



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX FMG 23.0020X** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2024-11-14\)](#)
[Issue 0 \(2023-09-18\)](#)
Date of Issue: 2025-04-14
Applicant: **Sierra Instruments Inc.**
20 Ryan Ranch Rd
Ste 109
Monterey CA 93940
United States of America
Equipment: **645i, 745i and TM500 Series Thermal Mass Gas Flow Meter and Temperature Transmitter**
Optional accessory:
Type of Protection: **Flameproof, d; Enclosure, t**
Marking: IECEx FMG 23.0020X
Ex db IIB+H2 T6 or T4 Gb Ta = -20°C to +70°C, IP67
Ex tb IIIC T85°C or T135°C Db Ta = -20°C to +70°C, IP67

Approved for issue on behalf of the IECEx
Certification Body:

J. E. Marquedant

Position:

VP, Manager - Electrical Systems

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

FM Approvals LLC
One Technology Way
Norwood MA 02062
United States of America

FM Approvals



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Manufacturer: **Sierra Instruments Inc.**
20 Ryan Ranch Rd
Ste 109
Monterey CA 93940
United States of America

Manufacturing locations: **Sierra Instruments Inc.**
20 Ryan Ranch Rd
Ste 109
Monterey CA 93940
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[US/FMG/ExTR23.0022/00](#)

[US/FMG/ExTR23.0022/01](#)

[US/FMG/ExTR23.0022/02](#)

Quality Assessment Report:

[GB/FME/QAR25.0004/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

a-bcde-f-g-h-i. Thermal Mass Gas Flow Meter and Temperature Transmitter (Insertion).

a = Model: 645i or TM500.

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

c = Retractor: I, R or C.

d = Crank retractor diameter: BLANK, 1 or 2.

e = Crank retractor flange: BLANK, A1, A2, A3, N1, N2, J1 or J2.

f = Sensor diameter and material: BLANK, H3, J3, L3, S2, H2, J2 or L2.

g = Enclosure and power: E1, E2, E3, E4, T1, T2, T3, T4, Y1 or Y2.

h = Data logger and display: BLANK, D0, DL or L0.

i = Communication: B0, RS, BN or BH.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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.
3. The equipment temperature code ratings are dependent on the enclosure configuration (local or remote). Refer to the following table for specific temperature code markings.

Model Code	Temperature Code Marking-Gas		Temperature Code Marking-Dust	
	Main Enclosure	Remote Enclosure	Main Enclosure	Remote Enclosure
E1, E2, T1, T2	T4	N/A	T135°C	N/A
E3, E4, T3, T4, Y1, Y2	T6	T4	T85°C	T135°C



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Equipment (continued):

a-bcde-f-ghij-k-l-m-n. Thermal Mass Gas Flow Meter and Temperature Transmitter (Inline).

a = Model: 745i or TM500.

b = Flowbody size: 025, 05, 075, 10, 125, 15, 20, 25, 30, 40, 60 or 80.

c = Flowbody type: P, F, G, H, D, E, J or K.

d = Flowbody material: BLANK or C.

e = Flowbody conditioner: BLANK or X.

f = Flowbody pipe schedule: BLANK, S05, S10 or S80.

g = Retractor length: BLANK, 15, 18, 24, 30 or 36.

h = Retractor: BLANK, R or C.

i = Crank retractor diameter: BLANK, 1 or 2.

j = Crank retractor flange: BLANK, A1, A2, A3, N1, N2, J1 or J2.

k = Sensor diameter and material: BLANK, H3, J3, L3, S2, H2, J2 or L2.

l = Enclosure and power: E1, E2, E3, E4, T1, T2, T3, T4, Y1 or Y2.

m = Data logger and display: BLANK, D0, DL or L0.

n = Communication: B0, RS, BN or BH.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Updating company address and QAR.