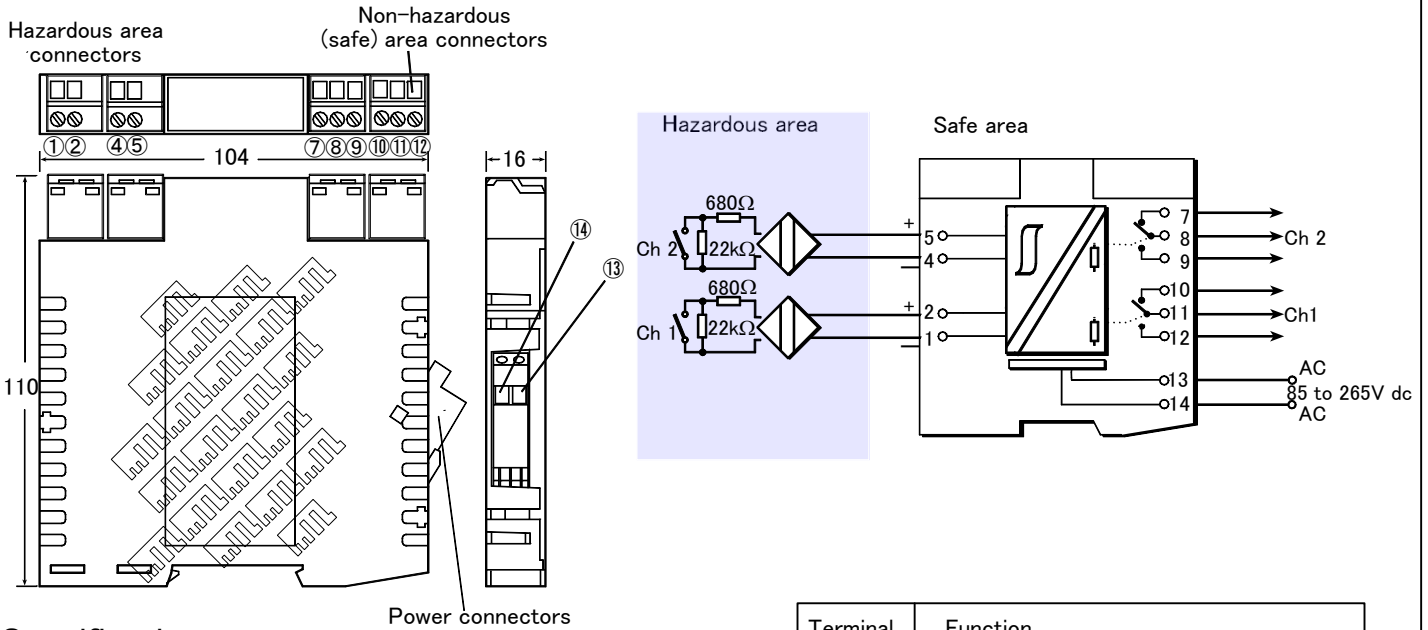


MTL5018ac SWITCH/PROXIMITY DETECTOR INTERFACE

Two-channel, with line fault detection and phase reversal



Specification

The MTL5018ac enables two safe-area loads to be controlled by two switches or proximity detectors located in a hazardous area. Two relay outputs are provided. Independent phase reversal control allows an alarm condition to be signalled for either state of the sensor. A selectable line fault detect (LFD) facility detects an open or short circuit in either field circuit.

Number of channels

Two

Location of switches

Zone 0, IIC, T4-6 hazardous area
Div. 1, Group A hazardous location

Location of proximity detector

Zone 0, IIC, T4-6 hazardous area if suitably certified
Div. 1, Group A hazardous location

Safe-area output

Two relays with changeover contacts

Hazardous-area input

Inputs conforming to NAMURA/DIN 19234 standards for proximity detectors

Voltage applied to sensor

7 to 9V from $1k\Omega \pm 10\%$

Input/output characteristics

Normal (reverse) phase:

- output energised (de-energised) if $I_{in} > 2.1mA$ or $R_{in} < 2k\Omega$
- output de-energised (energised) if $I_{in} > 1.2mA$ or $R_{in} < 10k\Omega$

Hysteresis: $200\mu A$, typical

Phase reversal

Independent for each channel, user-selectable

Relay type

Single pole, changeover contacts

Note: reactive loads must be adequately suppressed

Relay characteristics

Response time: 10ms maximum

Contact rating: 250V ac, 2A, $\cos\Phi > 0.7$

40V dc, 2A, resistive load

Terminal	Function
1	Current input
2	Transmitter supply +ve (HHC +ve)
3	Common (HHC -ve)
11	Output -ve (HHC -ve)
12	Output +ve (HHC +ve)
13	Supply -ve
14	Supply +ve

Line fault detection (LFD)

User-selectable via switches on the top of the unit. Line faults are indicated by an LED for each channel.

A detected line fault de-energises the relay.

Open-circuit alarm on if $I_{in} < 100\mu A$

Open-circuit alarm off if $I_{in} > 250\mu A$

Short-circuit alarm on if $R_{in} < 100\Omega$

Short-circuit alarm off if $R_{in} > 360\Omega$

Note: Resistors must be fitted when using the LFD facility with a contact input

500Ω to $1k\Omega$ in series with switch

$20k\Omega$ to $25k\Omega$ in parallel with switch

LED indicators

Green: power indication

Yellow: two: status of each channel

(on when outputs are energised)

Red: two: LFD indication for each channel

(on when line fault detected)

Maximum power dissipation

$< 2.5W$

Isolation

250V ac or dc between power supply, hazardous-area circuits and relay outputs

Safety description (each channel)

10.5V, 800 Ω , 14mA, $U_m=250V$ rms or dc

Power Supply

85 to 265V ac

45 to 65 Hz

REV.						
PROJECT NAME:	Cooper Industries Japan K.K.			Title		
	Tokyo, Japan			MTL5018ac Specification		
USER NAME:	TEL: +81-(0)3-6430-3128			SIZE	FSCM NO	Drawing No.
	FAX: +81-(0)3-6430-3129					rev
JOB NAME:	DATE:	2009/9/30		SS-MTL5018ac(E)		
Ref no.:	CHKD	K.T	DRAWN	I.S	SCALE	N/A
						SHEET 1 / 1