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CCS/FM6.0
FM

Control drawing 960523-1080 C

Prosonic M FMU40/41/42
F12 / IS-HART

Endress+Hauser
People for Process Automation

HAZARDOUS LOCATION

Class I, Div. 1, 2, Groups A, B, C, D
Class I, Zone 0, IIC
Class II, Div. 1, 2, Groups E, F, G
Class III

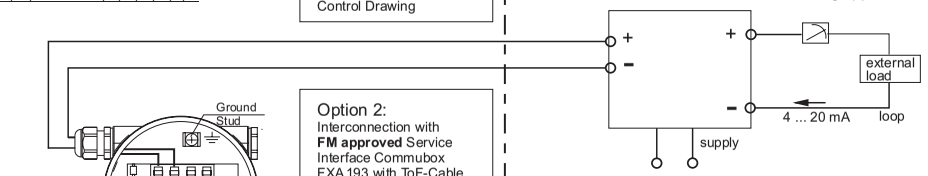
'F'-Type- Housing:
IS / I, II, III / 1 / A,B,C,D,E,F,G

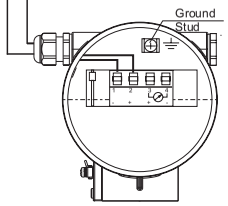
Option 1:
Preparad to connect **FM approved** remote display type FHX40 from Endress+Hauser refer to adequate Control Drawing

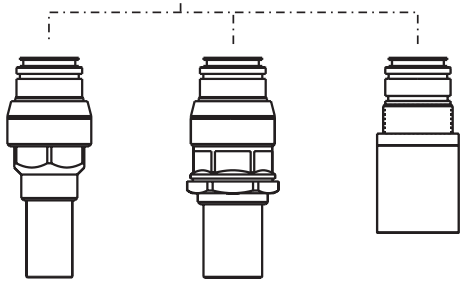
Option 2:
Interconnection with **FM approved** Service Interface Commubox FXA193 with ToF-Cable from Endress+Hauser

NON HAZARDOUS LOCATION

Any FM approved associated apparatus or associated nonincendive field wiring apparatus







FMU 40- FMU 41- FMU 42-

Area of application:
The compact instruments are suitable for use in areas subject to explosion caused by gases, vapours or mists.

Permissible ambient temperature:
Electronic: 'F'-Type enclosure -40 ... +80 °C resp. -40 ... +176 °F

Type	Type of sensor	Operation temperature [°C resp. °F]
FMU 40-	1½"-sensor	-40 to +80 resp. -40 to +176
FMU 41-	2"-sensor	-40 to +80 resp. -40 to +176
FMU 42-	3"-sensor	-40 to +80 resp. -40 to +176

Notes:

Intrinsically safe installation

Intrinsically safe (entity), Class I, Div. 1, Group A, B, C, D or Zone 0 IIC Hazardous Location Installation

1. Control room equipment may not use or generate over 250 Vrms.
2. Installation should be in accordance with the National Electrical Code NFPA 70 (NEC) and ANSI / ISA RP12.06.01.
3. Warning: Substitution of components may impair intrinsic safety.
4. Use FM Approvals Entity-Approved intrinsic safety barrier with
   $U_O/V_{OC} \le U_i/V_{max.}$, $I_O/I_{SC} \le I_i/I_{max.}$, $C_O/C_a \ge C_i + C_{cable}$, L_O/L_a, $L_O/L_a \ge L_i + L_{cable}$
   Barrier must be incapable of delivering more than 1 Watt to a matched load.
   Transmitter entity parameters are as follows:

$U_i/V_{max.}$ (V)	$I_i/I_{max.}$ (mA)	$P_i/P_{max.}$ (W)	C_i (nF)	L_i (µH)
30	300	1.0	≤ 13	0

5. Use supply wires suitable for 5 K above surrounding ambient.
6. Intrinsic safety barrier manufacturer´s installation drawing must be followed when installing this equipment.
   The configuration of the intrinsic safety barrier(s) must be approved by FM Approvals.
7. This version of Prosonic M may be provided with a connection to an external display unit already installed or via a set up kit. This connection is for the use of the FM approved display unit FHX40 only.
   Refer to safety instructions of the external display unit FHX40.

Division 2 and Zone 2 installation

Nonincendive Class I, Div. 2, Group A, B, C, D Hazardous Location Installation

1. Installation shall be in accordance with NEC using threaded conduits or other wiring methods in accordance with Article 500 through Article 510. Intrinsic safety barrier not required. Max. supply voltage 30 V. For T-code see table.
2. Nonincendive Field Wiring installation
   The Nonincendive Field Wiring Circuit Concept allows interconnection of nonincendive field wiring apparatus with associated nonincendive field wiring apparatus or associated apparatus not specifically examined in combination as a system using any of the wiring methods permitted for unclassified locations, when
   $V_{max} \ge V_{OC}$ or V_t, C_O or $C_a \ge C_i + C_{cable}$, L_O or $L_a \ge L_i + L_{cable}$
   Transmitter non incendive field wiring parameters for this current controlled circuit are as follows:
   $V_{max.} = 30$ V, $C_i \le 13$ nF, $L_i = 0$ µH, $I_{max.}$ *see note 3
3. For this current controlled circuit, the parameter $I_{max.}$ is not required and need not be aligned with parameter I_{SC} or I_O of the barrier or associated nonincendive field wiring apparatus.
4. Warning: Explosion Hazard - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
   Warning: Explosion hazard - substitution of components may impair suitability for Class I, Div. 2.

Class II, III installation

DIP for Class II and III, Div. 1, Group E, F, G Hazardous Location Installation

1. Installation shall be in accordance with NEC using threaded conduits or other wiring methods in accordance with Article 500 through Article 510.
2. Use a dust tight seal at the conduit entry.

Functional Ratings

These ratings do not supersede Hazardous Locations Values
$V_{nom.} = 14...30$ V, $I_{nom.} = 4...20$ mA

Temperature class with / without Display VU 331	Permissible maximum medium temperature at the sensors	Permissible maximum ambient (T_a) of electronic compartment ('F'-Type enclosure)		
		FMU 40	FMU 41	FMU 42
T6	+60 °C	+60 °C	+60 °C	+60 °C
T5	+80 °C	+80 °C	+80 °C	+80 °C