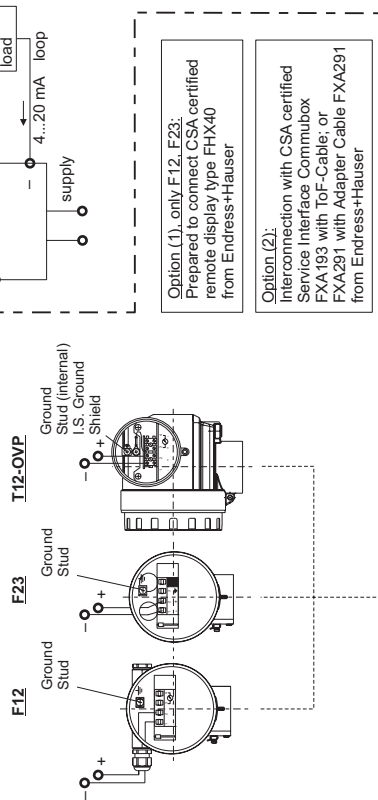


HAZARDOUS LOCATION

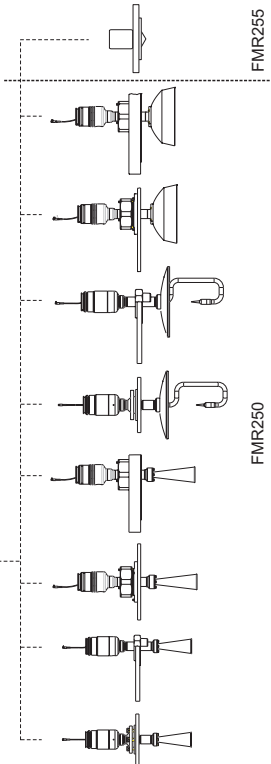
Class I, Div. 1, Groups A, B, C, D
Ex ia IIC Tx
Class II, Div. 1, Groups E, F, G
Class III

F12 / F23 / T12-OVP - Housing:
IS / I, II, III / I, A, B, C, D



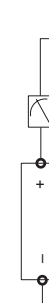
Option (1), only F12, F23:
Prepared to connect CSA certified remote display type FXH40 from Endress+Hauser

Option (2):
Interconnection with CSA certified Service Interface Commubox FXA193 with ToF-Cable; or FXA291 with Adapter Cable FXA291 from Endress+Hauser



NON HAZARDOUS LOCATION

Barrier / Associated Equipment



Notes:

INTRINSICALLY SAFE (Ex ia): CLASS I, DIV. 1, GROUPS A, B, C, D or Ex ia IIC HAZARDOUS LOCATION INSTALLATION; DIVISION 1 INSTALLATION

- Control room equipment may not use or generate over 250 Vrms.
- Install per the Canadian Electrical Code.
- Warning: Substitution of components may impair intrinsic safety.
- Avertissement: La substitution de composants peut compromettre la sécurité intrinsèque.
- Ex ia IS defined as intrinsically safe / sécurité intrinsèque.
- For entry installation use CSA certified safety barrier or other associated equipment that satisfy the following conditions:
with $U_{oVoc} \leq U_{IV} \max$, $I_{oIsc} \leq I_{II} \max$, $Co/Ca \geq Ci + Ccable$, $Lo/La \geq Li + Lcable$

Variables	UI/Imax (V)	II/Imax (W)	CI (nF)	LI (µH)
F12, F23 housing	30	300	1.0	≤ 13
T12-OVP housing	30	273	1.0	≤ 13

- For system installation use CSA certified safety barriers as follows:
(a) 28 V / 300 Ω + Ground or (b) 28 V / 300 Ω + 28 V / Diode or (c) 28 V / 300 Ω + 10 V / 50 Ω.
- Use supply wires suitable for 5 K above surrounding ambient.
- Utiliser des fils d'alimentation qui conviennent à une température de 5 K au-dessus de la température ambiante.
- Install barrier / associated equipment in accordance with manufacturer's instruction.
- Use of scavenger junction. It is the users responsibility to use the adequate method by using the scavenger device, like:
Installation has to be IP-grade 67 resp. IP-grade 65 (IEC / EN 60529), depends on location.
- Scavenger pressure > inside pressure at the container, max 10 bar resp. 150 psi. At non-scavenger status, a barrier spigot resp. valve must be closed. If the valve / spigot is open and no scavenger fluid is present the risk of flammable gas or combustible dust releases and flame entrance from outside exists.
- FMR255: Avoid electrostatic charge at the antenna (e.g. do not rub with dry cloth; do not install within the filling curtain).
- Apparatus with faucet: in case of disconnection of Micropilot M from the faucet (e.g. for maintenance) we recommend to secure resp. to close the faucet e.g. with an additional blind flange.
- The responsibility for applicability of the arrangement behooves exclusive the operator.
- Use specific cables, supplied with the Service Interface Commubox FXA193, FXA291 or Remote Display FXH40. Refer to the applicable Control Drawing.
- T12-OVP housing: The surge protection device (OVP) fulfills the requirements of IEC 60079-14, clause 12.3.

CLASS I, DIV. 2, GROUPS A, B, C, D or Ex nC, IIC and DIP, for CLASS II and III, DIV. 1, GROUPS E, F, G HAZARDOUS LOCATION INSTALLATION

- Install per Canadian Electrical Code (CEC) using threaded metal conduit.
- Intrinsic safety barrier not required max. supply voltage 30 V. For T-code see table.
- Warning: Explosion Hazard - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Avertissement: Risque d'explosion - Avant de déconnecter l'équipement, couper le courant ou s'assurer que l'emplacement est désigné non dangereux.
- Warning: Explosion Hazard - Substitution of components may impair suitability for Class I, Div. 2.
- Avertissement: Risque d'explosion - La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Classe I, Div. 2.

CLASS II and III; DIV. 1

Warning: Keep cover tight unless power has been switched off or the area is known to be non-hazardous.

Temperature class with/without display VUS31	Permissible max. medium temperature at the probe (process connection) Tmed	Permissible max. ambient temperature of the electronic compartment (Ta)			
		FMR250 (Horn or parabolic antenna)		FMR255	
		Option 20 (Antenna): 4, 5 or 6		Option 20 (Antenna): D, E, G, H or 94)	
	F23 housing	F12 or T12-OVP housing	F23 housing	F12 or T12-OVP housing	F23 housing
T6	+ 80 °C + 60 °C	+55 °C +60 °C	+55 °C +60 °C	+55 °C +60 °C	+55 °C +60 °C
T5	+ 95 °C + 75 °C	+70 °C +75 °C	+70 °C +75 °C	+70 °C +75 °C	+70 °C +75 °C
T4	+ 130 °C + 80 °C	+75 °C +80 °C	+70 °C +80 °C	+70 °C +80 °C	+70 °C +80 °C
T3C (functional) ¹⁾	+150 °C + 80 °C	+73 °C +80 °C	+68 °C +80 °C	+70 °C +80 °C	+65 °C +80 °C
T3	+195 °C + 80 °C	+70 °C +80 °C	+65 °C +80 °C	+65 °C +80 °C	+60 °C +80 °C
T2, T1 (functional) ¹⁾	+200 °C + 80 °C	+70 °C +80 °C	+65 °C +80 °C	+65 °C +80 °C	+60 °C +80 °C

Note: ¹⁾ the applicable temperature of probe must be within their specified limits

²⁾ functional means max. permissible process temperature

³⁾ special version of horn or parabolic reflector dimensions

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: F12, F23, T12-OVP enclosure: -40...+80 °C resp. -40...+176 °F

Type	Type of antennas	Operation temperature
FMR250 -	Horn, Parabolic	-40 °C / -40 °F to +200 °C / 392 °F
FMR255 -	Compact	-40 °C / -40 °F to +150 °C / 302 °F

Note: take care to specific temperature ranges of antenna versions

ZD170F-D/00/EN/09.00
CCS/FM6.0
CSA/D 15.05.09



71103889

CSA Control Drawing
960006750 D
Micropilot M
FMR250/255
(F12, F23, T12-OVP / IS-HART)

Endress+Hauser

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