



Certificate of Compliance

Certificate: 1251617

Master Contract: 151079

Project: 80010013

Date Issued: 2019-10-04

Issued To: Endress+Hauser SE+Co. KG
Hauptstrasse 1
Maulburg, Baden-Württemberg, 79689
Germany

Attention: Steve Czaniecki

The products listed below are eligible to bear the CSA Mark shown



Issued by: Anil Sodhi
Anil Sodhi

PRODUCTS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations

Ex ia IIC T6...T4 Ga:

Class I, Division 1, Groups A, B, C and D T6...T4; Class II, Division 1, Groups E, F and G; Class III:

Prosonic M FMU 40/41 - Ubcdef or FMU 42/44-Ubcdefg Ultrasonic Level Transmitters, rated 9...24 Vdc, 0.8 W (where c = D,F,K,L,Q or R) or 30Vdc, 4..20 mA (where c = B, J or P). Intrinsically Safe with Temperature Codes and Maximum Ambient Temperatures with Entity Parameters per Control Drawings 960006278, 960006279, 960006282, 960006283. Type 4X/6P Enclosure.

Permissible process / ambient temperature and temperature code table:

Temperature code of FMU40 / 41/ 42 / 44	Permissible medium temperature (flange)	Permissible ambient temperature
T6	+60 °C	+60 °C
T5	+80 °C	+75 °C
T4	+80 °C	+80 °C



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Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	B (2-wire, 4..20 mA-loop (HART)) D (2-wire, Profibus PA (FISCO or Entity, IS version only)) F (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only)) J (2-wire, 4..20 mA-loop (HART), 5-point linearity protocol) K (2-wire, Profibus PA (FISCO or Entity, IS version only), 5-point linearity protocol) L (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only), 5-point linearity protocol) P (2-wire, 4..20 mA-loop (HART), 3-point linearity protocol) Q (2-wire, Profibus PA (FISCO or Entity, IS version only), 3-point linearity protocol) R (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only), 3-point linearity protocol)
d - Display	1 (without display) 2 (with display and communication on site) 3 (prepared for connection of external display)
e - Enclosure	A (F12 coated aluminium housing, IP68, NEMA/Type 4X/6P) D (T12 coated alu. housing w. integrated surge protection, IP68, NEMA/Type 4X/6P) Y (F23 stainless steel SS308 housing IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT ½") 5 (M12 Profibus PA plug) 6 (7/8" Foundation Fieldbus plug)
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

Conditions of Acceptability:

1. The units must be installed in accordance with the applicable referenced Control Drawings.
2. The Prosonic M may be provided with an external connector which provides intrinsically safe circuits for connection to a CSA certified Endress+Hauser Remote Display, Type FHX 40. The FHX40 is for use in Class I hazardous locations only and has a T-code of T5 at max. Ambient 75°C. Refer to safety instructions of the external display unit FHX 40.
3. The Prosonic M internal CDI connector provides intrinsically safe circuits for connection to CSA certified Endress+Hauser Service Interface, type Commubox FXA 193 with ToF-Cable from Endress + Hauser. FXA193 must be located in the non-hazardous area. Refer to safety instructions of the Commubox FXA193.
4. In case of FMU 44 avoid electrostatic charge at the sensor. Do not rub with dry cloth; do not install within the filling curtain.



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CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

Ex ia/d [ia Ga] IIC T6...T4 Ga/Gb:

Class I, Division 1, Groups A, B, C and D T6...T4; Class II, Division 1, Groups E, F and G; Class III:

Prosonic M FMU 40/41 - Vbcdef or FMU 42/44-Vbcdefg Ultrasonic Level Transmitters rated 14...32 Vdc, 0.8 W (where c = D,F,K,L,Q or R) or 32 Vdc, 4..20 mA (where c = B,J or P). Explosion Proof with Intrinsically Safe electronics and sensors. Temperature Codes and Maximum Ambient Temperatures per Control Drawing 960006280. Type 4X/6P Enclosure.

Permissible process / ambient temperature and temperature code table:

Temperature code of FMU40 / 41/ 42 / 44	Permissible medium temperature (flange)	Permissible ambient temperature
T6	+60 °C	+60 °C
T5	+80 °C	+60 °C
T4	+80 °C	+60 °C

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	B (2-wire, 4..20 mA-loop (HART)) D (2-wire, Profibus PA) F (2-wire, Foundation Fieldbus) J (2-wire, 4..20 mA-loop (HART), 5-point linearity protocol) K (2-wire, Profibus PA, 5-point linearity protocol) L (2-wire, Foundation Fieldbus, 5-point linearity protocol) P (2-wire, 4..20 mA-loop (HART), 3-point linearity protocol) Q (2-wire, Profibus PA, 3-point linearity protocol) R (2-wire, Foundation Fieldbus, 3-point linearity protocol)
d - Display	1 (without display) 2 (with display and communication on site)
e - Enclosure	C (T12 coated aluminium housing, IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT 1/2")
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)



Certificate: 1251617

Project: 80010013

Master Contract: 151079

Date Issued: 2019-10-04

Class I, Division 2, Groups A, B, C and D T*; Class II, Division 1, Groups E, F and G; Class III, NIFW:

Prosonic M FMU 40/41 - Ubcdef or FMU 42/44-Ubcdefg Ultrasonic Level Transmitters, rated 9 ... 24 Vdc, 0.8 W (where c = D,F,K,L,Q or R) or 30Vdc, 4 ... 20 mA (where c = B,J or P). Temperature Codes, Maximum Ambient Temperatures and non-incendive field wiring connections per Control Drawing 960006278, 960006279, 960006282, 960006283. Type 4X/6P Enclosure.

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	B (2-wire, 4..20 mA-loop (HART)) D (2-wire, Profibus PA (FISCO or Entity, IS version only)) F (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only)) J (2-wire, 4..20 mA-loop (HART), 5-point linearity protocol) K (2-wire, Profibus PA (FISCO or Entity, IS version only), 5-point linearity protocol) L (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only), 5-point linearity protocol) P (2-wire, 4..20 mA-loop (HART), 3-point linearity protocol) Q (2-wire, Profibus PA (FISCO or Entity, IS version only), 3-point linearity protocol) R (2-wire, Foundation Fieldbus (FISCO or Entity, IS version only), 3-point linearity protocol)
d - Display	1 (without display) 2 (with display and communication on site) 3 (prepared for connection of external display)
e - Enclosure	A (F12 coated aluminium housing, IP68, NEMA/Type 4X/6P) D (T12 coated alu. housing w. integrated surge protection, IP68, NEMA/Type 4X/6P) Y (F23 stainless steel SS308 housing IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT 1/2") 5 (M12 Profibus PA plug) 6 (7/8" Foundation Fieldbus plug)
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

Prosonic M FMU 40/41 - Vbcdef or FMU 42/44-Vbcdefg Ultrasonic Level Transmitters rated 14 ... 32 Vdc, 0.8 W (where c = D,F,K,L,Q or R) or 32 Vdc, 4 ... 20 mA (where c = B,J or P). Temperature Codes, Maximum Ambient Temperatures and non-incendive field wiring connections per Control Drawing 960006280. Type 4X/6P Enclosure.

Permissible process / ambient temperature and temperature code table:

*Temperature code of FMU40 / 41/ 42 / 44	Permissible medium temperature (flange)	Permissible ambient temperature
T6	+60 °C	+60 °C
T5	+80 °C	+60 °C
T4	+80 °C	+60 °C



Certificate: 1251617
Project: 80010013

Master Contract: 151079
Date Issued: 2019-10-04

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	B (2-wire, 4..20 mA-loop (HART)) D (2-wire, Profibus PA) F (2-wire, Foundation Fieldbus) J (2-wire, 4..20 mA-loop (HART), 5-point linearity protocol) K (2-wire, Profibus PA, 5-point linearity protocol) L (2-wire, Foundation Fieldbus, 5-point linearity protocol) P (2-wire, 4..20 mA-loop (HART), 3-point linearity protocol) Q (2-wire, Profibus PA, 3-point linearity protocol) R (2-wire, Foundation Fieldbus, 3-point linearity protocol)
d - Display	1 (without display) 2 (with display and communication on site)
e - Enclosure	C (T12 coated aluminium housing, IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT ½")
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

Conditions of Acceptability:

1. The units must be installed in accordance with the applicable referenced Control Drawings.
2. Devices using the T12 aluminum housing (option e = C or D) must be supplied from a Class 2 or limited-energy source in accordance with CSA61010-1-12.
3. The Prosonic M may be provided with an external connector which provides IS or NIFW circuits for connection to a CSA certified Endress+Hauser Remote Display, Type FHX 40. The FHX40 is for use in Class I hazardous locations only and has a T-code of T5 at max. Ambient 75°C. Refer to safety instructions of the external display unit FHX 40.
4. The Prosonic M internal CDI connector provides IS or NIFW circuits for connection to CSA certified Endress+Hauser Service Interface, type Commubox FXA 193 with ToF-Cable from Endress + Hauser. FXA193 must be located in the non-hazardous area. Refer to safety instructions of the Commubox FXA193.
5. In case of FMU 44 avoid electrostatic charge at the sensor. Do not rub with dry cloth; do not install within the filling curtain.



Certificate: 1251617
Project: 80010013

Master Contract: 151079
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CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

Class I, Division 2, Groups A, B, C and D T*; Class II, Division 1, Groups E, F and G; Class III:

Prosonic M FMU 43 - Pbcdef Ultrasonic Level Transmitters rated 90...250 Vac, 50/60 Hz, 4VA (where c = G,M or S) or 10.5...32 Vdc, 1 W (where c = H,N or T) or 9...32 Vdc, 0.8 W (where c = D,F,K,L,Q or R). Type 4X/6P Enclosure.

where T* = Temperature Code T5 (at max. ambient 60 °C);
 Temperature Code T4A (at max. ambient 80°C).

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	D (2-wire, Profibus PA) F (2-wire, Foundation Fieldbus) G (4-wire, 90...250VAC, 4..20 mA (HART)) H (4-wire, 10.5...32VDC, 4..20 mA (HART)) K (2-wire, Profibus PA, 5-point linearity protocol) L (2-wire, Foundation Fieldbus, 5-point linearity protocol) M (4-wire, 90...250VAC, 4..20 mA (HART), 5-point linearity protocol) N (4-wire, 10.5...32VDC, 4..20 mA (HART), 5-point protocol) Q (2-wire, Profibus PA), 3-point linearity protocol) R (2-wire, Foundation Fieldbus, 3-point linearity protocol) S (4-wire, 90...250VAC, 4..20 mA (HART), 3-point linearity protocol) T (4-wire, 10.5...32VDC, 4..20 mA (HART), 3-point protocol)
d - Display	1 (without display) 2 (with display and communication on site)
e - Enclosure	A (F12 coated aluminium housing, IP68, NEMA/Type 4X/6P) Y (F23 stainless steel SS308 housing IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT ½")
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

Conditions of Acceptability:

1. The final installation shall be per Canadian Electrical Code (CEC) using one of the wiring methods described in the applicable Rules for the location of installation.



Certificate: 1251617
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CLASS 2252 01 - PROCESS CONTROL EQUIPMENT

Prosonic M FMU 40/41/43 - Nbcdef or FMU 42/44-Nbcdefg Ultrasonic Level Transmitters rated 90...250 Vac, 50/60 Hz, 4 VA. Type 4X/6P Enclosure.

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	G (4-wire, 90...250VAC, 4..20 mA (HART)) M (4-wire, 90...250VAC, 4..20 mA (HART), 5-point linearity protocol) S (4-wire, 90...250VAC, 4..20 mA (HART), 3-point linearity protocol)
d - Display	1 (without display) 2 (with display and communication on site) 3 (prepared for connection of external display)
e - Enclosure	A (F12 coated aluminium housing, IP68, NEMA/Type 4X/6P) D (T12 coated alu. housing w. integrated surge protection, IP68, NEMA/Type 4X/6P) Y (F23 stainless steel SS308 housing IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT ½") 5 (M12 Profibus PA plug) 6 (7/8" Foundation Fieldbus plug)
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

CLASS 2252 06 - PROCESS CONTROL EQUIPMENT

Prosonic M FMU 40/41/43 - Nbcdef or FMU 42/44-Nbcdefg Ultrasonic Level Transmitters rated 10.5 ... 32 Vdc, 1 W (where c = H,N or T), 9 ... 35 Vdc, 0.8 W (where c = D,F,K,L,Q or R), 35Vdc, 4 ... 20 mA (where c = B,J or P). Type 4X/6P Enclosure.

Option codes as follows:

b - Process connection	Single character (A, E, F, G, H, J, K, L, M, N, P, Q, S, T, U, V), which defines standardized threads, refer to instruction manual for details of applicable model type
c - Power supply, communication	B (2-wire, 4..20 mA-loop (HART)) D (2-wire, Profibus PA) F (2-wire, Foundation Fieldbus) H (4-wire, 10.5...32VDC, 4..20 mA (HART)) J (2-wire, 4..20 mA-loop (HART), 5-point linearity protocol) K (2-wire, Profibus PA, 5-point linearity protocol) L (2-wire, Foundation Fieldbus, 5-point linearity protocol) N (4-wire, 10.5...32VDC, 4..20 mA (HART), 5-point protocol) P (2-wire, 4..20 mA-loop (HART), 3-point linearity protocol) Q (2-wire, Profibus PA), 3-point linearity protocol)



Certificate: 1251617
Project: 80010013

Master Contract: 151079
Date Issued: 2019-10-04

	R (2-wire, Foundation Fieldbus, 3-point linearity protocol) T (4-wire, 10.5...32VDC, 4..20 mA (HART), 3-point protocol)
d - Display	1 (without display) 2 (with display and communication on site) 3 (prepared for connection of external display)
e - Enclosure	A (F12 coated aluminium housing, IP68, NEMA/Type 4X/6P) D (T12 coated alu. housing w. integrated surge protection, IP68, NEMA/Type 4X/6P) Y (F23 stainless steel SS308 housing IP68, NEMA/Type 4X/6P)
f - Cable entry	4 (cable entry NPT 1/2") 5 (M12 Profibus PA plug) 6 (7/8" Foundation Fieldbus plug)
g - Sealing sensor, flange	2 (VITON flat sealing) 3 (EPDM flat sealing)

Conditions of Acceptability:

1. Devices using the T12 aluminum housing (option e = D) must be supplied from a Class 2 or limited-energy source in accordance with CSA61010-1-12.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-10	-	General Requirements - Canadian Electrical Code, Part II
CSA Std C22.2 No. 25-1966	-	Enclosures for Use in Class II, Groups E, F and G
		Hazardous Locations
CSA Std C22.2 No. 30-M1986	-	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 94-M91	-	Special Purpose Enclosures
CSA Std C22.2 No. 142-M1987	-	Process Control Equipment
CSA Std C22.2 No. 213-M1987	-	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:15	-	Explosive atmospheres – Part 0: Equipment - General Requirements
CAN/CSA-E60079-1:02	-	Electrical Apparatus for Explosive Gas Atmospheres - Part 1: Flameproof Enclosures "d"
CAN/CSA-C22.2 No. 60079-11:14	-	Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety "i"
CAN/CSA-C22.2 No. 60079-26:16	-	Explosive atmospheres - Part 26: Equipment for Use in Class I, Zone 0 Hazardous (Classified) Locations
CAN/CSA-C22.2 No. 61010-1-12	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements



Supplement to Certificate of Compliance

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Master Contract: 151079

***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
80010013	2019-10-04	Update CSA report 1251617 to include following modifications on Prosonic M_FMU4x: revised 2-wire HART PCB; revised 2-wire PA/PF PCB; addition of new display model VU331_V2; revised CSA standards and Documentation updates. Ordinary location assessment per CSA 61010-1 for SELV models.
0002006300	2008-03-26	Update to report to include Sensor Model FMU 44 (similar to FMU 42)
0001644892	2005-02-24	Update to cover minor (non-hazardous) alternative constructions
0001579286	2004-09-07	Update to cover addition of FMU 42 (3" sensor), minor mechanical and circuit alterations for installation in Ex d [ia] IIC Hazardous Locations