufacturer to continually monitor the status of these devices, and they shall inform Sira of any modifications of these devices that may impinge upon the explosion safety design of their products.
3. The equipment is subject to a batch overpressure tests in accordance with clause 16.6 of IEC 60079-1. The applied pressure shall be 24.92 bar, the pressure shall be applied for a period not less than 10 seconds. The enclosures shall withstand the pressures without suffering permanent deformation of the joints or damage to the enclosure.

Date: 24 October 2018

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