

CERTIFICATE OF CONFORMITY



1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. Certificate No:

FM22US0072

3. Equipment:
(Type Reference and Name)

640S and 780S Mass Flow Meters

4. Name of Listing Company:

Sierra Instruments Inc

5. Address of Listing Company:

20 Ryan Ranch Road, Ste 109, Monterey, California
93940, United States of America

6. The examination and test results are recorded in confidential report number:

OR7A1.AE dated 24th January 1991

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 3600:2022, FM 3615:2022, FM 3810:1989+Supplement 1:1995, NEMA 250:1991

8. 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.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

Explosionproof for Class I, Division 1, Groups B, C and D; Dust-ignitionproof for Class II, Division 1, Groups E, F and G hazardous (classified) locations, indoors and outdoors (Type 4X).

11. The marking of the equipment shall include:

Class I, Division 1, Groups B, C, D T3; Class II, Division 1, Groups E, F, G T3; Type 4X
Ta = -40°C to +50°C

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

05/26/2026

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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

FM Approvals LLC. 1165 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmaprovals.com www.fmaprovals.com

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12. Description of Equipment:

General - The 640S and 780S Mass Flow Meters monitor the mass flow rate of air and process gases. The mass flow probe inserts into pipes, ducts or external flows and delivers various analog output signals proportional to the gas mass flow rate.

Construction - The equipment consists of an electronics assembly, an NRTL listed electronics enclosure and a probe assembly. The probe assembly consists of a 316 stainless steel thermowell with two sensors located in the end: a velocity sensor and a temperature sensor. The probe has a maximum length of 72 inches. For probe lengths greater than 18 inches in length, an NRTL listed seal fitting is included and inserted in the probe within 18 inches of the enclosure.

Ratings - The equipment operates at 18-30 Vdc (625 mA) or 100-240 Vac, 50/60 Hz (15 W). The equipment carries a Type 4X rating.

Refer to the Annex for model codes.

13. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

14. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

15. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
24 January 1991	Original Issue.
27 September 2022	<u>Supplement 4:</u> Report Reference: RR234403 dated 27 September 2022. Description of the Change: Reissue certificate in new format. Minor model code changes and error corrections for 640S. Class 3600 and NEMA 250 updated as there are no technical changes between prior edition(s).
13 August 2024	<u>Supplement 5:</u> Report Reference: RR242137 dated 13 August 2024. Description of the Change(s): Minor drawing changes with model code additions previously included in original documentation not affecting safety.

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Date	Description
8 April 2025	<u>Supplement 6:</u> Report Reference: RR245650 dated 8 April 2025. Description of the Change(s): Updating company address. Minor documentation changes not affecting the equipment safety. Model code corrections to match existing documentation.
24 December 2025	<u>Supplement 7:</u> Report Reference: RR249008 dated 24 December 2025. Description of the Change(s): Model code reformatting/restructuring. No new features added.
26 May 2026	<u>Supplement 8:</u> Report Reference: RR251109 dated 26 May 2026. Description of the Change(s): Add ambient temperature range to marking.

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ANNEX

640S Mass Flow Meter

Description of Equipment:

640S-a-b-c-d-e-f-FM-g-h-i-j. Mass Flow Meter.

a = Probe length: L06, L09, L13, L18, L24, L36, L42, L* or L*M5 (1 in. 150 lb Flange). *Specify probe length (max 72 in.).

b = Enclosure: E2 or E4.

c = Input power: P2 or P3.

d = Output signal: V1, V3 or V4.

e = Display: NR or DD.

f = Digital communication: XX*, P1 (not available when variable e = NR) or MB (only available when variable c = P2). *None.

g = Gas code: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 or 99.

h = Non-resettable totalizer option: NRT or BLANK.

i = Remote cable option: CXXX* or BLANK (when variable b = E2). *Specify cable length in XXX feet, 100 ft max.

j = Oxygen cleaning option: O2C or BLANK.

780S Mass Flow Meter

Description of Equipment:

780S-a-b-c-d-e-f-FM-g-h-i-j. Mass Flow Meter.

a = Flow body: N025, N050, N075, N100, N150, N200, N300, N400, N600, N800, F050, F075, F100, F150, F200, F300, F400, F600, F800, FD200, FD300, FD400, FD600, FD800, GD100, GD150, GD200, GD300, GD400, GD600 or GD800.

b = Enclosure: E2 or E4.

c = Input power: P2 or P3.

d = Output signal: V1, V3 or V4.

e = Display: NR or DD.

f = Digital communication: XX*, P1 (not available when variable e = NR) or MB (only available when variable c = P2). *None.

g = Gas code: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 or 99.

h = Non-resettable totalizer option: NRT or BLANK.

i = Remote cable option: CXXX* or BLANK (when variable b = E2). *Specify cable length in XXX feet, 100 ft max.

j = Oxygen cleaning option: O2C or BLANK.

780S-UHP Ultra High Purity Mass Flow Meter

Description of Equipment:

780S-UHP-a-b-c-d-e-f-FM-g-h-i-j. Ultra High Purity. Mass Flow Meters.

a = Flow body: UB038, UB050, UB100, UB150, UB200, UB300, UB400, UV038, UV050 or UV100.

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b = Enclosure: E2 or E4.

c = Input power: P2 or P3.

d = Output signal: V1, V3 or V4.

e = Display: NR or DD.

f = Digital communication: XX*, P1 (not available when variable e = NR) or MB (only available when variable c = P2). *None.

g = Gas code: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14 or 99.

h = Non-resettable totalizer option: NRT or BLANK.

i = Remote cable option: CXXX* or BLANK (when variable b = E2). *Specify cable length in XXX feet, 100 ft max.

j = Oxygen cleaning option: O2C or BLANK.



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