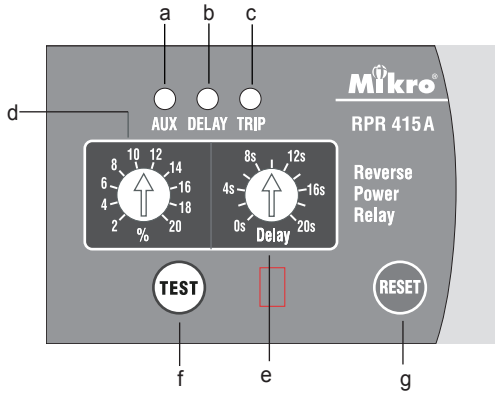


RPR 415A 3-Phase/Single-Phase Reverse Power Relay User Manual



Front panel overview

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

1. General Description

RPR 415A 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

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

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

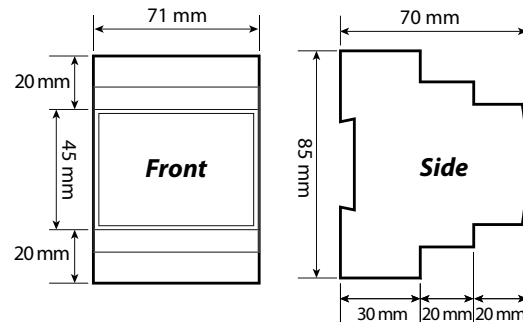
While pressing Test button, power up the relay and hold the button for more than 2 seconds to set to 3-Phase 4-wire (star) system. After 2 seconds, Delay LED on, release the button to run normally.

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

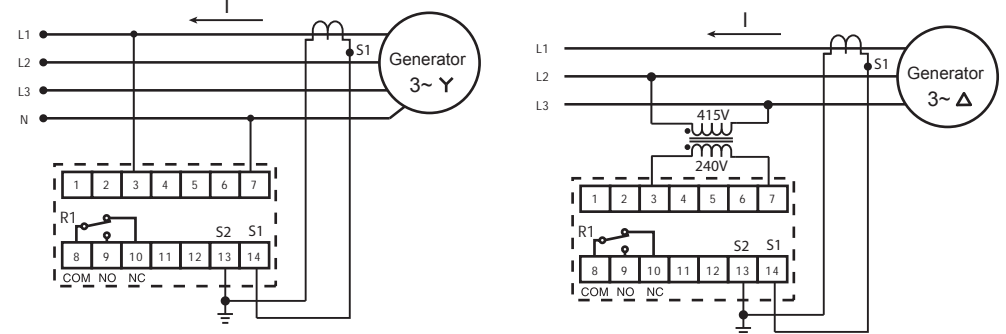
In this configuration, L2 and L3 is stepped down to 240V and connected to the relay. The relay is internally offset 90° for this connection.

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

Case Dimensions



Typical Application Diagram



3-Phase 4-wire / single-phase system

3-Phase 3 wire system

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 x 10⁶ 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: ± 3%
- Hysteresis : 1%
- Delay time : 0-0.5s, ± 15%, 40ms minimum, >0.5s, ± 3%
- Measurements : ± 3%

Indicators

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

Environmental Conditions

- Temperature : -5°C to +55°C
- Humidity : 56 days at 93% RH and 40°C non-condensing

Mechanical

- Mounting : DIN rail
- Dimension (mm) : 71(w) x 85(h) x 70(d)
- Weight : ~0.3kg