



250 Series DIN-rail and Wall Mounted Relays

Frequency

Crompton frequency protectors give continuous surveillance of the monitored circuit. When the frequency moves outside the set point limit for longer than the time delay, the relay will operate giving an alarm control or tripping signal. An illuminated LED indicates when the relay is energised. Since speed is proportional to the frequency, this protector can be used to monitor over and under-speed and to protect mains supplies, computer supplies and standby supplies for industrial, hospital or marine use.

Operation

Frequency protectors offer user adjustable frequency trip point (set point) and differential (hysteresis) settings. The set point adjustment range is centred around the nominal 50Hz, 60Hz or 400Hz system frequency. The differential setting adjustment can be used to reduce nuisance tripping if the measured signal is noisy or unstable. When the measured frequency moves outside the set point limit, the relay will operate, giving an alarm or initiation signal. As soon as the monitored frequency moves outside of the set point limit, a trip will occur. The units draw their operating power from the measuring inputs. Combined units offer under and over-frequency trips in one compact unit. Single function units are also available.

Over-Frequency Models

When the monitored frequency exceeds the set point, the relay will energise and the red LED will illuminate to indicate the trip condition. The relay will automatically reset once the monitored frequency falls below the set point minus the differential. When reset, the LED will extinguish and the relay de-energises.

Under-Frequency Models

When the monitored frequency falls below the set point, the relay will de-energise and the red LED will extinguish to indicate the trip condition. The relay will automatically reset once the monitored frequency rises above the set point plus the differential. When reset, the LED will illuminate and the relay energises.

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.
- Time delay – internal fixed time delay before a trip occurs.
- Relay operation – standard models are fail safe, but the relays can be customised to energise or de-energise on trip.

Product Codes

Relay	Protection	ANSI no.	Cat. no.
1-phase	Under-frequency	81U	252-PHU
1-phase	Over-frequency	81O	252-PHO
1-phase	Under and over frequency	81O/U	253-PHD

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

Features

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

Benefits

- Over and under-frequency monitoring
- Over and under-speed monitoring
- Start standby generators
- Operation of mains failure units
- Switching standby supplies
- Protection of control gear
- Nuisance tripping avoidance
- Customised options

Applications

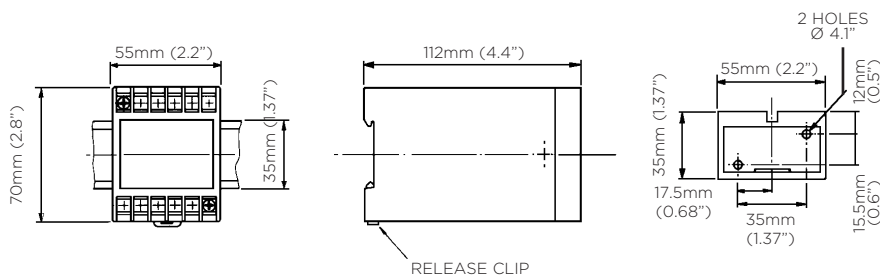
- Marine panels
- Switchgear
- Distribution systems
- Generator sets
- Control panels
- Process control
- Motor protection
- Transformers
- Overload protection

Specification – Frequency

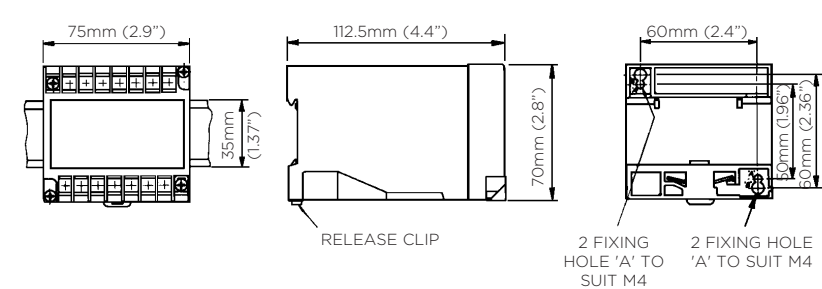
Nominal voltage	100V, 110V, 120V, 208V, 220V, 230V, 240V, 277V, 380V, 400V, 415V, 440V or 480V $\pm 20\%$
System frequency	40/60Hz, 50/70Hz or 360/440Hz
Voltage burden	3VA
Overloads	1.2 x rating continuously, 1.5 x rating for 10 x seconds
Set point repeatability	>0.5% of full span
Differential (hysteresis)	40/60Hz, 50/70Hz: Adjustable 0.1 to 3.0Hz 360/440Hz: Adjustable 10 to 30Hz
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
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

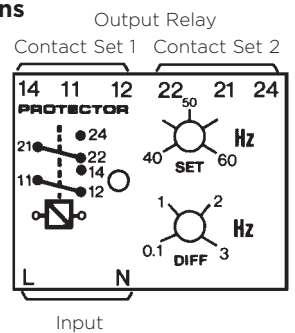


Model 253



Connections

252-PHU 252-PHO



253-PHD

