

# MTL5043 REPEATER POWER SUPPLY

dual output, 4/20mA, for 2-wire 'smart' transmitters



The MTL5043 provides a fully floating dc supply for energising a conventional 2-wire 4/20mA 'smart' transmitter which is located in a hazardous area, and repeats the current in two floating circuits to drive two safe-area loads. HART is repeated through channel 1 only for bi-directional communication.

## 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 outputs

Signal range: 4 to 20mA  
Over/under-range: 0 to 24mA (load ch1 <250Ω, ch2 <450Ω)  
(21mA with max load below)  
Safe-area load resistance: ch1: 0 - 350Ω (terminals 11 & 12)  
ch1: 0 - 130Ω (terminals 10 & 11)  
Safe-area load resistance: ch2: 0 - 550Ω  
Safe-area load resistance: ch2 current sink 1kΩ (max voltage 30V)  
Safe-area circuit output resistance: >2MΩ

### Safe-area circuit ripple

<125μA peak-to-peak

### Hazardous-area input

Signal range: 0 to 24mA (including over-range)  
Transmitter voltage: 15.5V at 20mA

### Transfer accuracy at 20°C

Better than 20μA (typically <5μA)

### Temperature drift

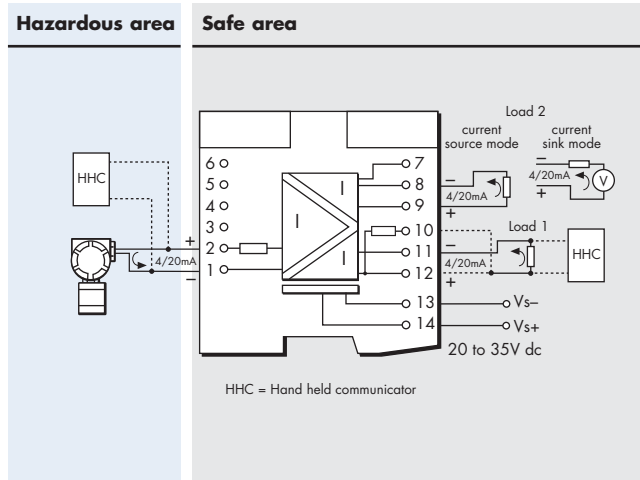
<0.5μA/°C

### Response time

Both outputs settle to within 10% of final value within 500μs  
Digital signal bandwidth: 400Hz to 4kHz

### Communication supported

HART®



Terminal	Function
1	Input -ve } HHC
2	
7	Output -ve (ch2 passive current sink)
8	Output -ve (ch2 Active/+ve current sink)
9	Output +ve (ch2 Active)
10	Output +ve (ch1 via 220W for HART Apps)
11	Output -ve (ch1)
12	Output +ve (ch1)
13	Supply -ve
14	Supply +ve

### LED indicator

Green: power indication

### Supply voltage

20 to 35V dc

### Maximum current consumption

(with two 20mA signals)

100mA at 24V  
120mA at 20V  
80mA at 35V

### Maximum power dissipation within unit

(with two 20mA signals)

1.7W at 24V

### Isolation

250V ac or dc between power supply, input and outputs

### Safety description

$U_o = 28V$ ,  $I_o = 93mA$ ,  $P_o = 0.65W$   
 $U_m = 253V$  rms.

N. B. MTL5043 marked Baseefa 03ATEX0584 pass HART and are fully compliant with this spec. Modules carrying the BAS01ATEX7154 or Ex97D2248 certification, do not pass HART, are not fitted with a current sink output on terminal 7 nor a 220 series resistor on terminal 10.

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

Tel: +44 (0)1582 723633  
Tel: +1 281 571 8065  
Tel: +65 6 487 7887

Fax: +44 (0)1582 422283  
Fax: +1 281 571 8069  
Fax: +65 6 487 7997

Web site: www.mtl-inst.com

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