

#### Models Covered

252-PAO	252-PVH	253-PAV	252-PAU
252-PVJ	253-PAP	252-PBA	252-PVK
253-PBV	252-PBB	252-PVO	253-PHD
252-PBS	252-PVP	253-PVB	252-PBT
252-PVR	253-PVE	252-PHO	252-PVS
253-PVM	252-PHU	252-PVU	253-PAD
252-PTU	252-PVV	252-PTO	252-PVX
256-PHV	252-PVA	252-PVZ	252-PVC
252-PDU	252-PDO		

#### Introduction

Protector Trip relay inputs are monitored within settable limits. In the event of the input moving outside these limits, the unit will initiate a trip signal via a double pole changeover relay. An illuminated red LED indicates when the relay is energised. Relays normally energise on over or high and de-energise on under or low conditions. This function may be reversed on request when ordering.

#### Warning

- During normal operation, voltages hazardous to life may be present at some of the terminals of this unit. Installation and servicing should be performed only by qualified, properly trained personnel' abiding by local regulations. Ensure all supplies are de-energised before attempting connection or other procedures.
- It is recommended adjustments be made with the supplies de-energised, but if this is not possible, then extreme caution should be exercised.
- Terminals should not be user accessible after installation and external installation provisions must be sufficient to prevent hazards under fault conditions.
- This unit is not intended to function as part of a system providing the sole means of fault protection - good engineering practice dictates that any critical function be protected by at least two independent and diverse means.
- Never open circuit the secondary winding of an energised current transformer.

#### Installation

The Protector should be installed in a dry position, not in direct sunlight and where the ambient temperature is reasonably stable and will not be outside the range 0-60°C. Mounting will normally be on a vertical surface but other positions will not affect the operation. Vibration should be kept to a minimum. The Protectors are designed for mounting on a 35mm rail to DIN 46277. Alternatively they may be screw fixed; a special adaptor is supplied to mount 252 types. To mount a protector on a DIN rail, the top edge of the cut-out on the back is hooked over one edge of the rail and the bottom edge carrying the release clip clicked into place. Check that the unit is firmly fixed. (Removal or repositioning may be achieved by levering down the release clip and lifting the unit up and off the rail).

#### Fusing and connections

1. This unit must be fitted with external fuses in voltage and auxiliary supply lines.
2. Voltage input lines must be fused with a quick blow fuse 1A maximum.
3. Auxiliary supply lines must be fused with a slow blow fuse rated 1A maximum.
4. Choose fuses of a type and with a breaking capacity appropriate to the supply and in accordance with local regulations.
5. Where fitted, CT secondaries must be grounded in accordance with local regulations.

Connection diagrams should be carefully followed to ensure correct polarity and phase rotation. External current and voltage transformers may be used to extend the range.

#### Protector Trip Relays

#### DIN Rail & Wall Mounted 250 Series

#### Current, Voltage, Phase Sequence, Transducer, Millivolt & Thermocouple

#### Screw torque

Main terminal screws should be tightened to 1.35Nm or 1.0 ft/lbf only. Detachable terminal connector screws should be tightened to 0.9Nm or 0.7 ft/lbf only. Where fitted, terminal covers are held in place by miniature self tapping screws into plastic. These screws should be tightened by hand only, sufficiently to secure the terminal cover and prevent it vibrating.

#### Electromagnetic Compatibility

This unit has been designed to provide protection against EM (electro-magnetic) interference in line with requirements of EU and other regulations. Precautions necessary to provide proper operation of this and adjacent equipment will be installation dependent and so the following can only be general guidance:-

- Avoid routing wiring to this unit alongside cables and products that are, or could be, a source of interference.
- The auxiliary supply to the unit should not be subject to excessive interference. In some cases, a supply line filter may be required.
- To protect the product against incorrect operation or permanent damage, surge transients must be controlled. It is good EMC practice to suppress differential surges to 2kV or less at the source. The unit has been designed to automatically recover from typical transients, however in extreme circumstances it may be necessary to temporarily disconnect the auxiliary supply for a period of greater than 5 seconds to restore correct operation.
- Screened communication and small signal leads are recommended and may be required. These and other connecting leads may require the fitting of RF suppression components, such as ferrite absorbers, line filters etc., if RF fields cause problems.
- It is good practice to install sensitive electronic instruments that are performing critical functions in EMC enclosures that protect against electrical interference causing a disturbance in function.

#### Setting Up

All Protectors have front mounted; calibrated controls and these should be set to suit operational requirements. A red LED on the front indicates, when lit, that the output relay is in the energised state.

Note, this means that it is necessary to know whether the output relay is arranged to energise or de energise on trip before the tripped or untripped state of a Protector can be determined from the condition of the LED. The calibration marks around the controls are provided as a guide if the installer does not have access to accurate equipment. The maximum error of the calibration marks is typically 10% of the span of the control concerned.

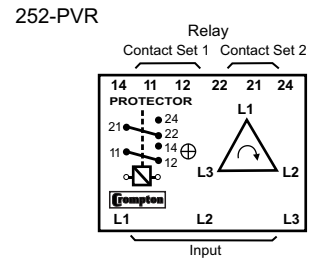
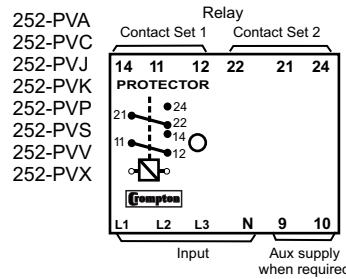
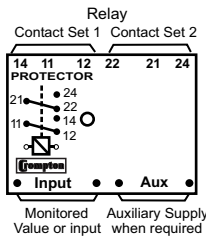
# INSTALLATION INSTRUCTIONS

## Protector Trip Relays DIN Rail & Wall Mounted 250 Series Current, Voltage, Phase Sequence, Transducer, Millivolt & Thermocouple

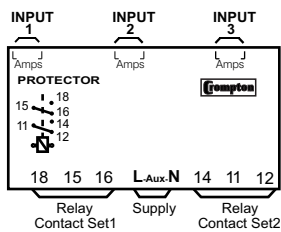
### Maintenance

The unit should be inspected to normal standards for this class of equipment. For example remove accumulations of dust and check all connections for tightness and corrosion. In the unlikely event of a repair being necessary it is recommended that the unit be returned to the factory or to the nearest Crompton Instruments Service Centre

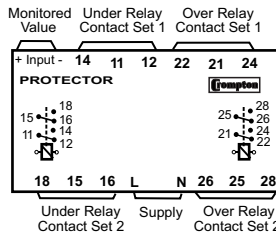
- 252-PBA 252-PTU
- 252-PBB 252-PAO
- 252-PBS 252-PAU
- 252-PBT 252-PVH
- 252-PHO 252-PVO
- 252-PHU 252-PVU
- 252-PTO 252-PVZ
- 252-PBU



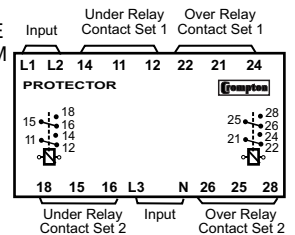
- 253-PAV
- 253-PAP



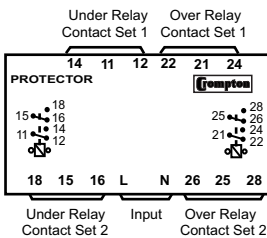
- 253-PBV
- 253-PAD



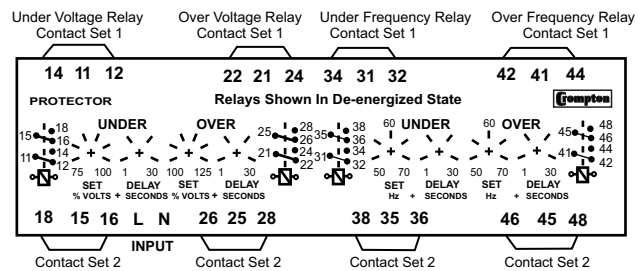
- 253-PVE
- 253-PVM



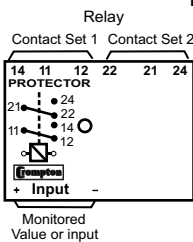
- 253-PHD
- 253-PVB



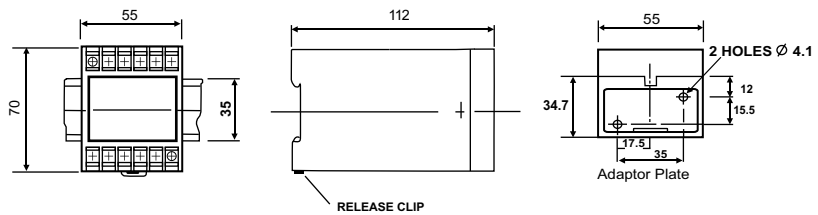
- 256-PHV



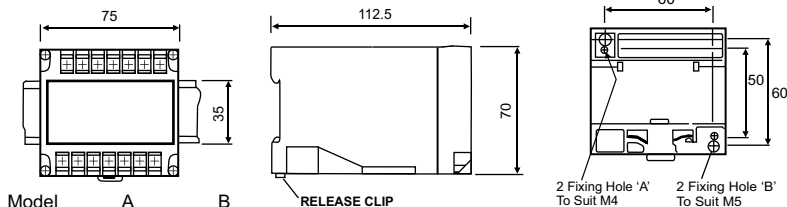
- 252-PDU
- 252-PDO



### Model 252



### Model 253 / 256



Model	A	B
253	75	60
256	150	135

The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, Tyco Electronics has no control over the field conditions, which influence product installation.

It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. Tyco Electronics' only obligations are those in Tyco Electronics' standard Conditions of Sale for this product and in no case will Tyco Electronics be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products. Crompton is a trade mark.



**Tyco Electronics UK Limited**  
**Crompton Instruments**

Freebournes Road, Witham, Essex, CM8 3AH, UK

Phone: +44 1376 509 509 Fax: +44 1376 509 511

<http://energy.tycoelectronics.com>