Ziegler

Redefine Innovative Metering

Ac Voltage Relay with adjustable Differential

Protector Trip Relay Series

ANSI No. 27/59

Models available

Function / System	Product Type
Single Phase,Under voltage	252-PVU
Single Phase, Over voltage	252-PVO
Single Phase Combined under and over voltage (2 relays, 2 set points)	253-PVB
3 Phase 4 wire, Under voltage	252-PVV
3 Phase 4 wire, Over voltage	252-PVP
3 Phase 4 Wire Combined under and over voltage (2 relays, 2 set points)	253-PVE
3 Phase 3 wire, Under voltage	252-PVK
3 Phase 3 wire, Over voltage	252-PVA
3 Phase 3 wire Combined under and over voltage (2 Relays 2 Setpoints)	253-PVM

Applications

The Protector can be used to protect for :-

- Under voltage
- Over voltage
- Start up standby generators
- Operation of mains failure units
- Switching standby hybrid supplies
- Protecting computer supplies
- Close control of equipment
- Gensets - to monitor correct operation of the A VR (Automatic voltage regulator) and excitation system.
- Motors-Some electric motors are voltage sensitive, and can overheat and burn out when operated at low voltage
- UPS supplies - When the main A. C. supply falls outside the acceptable operating voltage window, the relay can initiate a change over to an alternate or standby supply

Features

- Adjustable setpoint
- Adjustable differential
- Internal time delay (factory setable)
- LED trip indication
- 2 pole relay contacts
- Energize/De-energize function swapping
- Auto Reset

Introduction

Voltage Protectors provides continuous surveillance of the monitored circuit. When the measured voltage moves outside the set point limit, the relay will operate giving an alarm and or initiation signal. An illuminated LED indicates when the relay is energised. The 3 Phase, 3 or 4 wire models protect each phase independently.

Specifications

Input

Nominal Input : 100, 110, 220, 230, 240, 380, 400,415 or 440V (57 to 480V)

System Frequency : 50/60/400 Hz

Voltage Burden : 0.3VA approx.

Overload : 1.2 x continuously
1.5 x rating for 10 seconds, acc. to BS 6253

Setpoint

Repeatability : < 0.5% of full span

Differential : Adjustable range 1-15%

Range : Under Voltage 75 to 100%
Over Voltage 100 to 125% of nominal input voltage

Time Delay : Preset (specify) maximum 30 seconds (factory settable only).
For user adjustable model, refer 252-PVZ, 252-PVH, 252-PVX, 252-PVS, 252-PVJ, 252-PVC

Aux. Voltage Burden : 4VA (max)

Output relay

Type : D.P. Changeover

Rating A.C : 240V, 5A non-inductive

D.C : 24V 5A resistive

Operations : 0.2 million at the above loads

Reset : Automatic

Other Specifications

Operating temperature : 0°C to +60°C

Storage temperature : -20°C to +70°C

Temp. co-efficient : 0.05% per°C

Interference immunity : Electrical stress surge withstand and non function to ANSI/IEEE C37 90a

Enclosure style : DIN-rail with wall mounting facility

Material : Flame retardant polycarbonate /ABS

Enclosure integrity : IP 50

Model 252 dimensions : 55mm(2.2")wide x 70mm(2.8")H x 112mm (4.4") D

Model 253 dimensions : 75mm(2.9")wide x 70mm(2.8")H x 112mm (4.4") D

Weight : 252 case - approx 0.4Kg
253 case - approx 0.6Kg

Product Function

Standard over voltage relays will energize on trip when the nominal input voltage plus the user adjustable 'over nominal value' is exceeded, the relay will automatically reset to de-energize when the input voltage is lowered past the setpoint minus the hysteresis value.

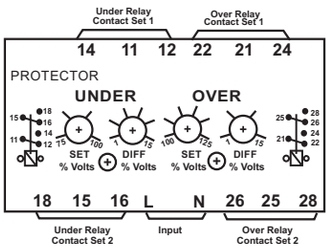
Standard under voltage relays will de - energize on trip when the input voltage is below the nominal value minus the user adjustable 'under nominal value' the relay will automatically reset to energize when the input voltage is raised past the setpoint plus the hysteresis value.

On request, any product can be manufactured with the energize / de - energize function swapped.

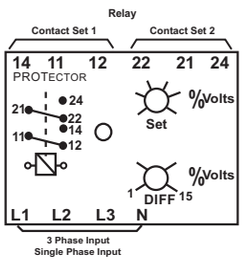
Options

- Time delay – internal fixed time delay before a trip occurs.
- Separate auxiliary supply – sometimes required to maintain a time delay or energised relay when the monitored signal fails.
- Adjustment ranges – different adjustment ranges are possible for the set point and time delay controls.
- Relay operation – standard models are fail safe, but the relays can be customised to energise or de-energise on trip.

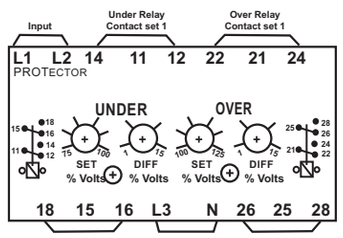
Connection diagrams



253-PVB



252-PVU/PVO
PVV/PVP/PVK/PVA

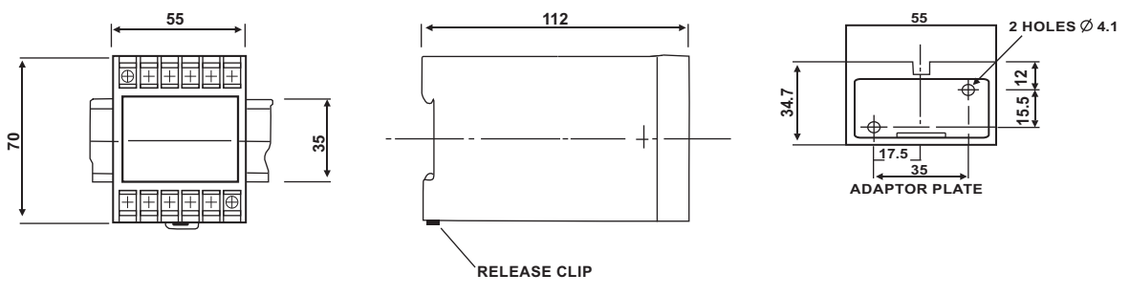


253-PVE/PVM

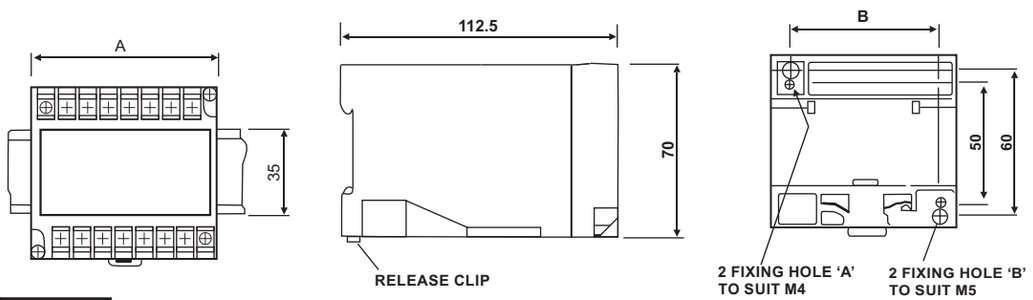
Note : The neutral connection is always used on 4 wire system

Dimensions

Model 252



Model 253



Model	A	B
253	75	60

Ordering Information

Please quote :

1. Product Type.
2. Function i.e. Under or Over.
3. Relays normally de - energise on under trip and energise on over trip.
4. Please specify standard or non standard trip. An energised relay is indicated by a "Lit" red LED. Setpoint can be factory adjusted to your requirements.
5. System Voltage and/or Current where applicable.
6. System Frequency.
7. Auxiliary Voltage where required.
8. Adjustable Differential.
9. Time delay where applicable.

ZIEGLER INSTRUMENTS
Schnepfenreuther Weg 6, D-90425 Nürnberg, Germany.
TEL. (+49)(911) 38 492 45 E-MAIL info@ziegler-instruments.com
FAX. (+49)(911) 32 26 212 WEBSITE www.ziegler-instruments.com

made in Germany

Ziegler
Redefine Innovative Metering