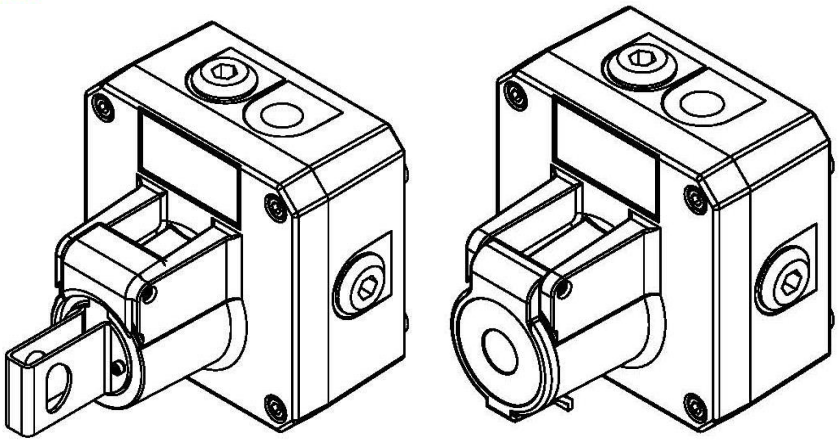
INSTRUCTION MANUAL (WEATHER PROOF)
WP7 PB/PM/PT CALL POINTS



1) Certification & Ratings

All units have a rating label, which carries the following important information: -

Model No.: WP7-PB-S (Single Switch)
WP7-PB-D (Dual Switch)

WP7-PM-S (Single Switch)
WP7-PM-D (Dual Switch)

WP7-PT-S (Single Switch)
WP7-PT-D (Dual Switch)

CE Marking CE

IP Rating: IP66/67 to EN/IEC60529

Ambient Temperature Range:
-55°C to +75°C

2) Location and Mounting

The location of the call point should enable ease of access for operation and testing. The unit should be mounted using the 4 off fixing holes which will accept up to M5 sized fixings. They should only be fixed to services that can carry the weight of the unit.
To gain access to the mounting holes in the base the front cover must be removed. See Section 3.

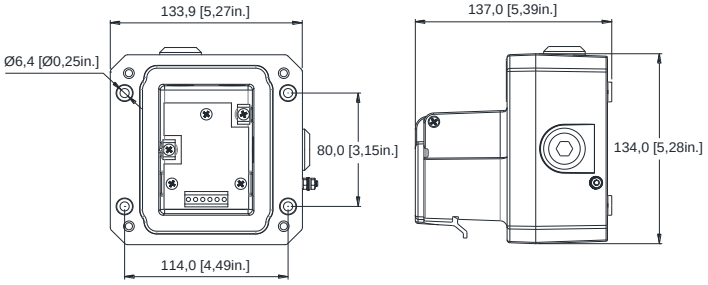


Fig. 1 View of base unit showing fixing centres (in mm).

3) Access to the Enclosure

Warning – High voltage may be present, risk of electric shock. DO NOT open when energised, disconnect power before opening.

To access the chamber, remove the four off M6 x 50 stainless steel cap head cover bolts

Once the screws are removed the cover will hang down out of the way to gain access to the terminals, the internal earth terminal and mounting hole recesses.

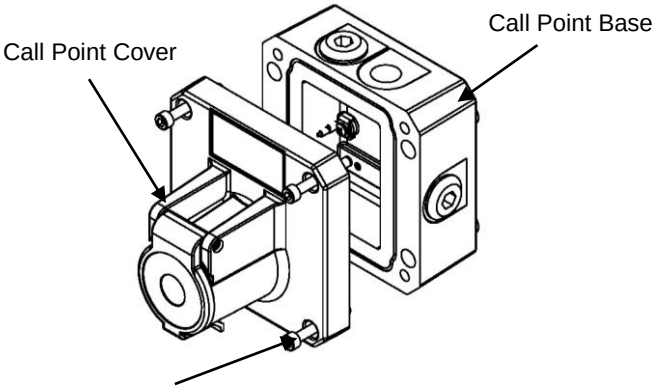


Fig. 2 Accessing the Explosion proof Enclosure.

Check that the earth bonding wire between the two castings is secure and the 'O' ring seal is in place.

4) Earthing

The units are provided with internal and external earth terminals which are mounted in the base of the unit.

Internal earthing connections should be made to the Internal Earth terminal in the base of the housing using a ring crimp terminal to secure the earth conductor under the earth clamp. The earth conductor should be at least equal in size and rating to the incoming power conductors.
When using the internal earth terminal ensure that the stainless steel M4 flat washer is between the incoming earth wire and the enclosure.

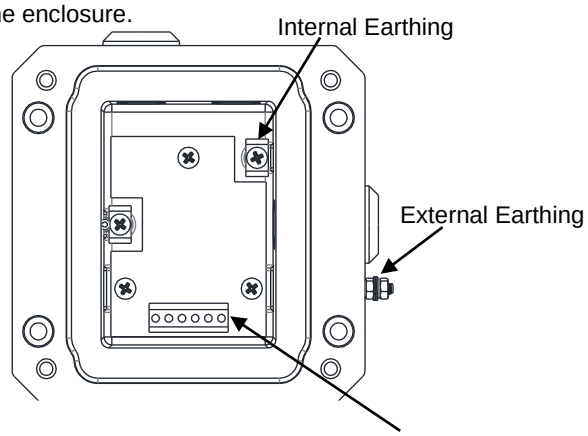


Fig 3 Earth terminals

5) Power Supply Selection

Electrical Ratings

Input Voltage:
AC voltage 250V Max Current 5.0A Max
DC voltage 75V Max Current 0.75A Max
DC voltage 50V Max Current 1.0A Max
DC voltage 30V Max Current 5.0A Max Resistive Load; Inductive Load 3.0A Max
DC voltage 12V Max Current 5.0A Max

Electrical connections are to be made into the terminal blocks / DIN rail provided. See Section 8 for wiring options.

6) Selection of Cable. Cable Glands, Blanking Elements & Adapters

The cable gland entries have an M20 x 1.5 entry thread.

The WP7 Call Point range can be supplied with the following types of adapters:

M20 to ½" NPT
M20 to ¾" NPT
M20 to M25

7) Cable Connections

Electrical Connections are to be made into the terminal blocks using solid or stranded wire. See section 3 of this manual for access to the enclosure.

Wires having a cross sectional area between 0.5 mm² to 2.5mm² (AWG 20 – 14) can be connected to each terminal way.

If an input and output wire is required the 2-off Live/Neutral or +/- terminals can be used. If fitting 2-off wires to one terminal way the sum of the 2-off wires must be a maximum cross sectional area of 2.5mm².

Strip wires to 8mm. Wires may also be fitted using ferrules.

Terminal screws need to be tightened down with a tightening torque of 0.45 Nm / 5 Lb-in.

When connecting wires to the terminals great care should be taken to dress the wires so that when the cover is inserted into the chamber the wires do not exert excess pressure on the terminal blocks. This is particularly important when using cables with large cross sectional areas such as 2.5mm².

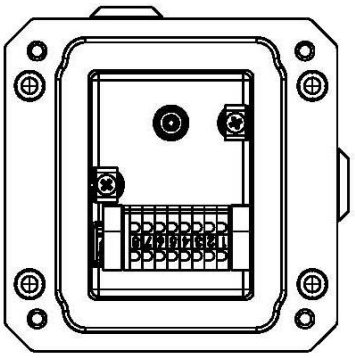
8) Wiring Unit

The units come with two options for the terminal block.

A DIN rail version which has 8-way connection and allows for full configuration at factory or limited wiring of EOL devices by customer.
The PCB Terminal Version has a 6-way connector but is designed to allow for full configuration with Series and EOL devices in a number of wiring configurations.

For EOL and Series device limitations and configurations see Section 9.
For full wiring details see wiring diagrams page 5, 6 & 7.

Wiring Connections for 8-Way DIN Rail



See pages 5, 6 & 7 for other wiring options

Fig. 4 DIN Rail in Base

Wiring Connections For 6-Way PCB Terminal Board

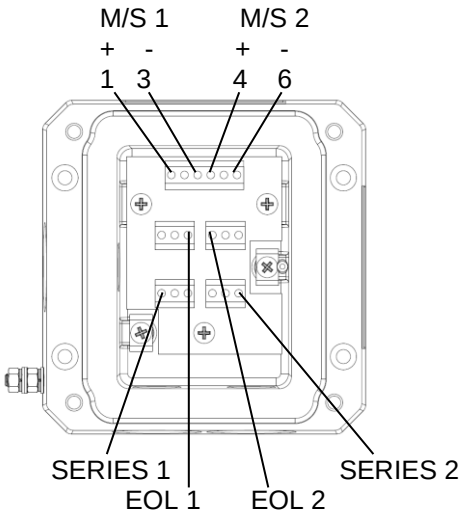


Fig. 5 PCB Terminal Block in Base

See section 9 and pages 5, 6 & 7 for details of adding Series and EOL devices on the PCB. This can either be done at the order stage or added to the correct terminal blocks afterward.

9) End-of-Line and Series Devices

All models can be fitted with series resistors, end-of-line monitoring resistors, monitoring diodes, zener diodes and also specific customer modules if supplied with direct current up to 50Vdc.

The following table 1 shows limitations for all possible variations:

EOL (End of line) device;

- resistor – ExxxR
- diode – ED1
- zener – ExxxZ

Series (In line) device;

- resistor – SxxxR
- diode – SD1
- zener – SxxxZ
- LED

Microswitch 1 = M/S 1
Microswitch 2 = M/S 2

The unit can be wired with a maximum of 4 module devices – see wiring diagrams.

Please refer to wiring diagrams on sheets 5, 6 & 7.

When customer is fitting EOL or Series device ensure device leads are insulated or routed so not to create an electrical short.

	Suggested EOL/ Series Device Type
Type of component fitted	**Value**
End-of-Line Resistor	330Ω Suggested Min.
End-of-Line Diode Type 1N5401	2W
Series Resistor	330Ω Suggested Min.
Series Zener Diode Type 1N5333B Suggested Sizes	3.3V
	4.7V
	5.1V
	5.6V
	6.2V
	6.8V
	10V
	12V

10) Testing unit operation

The push button types -PB -PT and -PM are all operated by pressing in the main plunger down activating the switch.

The -PB plunger needs to be firstly twisted by 90 degrees clockwise to position shown and then pressed in.

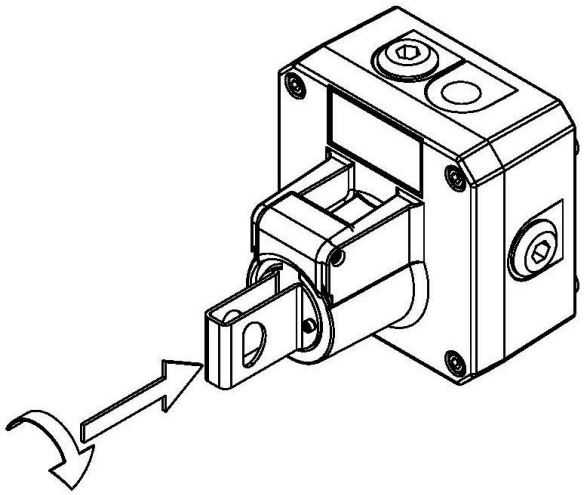


Fig 6 -PB Version Twist and Push Action

The -PM and -PT need to have the protective flip lid opened first and then the main plunger pressed in.

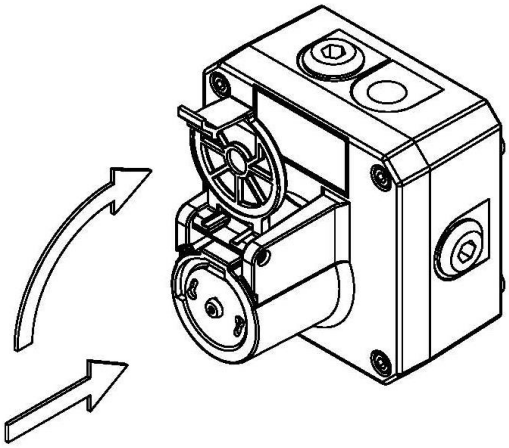
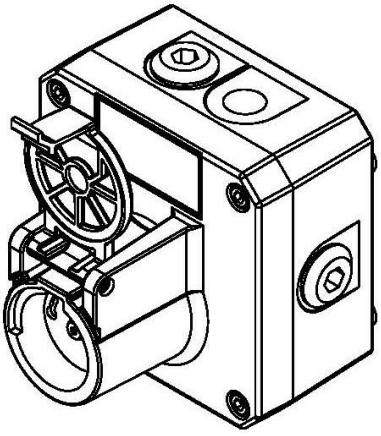


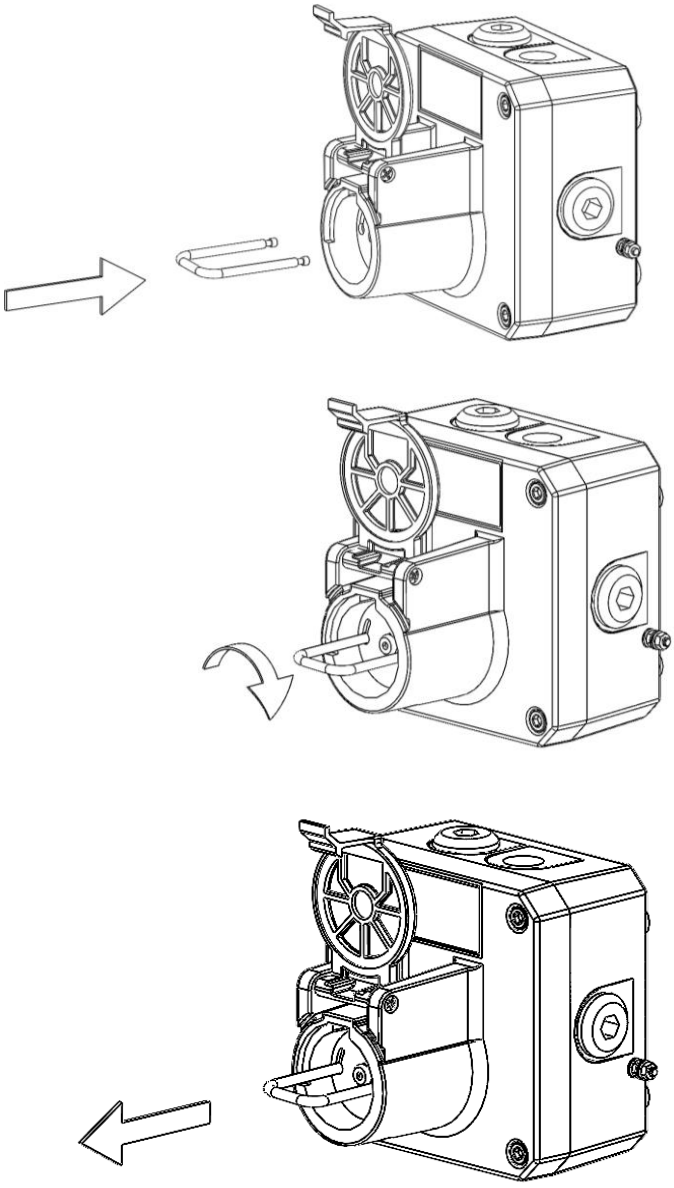
Fig 7 -PT & -PM Versions Push Action

On –PM versions the operation is momentary and as such the plunger will reset automatically once the pressure on the plunger is released.

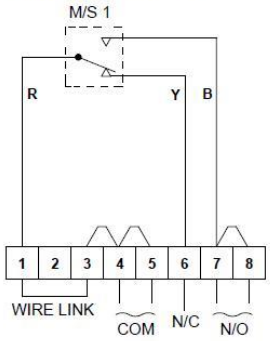


On -PB the plunger will remain in the down position until the unit is reset. This is done by pulling the plunger back up to the start position shown in fig 6. Then the plunger is twisted back 90 degrees anti-clockwise to the stop.

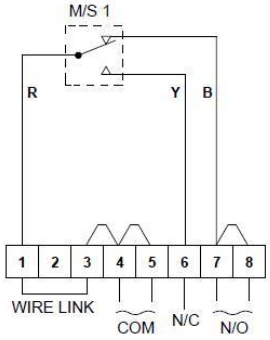
On -PT the plunger will remain in the down position until the unit is reset. This is done by lifting the plunger back up using the tool reset key provided.



Standard Unit as supplied by E2S
Without Series / EOL Devices

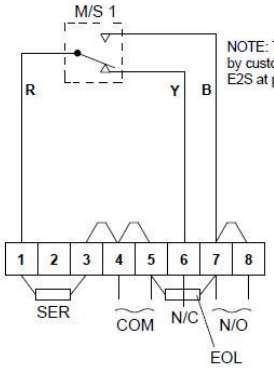


1A - Circuit as shown in Unoperated condition
Terminals (4/5) & (7/8) open
Terminals (4/5) & (6) closed



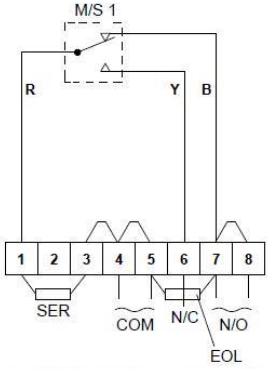
1B - Circuit as shown in Unoperated condition
Terminals (4/5) & (7/8) closed
Terminals (4/5) & (6) open

Standard Unit showing positions of
optional Series / EOL Devices



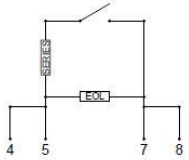
NOTE: These can be fitted either by customer or pre-installed by E2S at point of order.

2A - Circuit as shown in Unoperated condition
Terminals (4/5) & (7/8) open
Terminals (4/5) & (6) closed

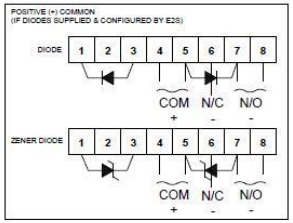


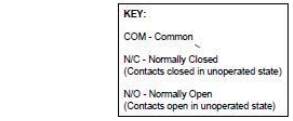
2B - Circuit as shown in Unoperated condition
Terminals (4/5) & (7/8) open
Terminals (4/5) & (6) closed

Wiring option shown with EOL &
series devices acting in series

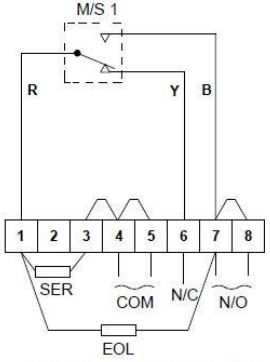


When fitting diodes or zener diodes, polarity
across devices must be observed
(Resistor polarity is unimportant)

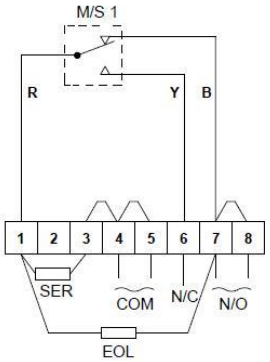




Standard Unit withsuggested Series / EOL
Devices - Alternative Configuration

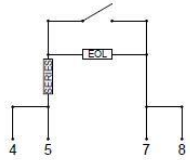


3A - Circuit as shown in Unoperated condition
Terminals (4/5) & (7/8) open
Terminals (4/5) & (6) closed

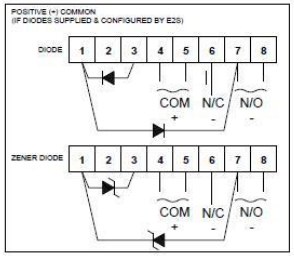


3B - Circuit as shown in Operated condition
Terminals (4/5) & (7/8) closed
Terminals (4/5) & (6) open

Wiring option shown with EOL &
series devices acting in parallel



When fitting diodes or zener diodes, polarity
across devices must be observed
(Resistor polarity is unimportant)



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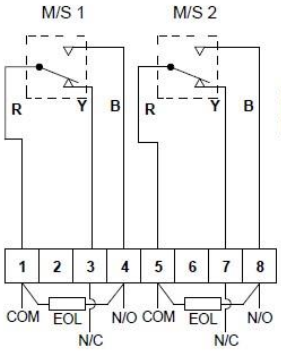
www.e2s.com Fax: +44 (0)208 740 4200

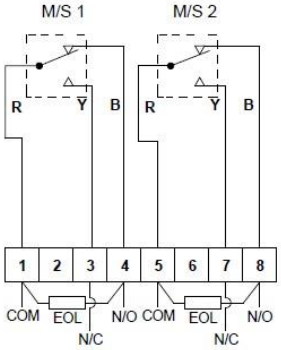
WP7 [ ] [D] [D] SWITCH TYPE: [D] - Double Microswitch TERMINAL TYPE [D] - DIN RAIL

Standard Unit showing possitions
of optional Series / EOL Devices



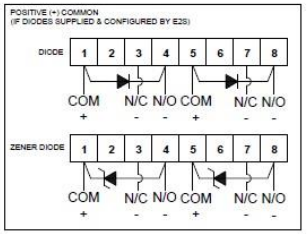
NOTE: These can be fitted either by customer or pre-installed by E2S at point of order.

4A - Circuit as shown in Unoperated condition
Terminals (1) & (4) M/S 1 and (5) & (8) M/S 2 open
Terminals (1) & (3) M/S 1 and (5) & (7) M/S 2 closed



4B - Circuit as shown in Operated condition
Terminals (1) & (4) M/S 1 and (5) & (8) M/S 2 closed
Terminals (1) & (3) M/S 1 and (5) & (7) M/S 2 open

When fitting diodes or zener diodes, polarity across devices must be observed
(Resistor polarity is unimportant)



WP7 [ ] [X] [D] SWITCH TYPE: [X] - SPECIAL ORDER TERMINAL TYPE [D] - DIN RAIL

Other wiring configurations are available pre-configured
(e.g. Dual switch configured with series and EOL devices)

Contact E2S sales for special wiring request

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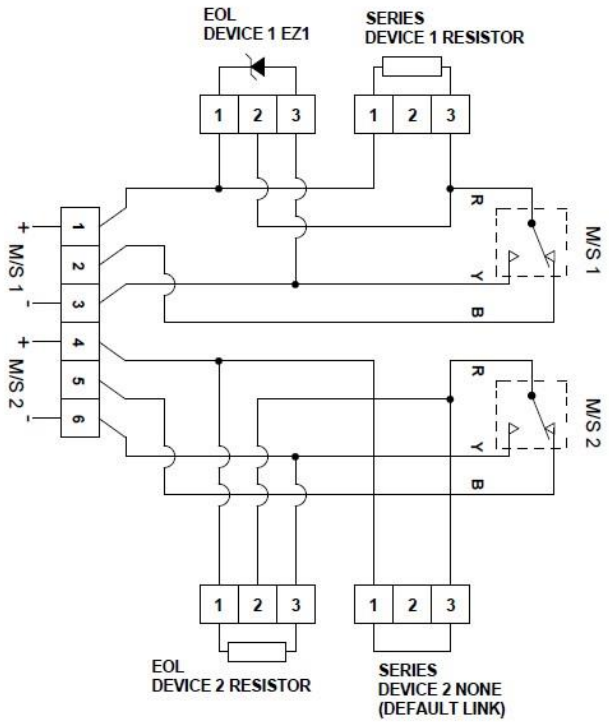
Fax: +44 (0)208 740 4200

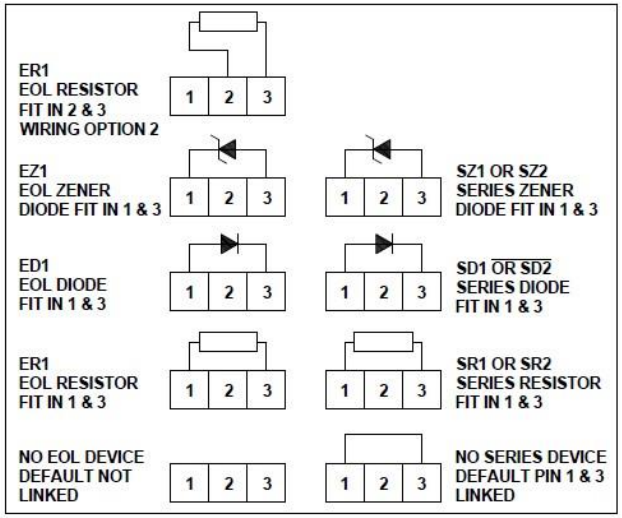
WP7 [ ] [S] [P] SWITCH TYPE: [S] - Single Microswitch TERMINAL TYPE [P] - PCB
WP7 [ ] [D] [P] SWITCH TYPE: [D] - Double Microswitch TERMINAL TYPE [P] - PCB

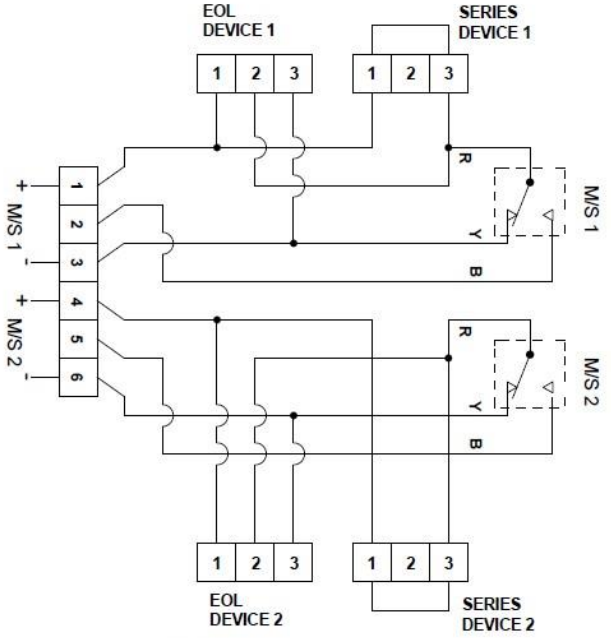
Optional Single or Double Microswitch

Circuit shown with Double Microswitch, Unit un-operated : WP7 PCB Version



5A - Circuit as shown in Unoperated condition
Terminals +(1) & -(3) M/S 1 and +(4) & -(6) M/S 2 open
Terminals +(1) & (2) M/S 1 and +(4) & (5) M/S 2 closed





5B - Circuit as shown in Operated condition
Terminals +(1) & (2) M/S 1 and +(4) & (5) M/S 2 open
Terminals +(1) & -(3) M/S 1 and +(4) & -(6) M/S 2 closed