

# MTL4646/Y ISOLATING DRIVER

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

The MTL4646 accepts a 4/20mA floating signal from a safe-area controller to drive a current/pressure converter (or any other load up to 800Ω). For HART valve positioners, the module also permits bi-directional transmission of digital communication signals. 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. The MTL4646Y is very similar except that it provides open circuit detection only (i.e. no short-circuit detection).

## SPECIFICATION

See also common specification

### Number of channels

One

### Working range

4 to 20mA

### Digital signal bandwidth

500Hz to 10kHz

### Maximum load resistance

800Ω (16V at 20mA)

### Minimum load resistance

90Ω (short-circuit detection at < 50Ω)

### Output resistance

> 1MΩ

### Under/over range capability

Under range = 1mA

Over range = 24mA (load ≤ 520Ω)

### Input and output circuit ripple

< 40μA peak-to-peak

### Transfer accuracy at 20°C

Better than 20μA

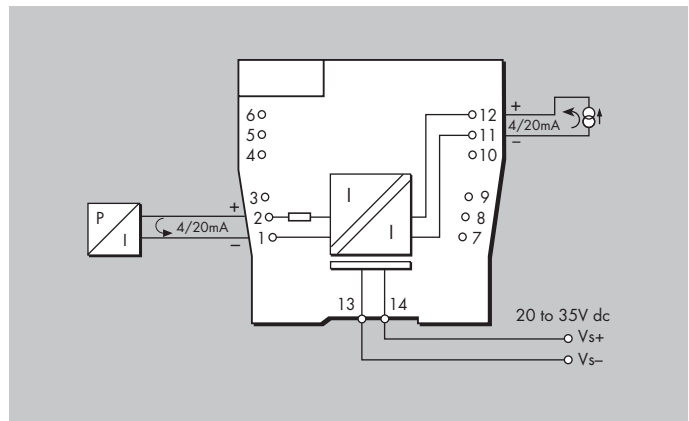
### Temperature drift

< 1.0μA/°C

### Input characteristics

| Field wiring state | MTL4646 | MTL4646Y |
|--------------------|---------|----------|
| Normal             | < 6.0V  | < 6.0V   |
| Open-circuit       | < 0.9mA | < 0.5mA  |
| Short-circuit      | < 0.9mA | N.A.     |

## MTL4646 / MTL4646Y



### Response time

Settles within 200μA of final value within 100ms

### Communications supported

HART

### LED indicator

Green: power indication

### Maximum current consumption (with 20mA signals into 250Ω load)

35mA at 24V dc

### Power dissipation within unit (with 20mA signals into 250Ω load)

0.8W at 24V



Powering Business Worldwide

### Eaton Electric Limited,

Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.  
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: mtlenquiry@eaton.com  
www.mtl-inst.com

© 2016 Eaton  
All Rights Reserved  
Publication No.  
EPS4646/Y Rev 3 010916

### EUROPE (EMEA):

+44 (0)1582 723633 mtlenquiry@eaton.com

### THE AMERICAS:

+1 800 835 7075 mtl-us-info@eaton.com

### ASIA-PACIFIC:

+65 6 645 9888 sales.mtlsing@eaton.com

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee.  
In the interest of further technical developments, we reserve the right to make design changes.