

# PEM series

## Earth Loop Impedance Monitor



### Description

A compact DIN rail mounted unit designed to monitor the integrity of earth/ground wiring. The PEM is ideally suited for use with high current appliance or socket outlet, where the integrity of a very low earth impedance must be maintained to ensure the correct operation of fuse or circuit breaker protection.

The PEM is able to measure earth loop impedances down to 0.4 Ohms. The impedance is measured from the protected appliance/outlet to the supply distribution unit by means of a pilot earth conductor in the supply cable: the PEM uses an earth loop circulating current of less than 0.5 Amps at a nominal 6 volts.

A pilot earth protection feature is also provided: the optional connection of a remote diode (supplied with each unit) allows the PEM to detect the difference between a good earth and a crushed (shorted) cable in trailing lead applications.

Green and red front facia LEDs indicate normal and tripped states. Operation may be tested using a front facia push button. The isolated changeover relay output allows use with shunt trips, circuit breakers or contactor coils; the PEM may be supplied in 'energise on fault' or 'de-energise on fault' relay configurations.

Electrical connection is made via screw terminals on the front facia, under a clear plastic protection cover. The PEM can be supplied for use with either 110 or 230 VAC power supplies. The addition of an external ballast resistor (part ref. PEMYRES) allows the 230VAC unit to be used with a 415VAC power supply.

### How to order

Please specify:-

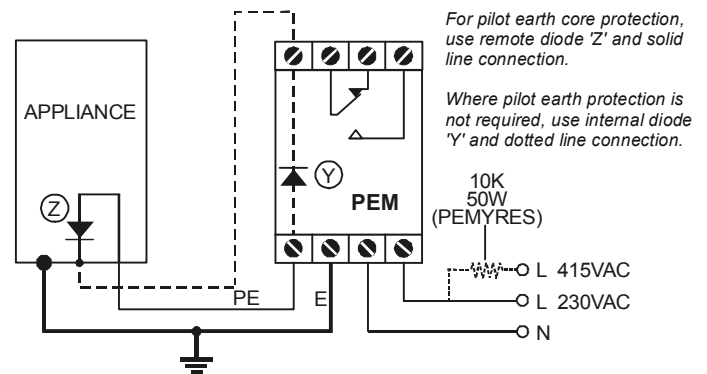
- Model type:-**  
 PEM2A: relay normally energised (de-energised on fault)  
 PEM2B: relay normally de-energised (energised on fault)  
 PEM4A/PEM4B: as PEM2 models plus 0.25 sec delay
- Power supply voltage:** 110, 240 or 415VAC
- Trip resistance,** in Ohms

- Checks integrity of earth connection
- Fixed or trailing lead applications
- Impedances down to 0.4 Ohms

### Specification

<b>Power supply:</b>	
operating voltages (ranges) (all for 50/60Hz.)	110V AC (100 - 120 V) 230 V AC (200 - 250 V) 415 V AC (380 - 440 V)
power consumption	< 6 VA
<b>Control:</b>	
trip resistance	various fixed levels 0.4 to 100 Ohms
<b>Relay output:</b>	
	(ratings for resistive load) SPDT contacts, rated 3 A @ 250 VAC / 30 VDC, 1 A @ 440V AC
<b>Physical:</b>	
operating temperature	-10 to +40°C
weight	approx. 300 g
dimensions (w x h x d)	45 x 68 x 114 mm

### Connection



### Warranty

A two year limited warranty on materials and workmanship is given with this Murphy product. Details are available on request and at [www.fwmurphy.co.uk/warranty](http://www.fwmurphy.co.uk/warranty).