



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 19ATEX1143X** Issue: **0**

4 Equipment: **Variable Area Flowmeter (Rotameter), Model MTF Series**

5 Applicant: **Dandong Top Electronics Instrument (Group) Co., Ltd**

6 Address: **No.10 Huanghai Street
Zhenxing District
Dandong City
Liaoning Province, 118000
China**

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

8 Sira Certification Service, notified body number 0518 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 60079-1:2014 EN 60079-11:2012

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

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 db IIC T* Gb

Ta = -40°C to 60°C/70°C /80°C

Ex ia IIC T* Ga

Ta = -40°C to 70°C

Temperature code T* depends on the process temperature, refer to Specific Conditions of Use

Project Number 70193547

Signed: N Jones

Title: Certification Manager

Sira Certification Service
Unit 6 Hawarden Industrial Park
Hawarden, CH5 3US, United Kingdom



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The MTF Series Variable Area Flowmeter comprises a flowmeter transmitter with Process medium pipeline and a 10mm thick glass window with cemented joints on transmitter. It is designed for two types of protection: Flameproof and Intrinsic safety.

There are two independent flame proof chamber separated by a cemented construction and a cylindrical joints between transmitter body and terminal box, and the fastener is M6x16 stainless steel (304) with yield strength more than 205MPa. There is a cable entry with Spec. M20x1.5 in terminal box only.

There are five printed circuit boards in the product: power terminal board, main board, measure module board, power module board and LCD board which are designed as intrinsic safe.

The entity parameter for the product is:

Input Parameter	
Terminals: +, -	
Ui	30Vdc
Ii	93mA
Pi	0.66W
Ci	0µF
Li	0µH

Breakdown of the model number MTF series Variable Area Flow Meter is as follows:

Model	Code	Contents
MTF -	A	Local indicator and remote transducer (dual display) metal tube variable area flow meter
	B	Remote transducer(digital display) metal tube variable area flow meter
	C	Local indicator (pointer display) metal tube variable area flow meter
	1	1.6MPa
	2	2.5Mpa,2.0 Mpa (Class150)
	3	4.0MPa
	4	6.3Mpa, 5.0 Mpa (Class300)
	5	10.0Mpa, 11.0 Mpa (Class600)

	015	DN15

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	020		DN20
	025		DN25
	040		DN40
	050		DN50
	080		DN80
	100		DN100
	H		Wetted material : 304
	R		Wetted material : 316L
	P		Wetted material : lining with PTFE
	Q		Other material:
	/		
		i	Intrinsically safe
		d	Flame-proof type
		D	Operation Temperature : 0°C < T ≤ 200°C
		G	Operation Temperature : -40°C ≤ T ≤ 0°C 200°C < T ≤ 300°C
		Z	Damping type
		W	No damping type
		S	Horizontal installation
		C	Vertical installation
MTF -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	/	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	24 January 2020	R70193547A	The release of the prime certificate.

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

15.1 Install only as per installation control drawing MTF.ISCD.

15.2 Temperature code depends on process temperature as follows:

For Ex ia:

T-code	Ambient Temperature	Process Temperature
T4	-40 to 70°C	-40 to 125°C
T5	-40 to 70°C	-40 to 90°C

For Ex db:

T-code	Ambient Temperature	Process Temperature
T6	-40 to 60°C	-40 to 75°C
T5	-40 to 70°C	-40 to 90°C
T4	-40 to 80°C	-40 to 125°C
T3	-40 to 80°C	-40 to 185°C

15.3 The yield strength of special fasteners shall be more than 205MPa.

15.4 The enclosure is manufactured from ADC12 aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation.

15.5 The equipment has flameproof joints, which differ from those in EN 60079-1, when maintaining the flameproof joints, manufacturer shall be contacted for guidance.

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.

Sira Certification Service
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Certificate Annexe



Certificate Number: Sira 19ATEX1143X

Equipment: Variable Area Flowmeter (Rotameter),
Model MTF Series

Applicant: Dandong Top Electronics Instrument
(Group) Co., Ltd

Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
MTF.0	1 of 1	V1.0	24 Oct 19	Variable area flowmeter(Rotameter)
MTF.0.1	1 of 1	V1.0	24 Oct 19	Transmitter
LZZ-0-1	1 of 1	V1.0	24 Oct 19	Support plate
MTF.0.1.1	1 of 1	V1.0	24 Oct 19	Connection chamber component
MTF.0.1.1-1	1 of 1	V1.0	24 Oct 19	Over wire connector
MTF.0.1.4	1 of 1	V1.0	24 Oct 19	Instrument cover component
MTF.0.1.4-1	1 of 1	V1.0	24 Oct 19	Instrument cover
MTF.0.1.4-2	1 of 1	V1.0	24 Oct 19	Gasket-304
MTF.0.1.4-4	1 of 1	V1.0	24 Oct 19	Gasket-rubber
MTF.0.1.4-5	1 of 1	V1.0	24 Oct 19	Compression nut
MTF.0.1-1	1 of 1	V1.0	24 Oct 19	Nameplate
MTF.0.1-2	1 of 1	V1.0	24 Oct 19	Instrument shell base
MTF.0.1-5	1 of 1	V1.0	24 Oct 19	Sleeve
MTF.0.1-6	1 of 1	V1.0	24 Oct 19	Baffle
MTF.0.1-7	1 of 1	V1.0	24 Oct 19	Cover plate
MTF.0.1-7	1 of 1	V1.0	24 Oct 19	Power entry label
UTD20b.1-10	1 of 1	V1.0	24 Oct 19	Window glass
MTF.0.1.3	1 of 1	V1.0	24 Oct 19	Main board component
MTF.0.1.3-Frame	1 of 1	1.0	24 Oct 19	MTF frame diagram
MTF.ISCD	1 of 1	1.0	24 Oct 19	Intrinsic safety control drawing for variable area flowmeter (rotameter)
UHC-Bb.Z.3.3	1 of 1	V1.0	24 Oct 19	LCD
UHC-Bb.Z.3.3-2	1 of 1	V1.0	24 Oct 19	LCD wiring harness
UQD.Z.0.1.5-Sch	1 of 1	V1.0	24 Oct 19	Power terminal board
UQD.Z.0.1.5	1 of 1	V1.0	24 Oct 19	Bill of Materials-Power terminal board
UQD.Z.0.1.5-1TL	1 of 4	V1.0	24 Oct 19	Top layer copper
UQD.Z.0.1.5TO	2 of 4	V1.0	24 Oct 19	Top layer component
UQD.Z.0.1.5-1BL	3 of 4	V1.0	24 Oct 19	Bottom layer copper
UQD.Z.0.1.5BO	4 of 4	V1.0	24 Oct 19	Bottom layer component
MTF.0.1.3-SCH	1 of 1	V1.0	24 Oct 19	Main board
MTF.0.1.3	1 of 1	V1.0	24 Oct 19	Bill of Materials-Main board
MTF.0.1.3-1TL	1 of 4	V1.0	05 Dec 19	Top layer copper
MTF.0.1.3TO	2 of 4	V1.0	05 Dec 19	Top layer component
MTF.0.1.3-1BL	3 of 4	V1.0	05 Dec 19	Bottom layer copper
MTF.0.1.3BO	4 of 4	V1.0	05 Dec 19	Bottom layer component
UHC-Bb.Z.3.2.1-SCH	1 of 1	V1.0	24 Oct 19	Power module –M302
UHC-Bb.Z.3.2.1	1 of 1	V1.0	24 Oct 19	Power Module Bill of Materials
UHC-Bb.Z.3.2.1-1TL	1 of 4	V1.0	24 Oct 19	Top layer copper
UHC-Bb.Z.3.2.1TO	2 of 4	V1.0	24 Oct 19	Top layer component
UHC-Bb.Z.3.2.1-1BL	3 of 4	V1.0	24 Oct 19	Bottom layer copper
UHC-Bb.Z.3.2.1BO	4 of 4	V1.0	24 Oct 19	Bottom layer component
UHC-Bb.Z.3.2.2-SCH	1 of 1	V1.0	24 Oct 19	Measure module –M301
UHC-Bb.Z.3.2.2	1 of 1	V1.0	24 Oct 19	Bill of Materials-Measure module

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Certificate Annexe



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Model MTF Series

Applicant: Dandong Top Electronics Instrument
(Group) Co., Ltd

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
UHC-Bb.Z.3.2.2-1TL	1 of 6	V1.0	24 Oct 19	Top layer copper
UHC-Bb.Z.3.2.2TS	2 of 6	V1.0	24 Oct 19	Top layer component
UHC-Bb.Z.3.2.2-1BL	3 of 6	V1.0	24 Oct 19	Bottom layer copper
UHC-Bb.Z.3.2.2BS	4 of 6	V1.0	24 Oct 19	Bottom layer component
UHC-Bb.Z.3.2.2-1AL	5 of 6	V1.0	24 Oct 19	Analog layer layout
UHC-Bb.Z.3.2.2-1DL	6 of 6	V1.0	24 Oct 19	Digital layer layout
UHC-Bb.Z.3.3.1-SCH	1 of 1	V1.0	24 Oct 19	LCD board
UHC-Bb.Z.3.3.1	1 of 1	V1.0	24 Oct 19	Bill of Materials-LCD board
UHC-Bb.Z.3.3.1-1TL	1 of 4	V1.0	24 Oct 19	Top layer copper
UHC-Bb.Z.3.3.1TS	2 of 4	V1.0	24 Oct 19	Top layer component
UHC-Bb.Z.3.3.1-1BL	3 of 4	V1.0	24 Oct 19	Bottom layer copper
UHC-Bb.Z.3.3.1BS	4 of 4	V1.0	24 Oct 19	Bottom layer component

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