Certificate of Compliance

Certificate: 80147615 **Master Contract:** 152450

Project: 80147615 **Date Issued:** 2023-09-28

Issued To: **Micro Motion Incorporated**
7070 Winchester Cir
Boulder, Colorado, 80301
United States

Attention: Ray C. Stengl

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by: *Andy Jiang*
Andy Jiang

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations
CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - To US Requirements

Class I, Division 2, Groups A, B, C and D; T*
Class II, Division 2, Groups F and G; T*°C
Ex ec IIC T* Gc
Ex tc IIIB T*°C Dc
Class I, Zone 2 AEx ec IIC T* Gc
Zone 22 AEx tc IIIB T*°C Dc

The Gxxx Series Mass Flow Sensor - Models:

- G025M* Micro Motion G-Series Coriolis Meter, 1/4 Inch line size, Rated MWP 1450 PSI
- G050M* Micro Motion G-Series Coriolis Meter, 1/2 Inch line size, Rated MWP 1450 PSI
- G100M* Micro Motion G-Series Coriolis Meter, 1 Inch line size, Rated MWP 1450 PSI

- G150M* Micro Motion G-Series Coriolis Meter, 1.5 Inch line size, Rated MWP 1450 PSI
- G200M* Micro Motion G-Series Coriolis Meter, 2 Inch line size, Rated MWP 1450 PSI
- G300M* Micro Motion G-Series Coriolis Meter, 3 Inch line size, Rated MWP 1450 PSI

* Model suffix includes letters and numerals variations with no impact on the type of protection.

Key ratings for G sensor:

- 30Vdc Max, 42 mA
- Dual Seal
- IP66/67
- Enclosure Type 4X
- Ambient Temperature Range: -65°C ≤ Ta ≤ +80°C
- Process Temperature Range: -65°C ≤ Tp ≤ +150°C
- * T-code at different ambient and process temperatures:

T Rating	max ambient (°C)	max fluid (°C)
T6	47	47
T5	62	62
T4	80	97
T3	80	150

Note:

1. The above models are permanently connected, equipment class III, pollution degree 2, overvoltage category I.
2. Mode of operation: Continuous
3. Environmental Conditions: -65 to +80 °C, 2000 m max, Humidity 5-95% RH non-condensing.
4. The above models may only be powered by a Certified Emerson transmitter.

Conditions of Acceptability:

1. Transmitters shall be remotely mounted from Sensor with Process Temperature below the marked Transmitter Minimum Ambient or with Process Temperatures above the marked Transmitter Maximum Ambient.
2. The degree of protection (IP) on the external side of the sensor feed-through shall be maintained during the field installation.

CLASS - C2258 04 - PROCESS CONTROL EQUIPMENT Intrinsically Safe, Entity - For Hazardous Locations
CLASS - C2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C and D; T*
Class II, Division 1, Groups E, F and G; T*°C
Ex ia IIC T* Ga
Ex ia IIIC T*°C Da
Class I, Zone 0 AEx ia IIC T* Ga
Zone 20 AEx ia IIIC T*°C Da

Class I, Division 2, Groups A, B, C and D; T*
Class II, Division 2, Groups F and G; T*°C
Ex ic IIC T* Gc
Ex ic IIIB T*°C Dc
Class I, Zone 2 AEx ic IIC T* Gc
Zone 22 AEx ic IIIB T*°C Dc

The Gxxx Series Mass Flow Sensor - Models:

- G025M* Micro Motion G-Series Coriolis Meter, 1/4 Inch line size, Rated MWP 1450 PSI
- G050M* Micro Motion G-Series Coriolis Meter, 1/2 Inch line size, Rated MWP 1450 PSI
- G100M* Micro Motion G-Series Coriolis Meter, 1 Inch line size, Rated MWP 1450 PSI
- G150M* Micro Motion G-Series Coriolis Meter, 1.5 Inch line size, Rated MWP 1450 PSI
- G200M* Micro Motion G-Series Coriolis Meter, 2 Inch line size, Rated MWP 1450 PSI
- G300M* Micro Motion G-Series Coriolis Meter, 3 Inch line size, Rated MWP 1450 PSI

* Model suffix includes letters and numerals variations with no impact on the type of protection.

Key ratings for G sensor:

- 30Vdc Max, 42 mA
- Dual Seal
- IP66/67
- Enclosure Type 4X
- Ambient Temperature Range: -65°C ≤ Ta ≤ +80°C
- Process Temperature Range: -65°C ≤ Tp ≤ +150°C
- * T-code at different ambient and process temperatures:

T Rating	max ambient (°C)	max fluid (°C)
T6	47	47
T5	62	62
T4	80	97
T3	80	150

- Intrinsically Safe when installed per drawing EB-20075559.

I.S. Entity parameters:

- Drive coil circuit:
  Ui = 15.45 V; Ii = 2.46 A; Pi = 2.73 W; Ci = 0 F; Li = 18.8 mH; Li/Ri = 75.96 uH/Ω
- Pick off coil circuit:
  Ui = 21.13 V; Ii = 25 mA; Pi = 45 mW; Ci = 0 F; Li = 18.8 mH
- RTD circuit:
  Ui = 21.13 V; Ii = 26.17 mA; Pi = 112.69 mW; Ci = 0 F ; Li = 0 H

Note:
1. The above models are permanently connected, equipment class III, pollution degree 2, overvoltage category I.
2. Mode of operation: Continuous
3. Environmental Conditions: -65 to +80 °C, 2000 m max, Humidity 5-95% RH non-condensing.
4. The above models may only be powered by a Certified Emerson transmitter.

Ex ib IIC T* Ga/Gb
Class I, Zone 1 AEx ib IIC T* Ga/Gb

The Gxxx Series Mass Flow Sensor - Models:
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- G050M* Micro Motion G-Series Coriolis Meter, 1/2 Inch line size, Rated MWP 1450 PSI
- G100M* Micro Motion G-Series Coriolis Meter, 1 Inch line size, Rated MWP 1450 PSI
- G150M* Micro Motion G-Series Coriolis Meter, 1.5 Inch line size, Rated MWP 1450 PSI
- G200M* Micro Motion G-Series Coriolis Meter, 2 Inch line size, Rated MWP 1450 PSI
- G300M* Micro Motion G-Series Coriolis Meter, 3 Inch line size, Rated MWP 1450 PSI

* Model suffix includes letters and numerals variations with no impact on the type of protection.

Key ratings for G sensor - when mounted with integral Transmitters:
- 30Vdc Max, 42 mA
- Dual Seal
- IP64
- Enclosure Type 4X
- Ambient Temperature Range: -65°C ≤ Ta ≤ +80°C
- Process Temperature Range: -65°C ≤ Tp ≤ +150°C
- * T-code at different ambient and process temperatures:

T Rating	max ambient (°C)	max fluid (°C)
T6	47	47
T5	62	62
T4	80	97
T3	80	150

- Intrinsically Safe when installed per drawing EB-20075559.

Key ratings for G sensor – when mounted with Junction box:

- 30Vdc Max, 42 mA
- Dual Seal
- IP64
- Enclosure Type 4X
- Ambient Temperature Range: -35°C ≤ Ta ≤ +80°C
- Process Temperature Range: -35°C ≤ Tp ≤ +150°C
- * T-code at different ambient and process temperatures:

T Rating	max Ambient (°C)	max Process (°C)
T6	47	47
T5	62	62
T4	80	97
T3	80	150

- Intrinsically Safe when installed per drawing EB-20075559.

Key ratings for G sensor - when mounted with Type 800 Core Processor:

- 30Vdc Max, 42 mA
- Dual Seal
- IP6X
- Enclosure Type 4X
- Ambient Temperature Range: -40°C ≤ Ta ≤ +60°C
- Process Temperature Range: -65°C ≤ Ta ≤ +150°C
- * T-code at different ambient and process temperatures:

T Rating	max Ambient (°C)	max Process (°C)
T5	60	62
T4	60	97
T3	60	150

- Intrinsically Safe when installed per drawing EB-20075559.

I.S. Entity parameters:

- Drive coil circuit:
  Ui = 15.45 V; Ii = 2.46 A; Pi = 2.73 W; Ci = 0 F; Li = 18.8 mH; Li/Ri = 75.96 uH/Ω
- Pick off coil circuit:
  Ui = 21.13 V; Ii = 25 mA; Pi = 45 mW; Ci = 0 F; Li = 18.8 mH
- RTD circuit:
  Ui = 21.13 V; Ii = 26.17 mA; Pi = 112.69 mW; Ci = 0 F ; Li = 0 H

Note:

1. The above models are permanently connected, equipment class III, pollution degree 2, overvoltage category I.
2. Mode of operation: Continuous
3. Environmental Conditions: -65 to +80 °C, 2000 m max, Humidity 5-95% RH non-condensing.
4. The above models may only be powered by a Certified Emerson transmitter.

Conditions of Acceptability:

1. EPL Ga (Zone 0) is permitted inside the sensor flow tube. The sensors may be employed only for those media, for which the wetted parts are known to be suitable.
2. Core Processor shall be remotely mounted from Sensor with Process Temperatures below -40°C or with Process Temperatures above +60°C.
3. Transmitters shall be remotely mounted from Sensor with Process Temperature below the marked Transmitter Minimum Ambient or with Process Temperatures above the marked Transmitter Maximum Ambient.
4. The degree of protection (IP) on the external side of the sensor feed-through shall be maintained during the field installation.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No 25-17	Enclosures for Use in Class II Groups E, F and G Hazardous Locations
CAN/CSA C22.2 No. 94.2:20	Enclosures for Electrical Equipment, Environmental Considerations
CAN/CSA C22.2 No. 60079-0:19	Explosive atmospheres – Part 0: Equipment – General requirements
CAN/CSA C22.2 No. 60079-7:16 *(AMD1)*	Explosive atmospheres – Part 7: Equipment protection by increased safety “e”
CAN/CSA C22.2 No. 60079-11:14 *(R2018)*	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”
CAN/CSA C22.2 No. 60079-26:22	Explosive atmospheres – Part 26: Equipment with separation elements or combined levels of protection
CAN/CSA-C22.2 No. 60079-31:15	Explosive Atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
CAN/CSA C22.2 No. 213-17 + *UPD 1 (2018) + UPD 2 (2019) + UPD 3 (2021)*	Non-incendive Electrical Equipment for Use in Class I and II, Division 2, and Class III Hazardous (Classified) Locations
CAN/CSA C22.2 No. 61010-1-*12* + *UPD1:2015, UPD2:2016, AMD: 2018*	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements
ANSI/UL 50E-2020 *Third Edition*	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/UL 913 *Eighth Edition*	Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, III, Division 1, Hazardous (Classified) Locations
ANSI/UL 60079-0-2020 *Seventh Edition*	Explosive atmospheres – Part 0: Equipment – General requirements
ANSI/UL 60079-7-2021 *Fifth Edition*	Explosive Atmospheres – Part 7: Equipment protection by increased safety “e”
ANSI/UL 60079-11-2023 *Sixth Edition*	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”
ANSI/UL 60079-26-2022 *Third Edition*	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
ANSI/UL 60079-31-2015 *Second Edition*	Explosive Atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
ANSI/UL 121201-2021 *Ninth Edition*	Non-incendive Electrical Equipment for Use in Class I and II, Division 2, and Class III Hazardous (Classified) Locations
ANSI/UL 12.27.01-2022 *Fourth Edition*	Requirements for Process Sealing Between Electrical Systems and Flammable or Combustible Process Fluids

ANSI/UL 61010-1-2018 *Third Edition*	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part 1: General Requirements

MARKINGS

Refer to Descriptive Report and Test Results # 80147615 for complete details on Markings.

Notes:

Products certified under Class C225802, C225804, C225882, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

Certificate: 80147615 **Master Contract:** 152450

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80147615	2023-09-28	Original Certification of Gxxx Series Mass Flow Sensor Models G025M, G050M, G0100M, G150M, G200, G300M for following ratings: Class I, Division 1, Groups A, B, C and D; T* Class I, Division 2, Groups A, B, C and D; T* Class II, Division 1, Groups E, F and G; T*°C Class II, Division 2, Groups F and G; T*°C Ex ia IIC T* Ga Ex ia IIIC T*°C Da Ex ic IIC T* Gc Ex ic IIIB T*°C Dc Ex ec IIC T* Gc Ex tc IIIB T*°C Dc Ex ib IIC T* Ga/Gb Class I, Zone 0 AEx ia IIC T* Ga Zone 20 AEx ia IIIC T*°C Da Class I, Zone 2 AEx ic IIC T* Gc Zone 22 AEx ic IIIB T*°C Dc Class I, Zone 2 AEx ec IIC T* Gc Zone 22 AEx tc IIIB T*°C Dc Class I, Zone 1 AEx ib IIC T* Ga/Gb Ambient Temperature Range: -65°C ≤ Ta ≤ +80°C Process Temperature Range: -65°C ≤ Tp ≤ +150°C Enclosure Ratings: IP66/67 and Type 4X