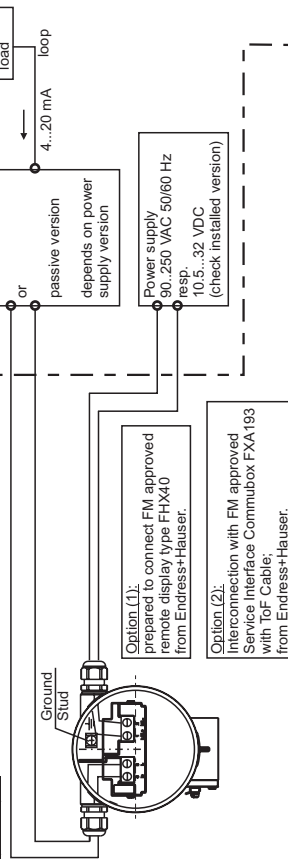


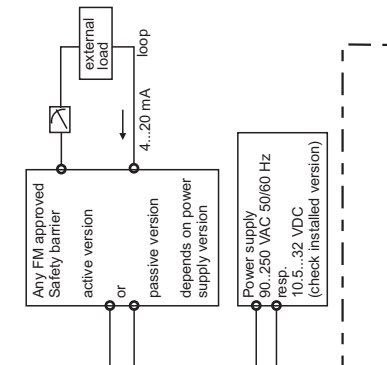
HAZARDOUS LOCATION

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

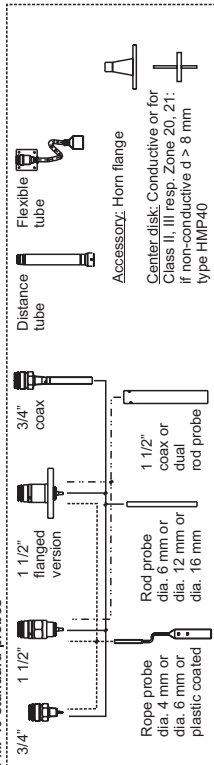
F12 housing;

Output I.S. Class I, II, III, Div. 1, Groups C, D, E, F, G or
Class I, Zone 0, IIB

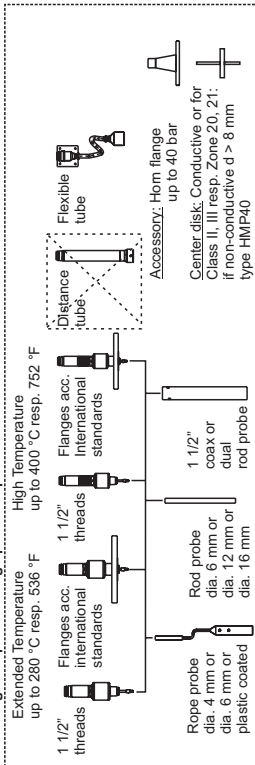
NON HAZARDOUS LOCATION



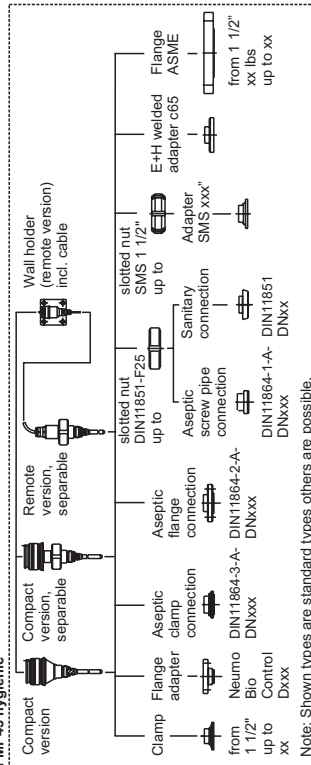
FMP40 standard probes



FMP45 high temperature/high pressure probes



FMP43 hygienic



Note: Shown types are standard types others are possible.

Area of application:
The compact instruments are suitable for use in areas subject to explosion
caused by gases, vapours or mists.

Permissible ambient temperature:

F12 enclosure

Electronics: FMP40, FMP45 or FMP43

Probes: refer Technical Information

-40...+80 °C resp. -40...+176 °F

Notes:

Class II, III, Division 1 installation

DUST/IGNITION PROOF CLASS II, DIV. 1, GROUPS E, F, G; CLASS III

HAZARDOUS LOCATION INSTALLATION

1. Install per National Electrical Code NFPA 70 (NEC).
2. Power supply wires shall be installed in conduit in accordance with the NEC.
3. Control room equipment may not use or generate over 250 Vrms.
4. Warning: Keep cover tight when circuit is alive unless the area is known to be non-hazardous.
5. For electronic: maximum ambient temperature = 80 °C.
6. Use supply wires suitable for 5 K above surrounding ambient.
7. Use dust tight seals at cable and conduit entries in Class II and III location.
8. Use FM Entity-Approved intrinsic safety barrier with Voc or Vt ≤ Vmax, Isc or It ≤ Imax, Ca ≥ Ci + Ccable, La ≥ Li + Lcable.
9. Transmitter entity parameters are shown in table below.
10. Probes made out of special materials like Alloy C22 marked as FMP40-1,..... or FMP40-2,..... should be used only in liquids or lightweight solids (e.g. plastic granulate, fly-ash, ...). Maximum permissible tensile force at the rope or rod 2000 N.
11. FMP43 with separable probe in separated mode shall be closed by protective cover.

Division 2 and Zone 2 Installation

Class I, Div. 2, Groups A, B, C, D or Class I, Zone 2 IIC: Hazardous Location Installation.

1. Installation shall be in accordance with NEC using threaded conduits or other wiring methods in accordance with Article 500 through Article 510. Intrinsic safety barrier not required. Max. supply voltage 30 V. For T-code see table.
2. Warning: Explosion Hazard - do not disconnect equipment unless power has been switched off or the area is known to be Non-Hazardous.
3. Warning: Substitution of components may impair suitability for Class I, Division 2.

Class II, III Installation

DIP for Class II and III, Div. 1, Groups E, F, G: Hazardous Location Installation.

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.
3. Warning: Explosion Hazard - do not disconnect equipment unless power has been switched off or the area is known to be Non-Hazardous.

Temperature class with/without display VU331	Permissible max. medium temperature at the probe (process connection) Tmed	FMP40 with 3/4" probe, remote electronic compact with distance tube	FMP40 with 1 1/2" probe, remote electronic compact with distance tube	FMP40 with 1 1/2" probe, remote electronic with flexible tube	FMP43 compact or compact separable	FMP43 separable, remote cable
T4A	+ 80 °C	+80 °C	+80 °C	+80 °C	+80 °C	+80 °C
	+ 95 °C	+75 °C	+75 °C	+80 °C	+75 °C	+80 °C
	+130 °C	+70 °C	+70 °C	+80 °C	+70 °C	+80 °C
	+150 °C	+65 °C	+70 °C	+80 °C	+65 °C	+80 °C

Temperature class with/without display VU331	Permissible max. medium temperature at the probe (process connection) Tmed	FMP45 type A (XT version)	FMP45 type B or C (HT version)	FMP45 with remote electronic with flexible tube
T4A	+ 80 °C	+80 °C	+80 °C	+80 °C
	+ 95 °C	+78 °C	+79 °C	+80 °C
	+130 °C	+76 °C	+77 °C	+80 °C
	+150 °C	+74 °C	+76 °C	+80 °C
	+280 °C	+67 °C	+71 °C	+80 °C
	+400 °C	not allowed	+66 °C	+80 °C

Note:
The applicable temperature of probe must be within their specified limits.

Electrical data:

Supply circuit	Supply voltage	Max. power	Um =
Voltage version	90...250 VAC 50/60 Hz	3.5 VA	250 VAC
AC			
DC	10.5...32 VDC	1 W	250 VAC

Signal circuit intrinsically safe: AEx ia IIB resp. AEx ib IIB	permissible external capacitance for circuitry of category "Ia" ^a	permissible external capacitance for circuitry of category "Ib" ^a
FMP43,...		
as version:		
active	Li = 0.15 mH La = 0.5 mH Lc = 0.5 mH Po = 1.271 W Ri = 90.1 Ω	Ca ≤ 1 μF Ca ≤ 870 nF Ca ≤ 840 nF Ca ≤ 810 nF
passive	Li = 2 mH Ci = 10 nF	--

Thermal data: Maximum surface temperature of electronic housing (F12) ≤ 115 °C (thermal fused inside)

ZD078F-D/00/en/03.08
CCS/FM6.0
FM/D 31.07.07FM Control Drawing
960409-1173 DLevellflex M
FMP4x
(F12 / 4W - Dust)Endress+Hauser
People for Process Automation

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