

MTL5113P FAILSAFE SWITCH/PROXIMITY DETECTOR INTERFACE

with LFD



With the MTL5113P, a fail-safe switch/proximity detector located in the hazardous area can control an isolated fail-safe electronic output. The MTL5113P unit also provides line-fault detection alarm contacts. The MTL5113P is for use with P + F TÜV approved fail-safe sensors.

SPECIFICATION

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
$2.9\text{mA} < I_s < 3.9\text{mA}$	ON	Normal	CLOSED
$I_s < 1.9\text{mA} \ \& \ I_s > 5.1\text{mA}$	OFF	Normal	CLOSED
$I_s < 50\mu\text{A}$	OFF	Broken line	OPEN
$I_s > 6.6\text{mA}$	OFF	Shorted line	OPEN

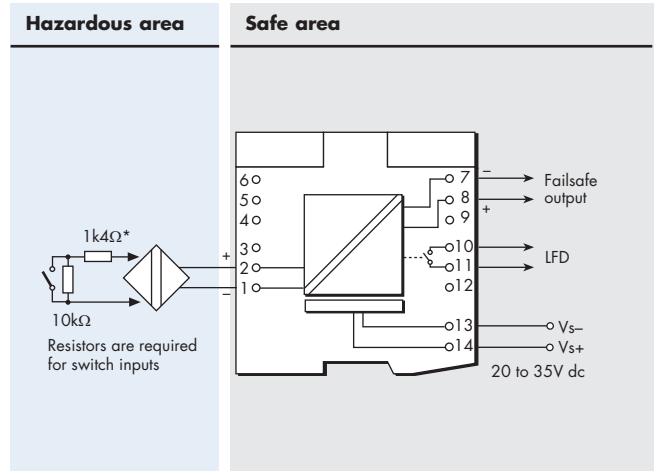
Note: I_s = sensor current

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)

Relay output for line fault (contacts open when line fault detected)
Switch characteristics: 0.3A 110V ac/dc, 1A 30V dc, 30W/33VA



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 1k3 Ω to 1k5 Ω

LED indicators

Yellow: 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

Isolation

253V ac between safe- and hazardous-area circuits

Power dissipation within unit

1.4W at 20V dc

1.5W at 24V dc

2.0W at 35V dc

Safety description

$U_o=9.7\text{V}$, $I_o=30\text{mA}$, $P_o=70\text{mW}$, $C_i=33\text{nF}$, $L_i=0\text{mH}$, $U_m=253\text{V}$

Weight

160g approx.



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