



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 09ATEX2039X** Issue: **9**

4 Equipment: **FT101 5-Wire Optic Overfill Sensor**

5 Applicant: **Dixon Bayco**

6 Address: **7280 Union Centre Boulevard
West Chester
Ohio 45014
United States of America**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 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 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2018 EN 60079-11:2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G
Ex ia IIB T4 Ga; Ta = -40°C to +70°C

Project Number 80086275

Signed: J A May

Title: Director of Operations



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13 DESCRIPTION OF EQUIPMENT

The FT101 5-Wire Optic Overfill Sensor (Type FT101 ** API Compatible Optic Sensor) provides overfill control for both mobile and permanently mounted liquid storage vessels. The FT101 enclosure is manufactured from cast aluminium with a 2 inch NPT mounting thread, heavy-duty stainless-steel sections, and various seals. The sensor is installed in a 2 inch NPT tapped hole or 2-3/8 inch hole using the gasket and locking nut provided. The sensor contains a single PCB contained within a fully potted cavity and has 5 permanently connected wires.

The safety description for the sensor is:

U _i	=	18 V
I _i	=	400 mA
P _i	=	1 W
C _i	=	0 µF
L _i	=	0 µH

Variation 1 - This variation introduced the following changes:

- i. A number of changes to various drawings including:
 - Part number 10006 changed to 10006D.
 - Changes to component values and tolerances of existing resistors in a range of circuits.
 - Change of label material.
 - Addition of some informative text. This text does not affect compliance with the applied standards.
 - A change to a thread dimension on the sensor housing.
- ii. The Applicant's address was changed from 4740T Interstate Drive, Cincinnati, Ohio, 45246, USA to that shown on page 1.

Variation 2 - This variation introduced the following changes:

- i. The integrated circuit package U1 was changed from a through hole to a surface mount type.
- ii. The encapsulant has now been fully specified.

Variation 3 - This variation introduced the following changes:

- i. The corporate logo was added to the label.
- ii. The introduction of a sensor unit that is intended to replace existing units.

Variation 4 - This variation introduced the following change:

- i. It was recognised that the manufacturer can now supply the user with a new overfill sensor unit that will replace the one in the FT101 5-Wire Overfill Sensor Probe already in their possession. The new sensor unit is designated as equipment name FT100, its construction is the same as the existing sensor unit and it bears an explanatory label that clearly states that it is part of an FT101, Sira 09ATEX2039X.



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Variation 5 - This variation introduced the following change:

- i. The wiring colours were modified.

Variation 6 - This variation introduced the following change:

- i. Drawing Number 10183 has been updated from revision G to revision H, to recognize changing the type of holes from bolt holes to thru holes in the sensor housing.
- ii. The following assessment has been conducted appropriately to demonstrate compliance with the latest technical knowledge, where EN 60079-0:2006 and EN 60079-11:2007 had been replaced by EN 60079-0:2018 and EN 60079-11:2012.
- iii. EN 60079-26:2007 and the reference to IEC 60079-0:2007 (used for guidance in respect of marking) had been removed from the certificate. Superseded with the latest versions of the relevant applicable standards.
- iv. The Product Name has been amended from FT101 5-Wire Overfill Sensor Probe to FT101 5-Wire Optic Overfill Sensor. The product description has been updated accordingly.
- v. Conditions of Manufacturer had been removed from the affected certificate (Sira 09ATEX2039X) and highlighted in report R80011217A section 1.11.
- vi. The manufacturer's address has been updated.

Variation 7 - This variation introduced the following changes:

- i. Change to how material of sensor housing cap is specified.
- ii. Change to how the enclosure seals are described in the product descriptions.
- iii. Addition to the product descriptions of the product name as marked on the equipment.
- iv. Addition of certification markings to the marking labels that are not related to the ATEX certification.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	20 July 2009	R52A16755B	The release of the prime certificate.
1	21 April 2011	R52A16755B/01	Re issued to allow report R52A16755B/01 to replace R52A16755B
2	19 August 2011	R23939A/00	The introduction of Variation 1.
3	18 September 2014	R70006530A	The introduction of Variation 2.
4	27 April 2015	R70024621A	The introduction of Variation 3.
5	07 September 2015	R70041681A	The introduction of Variation 4.



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Issue	Date	Report number	Comment
6	07 February 2017	R70113728A	This Issue covers the following changes: <ul style="list-style-type: none">• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. (In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)• The introduction of Variation 5.
7	15 October 2019	1017	Transfer of certificate Sira 09ATEX2039X from Sira Certification Service to CSA Group Netherlands B.V.
8	20 February 2020	R80011217A	The introduction of Variation 6.
9	04 November 2021	R80086275A	The introduction of Variation 7.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 As aluminium is used at the accessible surface of this equipment ignition sources due to impact and friction sparks could occur in the event of rare incidents. This shall be considered when the FT101 Sensor is being installed, particularly in locations that specifically require Group II, Category 1G equipment.
- 15.2 The assessed enclosure should not be subjected to strong impact that may lead to high risk of mechanical danger.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira/CSA Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 A routine dielectric strength test of 500 V r.m.s as required by clause 10.3 of IEC 60079-11:2006 shall be conducted on each unit. The voltage shall be increased steadily to the specified value in a period of not less than 10 s and then maintained for at least 60 s. The applied voltage shall remain constant during the test. The current flowing during the test shall not exceed 5 mA r.m.s. at any time.



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Certificate Annexe



Certificate Number: Sira 09ATEX2039X
Equipment: FT101 5-Wire Optic Overfill Sensor
Applicant: Dixon Bayco

Issue 0

Drawing No.	Sheet	Rev.	Date (Sira Stamp)	Description
10000	1 of 1	B	17 Mar 09	ASSY, Optic Head
10009_ATEX	1 of 1	A	17 Mar 09	Schematic 5 Wire Sensor
10010_ATEX	1 of 2	A	17 Mar 09	PCB, Sensor 5 Wire
10021_ATEX	1 of 1	A	17 Mar 09	ASSY, 5 Wire Sensor PCB
10107-ATEX	1 of 1	A	17 Mar 09	ASSY, 5 Wire Sensor
10183	1 of 1	D	17 Mar 09	Sensor Housing (Machining)
10185	1 of 1	A	17 Mar 09	Sensor Housing Cap (Machining)
10584	1 of 1	B	17 Mar 09	ATEX /IECEx Marking (5 Wire Optic Sensor)

Issue 1 - No new drawings were introduced.

Issue 2

Drawing No.	Sheet	Rev.	Date (Sira Stamp)	Title
10000	1 of 1	D	18 Aug 11	Assy, Optic Head
10009_ATEX	1 of 1	B	18 Aug 11	Schematic 5 Wire Sensor
10021_ATEX	1 of 1	C	18 Aug 11	Assy 5 Wire Sensor PCB
10183	1 of 1	G	18 Aug 11	Sensor housing – sand cast (machining)
10185	1 of 1	B	18 Aug 11	Sensor housing cap (machining)
10584	1 of 1	C	18 Aug 11	Label, 5W Optic Sensor

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
10021_ATEX	1 of 1	D	26 Aug 14	ASSY, 5 WIRE SENSOR PCB
10010_atex	1 of 1	B	25 Jul 14	PCB SENSOR , 5 WIRE

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
10584	1 of 1	D	02 Apr 15	LABEL, OVERFILL SENSOR FT101 TYPE

Issue 5

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Description
1058X-001	1 of 1	A	18 Aug 15	Label, replacement overfill sensor

Issue 6

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
10021_ATEX	1 of 1	E	30 Jan 17	ASSY, 5 WIRE SENSOR PCB

Issue 7 - No new drawings were introduced.

Issue 8

Drawing	Sheets	Rev.	Date (Date stamp)	Title
10183	1 of 1	H	28 Jan 20	Sensor Housing - Sand Cast (Machining)
10584	1 of 1	F	28 Jan 20	Label, Overfill Sensor FT151 TYPE
10582	1 to 2	27 Jan 20	28 Jan 20	Instruction Manual 10582 ATEX Supplemental Instruction Sheet For Sensors FT100 and FT101



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Drawing	Sheets	Rev.	Date (Stamp)	Title
10185	1 of 1	C	08 Oct 21	Sensor Housing Cap (Machining)
10582	1 to 2	16 Jul 21	11 Oct 21	Instruction Manual 10582 ATEX/UKCA Supplemental Instruction Sheet for Sensors FT100 and FT101
10584	1 of 1	G	11 Oct 21	Label, Overfill Sensor FT101 Type
1058X-001	1 of 1	B	11 Oct 21	Label, replacement overfill sensor



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