



# 1. EU-TYPE EXAMINATION CERTIFICATE

2. Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

3. EU-Type Examination Certificate No: FM12ATEX0034X

4. Equipment or protective system:  
(Type Reference and Name)

Model FT3 Thermal Gas Mass Flow Meter and Temperature Transmitter  
Model TFH3000 Thermal Gas Mass Flow Meter and Temperature Transmitter  
Model MT110 Thermal Gas Mass Flow Meter and Temperature Transmitter  
Model MTL10 Thermal Gas Mass Flow Meter and Temperature Transmitter

5. Name of Applicant: Fox Thermal Instruments Inc

6. Address of Applicant 399 Reservation Rd,  
Marina, California 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 Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 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 confidential report number:

3041764 EC dated 17<sup>th</sup> July 2012

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 IEC 60079-0:2018, EN 60079-1:2014, EN 60079-31:2014, EN 60529:1991+A1:2000+A2:2013

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 EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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.

Certificate issued by:

Digitally signed  
by Richard  
Zammit  
Location: Ireland  
Foxit PDF Editor  
Version: 13.0.1

Certification Manager, FM Approvals Europe Ltd.

Date 01 February 2024

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FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440  
T: +353 (0) 1761 4200 E-mail: [atex@fmapprovals.com](mailto:atex@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F ATEX 020 (Dec/2020)



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



II 2 G Ex db IIB+H<sub>2</sub> \* Gb Ta = -20°C to +70°C

II 2 D Ex tb IIIC \*\* Db Ta = -20°C to +70°C

\*/\*\*Temperature code ratings are dependent on external process temperature factors as well as equipment enclosure configuration. See the table below for specific temperature code markings.

Model Code		Temperature Code Marking (Gas)*		Temperature Code Marking (Dust)**	
Sensor Type	Enclosure	Main Enclosure	Remote Enclosure	Main Enclosure	Remote Enclosure
ST	E1	T4	N/A	T135°C	N/A
ST	E2	T4	N/A	T135°C	N/A
ST	E3	T6	T4	T85°C	T135°C
ST	E4	T6	T4	T85°C	T135°C
HT	E3	T6	T1	T85°C	T450°C
HT	E4	T6	T1	T85°C	T450°C

### 13. Description of Equipment or Protective System:

The Models FT3, TFH3000, MTL10 and MT110 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 flow meters 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.

The Models FT3, TFH3000, MTL10 and MT110 Thermal Gas Mass Flow Meter and Temperature Transmitters operate at 24 Vdc (0.75 A) or 85-264 Vac (20 W). The transmitters provide a 4-20 mA and/or pulse output. The transmitters are rated for use in an ambient temperature range of -20°C to +70°C. The transmitter probes are rated for use in a process temperature range of -40°C to +121°C or 0°C to 343°C (HT version).

The equipment has an ingress protection rating of IP67.

See Annex for model codes.

### 14. Specific Conditions of Use:

The flameproof joints of the equipment are not intended to be repaired. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

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### 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 EU-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 Europe 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 Europe Ltd's ATEX Certification Scheme.

### 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
26 July 2012	Original Issue.
15 March 2013	<u>Supplement 1:</u> Report Reference: 3041764 EC Supplement 1 Dated 12 <sup>th</sup> February 2013. Description of the Change: Addition of Model Type TFH3000.
10 October 2013	<u>Supplement 2:</u> Report Reference: 3041764rev130927 Dated 07 <sup>th</sup> October 2013. Description of the Change: Update the FT3 Boards and Manual.
16 June 2014	<u>Supplement 3:</u> Report Reference: 3041764rev140417 Dated 11 <sup>th</sup> June 2014. Description of the Change: Changes made to serial number labels and instruction manual required corrections.
6 February 2015	<u>Supplement 4:</u> Report Reference: 3041764rev141125 Dated 29 <sup>th</sup> January 2015. Description of the Change: Minor updates to manuals.
5 August 2015	<u>Supplement 5:</u> Report Reference: RR201422 Dated 03 <sup>rd</sup> August 2015. Description of the Change: Addition of Model Types MTL10 and MTI10 and related documentation.

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Member of the FM Global Group

Date	Description
27 November 2018	<u>Supplement 6:</u> Report Reference: PR449917 dated 26 <sup>th</sup> November 2018. Description of the Change: Minor documentation changes not affecting the equipment safety. The standards have been updated to the latest editions.
19 June 2019	<u>Supplement 7:</u> Report Reference: RR219123 dated 18 <sup>th</sup> June 2019. Description of the Change: Minor documentation changes not affecting the equipment safety. Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.
7 October 2020	<u>Supplement 8:</u> Report Reference: RR224995 dated 05 <sup>th</sup> October 2020. Description of the Change: Minor documentation changes not affecting the equipment safety. IP rating moved from section 12 to section 13 of this document.
8 July 2021	<u>Supplement 9:</u> Report Reference: RR228249 dated 7 <sup>th</sup> July 2021. Description of the Change: Minor documentation changes not affecting the equipment safety. EN 60079-0 examination updated to the latest edition.
1 February 2024	<u>Supplement 10:</u> Report Reference: RR239357 dated 28 January 2024. Description of the Change: Minor documentation changes not affecting the equipment safety.

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# ANNEX

## Model FT3 Inline

### Description of Equipment:

#### **FT3-a-b-c-d-e-f. Thermal Gas Mass Flow Meter and Temperature Transmitter (Inline).**

a = Flow body size 025P, 05P, 075P, 10P, 125P, 15P, 20P, 25P, 30P, 40P, 05F, 075F, 10F, 125F, 15F, 20F, 25F, 30F, 40F, 60F, 20PC, 25PC, 30PC, 40PC, 20FC, 25FC, 30FC or 40FC.

b = Sensor material SS or SH.

c = Sensor type ST or HT.

d = Enclosure E1, E2, E3 or E4.

e = Display and data logger D0, DD or DL.

f = Option boards B0, B1, MB, BH, BE or BP.

## Model FT3 Insertion

### Description of Equipment:

#### **FT3-a-b-c-d-e-f. Thermal Gas Mass 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 SS, SH, SJ or SL.

c = Sensor type ST or HT.

d = Enclosure E1, E2, E3 or E4.

e = Display and data logger D0, DD or DL.

f = Option boards B0, B1, MB, BH, BE or BP.

## Model MTI10 Insertion

### Description of Equipment:

#### **MTI10-a-b-c-d-e-f. Thermal Gas Mass Flow Meter and Temperature Transmitter (Insertion).**

a = Probe 100I, 125I, 150I, 175I, 200I, 225I, 250I, 275I, 300I, 325I, 350I, 375I, 400I, 425I, 450I, 475I, 500I, 525I, 550I, 575I, 600I, 625I, 650I, 675I, 700I, 725I, 750I, 775I, 800I, 825I, 850I, 875I, 900I, 375R, 450R, 600R, 750R or 900R.

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

c = Sensor type ST or HT.

d = Enclosure E1, E2, E3 or E4.

e = Display and data logger D0, DD or DL.

f = Option boards B0, B1, B2 or B3.

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### Model MTL10 Inline

#### Description of Equipment:

***MTL10-a-b-c-d-e-f-g-h. Thermal Gas Mass Flow Meter and Temperature Transmitter (Inline).***

- a = Flow body size 008, 015, 020, 025, 032, 040, 050, 065, 080, 100 or 150.
- b = Pipe Connection 1NB or 3AB.
- c = Flow body material 6C or 4D.
- d = Sensor material SS or SH.
- e = Sensor type ST or HT.
- f = Enclosure E1, E2, E3 or E4.
- g = Display and data logger D0, DD or DL.
- h = Option boards B0, B1, B3 or B4.

### Model TFH3000 Inline

#### Description of Equipment:

***TFH3000-a-b-c-d-e-f. Thermal Gas Mass Flow Meter and Temperature Transmitter (Inline).***

- a = Flow body size 025P, 05P, 075P, 10P, 125P, 15P, 20P, 25P, 30P, 40P, 05F, 075F, 10F, 125F, 15F, 20F, 25F, 30F, 40F, 60F, 20PC, 25PC, 30PC, 40PC, 20FC, 25FC, 30FC or 40FC.
- b = Sensor material SS or SH.
- c = Sensor type ST or HT.
- d = Enclosure E1, E2, E3 or E4.
- e = Display and data logger D0, DD or DL.
- f = Option boards B0, B1, MB, BH, BE or BP.

### Model TFH3000 Insertion

#### Description of Equipment:

***TFH3000-a-b-c-d-e-f. Thermal Gas Mass 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 SS, SH, SJ or SL.
- c = Sensor type ST or HT.
- d = Enclosure E1, E2, E3 or E4.
- e = Display and data logger D0, DD or DL.
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