

MTL4544/S – MTL5544/S

REPEATER POWER SUPPLY

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

The MTLx544 provides fully-floating dc supplies for energising two conventional 2-wire 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 smart transmitters, the unit allows bi-directional transmission of digital communication signals superimposed on the 4/20mA loop current. Alternatively, the MTLx544S acts as a current sink for a safe-area connection rather than driving a current into the load.

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 (MTLx 544)
@ 24mA: 0 to 360Ω
@ 20mA: 0 to 450Ω
Safe-area load (MTLx544S)
Current sink: 600Ω max.
Maximum voltage source: 24V dc
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 15μA

Temperature drift

< 0.8μA/°C

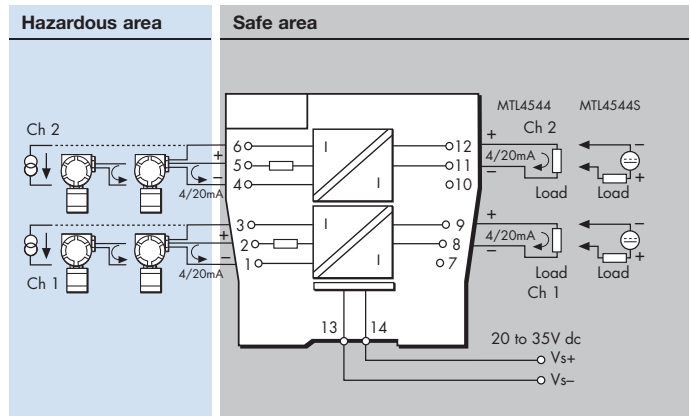
Response time

Settles to within 10% of final value within 50μs

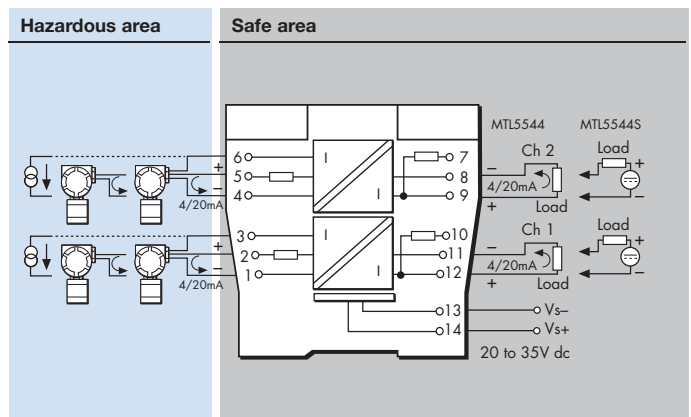
Communications supported

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

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LED indicator

Green: power indication

Maximum current consumption (with 20mA signals)

96mA at 24V dc

Power dissipation within unit (with 20mA signals)

MTLx544 1.4W @ 24V dc

MTLx544S 1.9W @ 24V dc

Safety description (each channel)

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

$U_o=28V$ $I_o=93mA$ $P_o=651mW$ $U_m = 253V$ 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

SIL capable

These models have been assessed for use in IEC 61508 functional safety applications. See data on MTL web site.

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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