Ziegler

Redefine Innovative Metering

Reverse Power (current) Relay

Protector Trip Relay Series

ANSI No. 32

Models Available

Function / System	Product Type
Single Phase or 3 Phase, 4 wire	256-PAS
3 Phase 3 wire	256-PAT
Single Phase or 3 Phase, 4 wire with test push button	256-PAQ
3 Phase 3 wire with test push button	256-PAR

Applications

Reverse Power Protector provides continuous surveillance for a.c. generators operating in parallel or for boosting mains supplies.

On site adjustment of the trip point and time delay ensures accurate protection against “motoring’ in the event of engine failure and prevents tripping from surges during synchonising.

- Generator Set Protection -
  For detecting loss of the prime mover (engine) and preventing motoring.
- Feeder protection -
  To detect reverse power under fault conditions.

Features

- Adjustable setpoint
- Adjustable time delay
- LED trip indication
- 2 pole relay contacts
- Internal differential
  (factory settable only)
- Auto Reset

Specifications

Nominal voltage	: 100, 110, 120, 220, 230, 240,380, 400, 415 or 440V
Overload	: 1.2 x rating continuously 1.5 x rating for 10 seconds, acc. to BS 6253
Voltage Burden	: 3 VA maximum
Nominal Current	: 5A or 2, 3, 4, 6, 8 & 10A
Overload	: 2 x Rated current continuously 10 x rating for 10 seconds acc. to BS 6253
Current Burden	: 2VA maximum
Frequency	: 50/60Hz or 400Hz on request
Setpoint	
Adjustments	: Reverse power: 2-20% Time delay: 0-20 seconds
Repeatability	: > 0.5% of full span
Hysteresis	: Pre-set at 1%
Output Relay	
Type	: DP changeover
Rating	: 240V 5A non-inductive
D.C.	: 24V 5A resistive
Operations	: 0.2 million at the above loads
Reset	: Automatic

Other Specifications

Operating temperature	: 0^0C to +60^0C
Storage temperature	: -20^0C to +70^0C
Temp. co-efficient	: 0.05% per^{0}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	: Approximately 1.0kg

Principle of operation

The generator voltage provides the power supply for the relay energising circuit and phase reference for the phase sensitive detector. Current reference to the detector is taken from generator load current.

The output from the detector is compared with a reference which is set by the trip set point potentiometer. When the set point value is exceeded an electronic trip operator to energise the relay circuit though an adjustable time delay.

Setting up Instructions

The “ % set ” potentiometer trimmer on the front label is calibrated as a percentage of the input current rating e.g. of 5A and not of the forward kW.

Adjust the “ % set ” trimmer to the required tripping value, Setting accuracy can be checked by reversing the current lead connections and, with forward power, measuring the trip point value on a suitable ammeter (reconnect leads on completion). Units with built - test switch simplify this operation.

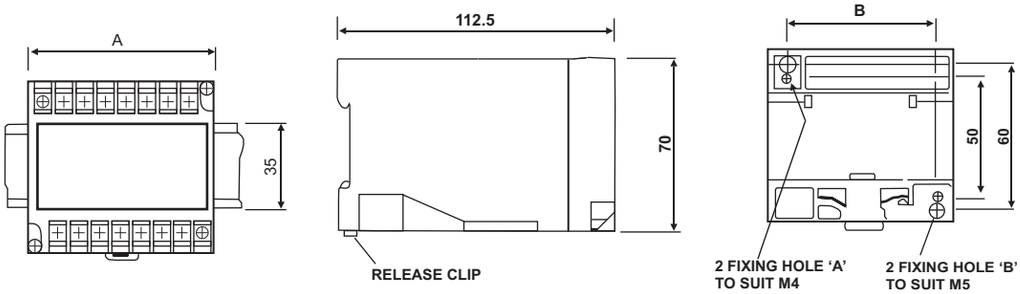
Adjust the ‘Delay’ to the required time delay 10 seconds is normally adequate.

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.

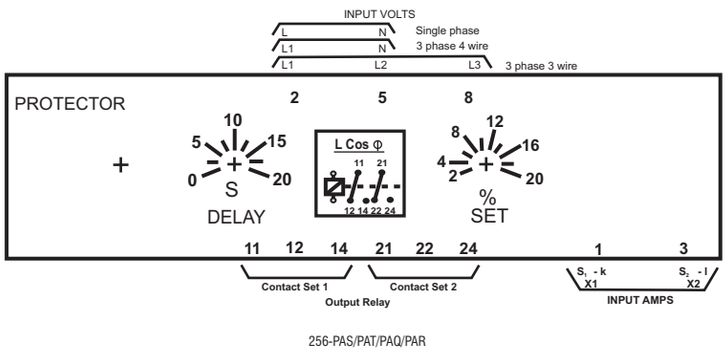
Dimensions

Model 256



Model	A	B
256	150	135

Connection diagrams



256-PAS/PAT/PAQ/PAR

Note: Only one CT connection is required, from the same phase as the voltage connection to terminal 2.

Ordering Information

Please quote :

1. Product Type.
2. 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.
3. System Voltage and/or Current where applicable.
4. System Frequency.
5. Preset Differential where required.
6. Time delay where applicable.

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