

MTL4544B

REPEATER POWER SUPPLY

2-channel, 4/20mA, HART®, 2- or 3-wire transmitters

The MTL4544B provides fully-floating dc supplies for energising two conventional 2- or 3-wire 4/20mA or HART transmitters located in a hazardous area, and repeats the current in other circuits to drive two safe-area loads. For HART transmitters, the unit allows bi-directional transmission of digital communication signals superimposed on the 4/20mA signal so that the transmitter can be interrogated either from the operator station or by a hand-held communicator.

SPECIFICATION

See also common specification

Number of channels

Two

Location of transmitter

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

Safe-area output

Signal range: 4 to 20mA
Under/over-range: 0 to 24mA
Safe-area load resistance: 0 to 360Ω @ 24mA
0 to 450Ω @ 20mA
Safe-area circuit output resistance: > 1MΩ

Safe-area circuit ripple

< 50μA peak-to-peak

Hazardous-area input

Signal range: 0 to 24mA (including over-range)
Transmitter voltage: 16.5V at 20mA

Transfer accuracy at 20°C

Better than 20μA

Temperature drift

< 0.8μA/°C

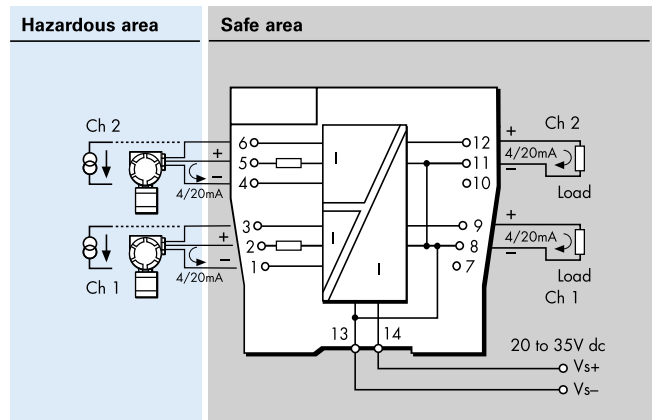
Response time

Settles to within 10% of final value within 50μs

Communications supported

HART® (terminals 1 & 2 and 4 & 5 only)

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Note: Safe area output referenced to PSU -ve

LED indicator

Green: power indication

Maximum current consumption (with 20mA signals)

96mA at 24V dc

Power dissipation within unit (with 20mA signals)

1.4W at 24V dc

Safety description (each channel)

Terminals 2 to 1 and 3, and 5 to 4 and 6:

$V_o=28V$ $I_o=93mA$ $P_o=0.65W$ $U_m = 253V$ rms or dc

Terminals 1 to 3 and 4 to 6:

Simple apparatus $\leq 1.5V$, $\leq 0.1A$ and $\leq 25mW$; can be connected without further certification into any IS loop with an open-circuit voltage $< 28V$