

# 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

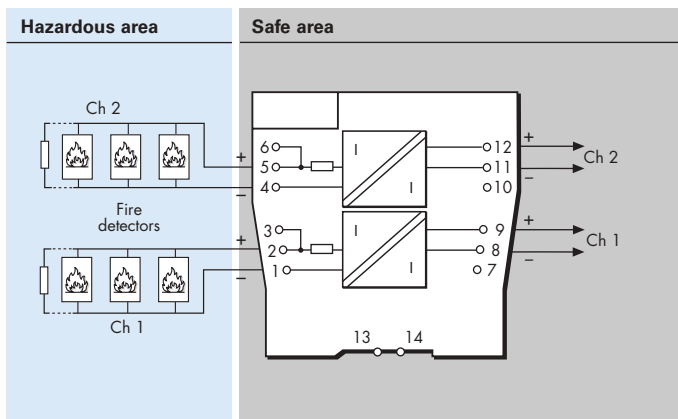
0.7W maximum at 24V with 40mA signal (each channel)  
0.9W maximum at 30V with 40mA signal (each channel)

#### Safety description for each channel

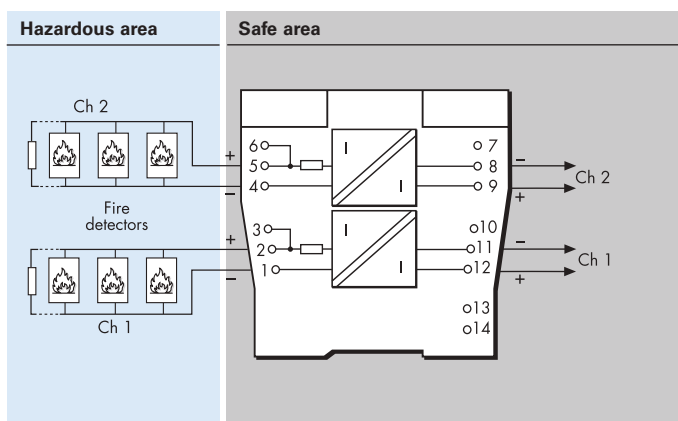
$U_o=28V$   $I_o=93mA$   $P_o=0.65W$   $U_m = 253V$  rms or dc



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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.