



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 TRC 12.0017X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 4	Issue 3 (2021-06-21)
Date of Issue:	2023-04-25		Issue 2 (2019-07-04)
Applicant:	Online Electronics Ltd. Online House Blackburn Business Park Woodburn Road AB21 0PS United Kingdom		Issue 1 (2015-04-29)
Equipment:	Magnetic Pig Signaller, 4001D MAGSIG and HI-T MAGAlert v02 Magnetic Pig Signaller		
Optional accessory:			
Type of Protection:	Flameproof, "Ex db", Intrinsic Safety "Ex ia"		
Marking:	Ex db ia [ja Ga] IIC T4...T6 Gb Ta refer to Table in Annex		

Approved for issue on behalf of the IECEx
Certification Body:

Stephen Winsor

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Element Materials Technology
Unit 1 Pendle Place
Skelmersdale
West Lancashire





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

Manufacturing locations: **Online Electronics Ltd.**
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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 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements
Edition:6.0

[IEC 60079-1:2007-04](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:6

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-26:2006](#) Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
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 Reports:

[GB/TRC/ExTR12.0016/00](#)
[GB/TRC/ExTR12.0016/03](#)

[GB/TRC/ExTR12.0016/01](#)

[GB/TRC/ExTR12.0016/02](#)

Quality Assessment Report:

[GB/TRC/QAR11.0002/09](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The 4001D detects, logs and displays the passage of magnetic PIGs through oil and gas pipelines. The 4001D Magnetic Pig Signaller comprises of a component certified flameproof enclosure (AH01) and a sensor housed inside a blanking element or inside a separate enclosure connected via a cable and suitable approved Ex 'd' glands. A barrier circuit is fitted between the main enclosure and the sensor so the sensor may be used in Zone 0 (Category 1) hazardous area. The equipment may be externally powered (30Vdc max) or battery powered.

The connections between the 4001D main circuitry and the 4001D sensor have suitable power, voltage, and current limiting components fitted to allow the 4001D sensor to meet 'ia' requirements and to be used in Zone 0 (Category 1) hazardous area. The components within the sensor are incapable of causing a spark.

The Hi-T MAGAlert v02 is identical to the 4001D but has its own markings.

The AH01 flameproof housing contains all display and sensing electronics, optional battery pack, and optional external power and interface connections via suitable certified cable entries / glands. The AH01 flameproof enclosure is separately certified as a component IECEx certificate number IECEx TRC 12.0018U.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Do not open when an explosive gas atmosphere may be present.
2. Potential electrostatic charging hazard. The equipment should not be mounted in areas where it could be subjected to highly efficient charging mechanisms, such as fast moving dust or particle filled air, and shall only be cleaned with an anti-static or damp cloth.
3. Transducer, cable and electronics shall only be used as a complete assembly.
4. Internal and external threaded holes are provided for earthing and equipotential bonding. Protective earthing conductors employed shall be \geq than the size of the phase conductors, equipotential conductors shall have a minimum cross sectional area of 4 mm². 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.
5. External power supply shall not exceed 30 Vdc.
6. External power and signals shall only be supplied according to manufacturers' instruction using suitable cable and suitable Ex certified cable glands.
7. External power and signals shall only be connected using suitable crimp ferrules to prevent accidental disconnection.
8. Unused cable entries shall be sealed using suitable Ex certified blanking elements.
9. The temperature at the cable entry point may exceed +70 °C. Cables suitable for use at this temperature must be used.
10. Use only DURACELL INDUSTRIAL ID1300 or SAFT LS33600 or ANSMANN MAXE D cells.
11. As part of the routine maintenance schedule, the condition of the window cement shall be periodically inspected for any degradation or discolouration of the cement that may compromise the explosion protection.
12. Temperature class is reliant on the operating ambient temperature, internal power dissipation (Pd), and whether internal cells are fitted. Refer to tables in Annex.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Change to drawings to add UKEX certification information.

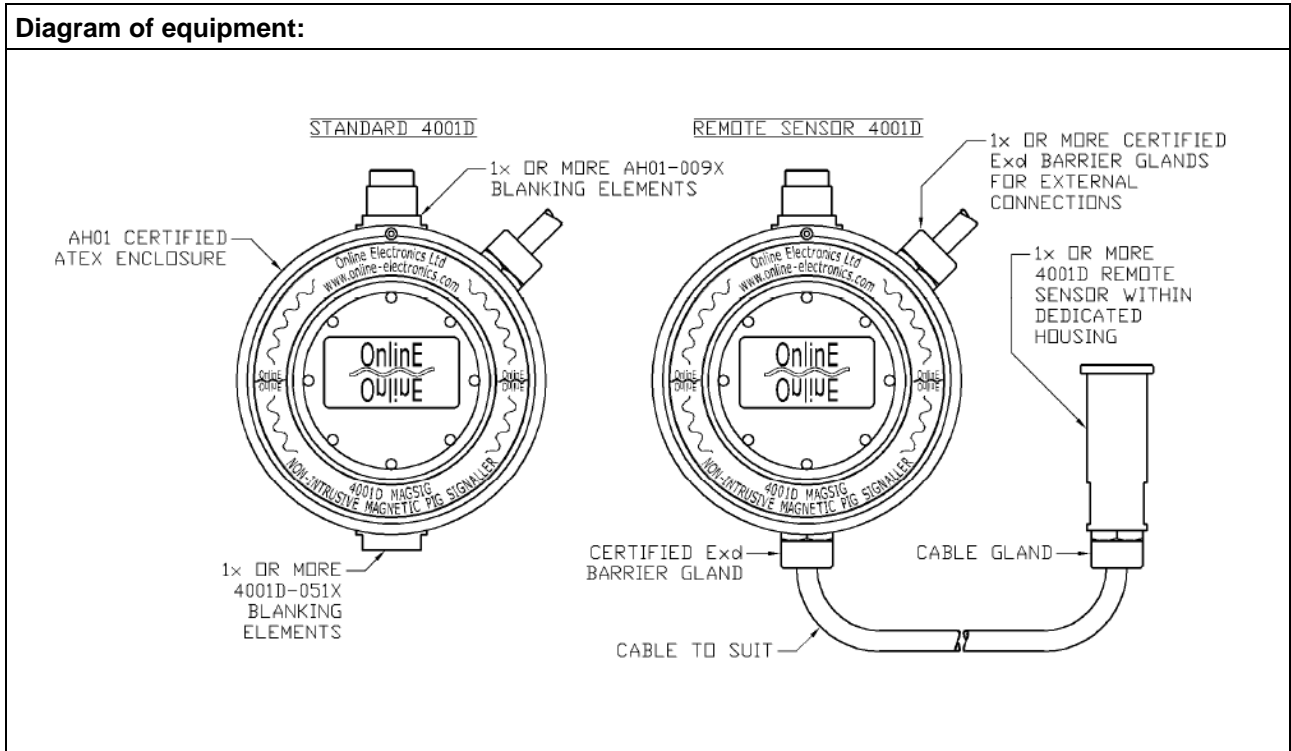
Annex:

[Annex to IECEx TRC 12.0017X issue 4.pdf](#)

Annex to IECEx Certificate of Conformity

IECEx TRC 12.00017X issue No.: 4

Diagram of equipment:



The ambient temperature range varies with configuration and power dissipation. The table below shows the full range permitted:

Pd	External supply (no cells fitted)		
	T4	T5	T6
<1W	-40 to 85°C	-40 to 85°C	-40 to 75°C
<5W	-40 to 85°C	-40 to 85°C	-40 to 70°C
<10W	-40 to 80°C	-40 to 70°C	-40 to 55°C

Pd	DURACELL INDUSTRIAL ID1300 fitted		
	T4	T5	T6
<1W	-20 to 54°C	-20 to 54°C	-20 to 54°C
<5W	-20 to 54°C	-20 to 54°C	-20 to 54°C
<10W	-20 to 54°C	-20 to 54°C	-20 to 54°C

Pd	SAFT LS33600 fitted		
	T4	T5	T6
<1W	-40 to 85°C	-40 to 85°C	-40 to 75°C
<5W	-40 to 85°C	-40 to 85°C	-40 to 70°C
<10W	-40 to 80°C	-40 to 70°C	-40 to 55°C

Pd	ANSMANN MaxE D fitted		
	T4	T5	T6
<1W	-20 to 65°C	-20 to 65°C	-20 to 65°C
<5W	-20 to 65°C	-20 to 65°C	-20 to 65°C
<10W	-20 to 65°C	-20 to 65°C	-20 to 55°C

Tables for Specific Condition of Use 12.				
	Pd	External supply (NO CELLS FITTED)		
		T4	T5	T6
	<1W	-40 to +85°C	-40 to +85°C	-40 to +75°C
	<5W	-40 to +85°C	-40 to +85°C	-40 to +70°C
	<10W	-40 to +80°C	-40 to +70°C	-40 to +55°C
<Cells will be used within their manufacturer's stated temperature ratings and a suitable table such as the examples below inserted in the manual for the customers information>				
	Pd	DURACELL INDUSTRIAL ID1300 FITTED		
		T4	T5	T6
	<1W	-20 to +54°C	-20 to +54°C	-20 to +54°C
	<5W	-20 to +54°C	-20 to +54°C	-20 to +54°C
	<10W	-20 to +54°C	-20 to +54°C	-20 to +54°C
	Pd	SAFT LS33600 FITTED		
		T4	T5	T6
	<1W	-40 to +85°C	-40 to +85°C	-40 to +75°C
	<5W	-40 to +85°C	-40 to +85°C	-40 to +70°C
	<10W	-40 to +80°C	-40 to +70°C	-40 to +55°C
	Pd	ANSMANN MaxE D FITTED		
		T4	T5	T6
	<1W	-20 to +65°C	-20 to +65°C	-20 to +65°C
	<5W	-20 to +65°C	-20 to +65°C	-20 to +65°C
	<10W	-20 to +65°C	-20 to +65°C	-20 to +55°C

"Special conditions for manufacture"

1. The maximum capacitance in the sensor is not permitted to exceed 6.1µF.
2. Attention is drawn to the spacing requirements detailed on drawing "4001D ATEX PCBS".
3. PCBs must be arranged and stacked in such a way that it is not possible for non-intrinsically safe wiring to come within 2 mm of the intrinsically safe components/bare parts.

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
4001D_X001 ATEX IECEx FILE (10 pages)	4001D_X001	F03	2023-04-14

The technical file contains a full set of detailed drawings, as follows:

Title:	Drawing No.:	Rev. Level:	Date:
4001D Sensor blank	4001D_X003	A01	2017-12-18
4001D Schematics	4001D_X004	A01	2017-12-18
4001D PCB layouts	4001D_X005	A01	2017-12-18
4001D Safety Instructions (4 pages)	4001D_X006	F03	2023-04-14
4001D Markings	4001D_X002	F02	2022-02-07



Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.