

MTL4546S ISOLATING DRIVER

for 4–20mA HART® valve positioners with
line fault detection and long field lines

The MTL4546S accepts a 4/20mA floating signal from a safe-area controller to drive a current/pressure converter (or any other load up to 710Ω) in a hazardous area. For HART valve positioners, the module also permits bi-directional transmission of digital communication signals. Process controllers with a readback facility can detect open circuits in the field wiring: if these occur, the current taken into the terminals drops to a preset level. The reduced maximum open-circuit voltage permits the use of longer field lines compared to MTL4546

SPECIFICATION

See also common specification

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

710Ω (14.2V at 20mA)

Minimum load resistance

90Ω

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	
Normal	< 6.0V
Open-circuit	< 0.9mA
Short-circuit	N.A.

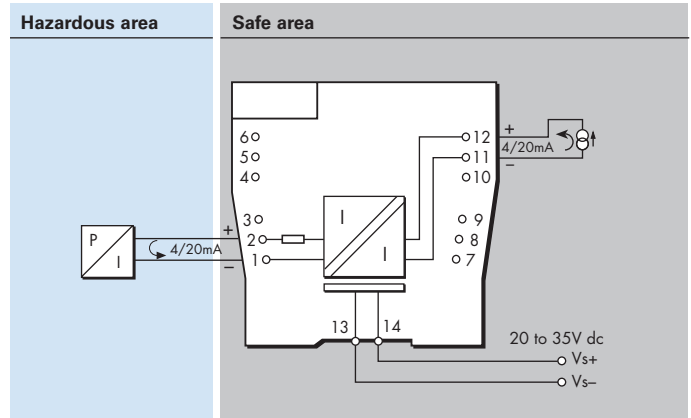
Response time

Settles within 200μA of final value within 100ms

Communications supported

HART

MTL4546S



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

Safety description

$V_o=22V$ $I_o=100mA$ $P_o=550mW$ $U_m = 253V$ rms or dc



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In the interest of further technical developments, we reserve the right to make design changes.