



## PROK DEVICES PRIVATE LIMITED

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### DIGITAL MICROCONTROLLER/MICROPROCESSOR BASED

### UNDER/OVER FREQUENCY RELAY



#### FEATURES:














- ❖ Dedicated microcontroller based
- ❖ Accurate, reliable and tropicalized design
- ❖ Continuous display of the measured frequency
- ❖ User selectable upper frequency and lower frequency limits
- ❖ User selectable trip timings
- ❖ Uses SMPS for Auxiliary power i.e. Wide operating range for Auxiliary input 85-275C AC/DC

#### APPLICATIONS:

- ❖ Generator and captive power plant
- ❖ Over frequency relay applied as backup protection for mechanical over speed devices to avoid damages to prime mover
- ❖ Under frequency relay applied to protect field winding from excessive current, over regulator from overload
- ❖ Servo controller and invertors

#### SETTING PROCEDURE:

- ❖ Connect the Auxiliary supply for the relay, for a short duration the display shows
- ❖ After the disappearance of the message the relay is ready for the setting. There are four different modes, in each mode user will be able to enter corresponding frequency and the related operating time. Each mode will have duration of 15sec, after which the relay comes out of the mode. Operate  key to enter different modes
- ❖ After selecting the desired value, press the  key, otherwise the newly entered value will not be registered
- ❖ Setting duration is for 15sec. If the entry (change in values) is not made within this time, the relay goes back to service mode and displays line frequency.
- ❖ The relay-operated conditions are indicated by corresponding LEDs provided below the keys, for Under/Over frequency conditions.

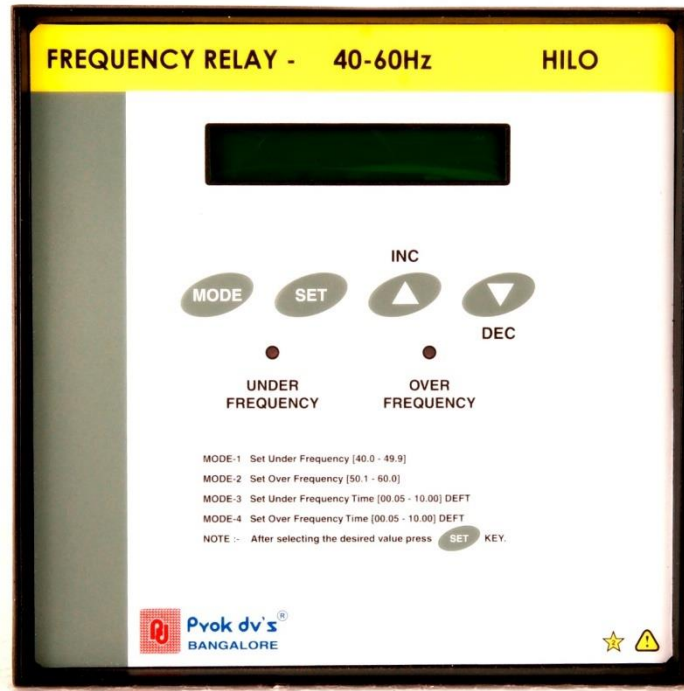
1. Press  key, display shows Mode 1:  
Now select the under frequency for the system, use  /  key to change the values. After selecting the values press  key to register the value.
2. Now the display shows Mode 2:  
Now select the over frequency for the system, use  /  key to change the values. After selecting the value press  key to register it.
3. The display shows Mode 3:  
Now, select the time of operation for the relay, for under frequency conditions, use  /  key to change the values. After selecting the values, press  key to register the value.
4. The display changes to Mode 4:  
Now select the time of operation for over frequency conditions. Use  /  key to change the values. After selecting the values, press the  key to register the values

This completes the setting procedure to register the parameters for Digital Microcontroller/Microprocessor based Under /Over frequency Relay.

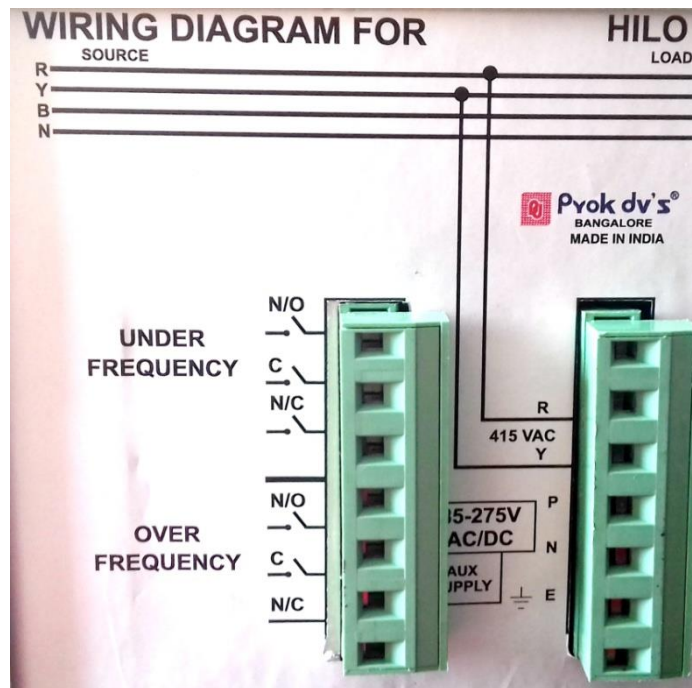
### **SPECIFICATIONS:**

- ❖ **RATED VOLTAGE:** 230/415V AC/DC
- ❖ **AUXILIARY SUPPLY:** 85 – 275V AC/DC
- ❖ **FREQUENCY SETTING RANGE:** 40-60Hz in steps of 0.1Hz
- ❖ **POWER SUPPLY BURDEN:** < 3Watts
- ❖ **CONTACT:** Single Changeover Contacts
  - For Under Frequency:**
    - 5A @ 250V AC
    - 5A @ 30V DC
    - Potential free contacts
  - For Over Frequency:**
    - 5A @ 250V AC
    - 5A @ 30V DC
    - Potential free contacts
- ❖ **TURN OFF DELAY:** 0.05-10.0 sec in steps of 0.05sec  
Definite Time user selectable
- ❖ **DIMENSIONS:** 144x144x120mm +/- 1mm Tolerance
- ❖ **PANEL CUT OUT:** 137x137mm +/- 1mm Tolerance

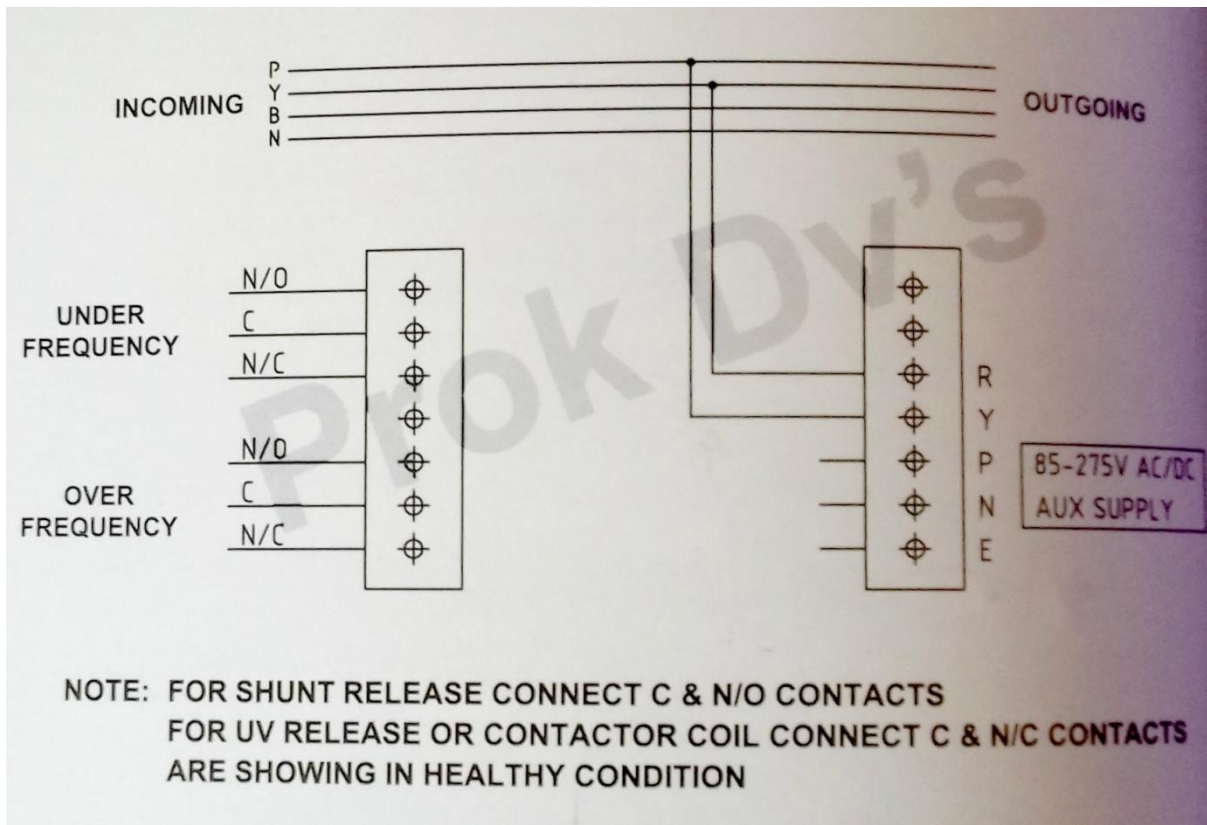
## FRONT FASCIA



## WIRING DIAGRAM



## CONNECTION DIAGRAM



## DIMENSIONAL DETAILS

