

PolyXeta® Transmitter Series XT-21-34XX-M for Combustible and Toxic Gases in Mines and Tunnels

DESCRIPTION

Microprocessor based analog gas transmitter with 4 – 20 mA output signal for monitoring the ambient air and detecting flammable Methane gases and vapours measuring in the lower explosion level (LEL) by means of a catalytic sensor (pellistor). Toxic Carbon monoxide gases and vapours are detected by electro-chemical cells. The calibration is possible via the handheld calibration keypad X.S/CKD. The gas transmitter is available with I M2 EEx-d I protection for Ex zone 1 in mines and tunnels.

APPLICATION

The PolyXeta gas transmitter is used to detect combustible or toxic compounds in areas classified as Group I. Due to the 4 to 20 mA analog output signal the transmitter is compatible to any electronic analog control, DDC/PLC control or automation system (e.g. PolyGard series MGC and DGC by MSR-E).

Optionally the PolyXeta transmitter is available with relay or open collector board and RS 485 serial interface.

FEATURES

- ATEX certifications MSR electronic/Sensitron
- Continuous monitoring
- 10 bit microprocessor
- Self diagnostic procedure
- Zero point tracking
- Easy calibration (zero, span and 4-20mA adjustment) with the calibration keypad
- Watch dog switch
- 4 to 20mA proportional output or three-step (0, 10 and 20 mA)
- Reverse polarity protected
- Overload-proof
- One-relay board (optional)
- Three-relay board (optional)
- Open collector board (optional)
- RS 485 serial bus (optional)



I M2 EEx-d I

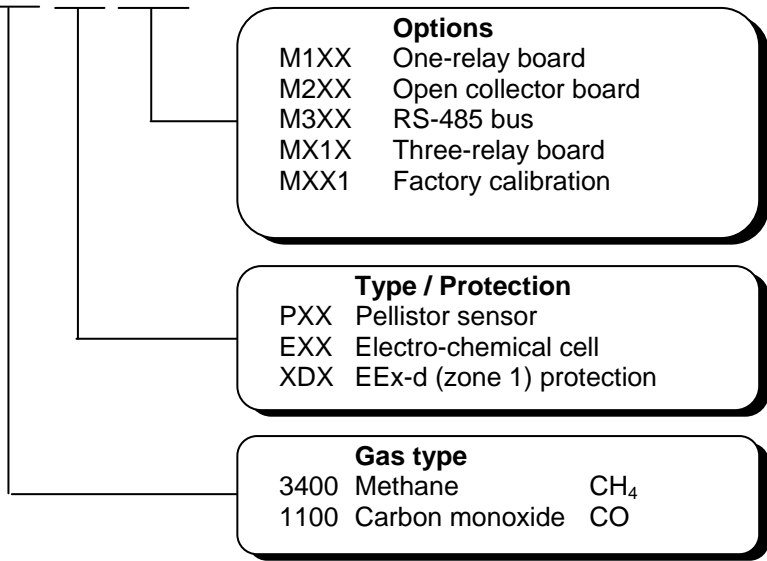


SPECIFICATIONS

Electrical	
Power supply	12 - 24 VDC -20% +15%
Power consumption (at 12 VDC)	90 mA, max. 130 mA
Output signal	4 to 20 mA, on 200 Ω
Control unit	Microprocessor 10 bit (resolution 1024 points)
Digital filter	Variable average on the sampled values
Visual indications	Flashing LED
Serial output (optional)	Serial RS-485
One-relay output (optional)	Max. 24 VAC/DC, 1 A
Three-relay output (optional)	Max. 24 VAC/DC, 1 A
Two open collectors (optional)	Max. 24 VDC, 20 mA
Sensor Performance	
Detected gases	Methane CH ₄ / Carbon monoxide CO
Sensor element	Pellistor for Methane, electro-chemical cell for CO
Measuring range	0-100 %LEL / 0-500 ppm
Response time	t ₉₀ ≤ 60 sec.
Accuracy	± 5 % of range or 10 % of reading
Repeatability	± 5 % of range
Warm-up time	300 sec.
Stabilisation time	< 60 sec.
Zero-point drift	Auto zero drift compensation
Operating Environment	
Humidity	20 to 90 % RH / 40 °C (104 °F)
Operating temperature	-10 °C to + 60 °C (14 °F to + 122 °F)
Storage temperature	-25 °C to + 60 °C (-13 °F to + 140 °F)
Pressure range	800 to 1100 mBar (80 to 110 kPa)
Air velocity	< 6m/sec.
Physical characteristics	
Enclosure material	Metal
Enclosure colour	Blue
Dimensions (HxWxD)	200 x 105 x 90 mm (7.87 x 4.13 x 3.54 In.)
Weight (without options)	2,5 kg (5.5 lbs.)
Protection class	IP65
Mounting	Wall mounting (sensor head downwards)
Cable entry	1 x NPT 3/4 In.
Wire connection	Screw type, min. 0.25(24 AWG) max. 2.5 mm ² (14 AWG)
Wire length	Max. working resist. 200 Ω (= wire resistance+ controller input resistance)
ATEX Marking	CE 0772 Ex I M2 EEx d I
EC Type Certification Guidelines	CESI 04ATEX106 (Electrical Safety Requirements EEx-d vers.) ATEX EN 61779 (Pending)
Warranty	One year on material and workmanship (without sensor)

ORDERING INFORMATION

XT21-XXXX-XDX-MXXX



Example: Transmitter for Methane detection, I M2 EEx-d I protection, one-relay board, factory calibration

Ordering Number: XT21-3400-PDX-M101

CONNECTING DIAGRAM

