Prok dv's®

An ISO 9001 : 2015 Company

DIGITAL UNDER AND OVER FREQUENCY RELAY

www.prokdvs.com

ISO 9001 BUREAU VERITAS Certification

UKAS QUALITY MANAGEMENT

NABCB

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DIGITAL MICROCONTROLLER / MICROPROCESSOR BASED UNDER / OVER FREQUENCY RELAY IEEE DEVICE CODE – 81

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 85V-285V AC/DC.

Applications

- Generator and captive power plan t.
- 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, voltage regulator from over load
- Servo controller an d invertors

Setting Procedure

- Connect the Auxiliary Supply for the relay, the display shows Please wait….. For a short duration.
- After the disappearance of the message the relay is ready for making settings. There are 4- different modes, in each mode user will be able to enter corresponding frequency and the related operating time for the relay. Each mode will have duration of approximately 15 sec. after which the relay comes out of the mode. Operate MODE key to enter different modes.
- After selecting the desired value, SET key has to be entered, otherwise new value will not be registered.
- Setting duration is for 15Sec ., if the entry(change in values) is not made within this time, relay goes back to service mode & displays line frequency.
- The relay-operated conditions are indicated by the corresponding LEDs provided below the keys, for Under/Over frequency conditions.

1.Press MODE key, display shows MD1-UFrq 45.00Hz (mode-1)
Now select the under frequency for the system, use INC & DEC key to change values. After selecting the values press SET – key to register the value. MD2-OFrq 55.00Hz

2. Press MODE key again, display shows (mode-2) MD2-OFrq 55.00Hz
Now select the over frequency for the system, use INC & DEC key to change values. After selecting the values press SET – key to register the value.

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3. Press MODE key again, display shows (mode-3) MD3-UFTT 0.05-10.0 Sec

Now select the operation time for the relay, for under frequency conditions, use INC & DEC key to change values. After selecting the values press SET – key to register the value. MD4-OFTT 0.05-10.0 Sec

4. Press MODE key again, display shows (mode-4) MD4-OFTT 0.05-10.0 Sec

Now select the operation time for the relay, for over frequency conditions, use INC & DEC key to change values. After selecting the values press SET – key to register the value.

This completes the setting the parameters for the DIGITAL MICROCONTROLLER / MICROPROCESSOR BASED UNDER / OVER FREQUENCY RELAY

Specification

Rated Voltage	:	230V /415VAC
Auxiliary Supply	:	85V -275V AC/DC
Frequency setting range	:	40-60Hz. In steps of 0.1 Hz
Power supply burden	:	< 3Watts
Contact	:	Single change over contacts **For Under frequency** 8Amps@250V AC 8Amps@30VDC Potential free contacts
	:	Single change over contacts **For Over Frequency** 8Amps@250V AC 8Amps@30VDC Potential free contacts
Turn Off delay	:	0.05 -10.0 Sec In steps of 0.05sec. Definite time, User selectable
Dimensions	:	144 X 144 X 120 mm
Panel cut out	:	137 X 137 mm

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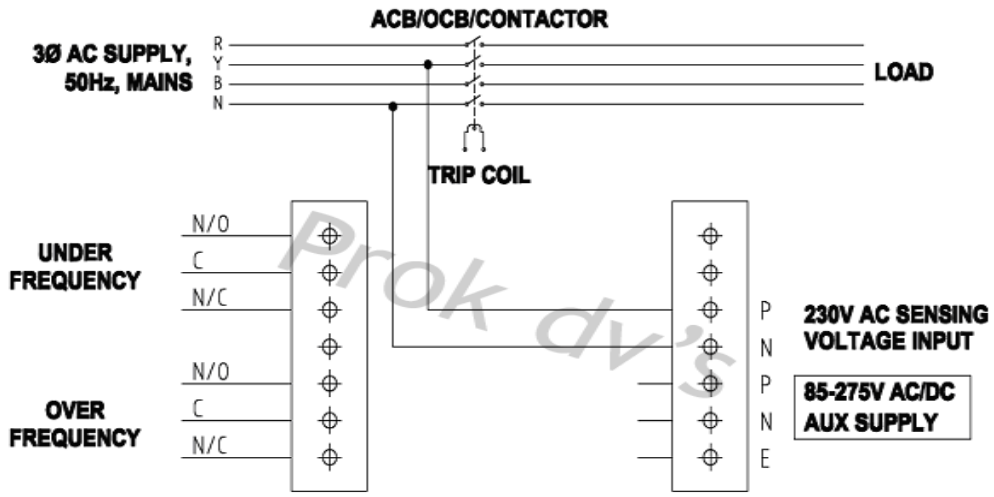
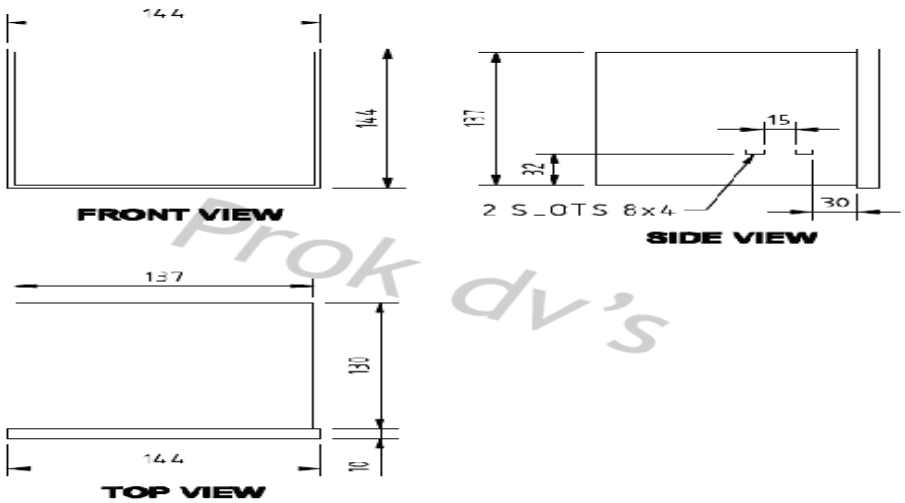
WIRING DIAGRAM OF DIGITAL MICROCONTROLLER /MICROPROCESSOR BASED UNDER / OVER FREQUENCY RELAY



NOTE: FOR SHUNT RELEASE CONNECT "C" & "N/O" CONTACTS
FOR UV RELEASE OR CONTACTOR COIL CONNECT "C" & "N/C"
CONTACTS SHOWING IN HEALTHY CONDITION

MECHANICAL DIMENSION OF DIGITAL MICROCONTROLLER /MICROPROCESSOR BASED UNDER / OVER FREQUENCY RELAY



NOTE: ALL DIMENSIONS ARE IN MM
TOLERANCE:- ± 1MM

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