

MTL5113P AND 5114P FAILSAFE SWITCH/PROXIMITY DETECTOR INTERFACE

LFD option



With the MTL5113P/5114P, a fail-safe switch/proximity detector located in the hazardous area can control an isolated fail-safe electronic output. The MTL5113P units provide line-fault detection alarm contacts. The MTL5113P and MTL5114P are for use with P + F TÜV approved fail-safe sensors.

SPECIFICATION

(For both MTL5113P and MTL5114P unless otherwise indicated.)

See also common specification

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 1k Ω

Input/output characteristics

Input value in sensor circuit	Fail-safe output	Operation	LFD contacts (MTL5113x only)
MTL5113P, MTL5114P 2.9mA < I_s < 3.9mA	ON	Normal	CLOSED
MTL5113P, MTL5114P I_s < 1.9mA & I_s > 5.1mA	OFF	Normal	CLOSED
MTL5113P I_s < 50 μ A	OFF	Broken line	OPEN
MTL5113P I_s > 6.6mA	OFF	Shorted line	OPEN

Note: I_s = sensor current

Fail-safe electronic output

Output on: > 22.8V

Output off: 0V dc, max < 5V dc

Load: 2.4k Ω to 10k Ω

Maximum on-state current: 11mA

Short-circuit current: 25mA

Line fault detection (LFD), MTL5113P only

Relay output for line fault (contacts open when line fault detected)

Switch characteristics: 0.3A 110V ac/dc, 1A 30V dc, 30W/33VA

LED indicators

Amber: one provided for output status, ON when fail-safe output is energised

Green: one provided for power indication

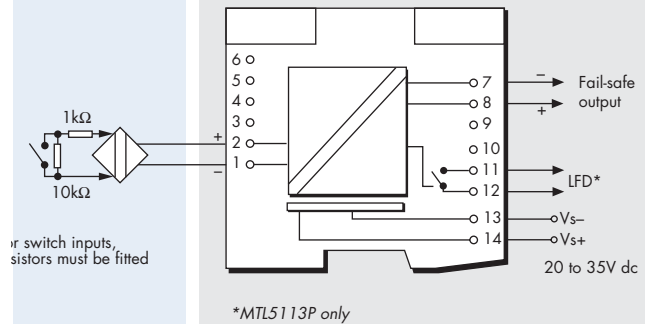
Red: one provided for LFD, ON when line fault is detected (MTL5113P only)

Power requirements, V_s

MTL5113P	MTL5114P
80mA	70mA at 20V dc
70mA	60mA at 24V dc
65mA	45mA at 35V dc

Hazardous area

Safe area



Terminal	Function
1	Input -ve
2	Input +ve
7	Output -ve
8	Output +ve
11	LFD (MTL5113P only)
12	LFD (MTL5113P only)
13	Supply -ve
14	Supply +ve

Power dissipation within unit

MTL5113P	MTL5114P
1.4W	1.2W at 20V dc
1.5W	1.3W at 24V dc
2.0W	1.4W at 35V dc

Safety description

9.7V, 30mA, 70mW, C_i =33nF, L_i =0mH

Weight

160g approx.

Note: switch-type sensors must be fitted with resistors as shown

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