

# MTL4544A/AS – MTL5544A/AS CURRENT REPEATER

4/20mA passive i/p for HART® transmitters

The MTLx544A provides an input for separately powered 4/20mA transmitters and also allows bi-directional transmission of HART communication signals superimposed on the 4/20mA loop current, so that the transmitter can be interrogated either from the operator station or by a hand-held communicator (HHC). Alternatively, the MTLx544AS 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

### Hazardous area input

Signal range: 4 to 20mA  
Under/over-range: 1.0 to 21.5mA

### Input impedance for HART signals

at terminals 1, 2 and 4, 5: > 230Ω

### Maximum input volt drop

at terminals 1, 2 and 4, 5: < 6.6V  
i.e. a transmitter load of 330Ω at 20mA

### Safe-area output

Signal range: 4 to 20mA  
Under/over-range: 1.0 to 21.5mA

#### Safe-area load resistance (MTL5544A)

Conventional transmitters: 0 to 360Ω  
Smart transmitters: 250Ω ±10%

#### Safe-area load (MTL5544AS)

Current sink: 600Ω max.

Maximum voltage source: 24V DC

Safe-area circuit output resistance: > 1MΩ

### Safe-area circuit ripple

< 50μA peak-to-peak up to 80kHz

### Transfer accuracy at 20°C

Better than 20μA

### Temperature drift

< 1μA/°C

### Response time

Settles within 200μA of final value after 20ms

### Communications supported

HART

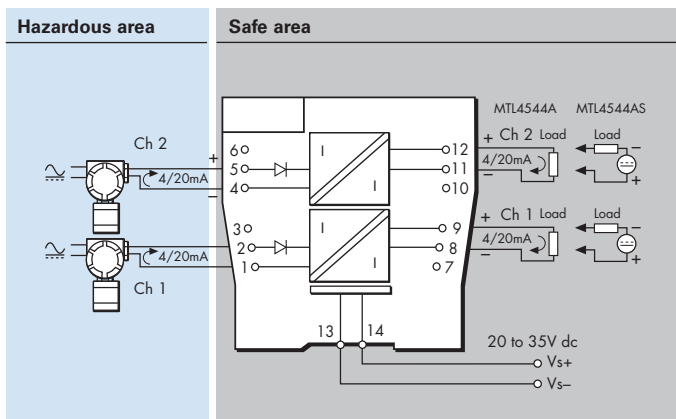
### LED indicator

Green: power indication

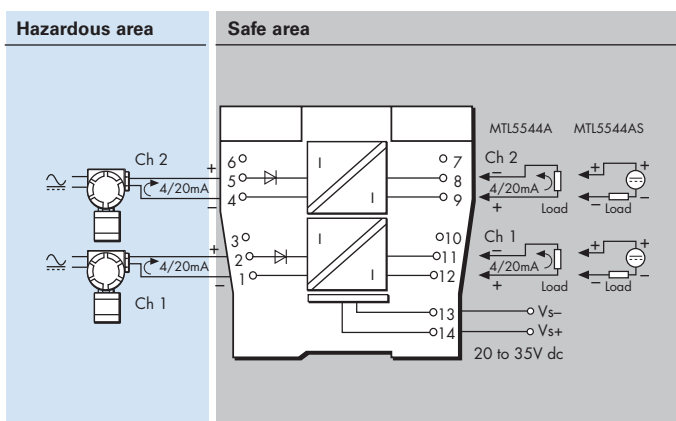
### Power requirement (with 20mA signal)

70mA at 24V  
85mA at 20V  
50mA at 35V

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### Power dissipation within unit (with 20mA signals)

MTLx544A 1.5W @ 24V dc  
MTLx544AS 2.0W @ 24V dc

### Safety description

Terminals 1 to 2 and 4 to 5:

$U_m = 253V$  rms or dc.

8.6V (diode). This voltage must be considered when calculating the load capacitance.

Non-energy-storing apparatus ≤1.5V, ≤0.1A and ≤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.

SIL2 capable for a single device (HFT=0)

See data on MTL web site and refer to the safety manual.



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Publication No.  
EPSx544A/AS Rev6 290620

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In the interest of further technical developments, we reserve the right to make design changes.