

# MTL4046P HIGH POWER ISOLATING DRIVER

4–20mA with line fault detection for HART® valve positioners



The MTL4046P accepts a 4/20mA floating signal from a safe-area controller to drive a current/pressure converter (or any other floating load up to 870Ω) in a hazardous area. For HART valve positioners, the module also permits bi-directional transmission of digital communication signals so that the device can be interrogated either from the operator station or by a hand-held communicator (HHC). Process controllers with a readback facility can detect open or short circuits in the field wiring: if these occur, the current taken into the terminals drops to a preset level.

## SPECIFICATION

See also common specification, cable parameters and approvals

### Number of channels

One

### Location of I/P converter

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

### Working range

4 to 20mA

### Digital signal bandwidth

500Hz to 10kHz

### Maximum load resistance

870Ω (17.4V at 20mA)

### Minimum load resistance

90Ω (short circuit detection at <50Ω)

### Output resistance

>1MΩ

### Under/over range capability

Under range = 1.0mA

Over range = 26.0mA (load ≤600Ω)

### Input and output circuit ripple

<40μA peak-to-peak

### Transfer accuracy at 20°C

Better than 20μA

### Input characteristics

<4.0V with the field wiring intact

<0.9mA with the field wiring open- or short-circuit

### Response time

Settles within 200μA of final value within 100ms

### Temperature drift

<1.0μA/°C

### LED indicator

Green: one provided for power indication

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

58mA at 24V dc

70mA at 20V dc

40mA at 35V dc

### Power dissipation within unit

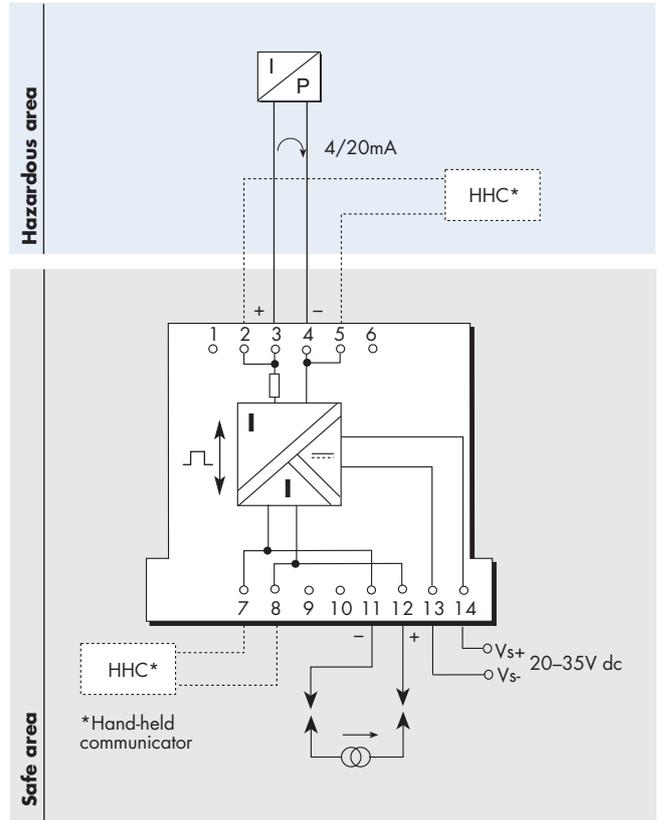
1.2W typical at 24V with 20mA loop current

1.4W worst case

### Isolation

250V ac between safe- and hazardous-area circuits

Input circuit is floating



Terminal	Function
2	Optional HHC connection +ve
3	Output +ve
4	Output -ve
5	Optional HHC connection -ve
7	Optional HHC connection -ve
8	Optional HHC connection +ve
11	Input -ve
12	Input +ve
13	Supply -ve
14	Supply +ve

### Safety description

28V, 240Ω, 116mA, U<sub>m</sub> = 250V rms or dc

### FM entity parameters

V<sub>f</sub> = 28V dc, I<sub>sc</sub> = 117mA, C<sub>a</sub> = 0.14μF, L<sub>a</sub> = 2.6mH

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