

# MTL4541YA

## CURRENT REPEATER

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

The MTL4541YA 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.

### 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

#### 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: > 230Ω

#### Maximum input volt drop

at terminals 1, 2: < 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  
Conventional transmitters: 0 to 360Ω  
Smart transmitters: 250Ω ±10%  
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

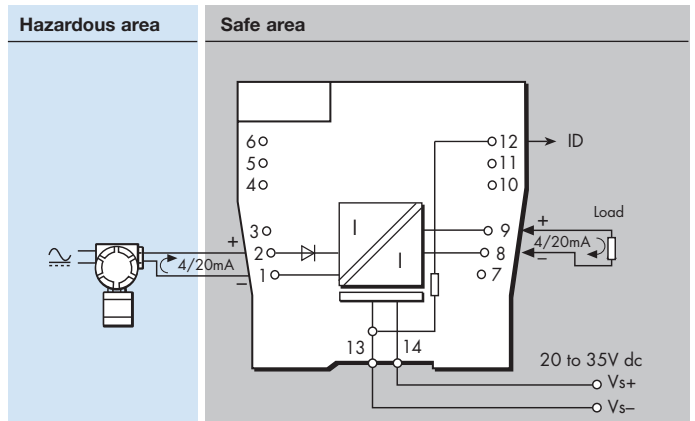
#### Communications supported

HART

#### ID Resistor

7k5Ω

### MTL4541YA



#### LED indicator

Green: power indication

#### Power requirement (with 20mA signal)

50mA at 20V  
45mA at 24V  
35mA at 35V

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

MTL4541YA 0.8W @ 24V dc

#### Safety description

##### Terminals 1 to 2:

$U_m = 253V$  rms or dc.  
8.6V (diode). This voltage must be considered when calculating the load capacitance.  
Non-energy-storing 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 modules have been assessed SIL 2 capable.  
Contact MTL for details.

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.