250 Series DIN-rail and Wall Mounted Relays

AC Voltage with Adjustable Time Delay

The ac voltage protectors provide continuous surveillance of the monitored circuit. When the measured voltage moves outside the set point limit, the relay will operate after the selected time delay, giving an alarm or initiation signal. Relays normally energise on overvolts and de-energise on undervolts. An illuminated LED indicates when the relay is energised.

Operation

AC voltage protectors offer user adjustable trip point (set point) and time delay settings. The set point adjustment range is 25%, operating between 75% and 100% of the nominal supply for under-voltage units and between 100% and 125% for the over-voltage units. The time delay setting adjustment range is typically 0 to 10 seconds, although longer delays are available. As soon as the monitored signal moves outside of the set point 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, although a separate auxiliary supply input option is available on some models. Single-phase and three-phase products are available. Three-phase products monitor the voltage level for each phase and are not phase sequence sensitive.

Over-Voltage Models

When the monitored voltage exceeds the set point, 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 set point minus the differential. When reset, the LED will extinguish and the relay de-energises. The time delay is not active when resetting.

Under-Voltage Models

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

Options

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

- Adjustment ranges – different adjustment ranges are possible for the set point and differential controls.
- Separate auxiliary supply – sometimes required to maintain a time delay.
- 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.

Features

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

Benefits

Over and under-voltage monitoring
Close voltage control
Start standby generators
Operation of mains failure units
Switching standby supplies
Protecting computer supplies
Monitors genset AVR and excitation systems
Nuisance tripping avoidance
Customised options

Applications

Switchgear
Distribution systems
Generator sets
Control panels
Process control
Motor protection
Transformers
Overload protection

Approvals

CSA File Number 052592
(for monitoring voltage 300v max singe phase and three phase)

Product Codes

Relay	Protection	ANSI no.	Cat. no.
1-phase	Under-voltage 75-100%	27	252-PVZ
1-phase	Over-voltage 100-125%	59	252-PVH
3-phase 3-wire	Under-voltage 75-100%	27	252-PVJ
3-phase 3-wire	Over-voltage 100-125%	59	252-PVC
3-phase 4-wire	Under-voltage 75-100%	27	252-PVX
3-phase 4-wire	Over-voltage 100-125%	59	252-PVS

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

see 2nd page for selection

SEE ATTACHED FOR PART NUMBERS

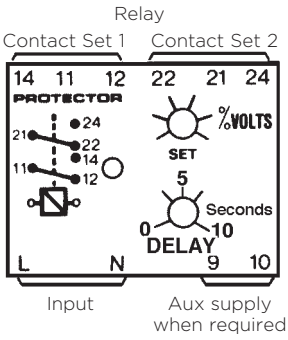
Crompton Technology Inc,7538 Bath Rd,Mississauga,ON,L4T 1L2,T:905-671-2304,F:905-671-3661,info@cromptoncanada.com, www.cromptoncanada.com

Specification – AC Voltage with Adjustable Time Delay

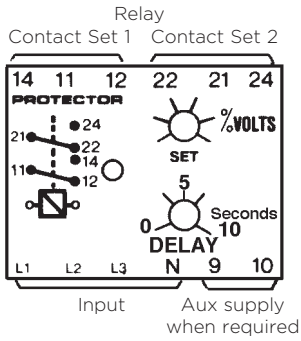
Nominal voltage	100V, 110V, 208V, 240V, 277V, 400V, 415V, 440V or 480V
System frequency	45/65Hz or 360/440Hz
Voltage burden	0.3VA
Overload	1.2 x rating continuously, 1.5 x rating for 10 x seconds
Set point repeatability	>0.5% of full span
Differential (hysteresis)	Pre-set at 1%. Other values 1% to 10% to order
Trip level adjustment	Under-voltage: 75 to 100% Over-voltage: 100 to 125% of nominal input voltage
Time delay	Adjustable up to 10 seconds
AC auxiliary supply voltage	100V, 110V, 120V, 208V, 220V, 240V, 480V, ±20%
DC auxiliary supply voltage	12V, 24V, 48V, 110V or 125V, ±20%. Including ripple
Auxiliary voltage burden	4VA (max)
Output relay	2-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
Dimensions	55mm (2.2") wide x 70mm (2.8") high x 112mm (4.4") deep
Weight	0.4Kg approx.

Connections

252-PVZ
252-PVH



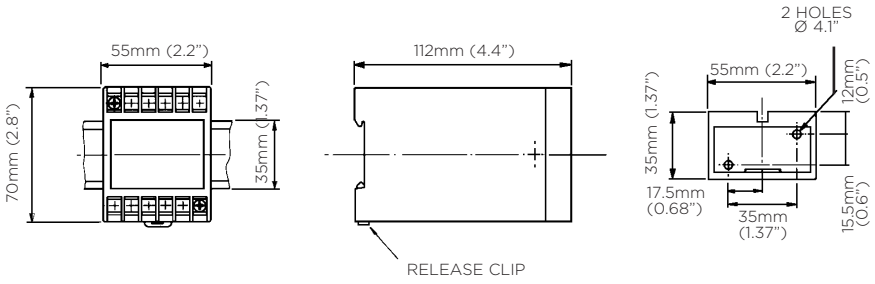
252-PVX
252-PVS
252-PVC
252-PVJ



Note: The neutral connection is always used on four-wire systems.

SEE ATTACHED FOR PART NUMBERS

Dimensions
Model 252



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Mounted Relays
AC Voltage with Adjustable Time Delay

RELAY	PROTECTION	INPUT	FREQUENCY	PART NUMBER
1-phase	Under-voltage 75-100%	120 V AC	60 HZ	252-PVZU-PQBX-C6-EB-T1
1-phase	Under-voltage 75-100%	208 V AC	60 HZ	252-PVZU-RMBX-C6-EB-T1
1-phase	Under-voltage 75-100%	240 V AC	60 HZ	252-PVZU-RRBX-C6-EB-T1
1-phase	Over-voltage 100-125%	120 V AC	60 HZ	252-PVHU-PQBX-C6-EA-T1
1-phase	Over-voltage 100-125%	208 V AC	60 HZ	252-PVHU-RMBX-C6-EA-T1
3-phase 3-wire	Under-voltage 75-100%	120 V AC	60 HZ	252-PVJU-PQBX-C6-EB-T1
3-phase 3-wire	Under-voltage 75-100%	208 V AC	60 HZ	252-PVJU-RMBX-C6-EB-T1
3-phase 3-wire	Over-voltage 100-125%	120 V AC	60 HZ	252-PVCU-PQBX-C6-EA-T1
3-phase 4-wire	Under-voltage 75-100%	120 V AC	60 HZ	252-PVXU-PQBX-C6-EB-T1
3-phase 4-wire	Over-voltage 100-125%	120 V AC	60 H Z	252-PVSU-PQBX-C6-EA-T1