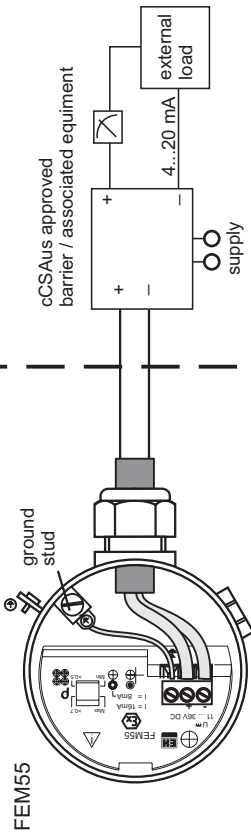


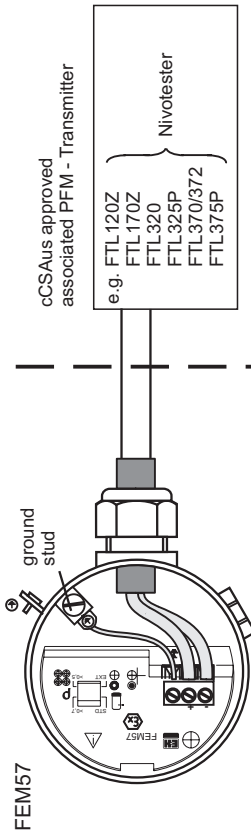
**Hazardous classified location**

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

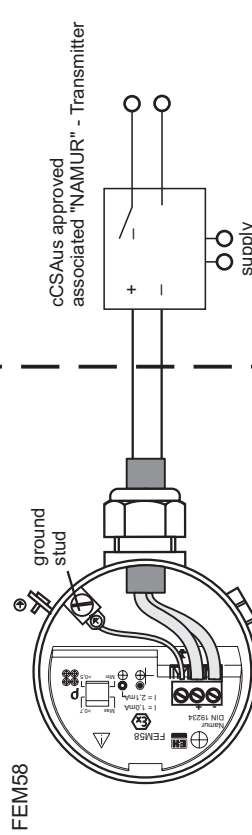


FEM55

**Non hazardous location**



FEM57



FEM58

**Functional ratings:**  
 These ratings do not supersede  
 Hazardous location values.

FEM55:  
 Unom = 11...36 V DC  
 Inom = 4...20 mA

FEM57:  
 Unom = 9.5...12.5 V DC  
 Inom = 10...13 mA

FEM58:  
 Unom = 8.2 V DC ±20%  
 Inom = 0.4...4.8 mA

**Intrinsically safe (entity), Class I, Div. 1, Groups A, B, C, D  
 Hazardous location installations**

- 1) Control room equipment may not use or generate over 250 Vrms.
- 2) Wire all circuits for power supply per Canadian Electrical Code Part 1 (CEC) resp. National Electrical Code NFPA 70 (NEC).
- 3) Use entity approved safety barrier or other associated equipment that satisfy the following conditions:  
 $V_{oc} \leq V_{max}$ ,  $I_{sc} \leq I_{max}$ ,  $C_a \geq C_i + C_{cable}$ ,  $L_a \geq L_i + L_{cable}$  transmitter entity parameters are as follows:

FEM55 insert  
 Entity parameters:  
 $V_{max} \leq 36 V$   
 $I_{max} \leq 100 mA$   
 $P_i \leq 1 W$   
 $C_i \approx 0$   
 $L_i \approx 0$

FEM57 insert  
 Entity parameters:  
 $V_{max} \leq 16.7 V$   
 $I_{max} \leq 150 mA$   
 $P_i \leq 1 W$   
 $C_i \approx 0$   
 $L_i \approx 0$

FEM58 insert  
 Entity parameter:  
 $V_{max} \leq 18 V$   
 $I_{max} \leq 52 mA$   
 $P_i \leq 170 mW$   
 $C_i \approx 0$   
 $L_i \approx 0$

- 4) **WARNING:** Substitution of components may impair intrinsic safety.
- 5) Ex ia is defined as Intrinsically Safe.
- 6) Use supply wires suitable for 5°C above surrounding ambient.
- 7) FTM50/51: Vibration forks installed in pressure vessels consist of homogeneous stainless steel with a wall thickness > 1 mm and are designed to meet the same pressure requirements of the original pressure vessel.  
 Hence, secondary seals are not required.

**Division 2 and Zone 2 installation**

- 8) Installation shall be in accordance with manufacturer's instructions and CEC resp. NEC using threaded conduit or other wiring methods in accordance with Clause 18, CEC Part 1.
- 9) 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  
 $V_{max} \geq V_{oc}$  or  $V_i$ ,  $C_a \geq C_i + C_{cable}$ ,  $L_a \geq L_i + L_{cable}$   
 Transmitter parameters are as follows:

FEM55 insert  
 (voltage controlled circuit)  
 NIFW parameters:  
 $V_{max} \leq 36 V$   
 $I_{max} = \text{see note 10}$   
 $P_i \leq 1 W$   
 $C_i \approx 0$   
 $L_i \approx 0$

FEM57 insert  
 (voltage controlled circuit)  
 NIFW parameters:  
 $V_{max} \leq 16.7 V$   
 $I_{max} = \text{see note 10}$   
 $P_i \leq 1 W$   
 $C_i \approx 0$   
 $L_i \approx 0$

FEM58 insert  
 (voltage controlled circuit)  
 NIFW parameters:  
 $V_{max} \leq 18 V$   
 $I_{max} = \text{see note 10}$   
 $P_i \leq 170 mW$   
 $C_i \approx 0$   
 $L_i \approx 0$

- 10) For these current and voltage controlled circuits, the parameters  $I_{max}$  is not required and need not be aligned with parameters  $I_{sc}$  and  $I_t$  of the associated nonincendive field wiring or associated apparatus.
- 11) **WARNING:** Explosion hazard - Substitution of components may impair suitability for Class I, Division 2 or Class I, Zone 2
- 12) FTM50/51: Vibration forks installed in pressure vessels consist of homogeneous stainless steel with a wall thickness > 1 mm and are designed to meet the same pressure requirements of the original pressure vessel.  
 Hence, secondary seals are not required.

**Class II, III installation (without barrier)**

- 13) Installation shall be in accordance with manufacturer's instructions and CEC resp. NEC using threaded conduit or other wiring methods in accordance with Clause 18, CEC Part 1 resp. NEC.
- 14) FTM50/51: Vibration forks installed in pressure vessels consist of homogeneous stainless steel with a wall thickness > 1 mm and are designed to meet the same pressure requirements of the original pressure vessel.  
 Hence, secondary seals are not required.

