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

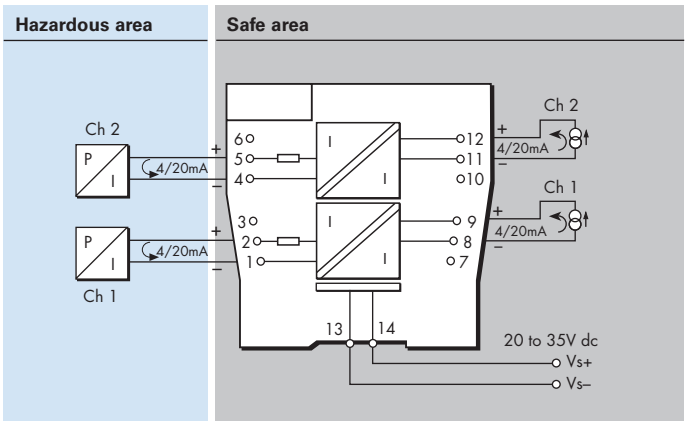
See also common specification

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
> 1MΩ
Under/over range capability
Under range = 1mA
Over range = 24mA (load ≤ 520Ω)
Input and output circuit ripple
<40µA peak-to-peak
Communications supported
HART
Transfer accuracy at 20°C
Better than 20µA
Temperature drift
< 1.0µA/°C
Input characteristics

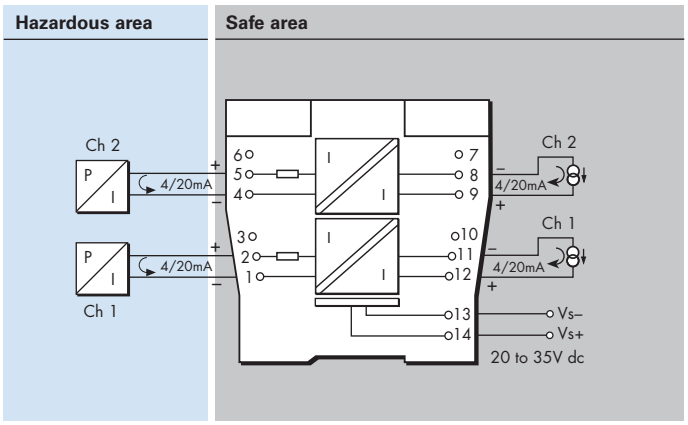
Field wiring state	MTL4549	MTL4549C	MTL4549Y
Normal	< 6.0V	< 6.0V	< 6.0V
Open-circuit	< 0.9mA	< 0.9mA	< 0.5mA
Short-circuit	< 0.9mA	N.A.	N.A.

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 250Ω load)
1.6W at 24V
Safety description (each channel)
U_o=28V I_o=93mA P_o=0.65W U_m = 253V 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.

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.

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Publication No.
EPSx549/C/Y Rev6 010916

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