

MTL4041A CURRENT REPEATER

4/20mA passive input for smart transmitters



The MTL4041A provides an input for separately powered 4/20mA transmitters and also allows bi-directional transmission of digital communication signals superimposed on the 4/20mA loop current, so that the transmitter can be interrogated either from the operator station or by a hand-held communicator (HHC).

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

Input impedance for HART® signals

at terminals 5, 6: >230Ω

Maximum input volt drop

at terminals 5, 6: <6.2V
i.e. a transmitter load of 310Ω at 20mA

Input and output signal range

4 to 20mA

Over-/under-range

1.0mA to 21.5mA

Digital signal bandwidth

50Hz to 8kHz

Safe-area circuit load resistance

Conventional transmitters: 0 to 600Ω
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 after 20ms

LED indicator

Green: one provided for power indication

Power requirement, at 20mA

70mA at 24V
85mA at 20V
50mA at 35V

Power dissipation within unit, at 20mA

1.6W at 24V
1.7W at 35V

Isolation

250V ac between safe- and hazardous-area circuits

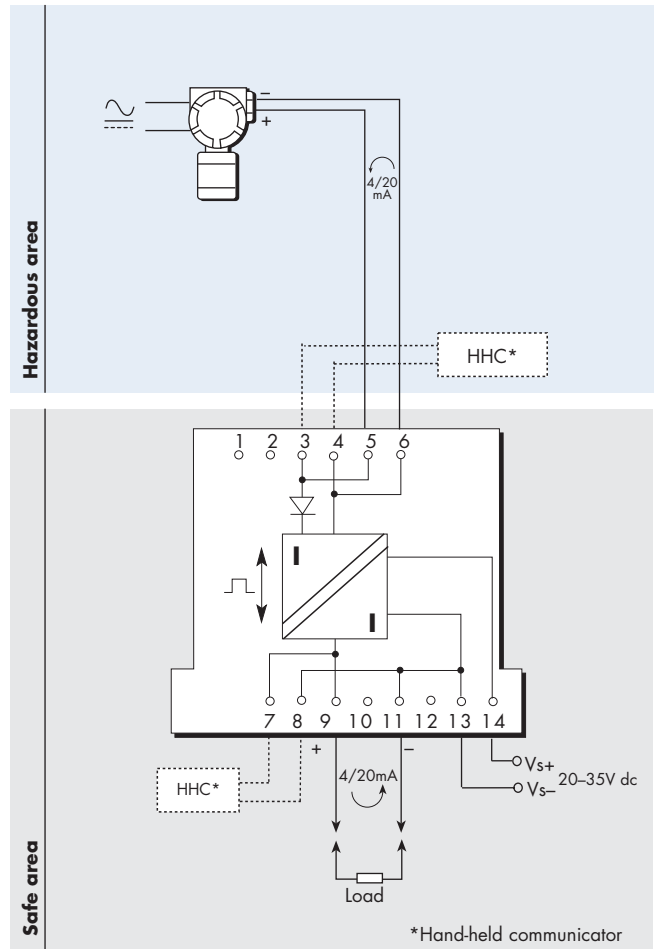
Safety description

Terminals 3 to 4 and 5 to 6

8.6V (diode). This voltage must be considered when calculating the load capacitance.

Simple apparatus

Terminals 3 to 4 and 5 to 6 meet clause 5.4 of EN50020 : 1994 and have the following parameters: $U \leq 1.5V$, $I \leq 0.1A$, $P \leq 25mW$. They can be connected without further certification into an IS loop with open circuit voltage of not more than 28V. See certificate for further details.



Terminal	Function
3	Optional HHC connection +ve
4	Optional HHC connection -ve
5	Tx signal +ve
6	Tx signal -ve
7	Optional HHC connection +ve
8	Optional HHC connection -ve
9	Output +ve
11	Output -ve
13	Supply -ve
14	Supply +ve

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