MTL4549/4549C ISOLATING DRIVER

two-channel, for 4–20mA smart valve positioners with line fault detection

The MTL4549 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 smart 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. 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 is identical to the MTL4549 except that it provides open circuit detection only (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

Transfer accuracy at 20°C
Better than 20µA

Temperature drift
< 1.0µA/°C

Input characteristics
< 6.0V with the field wiring intact
< 0.9mA with the field wiring open-circuit (and short-circuit on the MTL4549)

Response time
Settles within 200µA of final value within 100ms

Communications supported
HART®

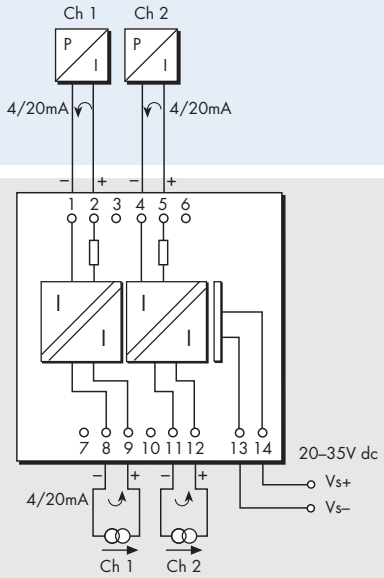
LED indicator
Green: power indication

Maximum current consumption (with 20mA signals)
70mA at 24V dc

Power dissipation within unit (with 20mA signals)
1.6W at 24V

Safety description (each channel)
V_o=28V I_o=93mA P_o=651mW U_m = 253V rms or dc

Hazardous area



Safe area

Terminal	Function
1	Output –ve (Ch 1)
2	Output +ve (Ch 1)
4	Output –ve (Ch 2)
5	Output +ve (Ch 2)
8	Input –ve (Ch 1)
9	Input +ve (Ch 1)
11	Input –ve (Ch 2)
12	Input +ve (Ch 2)
13	Supply –ve
14	Supply +ve

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