

# MTL3052 DIGITAL ISOLATOR

for signals up to 10kHz

This unit is similar in principle to the MTL3042 but operates at a higher frequency for use with digital signals. Its primary application is to provide IS protection for the data highways and transmitters in MTL800 Series multiplexer systems. The MTL3052 features two output circuits: one with a 15V 180Ω safety description, and an alternative 15V 100Ω circuit which can be used if higher loop resistances need to be accommodated, for example when surge protectors are incorporated in the data highways. If the low-resistance outputs are used on two units fitted to a dual-highway system however, the multiplexer transmitters are restricted to location in IIB atmospheres.

## SPECIFICATION

See also 'Common specification'

### Number of channels

One, fully floating

### Location of load

Zone 0, IIC, T4–6 hazardous area if suitably certified

Div 1, Group A, hazardous location

Zone 0, IIB, T4–6 (Div 1, Group C, hazardous location)

for multiplexer transmitters in dual-highway systems using the low-resistance outputs of two MTL3052s

### Input voltage

4 to 12V dc

### Signal bandwidth

dc to 10kHz

### Minimum output voltage

$[V_{in} \text{ minus } (0.25 \times \text{current in mA})] \text{ V}$

### Input and output circuit ripple

<1mA peak-to-peak

### Power dissipation within unit

160mW maximum at 12V with 20mA signal

### Replaceable fuse

50mA, 5 x 20mm glass to DIN 41571 sht. 2, semi-time-lag (M)

### Safety description

#### Terminals 5 & 6

15V, 100Ω, 150mA,  $U_m = 250\text{V rms or dc}$

#### Terminals 6 & 7

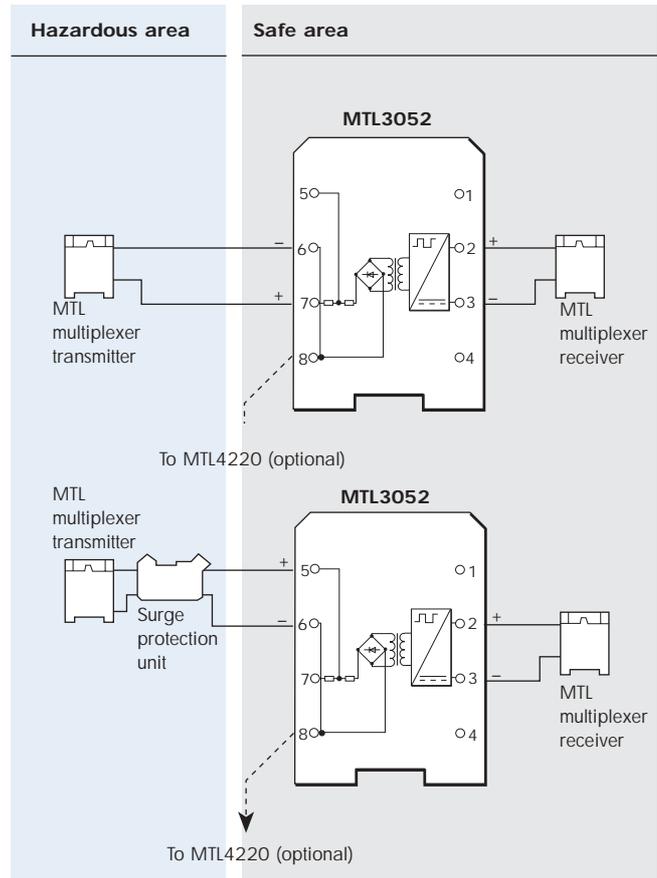
15V, 180Ω, 83.3mA,  $U_m = 250\text{V rms or dc}$

### FM max entity parameters

$V_{OC} = 15\text{V}$ ,  $I_{SC} = 83.3\text{mA}$ ,  $C_a = 0.75\mu\text{F}$ ,  $L_a = 5.2\text{mH}$

### Weight

130g



## OTHER APPLICATIONS

The MTL3052 is suitable for a variety of other applications, such as bringing back the status of a hazardous-area mechanical or opto-transistor switch, or a magnetic shaft encoder (all via suitable current limiting resistors).



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