

# 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

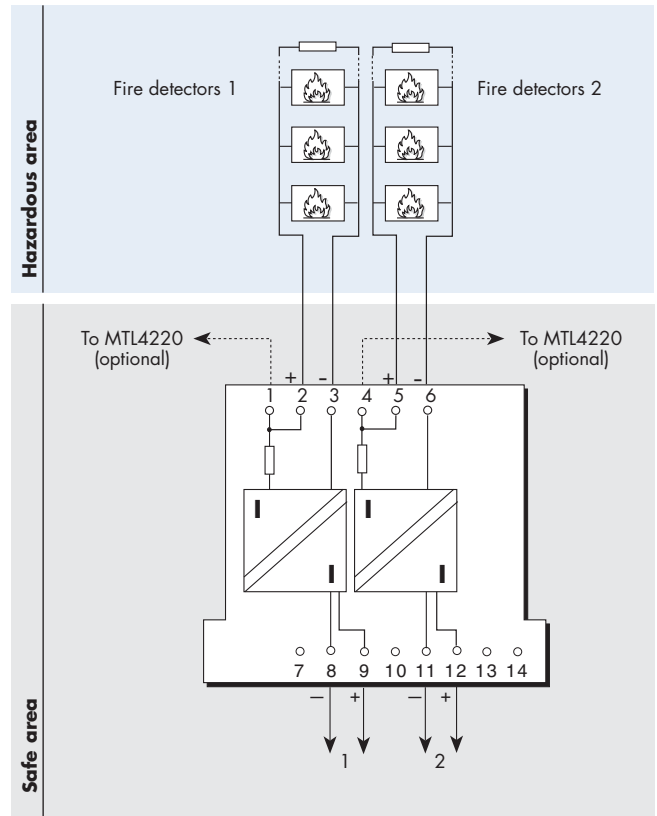
0.7W maximum at 24V with 40mA signal (each channel)  
1.2W maximum at 35V with 40mA signal (each channel)

#### 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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