

Installation Instructions



Specifications	
Number of Outputs	8 or 16
Normal Voltage Range	10 to 32VDC
Maximum Voltage	60VDC
Fuse Type	Standard blow 20x5mm glass fuse
Fuse Current	100mA per channel
Module Current	1.0 Amp
Termination	Spring Clamp
Field Conductor Size	Solid - 0.2 to 2.5mm Flexible - 0.2 to 1.5mm AWG - 24 to 14
Mounting	DIN Rail EN50 022,35,45
Operating Temperature	0 to 60 °C
Storage Temperature	0 to 85 °C
Relative Humidity	5 to 95% non condensing
8-Way Dimensions (L x W x H) (mm)	102 x 78 x 66
16-Way Dimensions (L x W x H) (mm)	180 x 78 x 66
Power LED	Off = 24VDC supply not connected On = 24VDC supply connected
Ordering Details	
003-2031-000	MOP-8AI-0 (terminals labeled 0-7)
003-2031-002	MOP-8AI-1 (terminals labeled 1-8)
003-2032-000	MOP-16AI-0 (terminals labeled 0-15)
003-2032-002	MOP-16AI-1 (terminals labeled 1-16)

* PLC to module wiring assembly available—please enquire

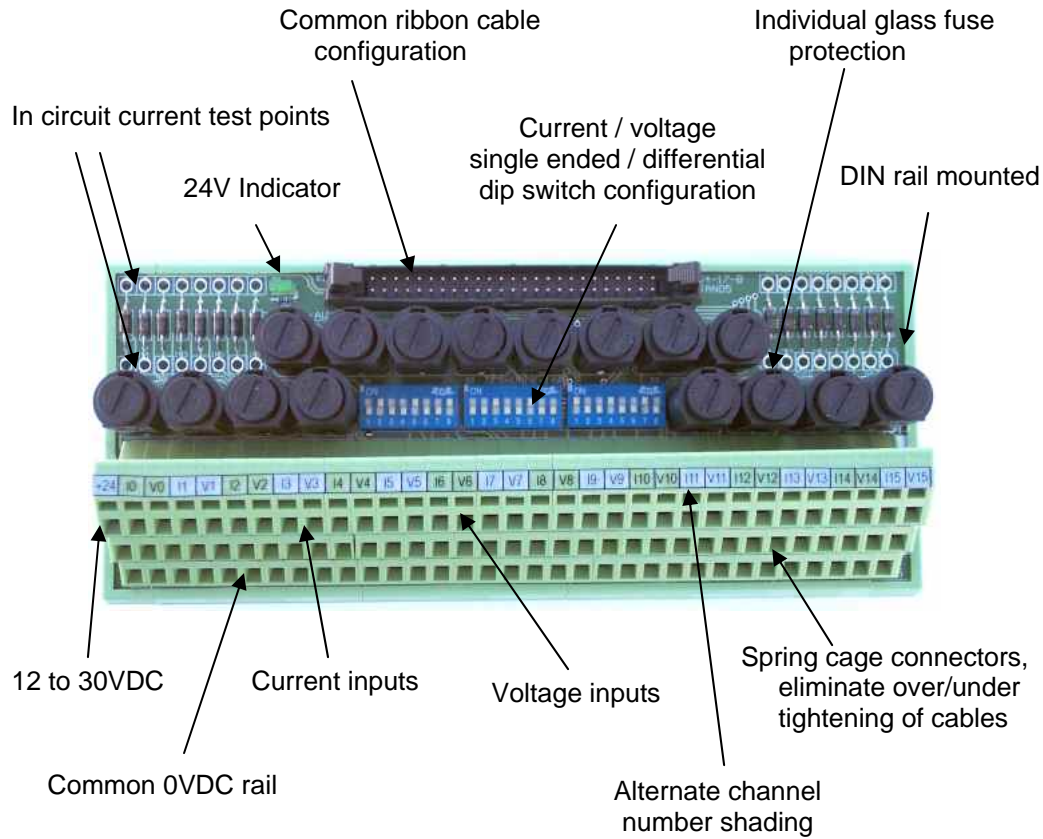


MO'protection™

PLC I/O Wiring System
Fused Analogue Input Modules
Document No. 722-4017-E00

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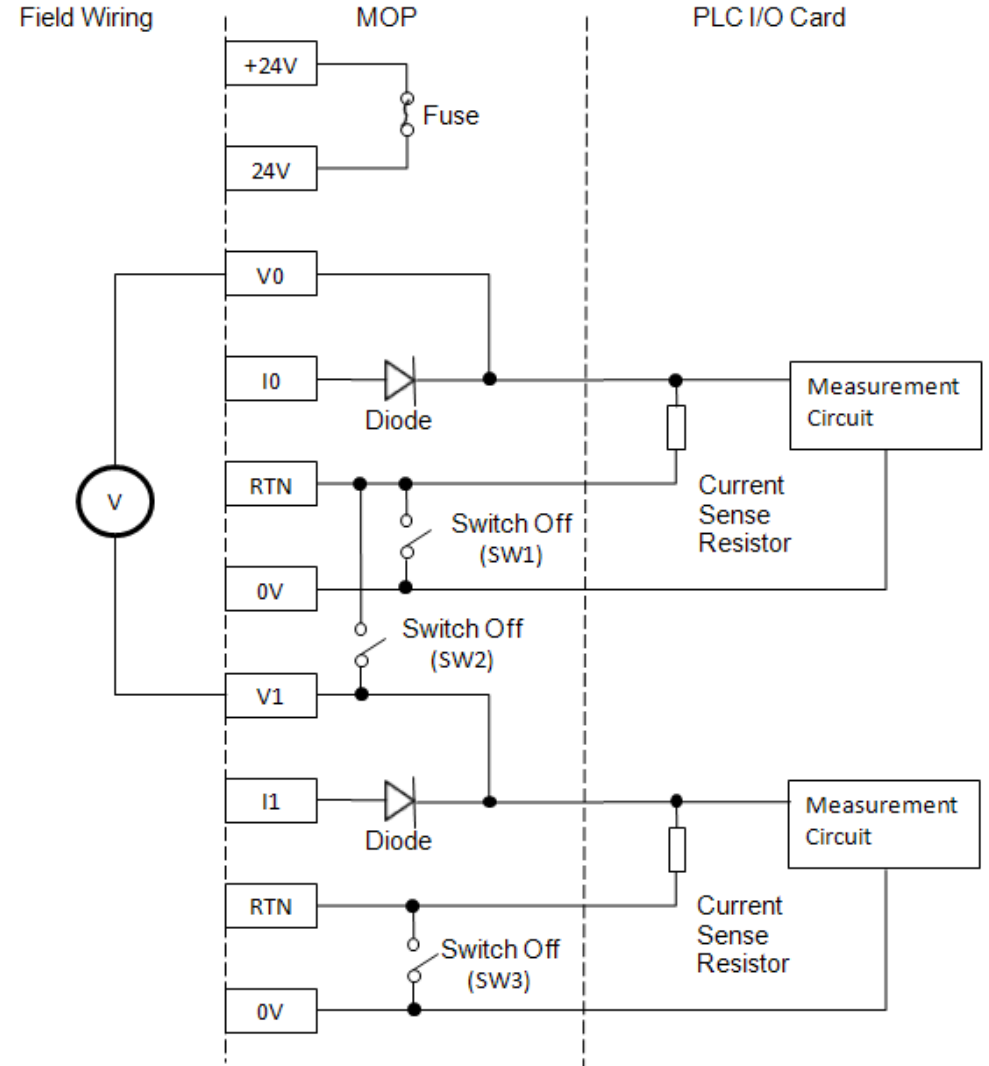
Major Features



This product is designed to meet Council Directive 73/23/EEC low voltage, by applying the safety requirements EN 61131-2.

This equipment is classified as open equipment and must be installed (mounted) in an enclosure during operation as a means of providing safety protection.

Differential Voltage



Wiring and Setup Instructions

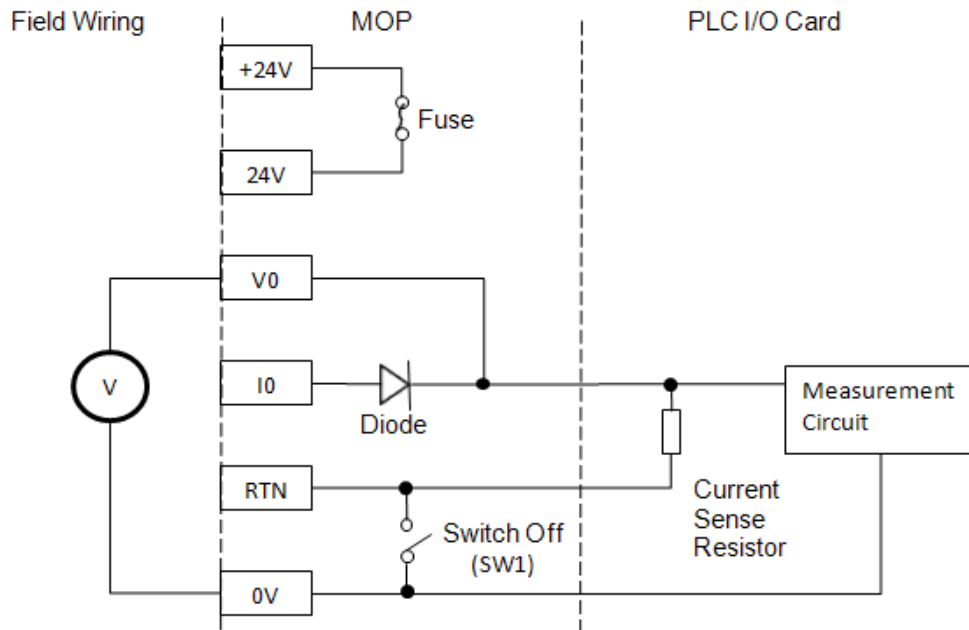
Testing Current

The TCS MOP-8AI and MOP-16AI have the unique ability of in circuit, non disruptive analogue current measurement. When an input, or input pair is configured as a single ended or differential current, the analogue current can be measured using a simple multi-meter.

To measure the current, simply turn your multi-meter to current measurement mode (remember to place your probes in the correct socket on the multi-meter). Then place your multi-meter probes across the corresponding input diode. Test points are provided on the PCB at each end of the diode. Note that when the input pair is configured as differential current you must measure the current across the first channel's diode.

The analogue current which normally flows through the diode will now flow through your multi-meter allowing easy measurement. When you remove the probes, the current will again flow through the diode.

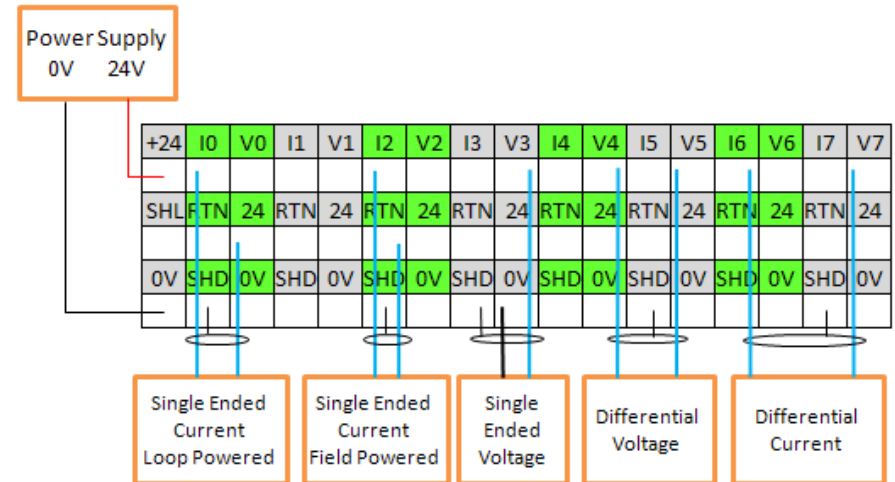
Single Ended Voltage



Terminal Descriptions	
Terminal	Description
+24	+24V DC Input to provide power for the fused +24V output terminals
0V	Common 0V
24	Fused +24 VDC outputs
RTN	Current return path for channel
SHD	Shield
I0 - 7 ^{NOTE 1} I1 - 8 ^{NOTE 2} I0 - 15 ^{NOTE 3} I1 - 16 ^{NOTE 4}	Analogue Current Input Terminals
V0 - 7 ^{NOTE 1} V1 - 8 ^{NOTE 2} V0 - 15 ^{NOTE 3} V1 - 16 ^{NOTE 4}	Analogue Voltage Input Terminals. This terminal is also used as the return current path when configured as Differential Current.

Note 1: MOP-8AI-0
Note 3: MOP-16AI-0

Note 2: MOP-8AI-1
Note 4: MOP-16AI-1



Wiring the Terminal Block

- The use of wire ferrules is recommended
- Insert a flat bladed screwdriver into the upper hole of the terminal
- Insert the wire into the open terminal and remove the screwdriver

DIP Switches

Individual inputs may be configured as Single Ended Voltage or Single Ended Current. Input pairs may be configured as Differential Voltage or Differential Current. The input configuration is determined by the DIP switches. There are 3 DIP switches for each input pair. The input pairs and corresponding DIP switches are shown in the table below.

Input Pair	DIP Switch
0-1 ^{NOTE1} , 1-2 ^{NOTE2}	Switches 1-3
2-3 ^{NOTE1} , 3-4 ^{NOTE2}	Switches 4-6
4-5 ^{NOTE1} , 5-6 ^{NOTE2}	Switches 7-9
6-7 ^{NOTE1} , 7-8 ^{NOTE2}	Switches 10-12
8-9 ^{NOTE3} , 9-10 ^{NOTE4}	Switches 13-15
10-11 ^{NOTE3} , 11-12 ^{NOTE4}	Switches 16-18
12-13 ^{NOTE3} , 13-14 ^{NOTE4}	Switches 19-21
14-15 ^{NOTE3} , 15-16 ^{NOTE4}	Switches 22-24

Note 1: MOP-8AI-0 and MOP-16AI-0

Note 2: MOP-8AI-1 and MOP-16AI-1

Note 3: MOP-16AI-0

Note 4: MOP-16AI-1

The DIP switch settings for Single Ended Current or Voltage are detailed below. The first input pair is used as an example. For the other input pairs use the corresponding DIP switches.

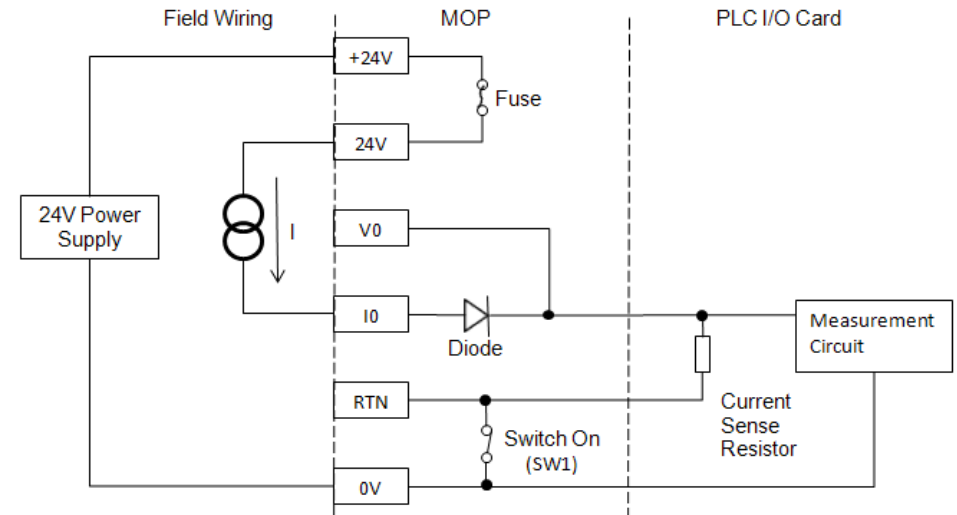
First Input Config	Second Input Config	DIP SW1	DIP SW2	DIP SW3
Single Ended Current	Single Ended Current	ON*	OFF*	ON*
Single Ended Voltage	Single Ended Voltage	OFF	OFF	OFF
Single Ended Current	Single Ended Voltage	ON	OFF	OFF
Single Ended Voltage	Single Ended Current	OFF	OFF	ON

* Default Settings

The DIP switch settings for Differential Current or Voltage are detailed below. The first input pair is used as an example. For the other input pairs use the corresponding DIP switches.

Input Pair Config	DIP SW1	DIP SW2	DIP SW3
Differential Current	OFF	ON	OFF
Differential Voltage	OFF	OFF	OFF

Single Ended Current



Differential Current

