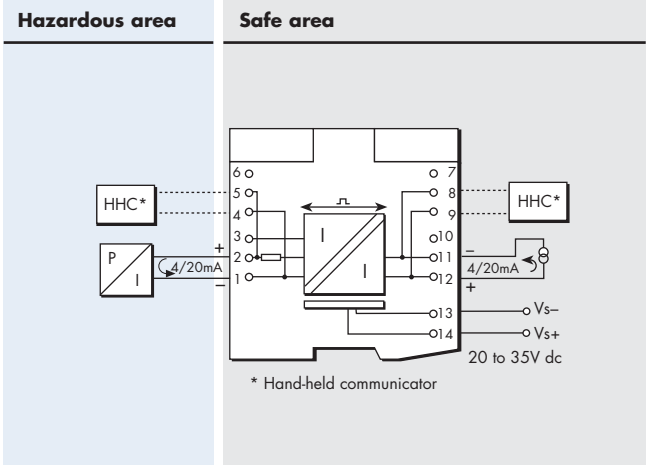
MTL5046 ISOLATING DRIVER

4/20mA, smart,
with line fault detection

CE

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.

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	

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

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