

# MTL4041P HIGH-POWER REPEATER POWER SUPPLY

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



The MTL4041P provides a fully floating dc supply for energising a conventional 2- or 3-wire 4/20mA transmitter or a 'smart' transmitter located in a hazardous area, and repeats the current in another circuit to drive a safe-area load. For smart transmitters, the unit allows bi-directional transmission of digital communication signals superimposed on the 4/20mA signal so that the transmitter can be interrogated either from the operator station or by a hand-held communicator (HHC). The module can also be used with hazardous-area current sources. The MTL4041P is a high-power version of the MTL4041B, suitable for all gas groups provided that the field equipment is suitably certified.

## SPECIFICATION

See also common specification, cable parameters and approvals

### Number of channels

One

### Location of transmitter

Zone 0, IIC, T4-6 hazardous area if suitably certified  
Div.1, Group A, hazardous location

### Voltage available for transmitter and lines

16.3V minimum at 20mA

Note: maximum open-circuit voltage is 28V

### Input and output signal range

4 to 20mA

### Over-/under-range

1.0mA to 21.5mA

### Digital signal bandwidth

10Hz to 8kHz

### Safe-area circuit load resistance

Conventional transmitters: 0 to 650Ω

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 within 20ms

### LED indicator

Green: one provided for power indication

### Power requirement, V<sub>s</sub>

65mA at 24V dc with 20mA signal

75mA at 20V dc

50mA at 35V dc

### Power dissipation within unit

1.2W at 24V with 20mA signal

1.4W at 35V

### Isolation

250V ac between safe- and hazardous-area circuits

### Safety description

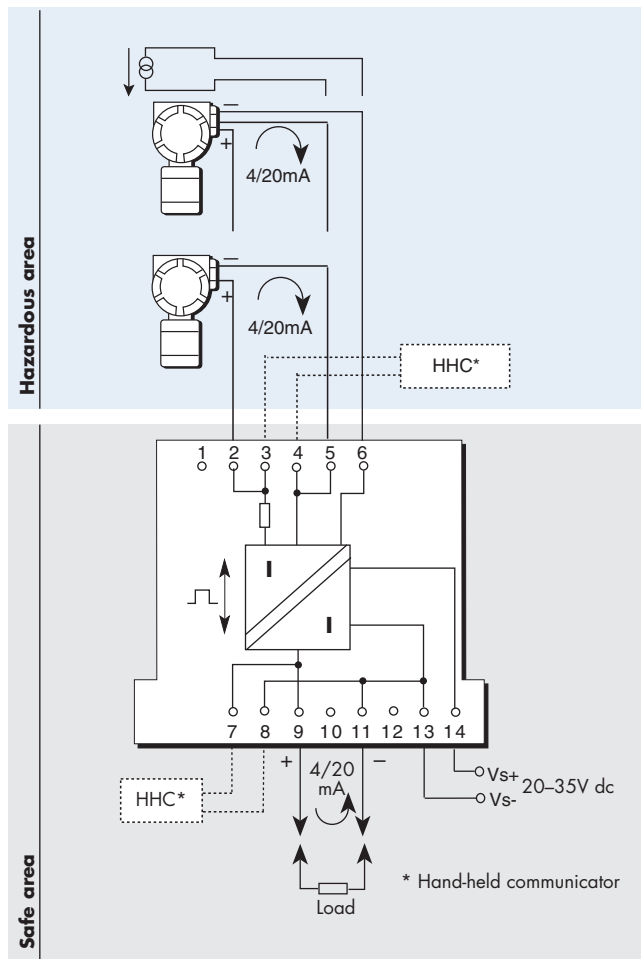
#### Terminals 2 to 5 and 6

28V, 240Ω, 116.6mA

#### Terminals 5 to 6

Non-energy storing apparatus ≤1.2V, ≤0.1A, ≤20μJ and ≤25mW; can be connected without further certification into any IS loop with open-circuit voltage not more than 28V

Note: Terminals 5 and 6 do not support HART® communications.



Terminal	Function
2	Tx supply +ve
3	Optional HHC connection +ve
4	Optional HHC connection -ve
5	Current input -ve
6	Common
7	Optional HHC connection +ve
8	Optional HHC connection -ve
9	Output +ve
11	Output -ve
13	Supply -ve
14	Supply +ve

### FM entity parameters

#### Terminals 2 and 5

V<sub>oc</sub> = 28V dc, I<sub>sc</sub> = 118mA, C<sub>a</sub> = 0.14μF, L<sub>a</sub> = 2.76mH

#### Terminals 2, 3, 4, 5 and 6

V<sub>t</sub> = 28V dc, I<sub>t</sub> = 166mA, C<sub>a</sub> = 0.14μF, L<sub>a</sub> = 1.41mH



EUROPE (EMEA)  
AMERICAS  
ASIA PACIFIC  
E-mail: enquiry@mtl-inst.com

Tel: +44 (0)1582 723633  
Tel: +1 603 926 0090  
Tel: +65 6 487 7887

Fax: +44 (0)1582 422283  
Fax: +1 603 926 1899  
Fax: +65 6 487 7997

Web site: www.mtl-inst.com