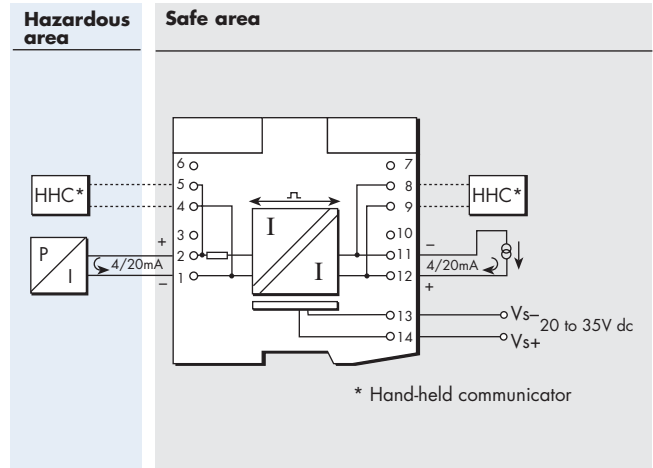


MTL5046 ISOLATING DRIVER

4/20mA, smart,
with line fault detection



The MTL5046 accepts a 4/20mA signal from a controller located in the safe area to drive a load in the hazardous area. It permits bi-directional transmission of digital signals to and from an operator station or hand-held communicator. A line fault detection (LFD) facility is also provided.



SPECIFICATION

See also common specification

Number of channels

One

Location of load

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

Safe-area input

Signal range: 4 to 20mA
Under/over-range: 1 to 24mA

Hazardous-area output

Load resistance: minimum 100Ω
maximum 800Ω (16V at 20mA)

Digital signal bandwidth

500Hz to 10kHz

Output resistance

>2MΩ

Input and output circuit ripple

<40μA peak-to-peak

Transfer accuracy at 20°C

Better than 10μA

Input voltage drop

<4V at 20mA

Response time

Settles to within 10% of final value within 100μs

Temperature drift

<0.5μA/°C

Line fault detection (LFD)

Signalled by an impedance change in the safe-area loop.
When a line fault occurs, the impedance between pins
11 and 12 is >100kΩ.

LED indicator

Green: power indication

Supply voltage

20 to 35V dc

Maximum current consumption (with 20mA signal)

65mA at 24V
75mA at 20V
50mA at 35V

Maximum power dissipation within unit (with 20mA signal)

1.5W at 24V
1.6W at 35V

Safety description

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

Terminal	Function	
1	Output -ve	
2	Output +ve	
4	Optional HHC -ve	} HAZ 4-6 connector required
5	Optional HHC +ve	
8	Optional HHC -ve	} SAF 7-9 connector required
9	Optional HHC +ve	
11	Input -ve	
12	Input +ve	
13	Supply -ve	
14	Supply +ve	



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