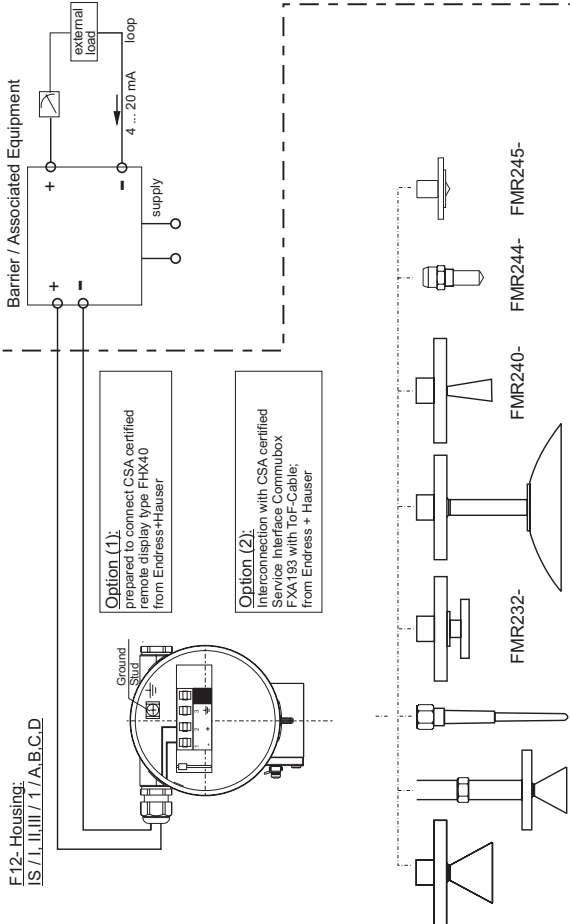


HAZARDOUS LOCATION
 Class I, DIV. 1, GROUPS A, B, C, D
 Ex: ia IIC, Tx
 Class II, DIV. 1, GROUPS E, F, G
 Class III

NON HAZARDOUS LOCATION



For installation acc. -FISCO- Concept see Control dwg. part 960402-2066

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 enclosure -40... +80 °C

Type	Type of antennas	Operation temperature [°C]
FMR230-	Horn antenna with PTFE-Konrad feeder	-40 to +200
-F	HT antenna (Tantal gasket)	-40 to +350
-G	HT antenna (Graphite gasket)	-80 to +400
FMR230-	HT antenna with exchange connection	depends on type
-L	HT antenna (Tantal gasket)	-40 to +200
-M	HT antenna (high temperature)	-60 to +400
FMR231-	Root antenna PPS	-20 to +120
	Root antenna PTFE	-40 to +150
	Root antenna PTFE cladified	-40 to +150
	Sanitary (process connection)	-40 to +150
	PVDF (process connection)	-20 to +80
FMR232-	Planar antenna	-40 to +150
FMR233-	Parabolic antenna	-40 to +250
FMR240-	> 20 GHz horn antenna	-40 to +150
FMR244-	Wave Guide antenna	-40 to +200
FMR245-	compact antenna	-40 to +150

Note: take care to specific temperature ranges of antenna versions

- Notes:**
- INTRINSICALLY SAFE (Ex ia), CLASS I, DIV. 1, GROUP A, B, C, D or Ex ia IIC HAZARDOUS LOCATION INSTALLATION**
- A) 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 / sécurisé intrinsèque.
 - For entry installation use CSA certified safety barrier or other associated equipment that satisfy the following conditions: with $U_0/V_{oc} \leq I_0/V_{max}$, $I_0/I_{sc} \leq I_0/I_{max}$, $C_0/C_a \geq C_1 + C_2$, $L_0/L_a \geq L_1 + L_{cable}$

UI / Vmax (V)	I ₀ / I _{sc} (mA)	P ₀ / Pmax (W)	C ₁ (nF)	L ₁ (µH)
or 17.5	500	5.5	≤ 5	10
	250	1.2	≤ 5	10

- For system installation use, CSA certified safety barriers as follows:
 (a) 28V / 300 Ω + Ground or (b) 28V / 300 Ω + 28V / Diode or (c) 28V / 300 Ω + 10V / 50Ω
- Use supply wires suitable for 5 K above surrounding ambient. Utiliser des fils d'alimentation qui conviennent a une température de 5 K au-dessus de la température ambiante.
- Install barrier / associated equipment in accordance with manufacturer's instruction.
- In case of use of PTFE rod antenna (white), planar, parabolic, enamelled horn, type 244 or type 245 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 Microplot 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 or Remote Display FXH40. Refer to the applicable Control Drawing.

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

- Install per Canadian Electrical Code (CEC) using threaded metal conduit. Intrinsic safety barrier not required max. supply voltage 30V. 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.
- For 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 without Display VU 331	permissible maximum ambient temperature (enclosure F12)									
	FMR230- ..E/VK/DH	FMR230- ..L.....	FMR230- ..M.....	FMR230- ..P/G.....	FMR231	FMR232	FMR233	FMR240 Wave Guide	FMR244	FMR245
T6	+85 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C	+35 °C	+30 °C
T5	+75 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C	+35 °C	+30 °C
T4	+130 °C	+70 °C	+75 °C	+75 °C	+75 °C	+75 °C	+75 °C	+75 °C	+75 °C	+75 °C
T3C (functional)	+150 °C	+70 °C	+70 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C
T3 (functional)	+185 °C	+60 °C	+70 °C	+75 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C
T2B (functional)	+250 °C	+55 °C	+70 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C
T2 (functional)	+280 °C	not allowed	+65 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C
T2 (functional)	+300 °C	not allowed	+80 °C	+80 °C	+75 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C
T1 (functional)	+350 °C	not allowed	not allowed	+70 °C	+60 °C	+55 °C	+50 °C	+45 °C	+40 °C	+35 °C
T1 (functional)	+400 °C	not allowed	not allowed	+80 °C	+75 °C	+70 °C	+65 °C	+60 °C	+55 °C	+50 °C

Note: the applicable temperature of antenna must be within their specified limits
 Tx (functional) means limited through type of antenna

ZD 061F/00/en/03.04/CCS
 CSA / D



Control drawing
960402-2087 D

Micropilot M FMR 2xx
 F12 / ENTITY-Model
 PROFIBUS PA or Foundation Fieldbus

Endress + Hauser
 The Power of Know How

