



Features

- Adjustable setpoint
- Adjustable time delay
- Internal differential
- LED trip indication
- Automatic reset
- Double pole relay contacts

Benefits

- Over and under voltage monitoring
- Monitors correct terminal voltage on battery supplies
- Monitors charging voltage on battery chargers
- Battery level control
- Nuisance tripping avoidance
- Customized options

Applications

- Marine panels
- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Process control
- Overload protection

Approvals

- UL recognized

D.C. Voltage

DC voltage protectors provide continuous surveillance of the monitored voltage circuit, typically a battery supply or charging circuit. When the measured voltage moves outside the set-point limits, the relay will operate after the selected time delay or differential, giving an alarm and/or initiation signal. The protectors offer protection for under voltage, over voltage and battery level control.

Operation

DC voltage protectors offer user adjustable trip point (setpoint) and time delay settings. The time delay setting adjustment range is typically 0 to 10 seconds, although longer delays up to 30 seconds 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 tripping for a predetermined period to prevent nuisance tripping. The products also feature an internal differential (hysteresis) setting of 1% to reduce nuisance tripping if the measured signal is noisy or unstable. The units draw their operating power from the measuring inputs.

Over Voltage Models

When the monitored voltage exceeds the setpoint, the time delay is started. When the time has elapsed, the relay will energize 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-energizes. The time delay is not active when resetting.

Under Voltage Models

When the monitored voltage falls below the setpoint, the time delay is started. When the time has elapsed, the relay will de-energize and the red 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 energizes. The time delay is not active when resetting.

Options

250 series protector relays offer various customized options to suit individual requirements. Please consult factory.

- Adjustment ranges - different adjustment ranges are possible for the setpoint and time delay controls.
- Differential - Internally fixed value between 1% and 15%.
- Relay operation - standard models are fail safe, but the relays can be customized to energize or de-energize on trip.

Product Codes

Relay	Protection	ANSI No.	Catalog No.
DC Voltage	Under voltage external time delay	27	252-PDU
DC Voltage	Under voltage differential	27	252-PDE
DC Voltage	Over voltage external time delay	59	252-PDO
DC Voltage	Over and under voltage external time delay	27/59	253-PDC

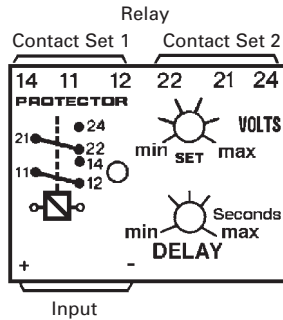
Specify system voltage, frequency and required options at time of ordering.

250 Series DIN Rail and Wall Mounted Relays

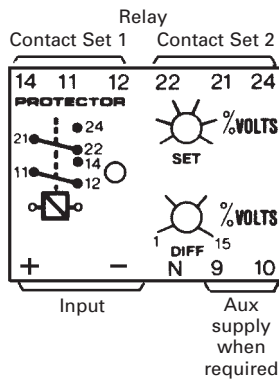


Connections

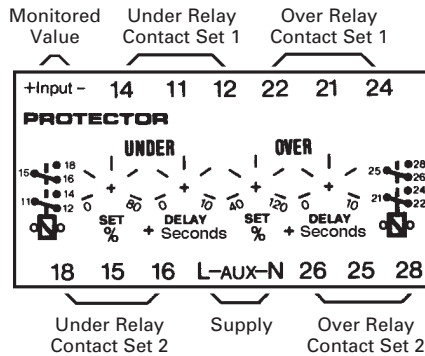
252-PDU
252-PDO



252-PDE



253-PDC

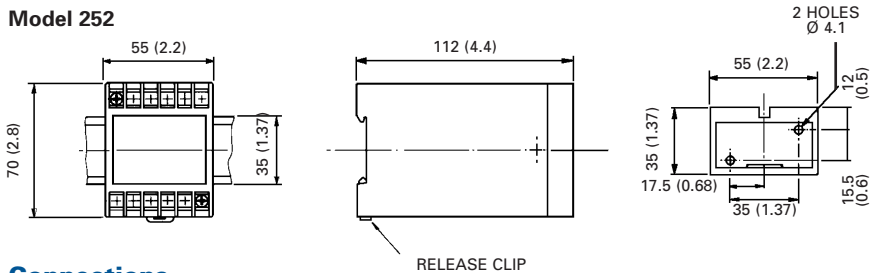


Specification - D.C. Voltage

Nominal Voltage	18 to 20V DC or 20 to 32V DC
Voltage Burden	<3VA
Overload	1.2 x rating continuously
Set Point Repeatability	>0.5% of full span
Differential (Hysteresis)	Models 252-PDU, 252-PDO & 253-PDC: Preset at 1%. Values 1% to 15% available on request Model 252-PDE: Adjustable 1 to 15%
Time Delay Adjustment	Models 252-PDU, 252-PDO & 253-PDC: 0-10, 0-20, 0-30 seconds Model 252-PDE: Factory pre-set up to 30 seconds
AC Auxiliary Supply Voltage	100V, 110V, 120V, 208V, 220V, 240V, 480V, ±20%
DC Auxiliary Supply Voltage	12V, 24V, 48V, 110V or 125V, ±15%. Max ripple 15%
Auxiliary Voltage Burden	4VA (max)
Output Relay	Double pole change over
Relay Contact Rating	AC: 240V 5A, non inductive DC: 24V, 5A resistive
Relay Mechanical Life	0.2 million operations at rated loads
Relay Reset	Automatic
Operating Temperature	0°C to +60°C (0°C to +40°C for UL models)
Storage Temperature	-20°C to +70°C
Temperature 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	IP50
Compliant With	EMC, LVD, Safety Standard IEC 414 UL File No: E113067 recognized up to 600V
Model 252 Dimensions	55mm (2.2") wide x 70mm (2.8") high x 112mm (4.4") deep
Model 253 Dimensions	75mm (2.9") wide x 70mm (2.8") high x 112mm (4.4") deep
Weight	Model 252: 0.4Kg approx. Model 253: 0.6Kg approx

Dimensions

Model 252



Connections

Model 253

