

MTL5061 FIRE/SMOKE DETECTOR INTERFACE

two-channel, loop-powered



The MTL5061 is a loop-powered two-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 circuit. The unit has reverse input polarity protection, while 'non-fail' earth fault detection on either line can be provided by connecting an earth leakage detector to terminals 3 or 6.

SPECIFICATION

See also common specification

Number of channels

Two

Location of detectors

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

Current range

1 to 40mA, nominal

Integral input polarity protection

Input circuit protected against reverse polarity

'No-fail' earth fault protection (optional)

Enabled by connecting terminals 3 and 6 to the MTL4220 earth leakage detector. If a fault on either line of each channel is proclaimed: unit continues working.

Note:1. The earth leakage detector introduces a 100µA, 1Hz ripple to the field circuit.

Minimum output voltage V_{out} at 20°C

whichever is the lower of:

$V_{in} - (0.38 \times \text{current in mA}) - 2V$ or
 $21V - (0.35 \times \text{current in mA})$

Response time to step input

Settles to within 500µA of final value within 30ms

Hazardous-area output

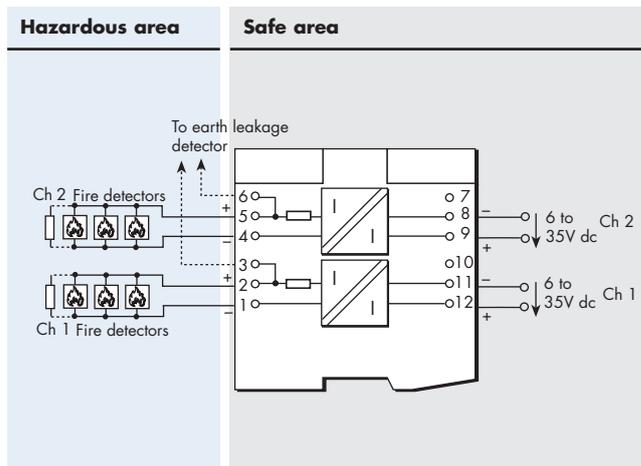
Maximum output voltage 28V from 300Ω

Transfer accuracy at 20°C

Better than 400µA

Temperature drift

<10µA/°C (-20 to 60°C)



Terminal	Function
1	Output -ve (channel 1)
2	Output +ve (channel 1)
3	Earth leakage detection (channel 1)
4	Output -ve (channel 2)
5	Output +ve (channel 2)
6	Earth leakage detection (channel 2)
8	Input -ve (channel 2)
9	Input +ve (channel 2)
11	Input -ve (channel 1)
12	Input +ve (channel 1)

Loop supply voltage

6 to 35V dc

Quiescent safe-area current at 20°C

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

Maximum power dissipation within unit

0.7W at 24V with 40mA signal (each channel)
1.2W at 35V with 40mA signal (each channel)

Safety description

28V, 300Ω, 93mA; $U_m = 250V$ rms or dc



EUROPE (EMEA)
AMERICAS
ASIA PACIFIC
E-mail: enquiry@mtl-inst.com

Tel: +44 (0)1582 723633
Tel: +1 281 571 8065
Tel: +65 6 487 7887

Fax: +44 (0)1582 422283
Fax: +1 281 571 8069
Fax: +65 6 487 7997

Web site: www.mtl-inst.com