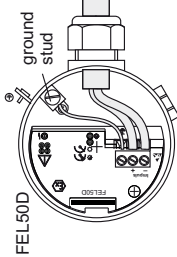


**Hazardous location**  
Class I, Div.1, Groups A, B, C, D  
Ex ia IIC T6  
Class II, Div.1, Groups E, F, G  
Class III

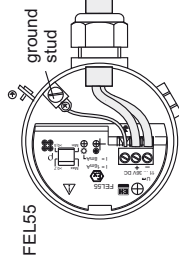


FEL50D

associated transmitter Endress+Hauser FML621

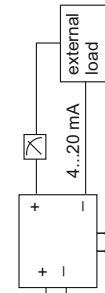


FEL50D insert:  
Entity parameters:  
Uj / Vmax ≤ 27.6 V  
Ii / Imax ≤ 93 mA  
Pi = 640 mW  
Ci = 2 nF  
Li = 0.133 mH  
System parameters:  
Endress+Hauser  
associated equipment  
FML621

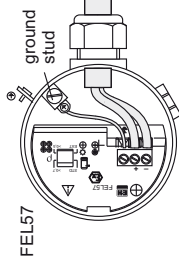


FEL55

barrier / associated equipment



FEL55 insert:  
Entity parameters:  
Uj / Vmax ≤ 36 V  
Ii / Imax ≤ 100 mA  
Pi = 1 W  
Ci = 0  
Li = 0  
System parameters:  
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



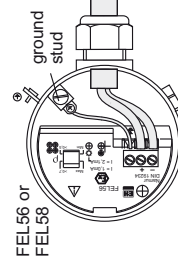
FEL57

associated PFM transmitter



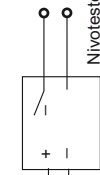
FEL57 insert:  
Entity parameters:  
Uj / Vmax = 16.7 V  
Ii / Imax = 150 mA  
Pi = 1 W  
Ci = 0  
Li = 0  
System parameters:  
Endress+Hauser PFM  
associated equipment

Nivotester  
e.g. FTL120Z  
FTL170Z  
FTL320  
FTL370/372  
FTL325P  
FTL375P



FEL56 or FEL58

associated "NAMUR" transmitter



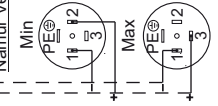
FEL56/FEL58 insert + NAMUR housing compact:  
Entity parameters:  
Uj / Vmax = 16 V  
Ii / Imax = 52 mA  
Pi = 169 mW  
Ci = 30 nF  
Li = 0

NAMUR Housing compact

Namur M12



Namur Ventil



**Non hazardous location**

Intrinsically Safe (Ex ia), Ci.I, Div.1, GP.A, B, C, D, Ci, II, Div.1, GP.E, F, G, Ci.III; Ex ia IIC T6  
Hazardous Locations Installations  
Division 1 Installation:

- Control room equipment may not use or generate over 250 V.
- Install per the Canadian Electrical Code (CEC) resp. National Electrical Code NFPA 70 (NEC).
- For entity installations: Use CSA certified intrinsic safety barrier or other associated equipment that satisfy the following conditions:  $V_{oc} \leq V_{max}$ ,  $I_{sc} \leq I_{max}$ ,  $C_a \geq C_i + C_{cable}$ ,  $L_a \geq L_i + L_{cable}$ ,  $U_o/V_{oc} \leq U_i/V_{max}$ ,  $I_o/I_{sc} \leq I_i/I_{max}$ .
- For System Installation use CSA certified intrinsic safety barriers or associated equipment.
- Warning: Substitution of Components may impair intrinsic safety.  
Avertissement : La substitution de composants peut compromettre la sécurité intrinsèque.
- Intrinsic safety barrier manufacturer's installation drawing must be followed, when installing this equipment: The configuration of the intrinsic safety barrier(s) must be CSA approved.
- Use supply wires suitable for 5°C above surrounding.  
Utiliser de fils d'alimentation qui conviennent a une température de 5°C au-dessus de la température ambiante.
- Note: Type of protection for FTL5(H).... E4, and FTL51C.... E4, and FTL7.... E4; Intrinsically safe (Ex ia), Ci, I, Div.1, GP.A, B, C, D, Ci, II, Div.1, GP.G + Coal dust, Ci.III; Ex ia IIC T6.
- CEC 2009, cl. 18-072: "Flammable fluid seals" classification acc. ANSI/ISA 12.27.01. Single seal device; Gas tight conduit seal not required.

Suitable for Ci.I, Div.2, GP.A, B, C, D, Ci.III, Div.2, GP.E, F, G, Ci, III  
Hazardous Location Installation

- Install per Canadian Electrical Code (CEC) resp. National Electrical Code NFPA70 (NEC) using threaded metal conduit.  
Intrinsic safety barrier not required.  
Max. supply voltage 45 VDC.
- 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: Open circuit before removing cover.  
Avertissement : Ouvrir le circuit avant d'enlever le couvercle.  
Warning: Substitution of Components may impair suitability for Ci.I, Div.2.  
Avertissement : Risque d'explosion - La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Ci.I, Div.2.
- Note: FTL5.... E4, and FTL7.... E4 (Plastic enclosure) is not suitable for Ci.II, Div.1 applications.

Temperature code	Permissible ambient temperature electronic compartment	Device
T6	-50°C...+60°C	FEL50D
T5, T4, T3	-50°C...+70°C	FEL5x without FEL50D
	-50°C...+70°C	all electronic inserts FEL5x

XA00600F-I/00/EN/14.17  
CCS/FM10  
CSA/I.06.02.17



71366451

cCSAus Control Drawing  
960392-2060 - I

Liquiphant M / Liquiphant S (IS)

Endress+Hauser

People for Process Automation