

MTL4061 FIRE AND SMOKE DETECTOR INTERFACE

two-channel



The MTL4061 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, while 'no-fail' earth fault detection on either line can be provided by connecting an MTL4220 earth leakage detector to terminal 1 or 4.

SPECIFICATION

See also common specification, cable parameters and approvals

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 35V 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

'No-fail' earth fault protection

Enabled by connecting terminals 1 and 4 to an MTL4220 earth leakage detector
Fault on either line of each channel proclaimed: unit continues working

Note: 1. To maintain isolation between the two channels, separate earth leakage detectors are needed
2. The earth leakage detectors introduce a 100µA, 1Hz ripple to the field circuit

Minimum output voltage V_{out} at 20°C

$V_{in} - (0.38 \times \text{current in mA}) - 2V$
21V - (0.35 x current in mA)
whichever is lower

Maximum output voltage

28V from 300Ω

Transfer accuracy at 20°C

Better than 400µA

Temperature drift

<10µA/°C (-20 to 60°C)

Response time to step input

Settles to within 500µA of final value within 30ms

Power dissipation within unit

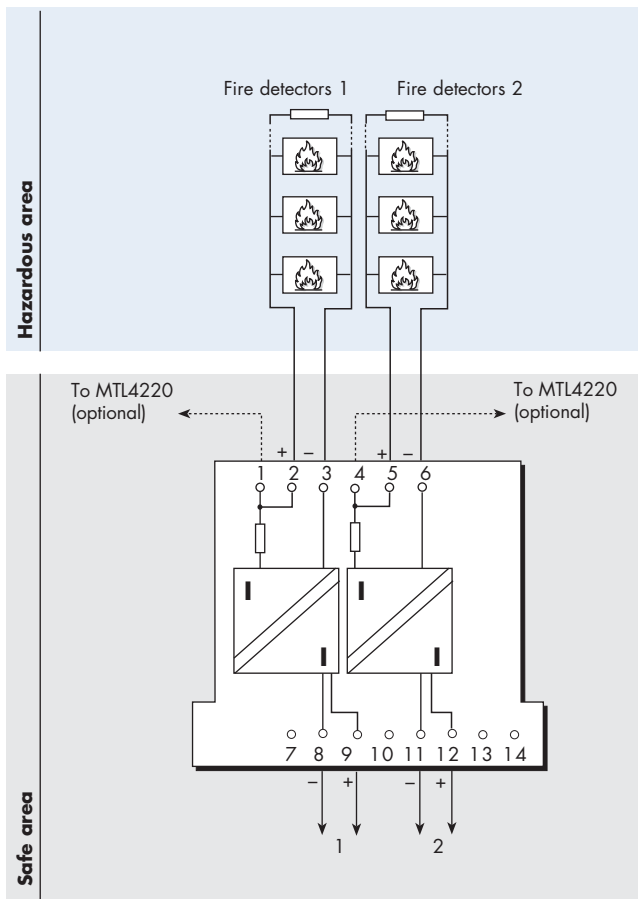
0.7W maximum at 24V with 40mA signal (each channel)
1.2W maximum at 35V with 40mA signal (each channel)

Isolation

250Vac between safe- and hazardous-area circuits

Safety description for each channel

28V, 300Ω, 93mA.



Terminal	Function
1	Optional link from input 1 to MTL4220
2	Output 1 +ve
3	Output 1 -ve
4	Optional link from input 2 to MTL4220
5	Output 2 +ve
6	Output 2 -ve
8	Input 1 -ve
9	Input 1 +ve
11	Input 2 -ve
12	Input 2 +ve



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