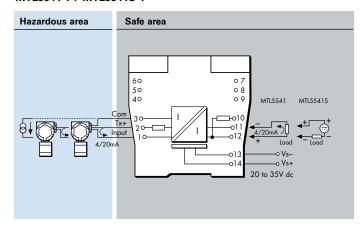
# MTL5541/S-T REPEATER POWER SUPPLY

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)

 $\begin{array}{cc} \text{Current sink:} & 600\Omega \text{ max.} \\ \text{Maximum voltage source:} & 24\text{V dc} \\ \text{Safe-area circuit output resistance:} &> 1\text{M}\Omega \end{array}$ 

## 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:

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

Terminals 1 to 3:

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

## **Ambient temperature limits**

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



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## EUROPE (EMEA):

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