Ziegler

Redefine Innovative Metering

DC Millivolt / Thermocouple Relay

Protector Trip Relay Series

ANSI No. 49/74

Models available


Function / System	Product Type
D.C. Millivolt Low Trip	252-PBS
D.C. Millivolt High Trip	252-PBT
Thermocouple Low Trip	252-PTU
Thermocouple High Trip	252-PTO

Applications

Application Using Current Shunts

- Use with current shunts to monitor battery charging current
- Monitor Current drain
- Under / Over Current

Application Using thermo - couples

- Under / over temperature
- Detect hotspots

Features

- Adjustable Setpoint
- Adjustable time delay
- Internal differential (factory settable)
- LED trip indication
- 2 pole relay contacts
- Energize/De-energize function swapping
- Supports all industry standard shunts and popular thermocouples
- Auto Reset

Introduction

Protector trip accepts d. c. Millivolt inputs from transducers or shunts or from any standard thermocouple.

The Relay offers user adjustable trip point (Setpoint) and time delay settings. The typically 0 to 10 seconds, although longer delays are available.

As soon as the monitored signal moves outside of the setpoint limit, the time delay is activated, after which a trip will occur. The time delay prevents the relay from nuisance tripping.

The products also features an internal differential (hysteresis) setting of 1% to reduce nuisance tripping if the measured signal is noisy or unstable.

These units require an auxiliary power supply.

Specifications

Input

d.c. millivolts	:	Spans 10mV(min), 50mV, 60mV,75mV,100mV,150mV
Input Impedance	:	Approximately 50kΩ
Source Impedance	:	Maximum 100 Ω
Voltage Burden	:	3 VA max.
Thermocouple	:	Types J, K, R, S, T Minimum span 10 mV Maximum span 50mV

Thermocouple

Break Protection(TBP)	:	Upscale drive is standard
Cold Junction Compensation (CJC)	:	Available on application

Setpoint

Repeatability	:	> 0.5% of span
Hysteresis	:	2 % of span (factory settable)
Adjustment	:	Low trip 0-80% High trip : 40-120%
Time Delay	:	Up to 10 seconds adjustable 30 seconds maximum

Auxiliary Supply

A.C. 50/60 Hz	:	120V or 240V (± 20%) (57 to 480V)
D.C. Voltage	:	12, 24, 48 or 120V (± 20%)
Aux Burden	:	4 VA maximum
Voltage Withstand	:	1.2 x rated voltage cont. 1.5 x rating for 10 seconds, acc. to BS 6253

Output Relay

Type	:	DP 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^{0}C to +60^{0}C
Storage temperature	:	-20^{0}C to +70^{0}C
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 0.4Kg

Product Function

'Over' Models:

When the monitored voltage exceeds the setpoint, the time delay is started. When the time has elapsed, the relay will energise and the red LED will illuminate to indicate the trip condition. The relay will automatically reset once the monitored voltage falls below the setpoint minus the differential. When reset, the LED will extinguish and the relay de-energises. The time delay is not active when resetting.

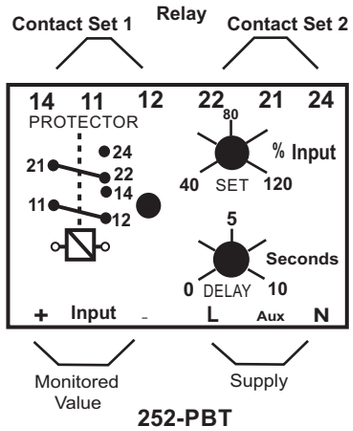
'Under' Models:

When the monitored voltage falls below the setpoint, the time delay is started. When the time has elapsed, the relay will de-energise and the LED will extinguish to indicate the trip condition. The relay will automatically reset once the monitored voltage rises above the setpoint plus the differential. When reset, the LED will illuminate and the relay energises. The time delay is not active when resetting.

Options

- Adjustment ranges – different adjustment ranges are possible for the set point and time delayl controls.
- Differential - internally fixed value between 1% and 15%
- Relay operation – standard models are fail safe, but the relays can be customised to energise or de-energise on trip.
- Cold junction compensation available on request.

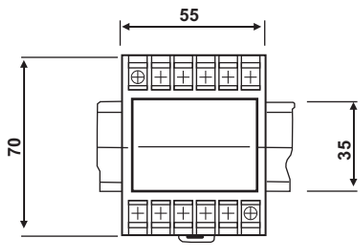
Connection diagram

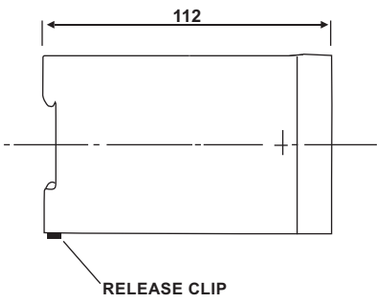


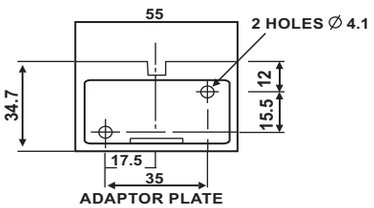
252-PBT
252-PBS/PTU/PTO

Dimensions

Model 252







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.

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

made in Germany

Ziegler
Redefine Innovative Metering