

## SPECIFICATION

### Number of channels

Two

### 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 area if suitably certified  
Div. 1, Group A hazardous location

### Hazardous-area inputs

Inputs conforming to BS EN60947-5-6:2001 standards for proximity detectors (NAMUR)

### Voltage applied to sensor

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

### Input/output characteristics

Normal phase

Outputs closed if input  $> 2.1mA$  ( $< 2k\Omega$  in input circuit)

Outputs open if input  $< 1.2mA$  ( $> 10k\Omega$  in input circuit)

Hysteresis:  $200\mu A$  ( $650\Omega$ ) nominal

Line fault detection (LFD) (when selected)

User-selectable via switches on the side of the unit. Line faults are indicated by an LED for each channel. The channel output relay is de-energised if an input line fault is detected.

Open-circuit alarm on if  $I_{in} < 50\mu A$

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  
 $500\Omega$  to  $1k\Omega$  in series with switch  
 $20k\Omega$  to  $25k\Omega$  in parallel with switch

### Safe-area output

Two single-pole relays with changeover contacts

Note: reactive loads must be adequately suppressed

### Relay characteristics

MTL5516C

Response time: 10ms maximum 10ms maximum

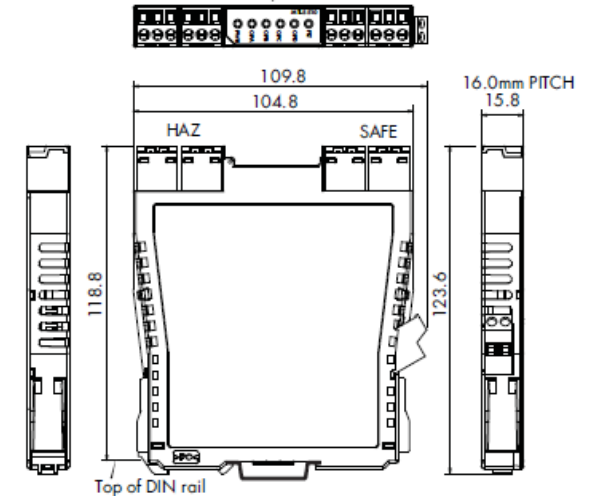
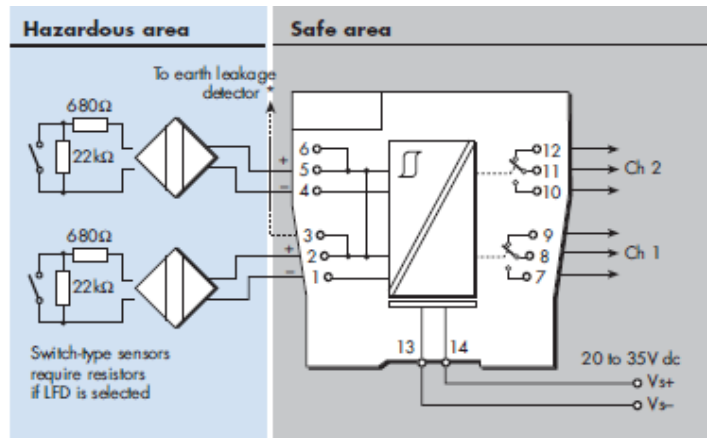
Contact rating: 10W, 0.5A,

35V dc

250V ac, 2A,  $\cos\phi > 0.7$ ,

40V dc, 2A, resistive load

## Wiring



### Isolation

250V rms, tested at 1500V rms minimum, between safe- and hazardous-area terminals.

50V between safe-area circuits and power supply

### Supply voltage

20 - 35V dc

### Location of units

Safe area

### Terminals

Accepts conductors of up to 2.5mm<sup>2</sup> stranded or single-core  
Mounting

T-section 35mm DIN rail (7.5 or 15mm) to EN 50022

### Ambient temperature limits

-20 to +60° C (-6 to +140° F) operating

-40 to +80° C (-40 to +176° F) storage

### Humidity

5 to 95% relative humidity

### Weight

Approximate (except where indicated)

MTL5500 150g

### Connectors

Each unit is supplied with signal connectors, as applicable.

When using crimp ferrules for the hazardous or non-hazardous (safe) signal connectors the metal tube length should be 12mm and the wire trim length 14mm.

### LED indicators

Green: power indication

Yellow: two: channel status, on when output energised

Red: two: LFD indication, on when line fault detected

### Maximum current consumption

35mA at 24V

Power dissipation within unit

0.84W at 24V

### Safety description (each channel)

$V_o=10.5V$   $I_o=14mA$   $P_o=37mW$   $U_m = 253V$  rms or dc

### SIL capable

These models have been assessed for use in IEC 61508 functional safety applications. See data on MTL web site

REV.	PROJECT NAME:	Cooper Industries Japan K.K.	Model name		MTL5516C	
REV.	USER NAME :	TEL: +81-(0)3-5420-1281 FAX: +81-(0)3-5420-2405	SIZE	FSCM NO	Drawing No.	rev
REV.	JOB NAME :	DATE: 2011/AUG/26			SS-MTL5516C	-
	Ref no.:	CHKD T.IWANE	DRAWN K.KUSAKABE	SCALE	N/A	SHEET 1 / 1