



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 19ATEX2255X** Issue: **1**

4 Equipment: **The Multi-Sensor Flow Monitor S2.5T (MSFM S2.5T)**

5 Applicant: **Detectronic Ltd**

6 Address: Regent Street  
Whitewalls Ind. Est.  
Colne  
Lancashire  
BB8 8LJ UK

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 IEC 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 +60°C

Project Number 5289

Signed:

Title: Director of Operations

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**CSA Group Netherlands B.V.**  
Utrechtseweg 310,  
6812 AR, Arnhem,  
Netherlands



## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

The Multi-Sensor Flow Monitor S2.5T is used in flow monitoring applications in 'dirty water' environments such as sewerage. It combines a data logger and a mobile 'phone modem module and provides for external connections for several suitably-approved intrinsically safe sensors/transducers. It features an internal antenna as well as the provision for the connection of an external antenna. It also features a SIM card. It comprises a plastic enclosure housing two printed circuit boards, a component-approved (Sira 18ATEX2066U) intrinsically safe interface board and a partially encapsulated processor board.

MSFM S2.5T is powered by an internal user-replaceable non-rechargeable intrinsically safe Technolog '9V3000' battery pack (dual 3.9V lithium cells in parallel, component-approved - Sira 08ATEX2238U).

The entity parameters are as follows:

	Ui (V)	Ii (A)	Pi (W)	Ci (µF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (µF)	Lo (mH)
CSO(JP1-CSO/ENC)	0	-	-	0	0	7.14	99	175	0.6	1
CSO(JP8-DIGI I/O)	5.88	-	-	0	0	5.88	5.7	8.4	0.6	1
COMMS	5.88	-	-	0	0	5.88	26	38	0.6	1
PULSE/PC (PC port- J7 – Pins 1&2)	0	-	-	-	0.9	8.61	36	76	54	108
PULSE/PC (Volt free port- J7 pin 4)	5.5	-	-	-	-	8.61	1	2	54	142221
VEL(Depth)	0	-	-	-	-	8.61	270	799	50	1
PRESS/LEV	0	-	-	-	-	8.61	270	799	54	0.9
EXT PWR	12.6	2.708	6.142	0	0.019	0	-	-	-	-

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	31 October 2019	R80006038A	The release of prime certificate.
1	06 November 2019	5289	Transfer of certificate <b>Sira 19ATEX2255X</b> from Sira Certification Service to CSA Netherlands B.V.

##### 14.3 Certificate number Sira 19ATEX2197X Issue 0

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

- 15.1 The Multi-Sensor Flow Monitor S2.5T has provision for the installer to connect an external antenna, which is not covered by the certificate. The circuit ground is connected to the exposed metal shell of this antenna connector, so the equipment does not meet the 500 Vac isolation requirements between circuit and enclosure. This shall be considered during installation.

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## SCHEDULE

### EU-TYPE EXAMINATION CERTIFICATE

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Issue 1

- 15.2 The circuit ground is deliberately connected to the connector shells of the 'VEL' and 'PRESS/LEV' ports, so the equipment does not meet the requirements of the 500 V dielectric strength test in accordance with EN 60079-11. This shall be taken into consideration during installation.
- 15.3 Only a 9V3000 internal battery pack, manufactured by Technolog, is permitted as a replacement. These battery packs are intrinsically safe and may be replaced by the user in the hazardous area whilst the equipment is live.
- 15.4 Under certain extreme circumstances, the exposed plastic parts of the enclosure and the metallic connectors may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth. The metallic connectors have a capacitance of up to 26pF with respect to an earthed conductor.
- 15.5 Some of the external metallic parts may be manufactured from light metal. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
- 15.6 The 'EXT PWR' port shall be connected to a resistive supply with a source resistance of 4.431  $\Omega$  minimum.
- 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.



## Certificate Annexe

**Certificate Number:** Sira 19ATEX2255X  
**Equipment:** The Multi-Sensor Flow Monitor S2.5T (MSFM S2.5T)  
**Applicant:** Detectronic Ltd

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### Issue 0

Drawing	Sheets	Rev	Date (Sira stamp)	Title
2185TC5010	1 of 1	A	16 Oct 19	Multi-Sensor Flow Monitor Series 2.5T ('MSFM S2.5T') – trade agent (Detectronic) ATEX/IECEx I.S. marking requirements

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