



**VERITEK**

## MOTOR PROTECTION RELAY



**VIPS 83M**

## TEST CERTIFICATE

Type : **Motor Protection Relay - VIPS83M**

**Accuracy** : Class 0.1 for V & A  
0.1% of FS for Hz

**Accuracy Test :**

VOLTAGE		CURRENT		FREQUENCY
10%	100%	10%	100%	100%
+/- 1.0%	+/- 1.0%	+/- 1.0%	+/- 1.0%	+/- 0.10%
OK	OK	OK	OK	OK

**Note :**

A) For Digital Readouts the error is Computed in Counts.

- Class 1.0 =  $\pm 1\%$  of Full Scale  $\pm 1$  Count
- Class 0.5 =  $\pm 0.5\%$  of Full Scale  $\pm 1$  Count

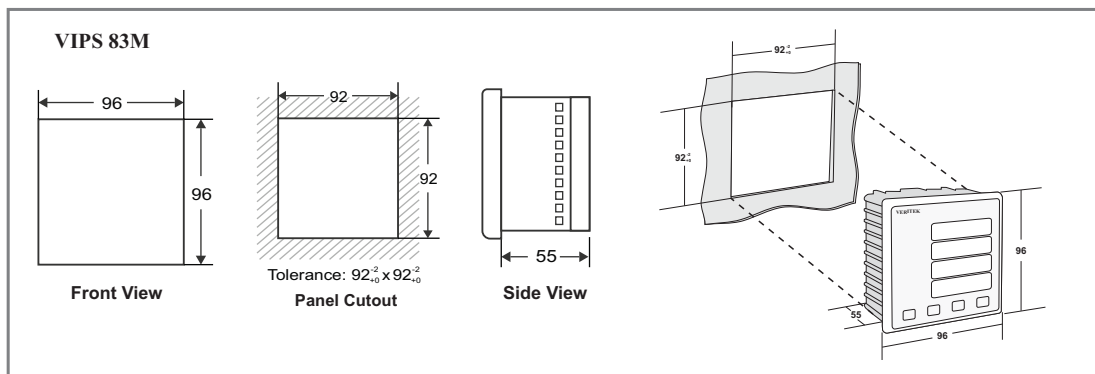
**Tested By : Sumit**

**Date :**

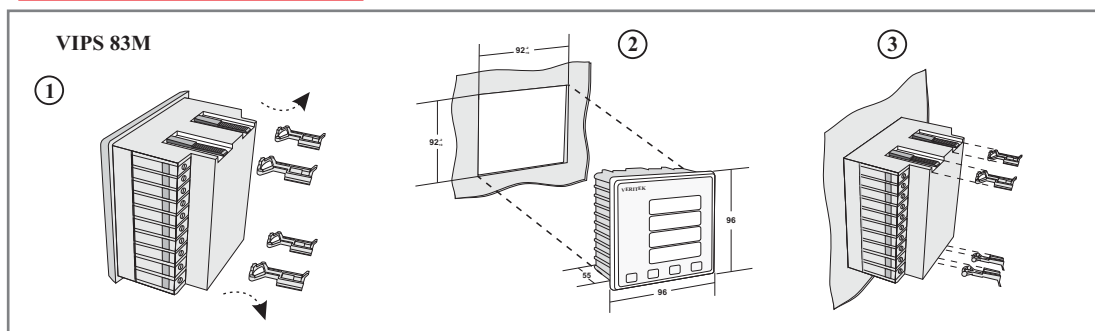
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## MECHANICAL DIMENSION



## MOUNTING ARRANGEMENT



- 1) Remove the mounting clamps
- 2) Gently slide the Meter through the cut-out.
- 3) Put the mounting clamps back in the Meter.

## FEATURES

- (1) State of Art Micro controller Based Design
- (2) 4 Line 3 Digit ultra bright LED display
- (3) Site selectable CT ratio
- (4) True RMS measurement
- (5) Password Protection
- (6) Universal Aux. Supply
- (7) Bar graph Indications of Load current

## ALARM / TRIPS

- ✓ Under Voltage
- ✓ Over Voltage
- ✓ Voltage Assymetry / Unbalance
- ✓ Phase Loss
- ✓ Phase Reversal
- ✓ Under Current
- ✓ Over Current
- ✓ Current Phase Loss
- ✓ Current Imbalance
- ✓ Under Frequency
- ✓ Over Frequency
- ✓ Locked Rotor
- ✓ Rotor Earth Fault

## SPECIFICATIONS

- System** : 3 phase 4 wire
- Volts** : Range 10 - 300VAC L-N  
10 - 500VAC L-L
- Amps** : 0.015 Amps - 6.0 Amps  
0.05 Amps - 60 Amps
- Freq** : Through R phase ( Internally)
- Burden** : 0.2 VA max. per input for Voltage & Current Signals  
3 VA max. on Aux. Supply
- Aux. Supply** : 90 - 270 VAC / DC, 50/60Hz
- Display** : 4 Line x 3 Digit  
{0.39 Inches 7 Segment LED Display}
- Accuracy** : Class 1.0 for Volt / Ammeter  
For Hz : 0.1 % of full scale
- Resolution** : 0.01 for Frequency Meter  
Amps: 0.1<100A  
1.0<1000A  
0.1KA>1000A
- Computation** : True RMS
- Relay Contact** : 1 Potential free Contact  
{(NO, C & NC)(Normally Energise)}
- Contact Rating** : 5Amps/230VAC/28VDC
- Frequency** : 45 Hz - 65 Hz.
- Ambient** : -10°C to 55°C
- Humidity** : < 95 % Non-condensing
- Weight** : 320gms
- Dimensions** : 96 X 96 X 55 mm ( L x W x D)
- Panel Cutout** : ( 90<sup>+1</sup><sub>-0</sub> )mm X ( 90<sup>+1</sup><sub>-0</sub> ) mm
- Mounting** : Flush Mounting with side clamps.

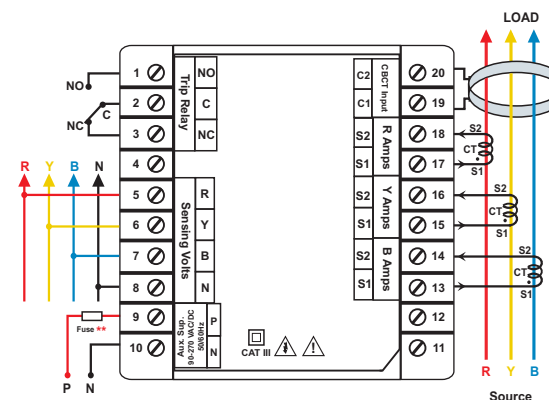
## PARAMETERS

- ✓ Volts : R Y (Phase - Phase)  
YB (Phase - Phase)  
BR (Phase - Phase)  
Average (Phase - Phase)  
RN (Phase - Neutral)  
YN (Phase - Neutral)  
BN (Phase - Neutral)  
Average ( Phase - Neutral)
- ✓ Amps : R Phase  
Y Phase  
B Phase  
Average
- ✓ Frequency
- ✓ Run Hour
- ✓ Earth Fault current

## CONNECTION DIAGRAM

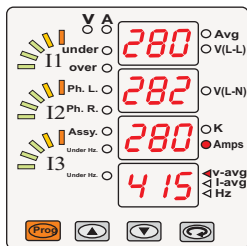
### Electrical Wiring / Connection Diagram

Motor Protection Relay - VIPS 83M

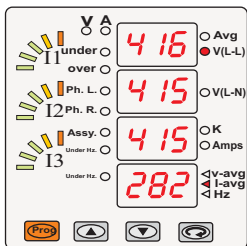


\*\* Connect Fuse = 0.25 A

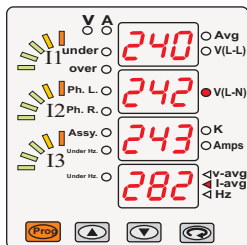
## DISPLAY PAGES



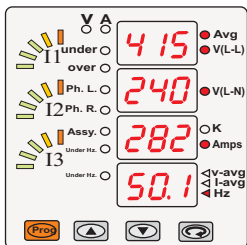
**Page 1:** Displays Amps L1, L2, L3 & Average Voltage (L-L)



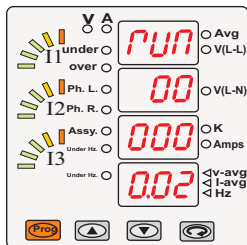
**Page 2:** Displays Voltages (L-L), L1-L2, L2-L3, L3-L1 & Average Amps



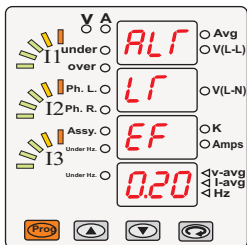
**Page 3:** Displays Voltages (L-N), L1-N, L2-N, L3-N & Average Amps



**Page 4:** Displays Average volts (L-L), Average Volts (L-N), Average Amps & Frequency



**Page 5:** Displays Run Hour (hhhhmm)



**Page 6:** ALR - Alarm, LR - Locked Rotor, EF - Earth Fault, Earth Leakag Current

## PROGRAMMING

Press Programming and hold  
Set 0000

To Program CT Primary  
To set various Alarm Parameters  
Alarm Reset Mode Auto / Manual  
To set the Power On Delay in Secs

Starting Delay for Motors to by- pass the Starting surge Current; Setting in secs.  
Auto reset Delay time in secs.  
To set new Password

To CT Primary  
To Set CT Primary (Default 0005)  
To Save

To Set the various Alarms

Under Voltage Alarm  
Over Voltage Alarm  
Asymmetry Voltage Alarm  
Phase Sequence Alarm  
Phase Failure Alarm (Voltage)  
Under Current Alarm  
Over Current Alarm  
Asymmetry Current Alarm  
Phase Failure Alarm (Current)  
Under Frequency Alarm  
Over Frequency Alarm  
Lock Rotor Alarm

Earth Fault Alarm

**NOTE :- For Alarm 6 & 7**  
for under current the set value is calculated as below.  
E.g. CT Ratio 200/5  
Under load Setting required is 60 Amps.  
Set value =  $60 \times (5/200) = 1.50$   
for Over current the set value is calculated as below.  
E.g. CT Ratio 200/5  
Overload Setting required is 175 Amps.  
Set Value =  $175 \times (5/200) = 4.37$

**Alarm 1,2,3,6,7,8,10,11** can be Editing by Pressing Key. Once you enter the particular Alarm the following Parameters can be set using the keys.

To Enable / Disable the alarm using key & pressing key to store and Proceed further.  
The desired Trip value can be set by using Key & Press key to Store and proceed further. Value is Displayed on 4th line  
The Desired Hysteresis Value can be set by using key in % of the set point  
The desired Delay value can be set by using key & press key to store and Proceed further.

To Alarm Reset  
To set Auto / manual  
To save  
All Faults have cleared with reset fault LED's and output Relay will turn ON (Normally energised in healthy condition)

To Power ON Delay  
To Power on delay (default value 005)  
To save  
At power ON the output relay will Energised after the delay time set has lapsed the output relay is in normally energised condition in Healthy status ( When on fault are present)

To Starting Delay  
To LD delay (default value 005)  
To save

When the current increases from 0-50% full scale to bypass time the motor starting surge current the delay time can be set.  
All faults will be by passed for the time period set.

To Auto rest time Delay  
To set Auto rest time Delay (default value 005)  
To save  
In case of auto reset mode-  
auto reset delay can be programmed  
when all the faults are cleared the output relay will energise  
This delay can be set for auto mode only.

To Password  
Set Password  
To save.

## SAFETY PRECAUTIONS :

All safety related conditions, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

If there is physical damage to the unit then do not use it.

Read complete instruction prior to installation and operation of the unit.

## WIRING GUIDELINES :

### Warning

1) To Prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement.

2) Wiring shall be done strictly according to the terminal layout with shortest connection. Confirm that all connection are correct.

## CAUTION :



1) To ensure the safe operation of unit, check the wiring and connections.