

# MTL5042 REPEATER POWER SUPPLY

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



The MTL5042 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 smart 2-wire transmitters, the unit allows bi-directional communications signals superimposed on the 4/20mA signal.

## 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 600Ω  
Safe-area circuit output resistance: >2MΩ

### Safe-area circuit ripple

<40μA 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 10μA

### Temperature drift

<0.5μA/°C

### Response time

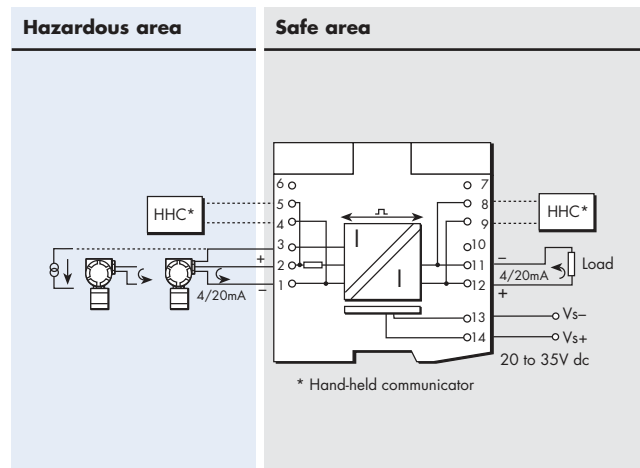
Settles to within 10% of final value within 40μs

### Digital signal bandwidth

10Hz to 12kHz

### Communications supported

HART®  
Honeywell DE  
Foxboro  
Yokogawa Brain



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

HAZ4-6 connector reqd (terminals 4, 5, 8, 9)  
SAF7-9 connector reqd (terminals 8, 9)

### LED indicator

Green: power indication

### Supply voltage

20 to 35V dc

### Maximum current consumption (with 20mA signal)

75mA at 24V  
85mA at 20V  
55mA at 35V

### Maximum power dissipation within unit (with 20mA signal)

1.3W at 24V

### Safety description

#### Terminals 2 to 1 and 3:

28V, 300Ω, 93mA;  $U_m = 250V$  rms or dc

#### Terminals 1 to 3:

Non-energy-storing apparatus  $\leq 1.2V$ ,  $\leq 0.1A$ ,  $\leq 20\mu J$  and  $\leq 25mW$ ;  
can be connected without further certification into any IS loop  
with an open-circuit voltage <28V

Note: Terminals 1 and 3 only support HART® communications in one direction  
from field device to safe-area connections 11 and 12

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