



 $VMRC\mbox{-}10/3$  is three phase LVM and VMRC\mbox{-}10/1 is single phase LVM.

VMRC-10/3 is three phase Line voltage monitor (LVM) used to protect device from Single Phasing, voltage unbalance, phase reversal and under/over voltage. It shows real time voltages between phase and neutral.

VMRC-10/3-CT is three phase Line voltage monitor (LVM) with an additional overload protection facility with external CT Board.

VMRC-10/1 Single phase LVM used to protect device from under/over voltage faults it shows real time voltages readings.

There is an alarm relay given to extend the faults. Features are easily understood by examples in the instruction below.

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## NOTE:

A: VMRC 10/1 (Single Phase)
B: VMRC 10/3 (Three Phase)

C: VMRC 10/3-CT (Three Phase with CT)

## **OPERATING INSTRUCTIONS**



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	Function: To go to program mode
Press and hold PRG / SET Key for 2 seconds.	Display will show rEF & flash. To go to other parameters, use UP/DOWN keys.
PRG SET	

ey.	Use UP/DOWN keys to set desired value. Base reference voltage to calculate under voltage and over voltage values.
)/1	
Fac.	Min and Max value will change
240V	according to display type for
)/3 3-CT	settings. <b>Example :</b> L-L, Min= 381 Max= 415.
Fac.	
415V	
3	240V /3 -CT Fac.

Parameter  To change the oV parameter, press set key.			Function: To set Overvoltage Limits.
			Use UP/DOWN keys to set desired value. If the a/c voltages goes above this limit will trip respective a/c on Overvoltage("Ov") fault.  Example: Over voltage is calculated depending on
VMRC-10/1			
Min Max Fac.		Fac.	Reference voltage + Ov value. i.e,
5V	75V	20V	Ov Set Point = Ref + Ov , When controller trip on Ov Fault it will
VMRC-10/3 VMRC-10/3-CT			recover when input voltage fall below (Ref + (Ov /2).
Min	Max	Fac.	
5V	75V	35V	

Parameter To change the uV parameter, press set key.			Function: To set Undervoltage Limits.
			Use UP/DOWN keys to set desired value. If the a/c voltages goes below this limit will trip respective a/c on undervoltage("Uv") fault.
VMRC-10/1			<b>Example :</b> Under voltage is calculated depending on
Min Max Fac.		Fac.	Reference voltage - Uv value. i.e
5V	75V	20V	Uv Set Point = Ref - Uv , When controller trip on Uv Fault it will
VMRC-10/3 VMRC-10/3-CT			recover when input voltage above (Ref – (Uv /2).
Min	Max	Fac.	
5V	75V	35V	

Parameter			Function: To set Un Balance value. (Only for 10/3 & 10/3-CT)
To change the unb parameter, press set key.			Use UP/DOWN keys to set desired value.
	VIRC-1		Unbalance fault raised when voltage difference between any of two phases goes above Unb value and recovers when the difference is less than (UNB/2).
Min			, ,
10V	120V	60V	
VMF	RC-10/	з-ст	
Min	Max	Fac.	
10V	120V	60V	

EEd Parameter			Function : To set time delay.	
ttd p	hange farametes the s	er,	Use UP/DOWN keys to set desired value.  Time delay provided to avoid false triggering, when any fault last more than TTD value then only fault is raised and this fault is applicable to Under voltage, Over voltage and	
Min	Min Max Fac.		Unbalance fault.(i.e., In case of Phase Loss or Phase sequence fault	
0Sec	60Sec	10Sec		

<i>Edr</i> Parameter	Function: To set fault recover delay. (Only for 10/3 & 10/3-CT)
To change the tdr parameter, press the set key.	Use UP/DOWN keys to set desired value.  Time delay provided to add delay in fault recover time, to avoid sudden fault triggering and reset.
Min Max Fac.	
OSec 60Sec 10Sec	

o∠l Parameter			Function: To set current overload1 value. (Only for 10/3-CT)	
To change the oLd1 parameter, press the set key.		neter,	Use UP/DOWN keys to set desired value.  If current input crosses this value then depending on dL1 delay	
Min	Max	Fac.	parameter overload fault get set.	
1.0A	oL2 -1.0A	15.0A		

<i>dL</i> l Para	ameter		Function: To set current sensing delay for oL1. (Only for 10/3-CT)
To change the dL1 parameter, press the set key.			Use UP/DOWN keys to set desired value.  When current input crosses oL1 value, after dL1 time delay, oL fault set and alarm relay get activated.
Min 0Sec	Max 120Sec	Fac. 20Sec	
			12

oL2 Para	ameter		Function: To set current overload2 value. (Only for 10/3-CT)
To change the oL2 parameter, press the set key.			Use UP/DOWN keys to set desired value.  If current input crosses this value then depending on dL2 delay
Min	Max	Fac.	parameter overload fault get set.
oL1	20.0A	18.0A	
+1.0A			
	50A		
Min	Max	Fac.	
oL1	50.0A	25.0A	
+1.0A			

dL2 Parameter	Function: To set current sensing delay for oL2. (Only for 10/3-CT)
To change the dL2 parameter, press the set key.  Min Max Fac.  0Sec 120Sec 10Sec	Use UP/DOWN keys to set desired value.  When current input crosses oL2 value, after dL2 time delay, oL fault set and alarm relay get activated.

ССЬ Parameter		Function: To set current calibration. (Only for 10/3-CT)
To change the ccb parameter, press the set key.		Use UP/DOWN keys to set desired value.
		This parameter provided to calibrate current reading.
Min Max	Fac.	
-2.0A 2.0A	0.0A	

Cry/C-r Parameter		Function: To set calibration of voltage r-Y or r phase. (Only for 10/3, 10/3-CT)
To change CrY parame press the SET key.  Min Max -30V 30V	Fac.	Use UP/DOWN keys to set desired value.  This parameter provided to calibration voltage reading.  When dsP is L-L CrY value get set. When dsP is L-n C-r value get set.
		16

E967 Para	<i>E-Y</i> ameter		Function: To set calibration of voltage Y-b or Y phase. (Only for 10/3, 10/3-CT)
Cyb	hange param s the	eter,	Use UP/DOWN keys to set desired value.
	SET key.		This parameter provided to calibration voltage reading.
			When dsP is L-L CYb value get set. When dsP is L-n C-Y value get set.
Min	Max	Fac.	
-15V	15V	00V	

Сгь/С-ь Parameter	Function: To set calibration of voltage r-b or b phase. (Only for 10/3, 10/3-CT)
To change Crb paramete press the SET key.  Min Max F -15V 15V 0	
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<i>RLā</i> Parameter	Function: To CT Alarm type. (Only for 10/3-CT)
To change the ALFI parameter, press the set key.	Use UP/DOWN keys to set desired value.  Auto Mode = Controller will reset after fault is reset.  Manual Mode = This mode incase of OL fault controller will go manual mode
Min Max Fac. Aut rtr Aut	Retrials Mode = In this mode controller will do set number of retrials and then go to manual mode.
	Note: Press RST key to reset CT Alarm.

dsP parameter, press the set key.  There are two type of display output, Line to Line Voltage (L-L) and Line to Neutral (L-n), Depending on this	<i>dSP</i> Parameter		Function: To set view display mode (Only for 10/3, 10/3-CT)
Min Max Fac. parameter REF parameter also	dsP parameter, press the set		There are two type of display output, Line to Line Voltage (L-L) and Line
L-L L-n L-L changes.	Min Max	Fac.	parameter REF parameter also
	L-L L-n	L-L	changes.

Г

FS PARAMETER			Function: To restore the default settings of the controller.
To change the FS parameter, press the set key.		ter,	Use UP/DOWN keys to set desired value. When set to 1, all parameters are programmed to factory values.
Min	Max	Fac.	
no	YES	no	

End Parameter	Function : To end programming.
To end programming, press the SET key.	Once the set key is pressed, the controller goes into the normal mode and displays the voltage readings.
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**Technical Data for** 

Single Phase Voltage Monitor (VMRC- 10/1)

: Voltage Monitoring. Uv and Ov Detection. **Main Features** 

Settable Uv and Ov Parameter.

: Single Phase AC supply. : Alarm Relay : 5A Resistive. Input Output

Application : Under voltage and Over voltage

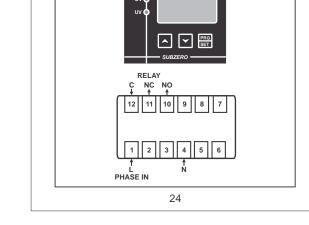
detection.

**General Specification :**Input Voltage Range from 100VAC to 265VAC.

Mounting: Din rail mounting.

Connections : Screw terminals : ≤ 2.5sqmm one wire/ terminal only.

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Front View & Connetion Diagram for

Single Phase Voltage Monitor (VMRC- 10/1)

**Technical Data for** Three Phase Voltage Monitor (VMRC- 10/3)

Main Features

: Voltage Monitoring. Phase Sequence Monitoring. Phase Loss and Phase Unbalance

detection.

Uv and Ov Detection.

Settable Uv and Ov Parameter.

Input Output : R Y B Phases and Neutral Input. : Alarm Relay : 5A Resistive.

: Voltage and phase sequence monitoring and controlling. Application

Under voltage and Over voltage

detection.

**General Specification :** Input Voltage Range from 173VAC to 458VAC.

Mounting: Din rail mounting.

Connections: Screw terminals: ≤ 2.5sqmm one wire/

terminal only.

Front View & Connetion Diagram for Three Phase Voltage Monitor (VMRC- 10/3) 3 26

**Technical Data for** Three Phase Voltage Monitor (VMRC- 10/3-CT)

Main Features

: Voltage Monitoring. Phase Sequence Monitoring. Phase Loss and Phase Unbalance

detection.

Uv and Ov Detection.

Settable Uv and Ov Parameter.

: R Y B Phases and Neutral Input. Input

3 CT Board 20Amp.
1 CT Board 50Amp.
2 Alarm Relay: 5A Resistive.
3 Voltage and phase sequence

Output Application

monitoring and controlling. Under voltage, Over voltage and Overload detection.

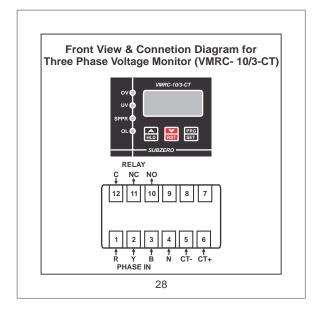
**General Specification:** 

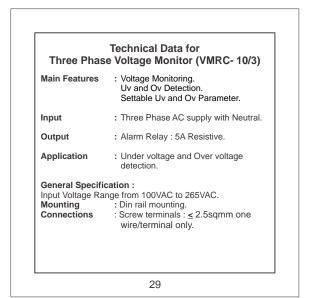
Input Voltage Range from 173VAC to 458VAC.

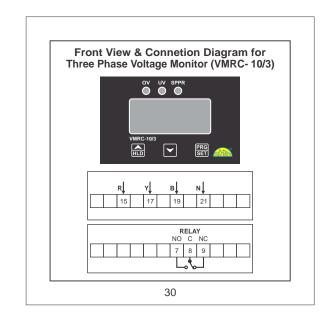
Mounting : Din rail mounting.

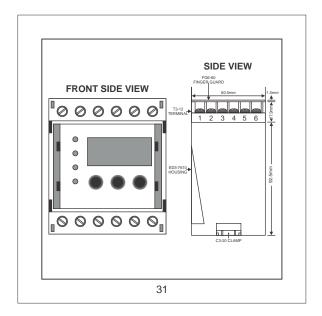
Connections : Screw terminals : ≤ 2.5sqmm one wire/

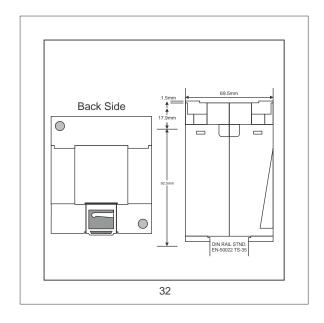
terminal only.

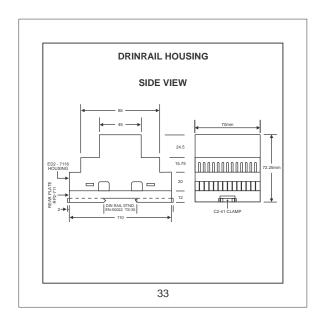


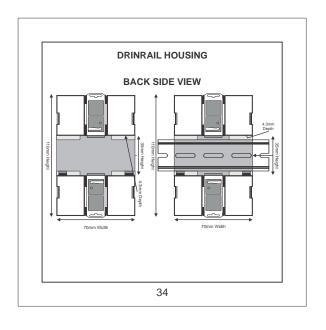












**Controller**: Controller should be installed in a place protected by vibration, water and corrosive gasses and where ambient temperature does not exceed the values specified in the technical data.

## **CAUTION**

WIRING: The alarm wires should never be installed in a conduit next to control or power supply lines. The electrical wiring should be done as shown in the diagram. The power supply circuit should be connected to a protection switch. The terminals admit wires of upto 2.5sq. mm.

**WARNING:** Improper wiring may cause irreparable damage and personal injury. Kindly ensure that wiring is done by qualified personnel only.

Maintenance: Cleaning: Clean the surface of the controller with a soft moist cloth. Do not use abrasive detergents, petrol, alcohol or solvents.

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Warranty: This product is warranted against defects in materials and workmanship for a period of one year from the date of purchase. During the warranty period, product determined by us to be defective in form or function will be repaired or, at our option, replaced at no charge. This warranty does not apply if the product has been damaged by accident, abuse, and misuse or as a result of service or modification other than by the company. This warranty is in lieu of any other warranty expressed or implied. In no event shall the company be held liable for incidental or consequential damages, including lost revenue or lost business opportunity arising from the purchase of this product.

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## **OUR OTHER PRODUCTS**



Cold Room Controller
Chiller Controller
Two Compressors Controller
Heating Controller
Humidity Controller
Pressure Controller



Ball Valves Globe Valves Hand Valves Flow Switches Solenoid Valves

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