

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

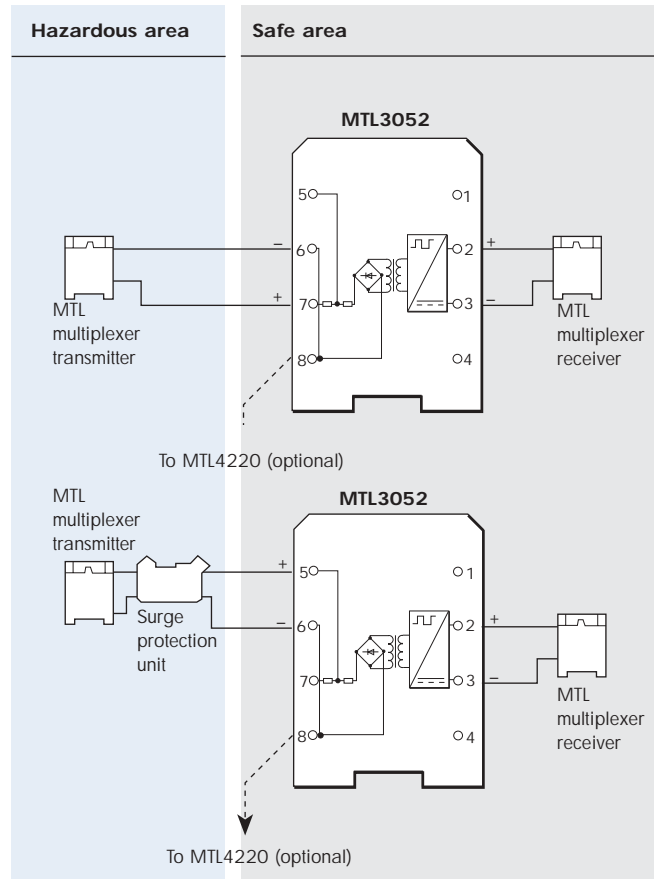
15V, 180Ω, 83.3mA, $U_m = 250\text{V rms or dc}$

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).



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

Tel: +44 (0)1582 723633
Tel: +1 603 926 0090
Tel: +65 487 7887
Web site: www.mtl-inst.com

Fax: +44 (0)1582 422283
Fax: +1 603 926 1899
Fax: +65 487 7997