MTL4113P FAILSAFE SWITCH/PROXIMITY DETECTOR INTERFACE

with LFD

CE

With the MTL4113P, a fail-safe switch/proximity detector located in the hazardous area can control an isolated fail-safe electronic output. The MTL4113P units provide line fault detection alarm contacts. The MTL4113P is for use with P + F TüV approved fail-safe sensors.

SPECIFICATION

See also common specification, cable parameters and approvals

Number of channels
One

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

Location of proximity detector
Zone 0, IIC, T4–6, hazardous location
Div 1, Group A, hazardous location

Voltage applied to sensor
8.6V dc max from 1kΩ

Input/output characteristics

Input value in sensor circuits	Fail–safe output	Operation	LFD contacts
2.9mA < Is < 3.9mA	ON	Normal	CLOSED
Is < 1.9mA & Is > 5.1mA	OFF	Normal	CLOSED
Is < 50µA	OFF	Broken line	OPEN
Is > 6.6mA	OFF	Shorted line	OPEN

Note: Is = sensor current

Fail-safe electronic output
Output on: 24V nominal
Output off: 0V dc, max <5V dc
Load: 2.4kΩ to 10kΩ
Maximum on-state current: 11mA
Short-circuit current: 25mA

Line fault detection (LFD)
Relay output for line fault (contacts open when line fault detected)
Switch characteristics: 35V ac/dc, 1A

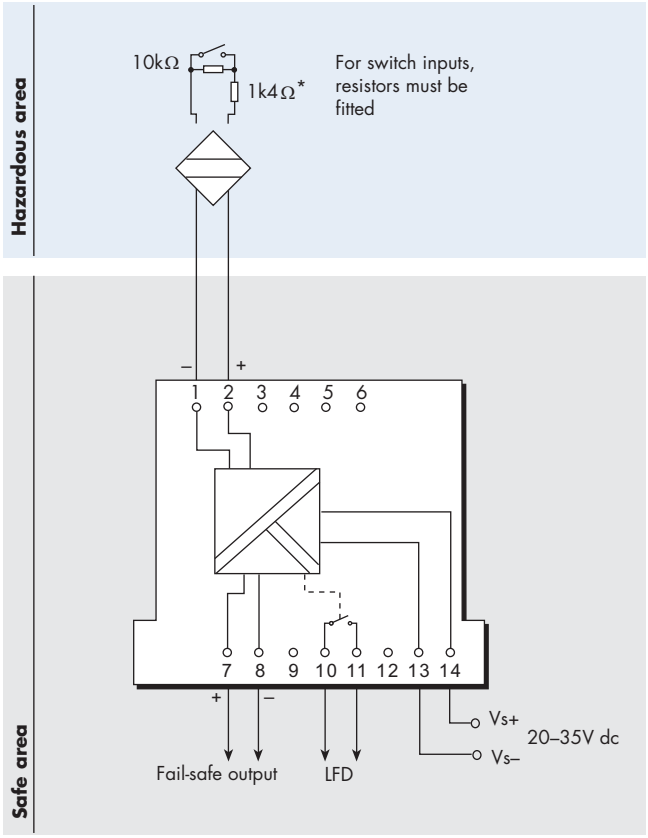
LED indicators
Amber: one provided for output status, ON when fail-safe output is energised
Green: one provided for power indication
Red: one provided for LFD; ON when line fault is detected

Power requirements, Vs
80mA at 20V dc
70mA at 24V dc
65mA at 35V dc

Power dissipation within unit
1.4W at 20V dc
1.5W at 24V dc
2.0W at 35V dc

Isolation
253V ac between safe- and hazardous-area circuits

Safety description
U_o = 9.7V, I_o = 30mA, P_o = 0.07W, C_i=33nF, L_i=0mH
U_m = 253V



Terminal	Function
1	Input –ve
2	Input +ve
7	Output +ve
8	Output –ve
10	LFD
11	LFD
13	Supply –ve
14	Supply +ve

** Series resistor should be in the range 1k3Ω to 1k5Ω*

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