

# 1 EC-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially  
Explosive Atmospheres - Directive 94/9/EC**

3 **EC-Type Examination Certificate No:** FM16ATEX0013X

4 **Equipment or protective system:  
(Type Reference and Name)** Model FT1 Thermal Mass Gas Flow Meter and  
Temperature Transmitter

5 **Name of Applicant:** Fox Thermal Instruments Inc.

6 **Address of Applicant:** 399 Reservation Road  
Marina, CA 93933  
USA

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

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 confidential report number:

3052981 dated 9<sup>th</sup> March 2016

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012 + A11:2013, EN 60079-1:2014, EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex db IIB+H2 T4 Gb Ta = -40°C to +70°C, IP66/67

II 2 D Ex tb IIIC T135°C Db Ta = -40°C to +70°C, IP66/67

**Mick Gower**  
**Certification Manager, FM Approvals Ltd.**

Issue date: 14<sup>th</sup> March 2016

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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# SCHEDULE



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to EC-Type Examination Certificate No. FM16ATEX0013X

## 13 Description of Equipment or Protective System:

**General** - The Model FT1 Thermal Gas Mass Flow Meter and Temperature Transmitters are used for measuring the mass flow of gases as well as the process gas temperature all in one package. The flowmeters are available for inline or insertion applications. The product features 4-20mA and/or pulse outputs and is also available with an optional display/configuration panel. Digital communications options include USB, HART and RS485 Modbus.

**Construction** - The Model FT1 Thermal Gas Mass Flow Meter and Temperature Transmitter consists of a single compartment electronics housing with thread-on window cover and a probe inserted through the housing base forming a cylindrical joint. The enclosure is provided with two (2) ¾ inch NPT openings.

**Ratings** - The Model FT1 Thermal Gas Mass Flow Meter and Temperature Transmitters operate at 12-28 Vdc (6W). The transmitters are rated for use in an ambient temperature range of -40°C to +70°C. The transmitter probes are rated for use in a process temperature range of -40°C to +121°C.

### ***FT1-a-b-c-d. Thermal Mass Gas Flow Meter and Temperature Transmitter (Insertion).***

a = Probe 04I, 05I, 06I, 07I, 08I, 09I, 10I, 11I, 12I, 13I, 14I, 15I, 16I, 17I, 18I, 19I, 20I, 21I, 22I, 23I, 24I, 25I, 26I, 27I, 28I, 29I, 30I, 31I, 32I, 33I, 34I, 35I, 36I, 15R, 18R, 24R, 30R or 36R.

b = Sensor material SH, SJ, SL or BLANK.

c = Display D0 or DD.

d = Output BH, PL or RS.

### ***FT1-a-b-c-d. Thermal Mass Gas Flow Meter and Temperature Transmitter (Inline).***

a = Flow body 10F, 15F, 20F, 25F, 30F, 40F, 60F, 125F, 10FC, 15FC, 20FC, 25FC, 30FC, 40FC, 60FC, 125FC, 10P, 15P, 20P, 25P, 30P, 40P, 125P, 10PC, 15PC, 20PC, 25PC, 30PC, 40PC or 125PC.

b = Sensor material SH or BLANK.

c = Display D0 or DD.

d = Output BH, PL or RS.

## 14 Specific Conditions of Use:

1. The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
2. Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure.

## 15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

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# SCHEDULE



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to EC-Type Examination Certificate No. FM16ATEX0013X

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
14 <sup>th</sup> March 2016	Original Issue.

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# Blueprint Report

**Fox Thermal Instruments Inc (1000008198)**

**Class No 3615**

**Original Project I.D. 3052981**

**Certificate I.D. FM16ATEX0013X**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
105024	B	FUSE, BOARD MOUNT, 750MA, 125VAC/VDC, SLO-BLO	3052981	Yes (pdf)
105418	A	FT1 DISPLAY BOARD SCHEMATIC	3052981	Yes (pdf)
105420_BOM	A	PCB ASSY DISPLAY BOARD FT1 - BOM	3052981	Yes (pdf)
105420	A	PCB DISPLAY BOARD FT1	3052981	Yes (pdf)
105421	A	FT1 PROCESSOR BOARD SCHEMATIC	3052981	Yes (pdf)
105423_BOM	C	PCB ASSY MAIN BOARD RS485 FT1 - BOM	3052981	Yes (pdf)
105423	C	PCB ASSY MAIN BOARD RS485 FT1	3052981	Yes (pdf)
105897	B	FT1 ENCLOSURE CASTING DRAWING	3052981	Yes (pdf)
105898	A	FT1 COVER CASTING DRAWING	3052981	Yes (pdf)
105981	B	PROBE FITTING WELDMENT, ROTATING, FT1	3052981	Yes (pdf)
106010	A	OVERLAY, DISPLAY/KEYPAD, MODEL FT1	3052981	Yes (pdf)
106012	E	Model FT1 Manual	3052981	Yes (pdf)
106064	B	LABEL, SERIAL NUMBER, ELEX ENCLOSURE, FT1	3052981	Yes (pdf)
106067_BOM	B	PCB ASSY DIGITAL BRIDGE BD 5V FT1 - BOM	3052981	Yes (pdf)
106067	B	PCB BRIDGE BOARD FT1	3052981	Yes (pdf)
106369_BOM	B	PCB ASSY MAIN BOARD PULSE FT1 - BOM	3052981	Yes (pdf)
106369	B	PCB ASSY MAIN BOARD PULSE FT1	3052981	Yes (pdf)
106394	A	FT1 BRIDGE BOARD SCHEMATIC	3052981	Yes (pdf)
106607_BOM	A	PCB ASSY PROCESSOR BOARD HART FT1 - BOM	3052981	Yes (pdf)
106607	A	PCB ASSY PROCESSOR BOARD HART FT1	3052981	Yes (pdf)
106608	A	FT1 PROCESSOR BOARD WITH HART SCHEMATIC	3052981	Yes (pdf)
106627_BOM	A	PCB ASSY PROCESSOR BOARD RS485 FT1 - BOM	3052981	Yes (pdf)
106627	A	PCB ASSY PROCESSOR BOARD RS485 FT1	3052981	Yes (pdf)
106629_BOM	A	PCB ASSY PROCESSOR BOARD PULSE FT1 - BOM	3052981	Yes (pdf)
106629	A	PCB ASSY PROCESSOR BOARD PULSE FT1	3052981	Yes (pdf)
SK1601	3	SENSOR WELDMENT, Ø3/4 INCH, FT1	3052981	Yes (pdf)
SK1603	3	PROBE DRAWING, Ø3/4 INCH FT1, FM APPROVED	3052981	Yes (pdf)
SK1604	4	DETAIL DRAWING, PROTECTIVE GROUNDING, FT1 ENCLOSURE	3052981	Yes (pdf)
SK1605	3	CONFIGURATION DRAWING, INSERTION, MODEL FT1, FM APPROVED	3052981	Yes (pdf)
SK1606	3	CONFIGURATION DRAWING, INLINE, MODEL FT1, FM APPROVED	3052981	Yes (pdf)
SK1609	5	FLAME PATH & NON-METAL MATERIALS, FT1, FM APPROVED	3052981	Yes (pdf)
SK1682	1	CONDUIT PORTS, 3/4-14 NPT, FT1 ENCLOSURE	3052981	Yes (pdf)