MTL4549/C/Y - MTL5549/Y **ISOLATING DRIVER**

two-channel, for 4-20mA, HART® valve positioners with line fault detection

The MTLx549 accepts 4/20mA floating signals from safe-area controllers to drive 2 current/pressure converters (or any other load up to 800Ω) 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 or short circuits in the field wiring: if these occur, the current taken into the terminals drops to a preset level. The MTL4549C and MTLx549Y are very similar to the MTLx549 except that they provide open circuit detection only (i.e. no short-circuit detection)

SPECIFICATION

See also common specification

Number of channels

Two

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

800Ω (16V at 20mA)

Minimum load resistance

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

Output resistance

 $> 1M\Omega$

Under/over range capability

Under range = 1mA

Over range = 24mA (load $\leq 520\Omega$)

Input and output circuit ripple

<40µA peak-to-peak

Communications supported

HART

Transfer accuracy at 20°C

Better than 20µA

Temperature drift

< 1.0uA/°C

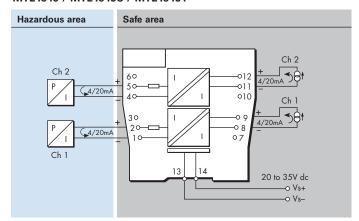
Input characteristics

Field wiring state	MTL4549	MTL4549C	MTL4549Y
Normal	< 6.0V	< 6.0V	< 6.0V
Open-circuit	< 0.9mA	< 0.9mA	< 0.5mA
Short-circuit	< 0.9mA	N.A.	N.A.

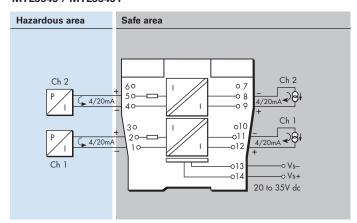
Response time

Settles within 200µA of final value within 100ms

MTL4549 / MTL4549C / MTL4549Y



MTL5549 / MTL5549Y



LED indicator

Green: power indication

Maximum current consumption (with 20mA signals into 250Ω load) 70mA at 24V dc

Power dissipation within unit (with 20mA signals into 250 Ω load) 1.6W at 24V

Safety description (each channel)

 $U_0 = 28V$ $I_0 = 93 \text{mA}$ $P_0 = 0.65 \text{W}$ $U_m = 253 \text{V}$ rms or dc



SIL capable

These models have been assessed for use in IEC 61508 functional safety applications. SIL2 capable for a single device (HFT=0) SIL3 capable for multiple devices in safety redundant configurations (HFT=1) See data on MTL web site and refer to the safety manual.



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