MTL2213 SWITCH/ PROXIMITY DETECTOR RELAY

3-channel

The MTL2213 enables three 100VA safe-area loads to be controlled independently by three light-duty on/off switches or certified proximity detectors in a hazardous area. Switches and proximity detectors may be mixed. The three input circuits are interconnected but fully floating. For proximity-detector and some switch applications, a phase-reverse link allows alarm conditions to be signalled for either state of the sensors. 'Alarm' means relays de-energised with their on/off contacts open, and all three circuits have to operate in the same fashion. This compact low-cost unit is suitable for a wide variety of applications. The MTL2213 supersedes the MTL2212 for which it is a direct replacement, except that only terminal 8 can be used for connecting to earth.

SPECIFICATION

See also 'Common specification'

Number of channels
Three, interconnected, fully floating

Location of switches
Zone 0, IIC, T6 hazardous area
Div 1, Group A, hazardous location

Location of proximity detectors
Zone 0, IIC, T4–T6 if suitably certified
Div 1, Group A, hazardous location

Voltage applied to each sensor
7.7 to 9.0V dc from 1kΩ

Input/output characteristics (each channel)
Relay energised if >2.1mA* (<2kΩ) in sensor circuit
Relay de-energised if <1.2mA* (>10kΩ) in sensor circuit
Hysteresis: 200μA (650Ω) nominal
*NAMUR and DIN 19234 standards for proximity detectors

Phase reverse facility
Operation of all 3 relays reversed by linking terminals 7 & 8

Power supply failure protection
All three relays de-energised, contacts open, if supply fails

Broken line protection (each channel, normal phase only)
Relay de-energised, contacts open, if either line broken

Fail-safe earth fault protection (each channel, normal phase only)
(Enabled by connecting terminal 8 to earth)
Relay de-energised if <25Ω to earth, total for both lines
Relay not de-energised if >52kΩto earth, total for both lines

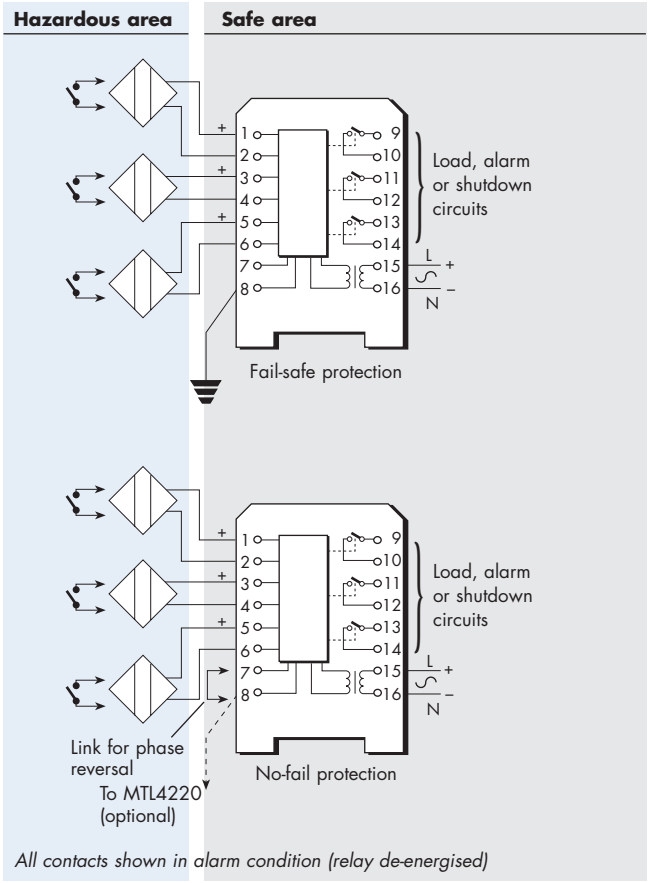
'No-fail' earth fault protection (either phase)
(Enabled by connecting terminal 8 to MTL4220)
Fault on any line proclaimed: unit continues working

Response time (each channel)
50ms, nominal

Contacts (each channel)
On/off, open when relay de-energised

Contact rating
250V,5A,100VA (ac), resistive loads, reactive loads must be suppressed
250V,5A,100W (dc), resistive loads, reactive loads must be suppressed

Contact life expectancy
1.5×10^5 operations at maximum load
$> 10^6$ operations at 200V ac peak or dc, 10VA (resistive load)



All contacts shown in alarm condition (relay de-energised)

LED indicator (each channel)
ON when associated relay energised

Consumption
1.7 to 2.5W (ac versions)
110mA (24V dc version)

Ambient temperature limits
–20 to +50°C (ac versions, close packed)
–20 to +45°C (24V dc versions at 26V, close packed)
–20 to +60°C (all versions, at least 5mm apart)
–40 to +80°C (all versions, storage)

Safety description (each channel)
10.5V, 800Ω, 14mA

FM max entity parameters (each channel)
V_{oc} = 10.5, I_{sc} = 14.0mA, C_a = 3.0μF, L_a = 165mH

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