

MTL4541P REPEATER POWER SUPPLY

4/20mA, smart, for 2- or 3-wire transmitters

The MTL4541P 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 circuit to drive a safe-area load. For smart 2-wire transmitters, the unit allows bi-directional communications signals superimposed on the 4/20mA signal.

The MTL4541P is a higher power version of the MTL4541B, usable for all gas groups provided that the field equipment is suitably certified.

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: 0 to 360Ω @ 24mA
0 to 450Ω @ 20mA
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: 17.6V 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)

0.7W at 24V

Safety description

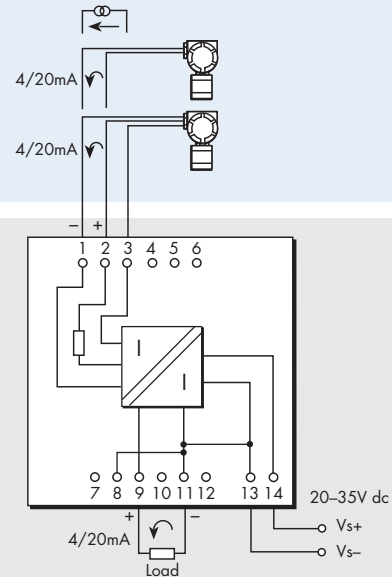
Terminals 2 to 1 and 3:

$V_o=28V$ $I_o=116.6mA$ $P_o=820mW$ $U_m = 253V$ 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

Hazardous area



Safe area

Terminal	Function
1	Current input
2	Transmitter supply +ve
3	Common
8	Output -ve
9	Output +ve
11	Output -ve
13	Supply -ve
14	Supply +ve

Note: Safe area output referenced to PSU -ve

