

MTL4048 LOOP-POWERED ISOLATOR

4/20mA, for Foxboro 'intelligent' transmitters



The MTL4048 is designed primarily for use with Foxboro 'intelligent' transmitters operating in the digital mode. It acts like a direct-current transformer. Being powered from the safe-area side, the same current flows in both hazardous and safe-area circuits and can be controlled from either. It provides bi-directional transmission of digital communication signals so that the transmitter can be interrogated either from the operator station or by a hand-held communicator (HHC).

SPECIFICATION

See also common specification, cable parameters and approvals

Number of channels

One, fully floating

Location of transmitter

Zone 0, IIC, T4-6 hazardous area if suitably certified
Div.1, Group A, hazardous location

Input and output signal range

4 to 20mA

Input voltage, V_s

9 to 35V dc

Minimum output voltage

Input voltage V_{in}	Minimum output voltage V_{out}
<24V	$V_{in} - (0.4 \times \text{current in mA}) - 1V$
>24V	$23V - (0.4 \times \text{current in mA})$

Input and output ripple

<1.00µA peak-to-peak

Transfer accuracy at 20°C

Better than 400µA

Temperature drift

<5µA/°C (0 to 60°C)
<8.5µA/°C (-20 to 0°C)

Response time

Settles within 10% of final value within 100ms

Digital signal bandwidth

3kHz to 15kHz

Power dissipation within unit

0.4W typical at 24V with 20mA signal
0.6W typical at 35V

Safety description

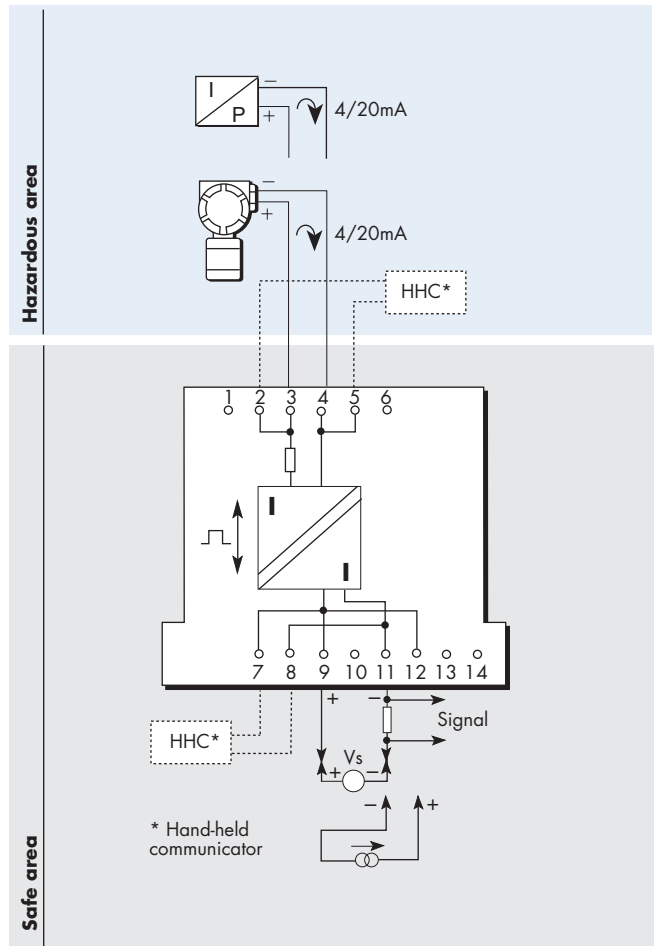
28V, 300Ω, 93mA, $U_m = 250V$ rms or dc

FM entity parameters

Not yet available

Isolation

250V ac between safe- and hazardous-area circuits



Terminal	Function
2	Optional HHC connection +ve
3	Tx or I/P connection +ve
4	Tx or I/P connection -ve
5	Optional HHC connection -ve
7	Optional HHC connection +ve
8	Optional HHC connection -ve
9	Load connection +ve
11	Controller or load connection -ve
12	Controller connection +ve



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