



FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

I. Intrinsically Safe Version

FMU 4a-Sb cdef. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFG/T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

I/O AEx ia IIC T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/I/2/ABCD/T*; Type 4X & 6P; IP68

NI/I/2/IIC/T*; Type 4X & 6P; IP68

Entity parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 300 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 500 mA, Pi = 5.5 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

a = Type of sensor 0 (1½"), 1 (2").

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection of external display, e.g.: FHX40).

e = Enclosure A (Aluminum F12 housing), B (stainless steel F23 housing).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1080, 960523-1081, 960523-1083.

FMU 4a-Sb cdDf. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFG/T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68



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I/O AEx ia IIC T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*; Type 4X & 6P; IP68

NI/II/2/IIC/T*; Type 4X & 6P; IP68

Entity parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 273 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 273 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

a = Type of sensor 0 (1½"), 1 (2").

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1084, 960523-1085, 960523-1086.

FMU 42-Sbcdefg. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFGH/T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

I/O AEx ia IIC T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*; – 960523-1080, NIFW, – 960523-1081, 960523-1083, FNICO; Type 4X & 6P; IP68

NI/II/2/IIC/T*; 960523-1080, NIFW, – 960523-1081, 960523-1083, FNICO; Type 4X & 6P; IP68

Entity and Nonincendive Field Wiring parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 300 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = B (4-20 mA HART, NIFW): VMax = 30 Vdc, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 500 mA, Pi = 5.5 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

For c = D (Profibus PA, FNICO), F (Foundation Fieldbus, FNICO):

VMax = 17.5 VDC, Pi = 5.5 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection of external display, e.g.: FH40).

e = Enclosure A (Aluminum F12 housing), B (stainless steel F23 housing).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).



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g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1080, 960523-1081, 960523-1083.

FMU 42-SbcdDfg. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFG/T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68

I/O AEx ia IIC T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*; – 960523-1084, NIFW, – 960523-1085, 960523-1086, FNICO; Type 4X & 6P; IP68

NI/II/2/IIC/T*; – 960523-1084, NIFW, – 960523-1085, 960523-1086, FNICO; Type 4X & 6P; IP68

Entity and Nonincendive Field Wiring parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 273 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = B (4-20 mA HART, NIFW): VMax = 30 VDC, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 273 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

For c = D (Profibus PA, FNICO), F (Foundation Fieldbus, FNICO):

VMax = 17.5 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1084, 960523-1085, 960523-1086.

FMU 44-Sbcdefg. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFG/T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

I/O AEx ia IIC T*; – 960523-1080, Entity, – 960523-1081, 960523-1083, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*; – 960523-1080, NIFW, – 960523-1081, 960523-1083, FNICO; Type 4X & 6P; IP68

NI/II/2/IIC/T*; 960523-1080, NIFW, – 960523-1081, 960523-1083, FNICO; Type 4X & 6P; IP68

Entity and Nonincendive Field Wiring parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 300 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = B (4-20 mA HART, NIFW): VMax = 30 Vdc, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 500 mA, Pi = 5.5 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

For c = D (Profibus PA, FNICO), F (Foundation Fieldbus, FNICO):

VMax = 17.5 VDC, Pi = 5.5 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection of external display, e.g.: FHX40).

e = Enclosure A (Aluminum F12 housing), B (stainless steel F23 housing).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1080, 960523-1081, 960523-1083.

FMU 44-SbcdDfg. Prosonic M Level Instrument.

IS/I,II,III/1/ABCDEFG/T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68

I/O AEx ia IIC T*; – 960523-1084, Entity, – 960523-1085, 960523-1086, FISCO; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*; – 960523-1084, NIFW, – 960523-1085, 960523-1086, FNICO; Type 4X & 6P; IP68

NI/II/2/IIC/T*; – 960523-1084, NIFW, – 960523-1085, 960523-1086, FNICO; Type 4X & 6P; IP68

Entity and Nonincendive Field Wiring parameters:

For c = B (4-20 mA HART, Entity): VMax = 30 VDC, IMax = 273 mA, Pi = 1 W, Ci = 13 nF, Li = 0

For c = B (4-20 mA HART, NIFW): VMax = 30 VDC, Pi = 1 W, Ci = 13 nF, Li = 0

For c = D (Profibus PA, FISCO), F (Foundation Fieldbus, FISCO):

VMax = 17.5 VDC, IMax = 273 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, IMax = 250 mA, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

For c = D (Profibus PA, FNICO), F (Foundation Fieldbus, FNICO):

VMax = 17.5 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH; or

VMax = 24 VDC, Pi = 1.2 W, Ci = 5 nF, Li = 10 µH

b = Process connection; any single letter or number.

c = Output and operation: B (4-20 mA HART), D (Profibus PA (FISCO)), F (Foundation Fieldbus (FISCO)), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).

d = Display: 1 (without display VU331), 2 (with display VU331).

f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1084, 960523-1085, 960523-1086.

II. Explosionproof Version

FMU 4a-TbcdCf. Prosonic M Level Instrument.

XP-IS/II/1/ABCD/T*; Type 4X & 6P; IP68
 Sensor IS/II/0 AEx ia IIC T*; – 960523-1082; Type 4X & 6P; IP68
 Transmitter I/1/AEx d ia IIC T*; – 960523-1082; Type 4X & 6P; IP68
 DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68
 NI/II/2/ABCD/T*; Type 4X & 6P; IP68
 NI/II/2/IIC/T*; Type 4X & 6P; IP68

- a = Type of sensor 0 (1½"), 1 (2").
- b = Process connection; any single letter or number.
- c = Output and operation: B (4-20 mA HART), D (Profibus PA), F (Foundation Fieldbus), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).
- d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection to external display, e.g. FHX 40).
- f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½") or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1082.

FMU 42-TbcdCfg. Prosonic M Level Instrument.

XP-IS/II/1/ABCD/T*; Type 4X & 6P; IP68
 Sensor IS/II/0 AEx ia IIC T*; – 960523-1082; Type 4X & 6P; IP68
 Transmitter I/1/AEx d ia IIC T*; – 960523-1082; Type 4X & 6P; IP68
 DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68
 NI/II/2/ABCD/T*– 960523-1082; Type 4X & 6P; IP68
 NI/II/2/IIC/T*– 960523-1082; Type 4X & 6P; IP68

- b = Process connection; any single letter or number.
- c = Output and operation: B (4-20 mA HART), D (Profibus PA), F (Foundation Fieldbus), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).
- d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection to external display, e.g. FHX 40).
- f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½") or any other single letter or number (special version, not relevant for safety).
- g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1082.

FMU 44-TbcdCfg. Prosonic M Level Instrument.

XP-IS/II/1/ABCD/T*; Type 4X & 6P; IP68

Sensor IS/II/0 AEx ia IIC T*; – 960523-1082; Type 4X & 6P; IP68

Transmitter I/1/AEx d ia IIC T*; – 960523-1082; Type 4X & 6P; IP68

DIP/II,III/1/EFG/T*; Type 4X & 6P; IP68

NI/II/2/ABCD/T*– 960523-1082; Type 4X & 6P; IP68

NI/II/2/IIC/T*– 960523-1082; Type 4X & 6P; IP68

- b = Process connection; any single letter or number.
- c = Output and operation: B (4-20 mA HART), D (Profibus PA), F (Foundation Fieldbus), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).
- d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection to external display, e.g. FHX 40).
- f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½") or any other single letter or number (special version, not relevant for safety).
- g = Sealing of process connection: 2 (VITON Flat sealing), 3 (EPM flat sealing) or any other single letter or number (special version, not relevant for safety).

Special conditions of use:

1. For installation instructions and the Temperature Class (*) which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to control drawings 960523-1082.

III. Nonincendive Version

FMU 43-Mbcdef. Prosonic M Level Instrument.

DIP/II,III/1/EFG/T5 TA = 60 °C; T4A TA = 80 °C; Type 4X & 6P; IP68

NI/II/2/ABCD/T5 TA = 60 °C; T4A TA = 80 °C; Type 4X & 6P; IP68

NI/II/2/IIC/T*; Type 4X & 6P; IP68

- b = Process connection; any single letter or number.
- c = Output and operation: D (Profibus PA), F (Foundation Fieldbus), G (90-253 V ac, 4-20 mA HART), H (10.5-32 VDC, 4-20 mA HART), or any other single letter or number (special version not relevant to safety, e.g.: software adjustment).
- d = Display: 1 (without display VU331), 2 (with display VU331), 3 (prepared for connection of external display, e.g.: FHX40).
- e = Enclosure A (Aluminum F12 housing), B (stainless steel F23 housing).
- f = Cable entry 2 (M20 × 1.5), 3 (G ½"), 4 (NPT ½"), 5 (M12 PA plug), 6 (7/8" FF plug) or any other single letter or number (special version, not relevant for safety).

Equipment Ratings:

I. Intrinsically Safe Version

Intrinsically Safe Apparatus for Class I, II & III, Division 1, Groups A, B, C, D, E, F & G; Class I, Zone 0, AEx ia IIC in accordance with FM Control Drawing 960523-1080, 960523-1081, 960523-1083, 960523-1084, 960523-1085, or 960523-1086; Dust-Ignitionproof for Class II & III, Division 1, Groups E, F & G; Nonincendive for Class I, Division 2, Groups A, B, C & D; Class I, Zone 2, Group IIC hazardous (classified) outdoor (Type 4X & 6P; IP68) locations (temperature codes per applicable control drawings).

II. Explosionproof Version

Explosionproof Apparatus with Intrinsically Safe sensor; transmitter and sensor for Class I, Division 1, Groups A, B, C & D; transmitter for Class I, Zone 1, AEx d ia IIC; sensor for Class I, Zone 0 AEx ia IIC when installed per FM Control Drawing 960523-1082 Rev A; Dust-Ignitionproof for Class II, Division 1, Groups E, F & G; Class III; Nonincendive for Class I, Division 2, Groups A, B, C & D; Class I, Zone 2, Group IIC hazardous (classified) outdoor (Type 4X & 6P; IP68) locations.

III. Nonincendive Version

Dust-Ignitionproof Apparatus for Class II, Division 1, Groups E, F & G; Class III; Nonincendive for Class I, Division 2, Groups A, B, C & D; Class I, Zone 2, Group IIC hazardous (classified) outdoor (Type 4X & 6P; IP68) locations.

FM Approved for:

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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	1999
Class 3611	2004
Class 3615	1989
Class 3810	2005
NEMA 250	1991

Original Project ID: 3012692

Approval Granted: September 5, 2002

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3017167	October 17, 2003		
3021116	September 3, 2004		
3032949	June 17, 2009		

FM Approvals LLC


James E. Marquedant
Group Manager, Electrical

17 June 2009
Date