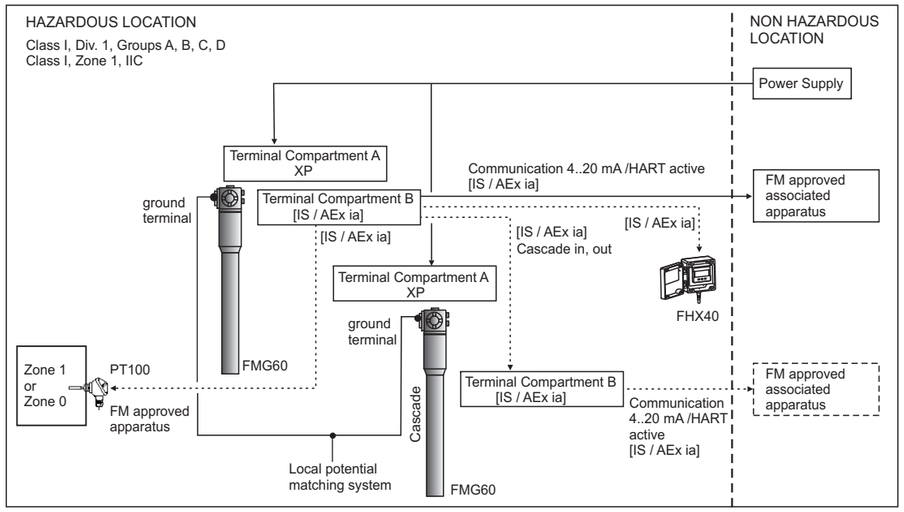
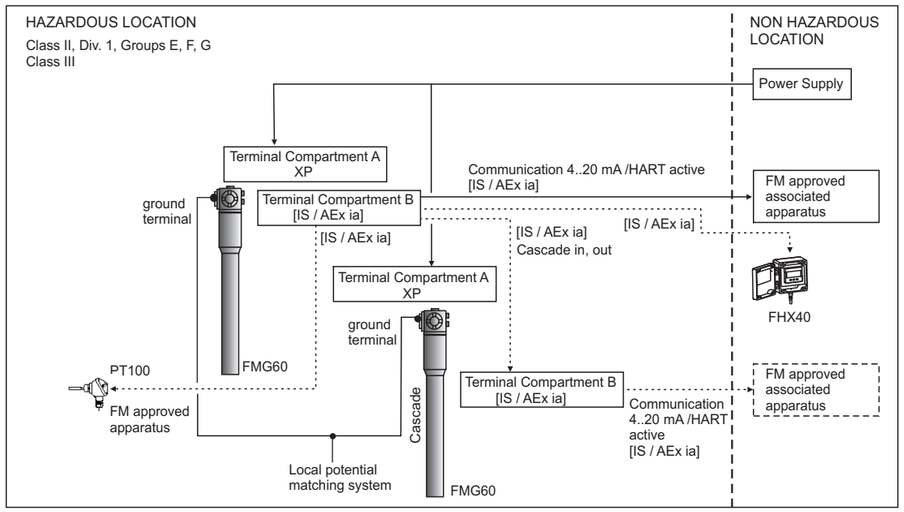
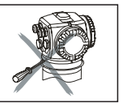
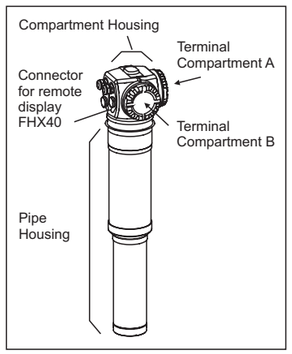


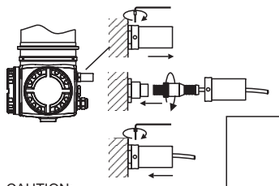


CAUTION:
The screws at the pipe housing must not be loosened!





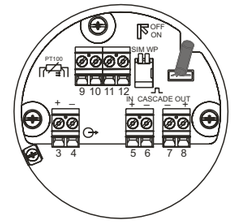
For previous connection depicted below refer to installation drawing:
960007128 B or 960007128 A as applicable.



CAUTION:
After connecting the FHX40 to the FMG60 the protective tube must be installed and secured by the screws.

	Permissible ambient temperature	Temperature class
Detector without water cooling or Detector with water cooling out of operation	· Detector with NaI crystal scintillator: –40°C...+60°C · Detector with plastic scintillator: –40°C...+60°C	T6
Detector with water cooling in operation	At the pipe housing (inside the water cooling): · Detector with NaI crystal scintillator: –40°C...+60°C · Detector with plastic scintillator: –40°C...+60°C	T6
	At the compartment housing: –40°C...+75°C	

TERMINAL COMPARTMENT B



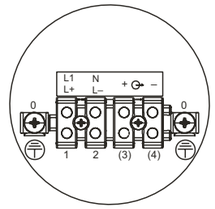
Intrinsically safe circuits Entity Parameters			Group A, B (IIC)	Group C, D (IIA, IIB)
4...20 mA/ HART (active) *[1]	+ –	Voc = 21.2 V Isc = 92 mA Po = 479 mW Ri = 235 Ω Vmax = 30 V Imax = 13 mA Pi = 390 mW	Ca = 169 nF La = 4 mH	Ca = 1.2 µF La = 15 mH
PT100	PT100	Voc = 8.4 V Isc = 8.3 mA Po = 17.5 mW Ri = 1012 Ω	Ca = 5.2 µF La = 400 mH	Ca = 43 µF La = 400 mH
Cascade out	– +	Voc = 8.4 V Isc = 19.2 mA Po = 40.3 mW Ri = 439 Ω Only for connection to Gammapilot FMG60 signal circuit "Cascade in"	Ca = 5.1 µF La = 69 mH	Ca = 42 µF La = 199 mH
Cascade in	+ –	Vmax = 8.4 V Imax = 19.2 mA Pi = 40.3 mW Ci = 0 Li = 67 µH Only for connection to Gammapilot FMG60 signal circuit "Cascade out"		
Connection for FHX40		Voc = 4.7 V Isc = 37.7 mA Po = 44.3 mW This circuit may also be connected to the FM approved Endress+Hauser Service Interface Commubox FXA193 with associated connection cable for ToF instruments.	For connection to the FM approved intrinsically safe Endress+Hauser display FHX40 with associated cable. Observe Installation Drawing 960411-1006.	

*[1] only available at the version FMG60-**E******

INTRINSICALLY SAFE (Entity)
Class I, Div. 1, Groups A, B, C, D or Zone 1, IIC

1. FM approved apparatus must be installed in accordance with manufacturer instructions.
2. The installation must be in accordance with the National Electrical Code ANSI / NFPA 70 and ANSI / ISA-RP 12.06.01.
3. WARNING: Substitution of components may impair intrinsic safety.
4. Control room equipment must not use or generate over 250 V.
5. Wiring: Use cables not subject to short circuiting.
   Use wires suitable for 5 K above surrounding ambient.
6. The maximum permissible values of voltage and current as well as the maximum permissible external capacitance and inductance are shown in the table above.
   Ca ≥ Ci + Ccable; La ≥ Li + Lcable.
7. Do not interconnect the 4...20 mA/HART signal circuits of detectors (e.g. within a cascade set).
8. Do not operate a temperature sensor with “ib” circuit in Zone 0!

TERMINAL COMPARTMENT A



Supply Circuit		
	Terminal	Supply Voltage
AC type	L1 N	90...250 VAC, 50/60 Hz
DC type	L+ L–	18...36 VDC
Signal Circuit		
	+ –	not connected

EXPLOSION PROOF
Class I, Div. 1, Groups A, B, C, D or Zone 1, IIC

1. Install per National Electrical Code (NEC).
2. Control room equipment must not use or generate over 250 V.
3. Supply wires shall be installed in conduit in accordance with the NEC.
4. Do not open the terminal compartment A if the supply voltage is switched on and a combustible atmosphere is present.
   If a combustible atmosphere is present, wait 3 minutes after switching off the supply voltage, before opening the cover.
5. Use supply wires suitable for 5 K above surrounding ambient.
6. Sealing plugs of the terminal compartment A must not be exchanged with those of the terminal compartment B.
7. Types with stainless steel terminal housing (FMG60-*****1***, FMG60-*****2***)
   Seal not required (apparatus was tested with 15 feet conduit).
8. Types with aluminium terminal housing (FMG60-*****3***, FMG60-*****4***)
   Seal required at enclosure wall!

Class II, Div. 1, Groups E, F, G, Class III

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 in Class II an III locations.
3. Do not open the terminal compartment A if the supply voltage is switched on and a combustible atmosphere is present.
   If a combustible atmosphere is present, wait 3 minutes after switching off the supply voltage, before opening the cover.
4. Use supply wires suitable for 5 K above surrounding ambient.

ZD193F-D/00/EN/10.09
CCS/FM6.0
FM/08.07.08

71104927

FM Installation Drawing 960007128 D

Gammapilot M
FMG60
4-20 mA/HART (IS)

Endress+Hauser
People for Process Automation