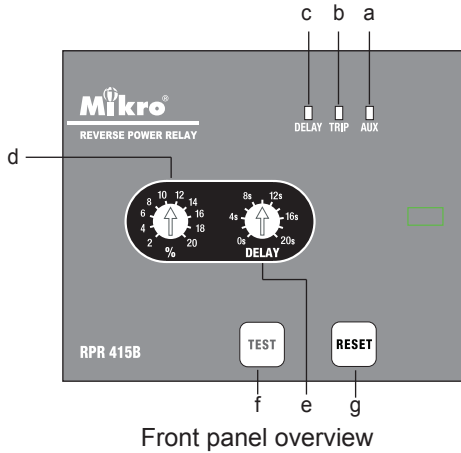


RPR 415B 3-Phase/Single-Phase Reverse Power Relay User Manual V1



- a – AUX LED
- b – TRIP LED
- c – DELAY LED
- d – Reverse current setting
- e – Delay time setting
- f – TEST Button
- g – RESET Button

1. General Description

RPR 415B relay is a directionally controlled timing relay used to protect AC generators from motoring. When such condition occurs and the reverse current exceeded the reverse current setting, Delay LED blinks and countdown started. After longer than delay time setting, the relay trips, Trip LED on and trip contact energised to disconnect the circuit.

The trip contact will be released once the reverse current fall below the preset limit. However, the TRIP light is latched. Press the reset button to reset the light indicator to normal state.

Test Button

Press the test button for 2 seconds to simulate a trip condition.

Reset Button

Reset button is for resetting the relay after tripping. To reset, press Reset button once.

Connection Setting

a) 3-Phase 4-wire (star) Connection (Default setting)

In this configuration, L1 and Neutral wire is connected directly to the relay.

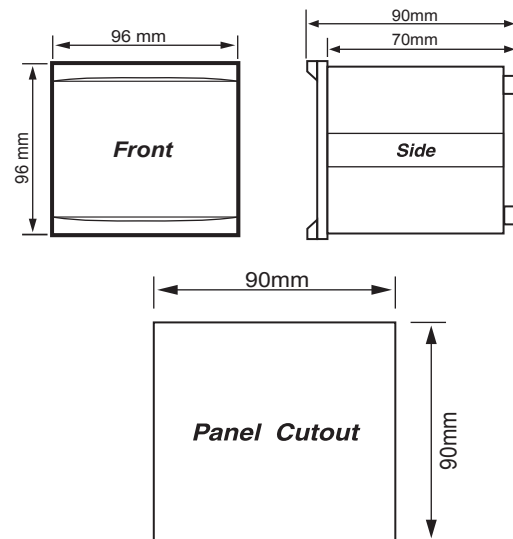
To set to 3-Phase 4-wire (star) system, power up the relay while pressing Test Button and hold the button for more than 2 seconds. After 2 seconds, Delay LED on, release the button to run normally.

b) 3-Phase 3-wire (delta) Connection

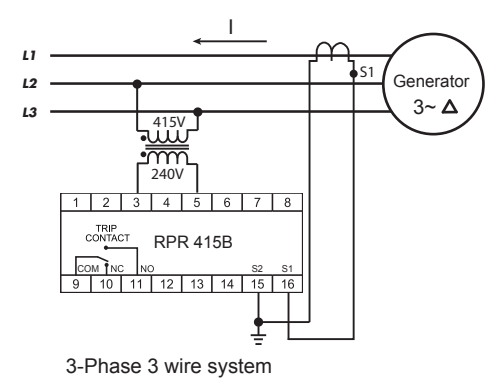
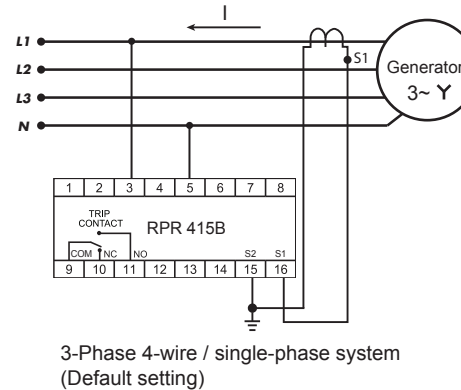
In this configuration, L2 and L3 is stepped down to 240V and connected to the relay. The relay is internally offset 90° for this connection.

To set to 3-Phase 3-wire (delta) system, power up the relay while pressing Reset button and hold the button for more than 2 seconds. After 2 seconds, Trip LED on, release the button to run normally.

Case Dimensions



Typical Application Diagram



Technical Data

Input

- Rated Phase-neutral voltage : 220V to 240V AC
- Rated Phase-phase voltage : 380V to 415V AC
- Rated frequency : 50 or 60Hz
- Rated current (In) : 5A
- Burden : < 0.3 VA at In
- Thermal withstand : 1.2 x Un, 2 x In continuous
- Power consumption : 3 VA maximum

Output Contacts

- Rated voltage : 250V AC
- Contact rating : 5A
- Expected electrical life : 100,000 operations at rated current
- Expected mechanical life : 5×10^6 operations

Setting Ranges

- Reverse Power : 2% to 20% reverse current with 1% hysteresis
- Delay time : 0 sec to 20 sec
- 3-Phase 4-wire (star) or 3-Phase 3-wire (delta)

Accuracy

- Protection thresholds: $\pm 3\%$
- Hysteresis : 1%
- Delay time : 0-0.5s, $\pm 15\%$, 40ms minimum, >0.5s, $\pm 3\%$
- Measurements : $\pm 3\%$

Indicators

- Power supply On : Green indicator
- Delay : Red indicator
- Trip : Red indicator

Environmental Conditions

- Temperature : -10°C to 55°C
- Humidity : 5% to 95%, non-condensing

Mechanical

- Mounting : Panel mounting
- Dimension (mm) : 96(w) x 96(h) x 90(d)
- Weight : 0.6kg