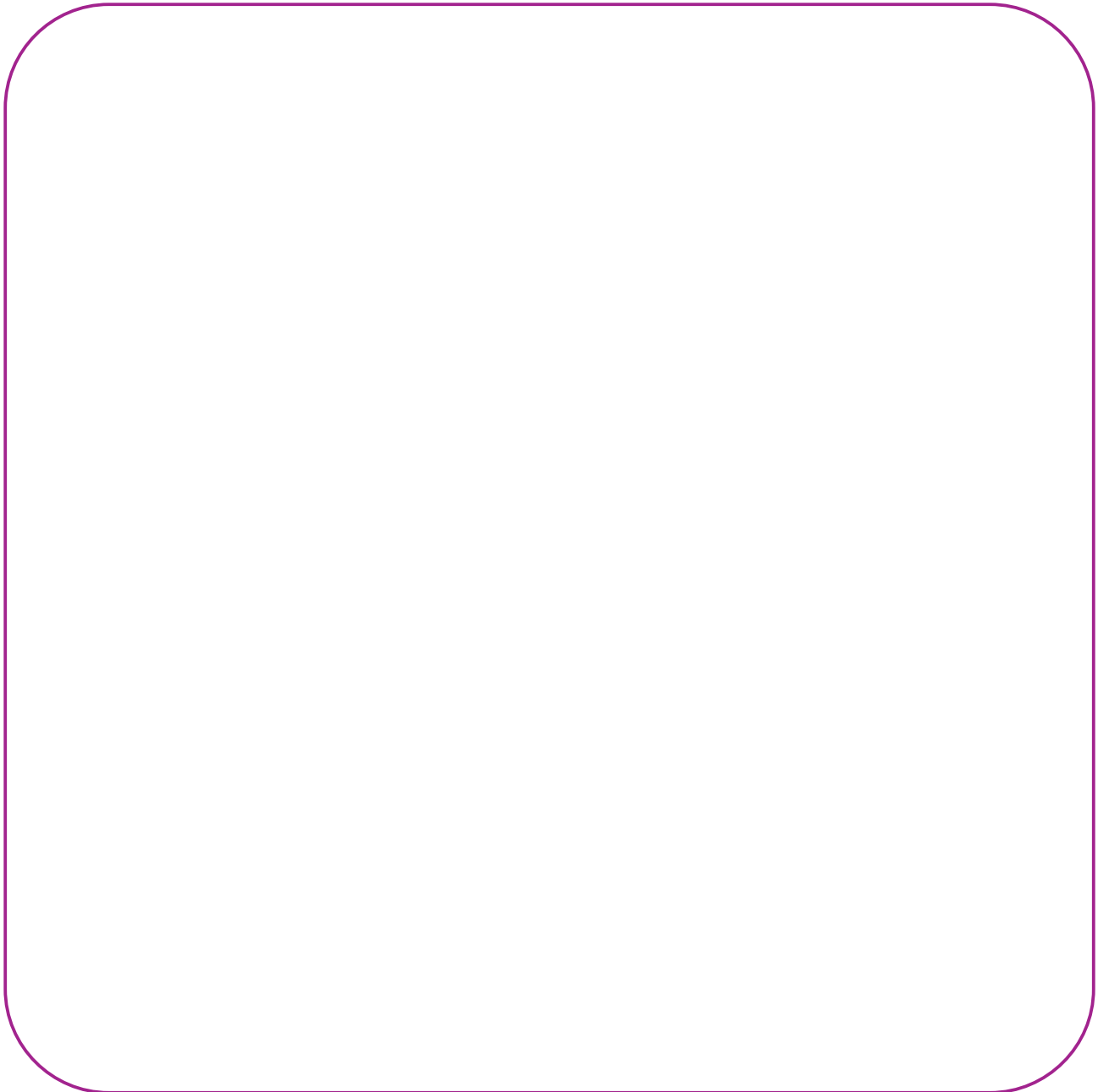


RISH *Lay*



The Protector Trip Relay Series

Data Sheet

Combined Under / Voltage &
Under / Over Frequency Relay



Models available

	
Function / System	Product Type
Single Phase Combined Under/Over Voltage & Under/Over frequency	256-PHV

Applications

Since speed is proportional to the frequency, this protector can be used to protect for :-

- Over frequency
- Under frequency
- Over speed
- Under speed
- Under voltage
- Over voltage
- Gensets - to monitor correct operation of the A VR (Automatic Voltage Regulator) & excitation system & the engine speed controller (Governor)
- Motors - Some electric motors are voltage sensitive, & can overheat & burn out when operated at low voltages. Synchronous motors rotate at speed proportional to line frequency. Use these relays to ensure correct running speed.
- UPS supplies - when the main A.C. supply falls outside the acceptable operating voltage window, the relays can initiate a change over to an alternate or standby supply.

Features

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

Introduction

The Rishabh combined voltage & frequency Protectors give continuous surveillance of the monitored circuit. The product offers user adjustable trip point (setpoint) for voltage and frequency, plus adjustable time delay setting, the setpoint adjustment range is 25%, operating between 75% & 100% of the nominal supply for under voltage, & between 100% & 125% for over voltage. The Frequency setpoint adjustment range is centered around the nominal 50Hz, 60Hz 400Hz system frequency. The time delay setting adjustment range is typically 0 to 10 seconds, although longer delays are available. As soon as the monitored signal moves out-side the setpoint limit, the time delay is activated, after which a trip will occur. The time delay prevent the relay from tripping for a predetermined period to prevent nuisance tripping. The product also feature an internal differential (hysteresis) setting of 1% to reduce nuisance tripping if the measured signal is noisy or unstable. The product is available for single phasesystem only, & draws its operating power from measuring input.

Specifications

Nominal Voltage	: 100, 110, 120, 220, 230, 240V
Voltage Range	: Over voltage 100 to 125% Under voltage 75 to 100%
Differential	: Fixed internally 1% to 10% (specify)
Time Delay	: Adjustable between 1 and 30 seconds
Frequency Ranges	: 40-60Hz (50Hz) or 50-70Hz (60Hz) or 360-440Hz (400Hz)
Differential	: Fixed internally 0.1 Hz to 3Hz (10Hz for 400 Hz unit) (specify)
Time Delay	: Adjustable between 1 and 30 seconds
Set Point	
Repeatability	: > 0.5% of full span
Voltage Withstand	: 1.2 x rating continuously 1.5 x rating for 10 second acc. to BS6253

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
LEDS	: Indicate condition of relay, i.e. illuminated when relays de-energise. Relays will be energised when the Voltage/frequency is within the setpoint Relays de-energise on trip point when the Voltage/frequency goes over or under the set point excluding the time delay period.

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 256 dimensions	: 150mm(5.9")wide x 70mm(2.8")H x 112mm (4.4") deep
Weight	: Approx 1 kg

Product Function

Over Voltage & frequency :

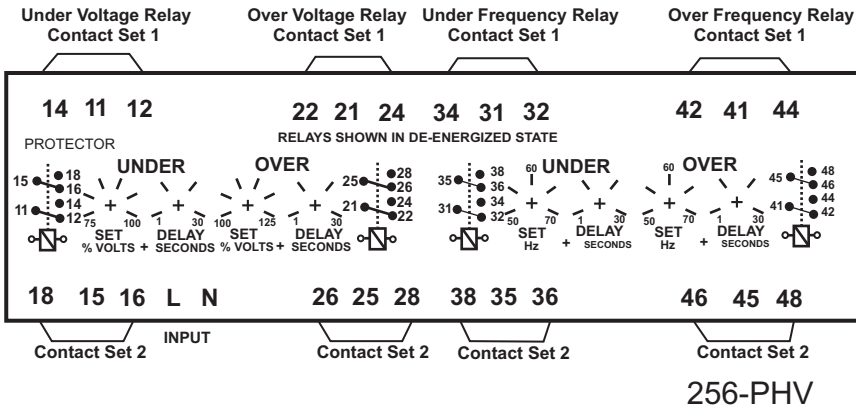
When the monitored value exceeds the setpoint and the time delay has elapsed, the relay will energise and the red LED will illuminate to indicate the trip condition.

Under Voltage & frequency : The relay will de - energise after the time delay has elapsed, and the red LED will extinguish to indicate the trip condition.

Options

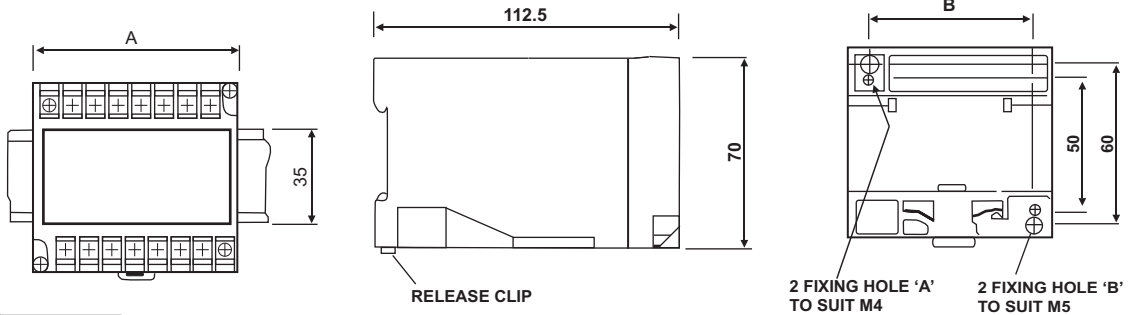
- Adjustment ranges – different adjustment ranges are possible for the set point and time delay controls.
- Relay operation – standard models are fail safe, but the relays can be customised to energise or de-energise on trip.
- Time delay – internal fixed time delay before a trip occurs.

Connection diagrams



Dimensions

Model 256



Model	A	B
256	150	135

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. Preset Differential where required.
9. Time delay where applicable.



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