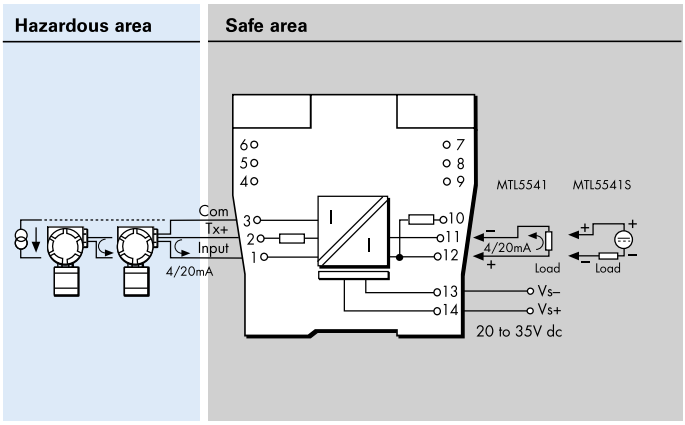
MTL5541/S -T
REPEATER POWER SUPPLY
4/20mA, HART®, 2- or 3-wire transmitters

The MTL5541-T provides a fully-floating dc supply for energising a conventional 2- or 3-wire 4/20mA transmitter, which is located in a hazardous area, and repeats the current in another floating circuit to drive a safe-area load. For HART 2-wire transmitters, the unit allows bi-directional communications signals superimposed on the 4/20mA loop current. Alternatively, the MTL5541S-T acts as a current sink for a safe-area connection rather than driving a current into the load. Separately powered current sources, such as 4-wire transmitters, can be connected but will not support HART communication.

MTL5541-T / MTL5541S-T



SPECIFICATION

See also common specification

Number of channels
One

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 (MTL5541-T)	
@ 24mA:	0 to 360Ω
@ 20mA:	0 to 450Ω
Safe-area load (MTL5541S-T)	
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 only)

LED indicator
Green: power indication

Maximum current consumption (with 20mA signal)
51mA at 24V

Power dissipation within unit (with 20mA signal)

MTL5541-T	0.7W @ 24V dc
MTL5541S-T	1.0W @ 24V dc

Safety description
Terminals 2 to 1 and 3:
U_o=28V I_o=93mA P_o=0.65W U_m = 253V rms or dc
Terminals 1 to 3:
Simple apparatus ≤1.5V, ≤0.1A and ≤25mW; can be connected without further certification into any IS loop with an open-circuit voltage <28V

Ambient temperature limits
-20°C to + 65°C (-6 to + 149°F) operating
-40°C to + 80°C (-40 to + 176°F) storage

Powering Business Worldwide

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Publication No.
EPS5541/S-T Rev2 190124

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