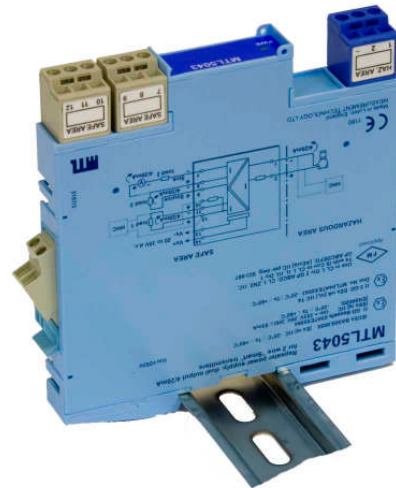# REPEATER POWER SUPPLY

MTL5043 Dual output (4 to 20) mA, for two wire 'smart' transmitters

> PROVIDES POWER DIRECTLY INTO HAZARDOUS AREAS

> NO NEED FOR I.S. EARTH

> IS APPROVED

> DUAL OUTPUT

> HART ® COMMUNICATION

INTRODUCTION

The MTL5043 provides a fully floating dc supply for energising a conventional 2-wire (4 to 20) mA '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 load 1 only for bi–directional communication.

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

Safe-area circuit ripple
< 125 µA peak-to-peak

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

Transfer accuracy at 20 ˚C
Better than 20 µA (typically < 5 µA)

Temperature drift
< 0.5 µA / ˚C

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

Communication supported
HART®

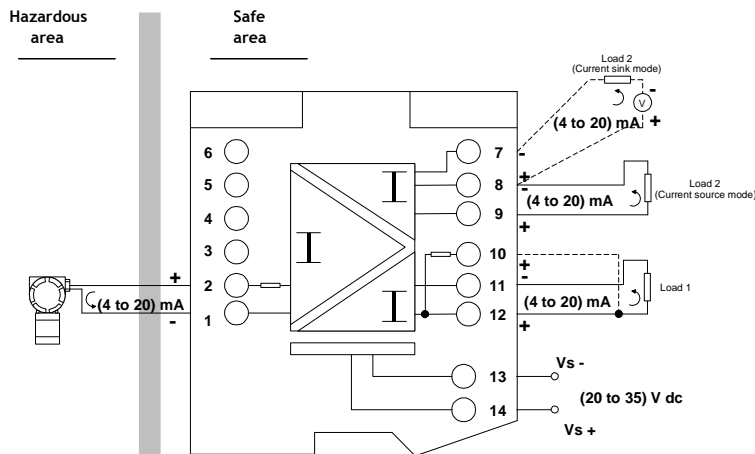**LED indicator**
Green : power indication

Supply Voltage
(20 to 35) V dc

Maximum current consumption (with two 20 mA signal)
100 mA at 24 V
120 mA at 20 V
80 mA at 35 V

Maximum power dissipation within unit (with two 20 mA signal)
1.7 W at 24 V

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

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

Terminal	Function
1	Input -ve
2	Input +ve
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 220 Ω for HART Apps)
11	Output -ve (ch1)
12	Output +ve (ch1)
13	Supply –ve
14	Supply +ve

ORDER CODE : MTL5043

STATUS INSTRUMENTS