

MTL4561 – MTL5561 FIRE AND SMOKE DETECTOR INTERFACE

2-channel

The MTLx561 is a loop-powered 2-channel interface for use with conventional fire and smoke detectors located in hazardous areas. In operation, the triggering of a detector causes a corresponding change in the safe-area current. The unit features reverse input polarity protection.

SPECIFICATION

See also common specification

Number of channels

Two, fully floating, loop powered

Location of fire and smoke detectors

Zone 0, IIC, T4–6 hazardous area if suitably certified
Div. 1, Group A, hazardous area

Input voltage

6 to 30V dc

Current range

1 to 40mA, nominal

Quiescent safe-area current at 20°C

(hazardous-area terminals open circuit)
< 400µA at $V_{in} = 24V$ per channel

Integral input polarity protection

Input circuit protected against reverse polarity

Minimum output voltage V_{out} at 20°C

For $V_{in} \leq 25V$: $V_{out} = V_{in} - (0.38 \times \text{current in mA}) - 2V$
For $V_{in} > 25V$: $V_{out} = 22.5V - (0.35 \times \text{current in mA})$

Maximum output voltage

28V from 300Ω

Transfer accuracy at 20°C

Better than 400µA

Temperature drift

< 4µA/°C (0°C to 60°C)
< 15µA/°C (-20°C to 0°C)

Response time to step input

Settles to within 5% of final value within 1.5ms

Power dissipation within unit

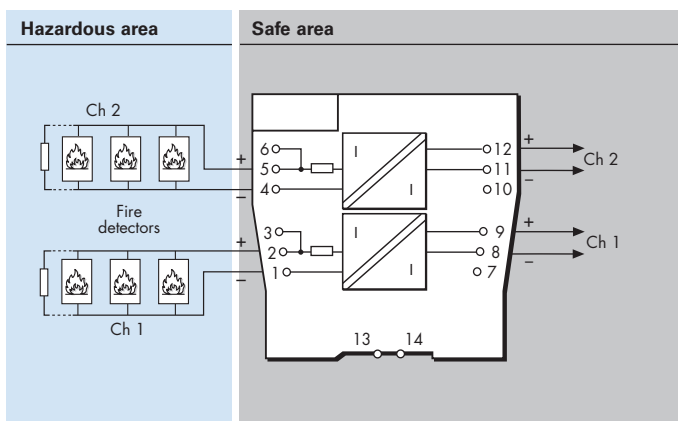
0.7W maximum at 24V with 40mA signal (each channel)
0.9W maximum at 30V with 40mA signal (each channel)

Safety description for each channel

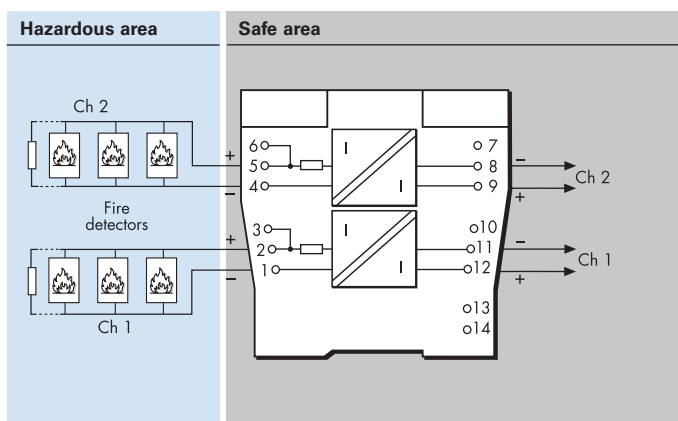
$U_o=28V$ $I_o=93mA$ $P_o=0.65W$ $U_m = 253V$ rms or dc



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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.