

INSTALLATION INSTRUCTIONS FOR S2 VMR

INTRODUCTION

Thank you for selecting and purchasing MINILEC make voltage monitoring relay (S2 VMR).

The following installation instructions would guide you in installing your S2 VMR and making the best use of it.

The unit operating on IEEE / NEMA standard method for unbalanced detection.

It offers protection against -

- * Unbalanced Voltage Condition.
- * Phase Failure Condition.
- * Phase Sequence Reversal Condition.
- * Under & Over Voltage Condition.
- * Under & Over Frequency Condition.

Your S2 VMR unit is an auxiliary relay & it should be used along with the starter only. The effective working of the unit will depend on efficient working of the starter. Before installing your unit check whether the starter is operating perfectly by starting with the "ON" push button. If the operation of START & STOP are imperfect, the starter needs to be serviced. Do not install your unit with faulty starter.

CAUTION

1. Ensure That Your S2 VMR is-
 - * Not installed near any heat sources like BURNER, SUNLIGHT, ELECTRIC ARC etc.
 - * Not subjected to abnormal vibrations.
 - * Installed as near to stater as possible.
 - * Not subjected to DIRECT HEAT, SUNLIGHT, RAIN, STORMY WIND & DUST.
2. Working of the products is affected by frequency variations and Harmonic distortion in applications. like Genset Supply or UPS Supply. Care should be taken to ensure that net resultant unbalance Supply is not beyond the unbalance trip limits of your unit.
3. If the product is not installed as per guideline given by minilec, our company will not be responsible for any wrong connection, damage, injury, accident etc.

ELECTRICAL CONNECTION

See Fig. 1 for installation of the unit in the power & control wiring. Connect L1, L2, L3 phase at terminal 1, 3, & 5, In case of 3P 4W Connect Neutral (N) at terminal 6 as shown in Fig. 1

NOTE

Three-phase sensing with under and over voltage detection are derived from the L1, L2, and L3 sensing points located at terminals 1, 3 and 5 respectively.

In case of 3P 4W, phase voltages are derived with reference to Neutral (N).

PROGRAMMING/ SETTING

With the help of push button provided on front, you can Program the relay for suitable operation. Please see Sr. No. 20 below for the details. Refer table 1. Other parameters can be set by respective knob.

WARRANTY

AGAINST ALL MANUFACTURING DEFECTS FOR 18 MONTHS FROM DATE OF SUPPLY OR 12 MONTHS FROM DATE OF INSTALLATION WHICHEVER IS EARLIER

MANUFACTURED BY:

minilec[®]
www.minilecgroup.com

S. NO. 1073/ 1-2-3, AT POST : PIRANGUT, TAL: MULSHI, DIST:PUNE (INDIA) PIN :412 115
VERSION 01 (29/09/2025)

INSTALLATION INSTRUCTION

PHASE FAILURE, UV/OV, UF/OF MONITORING RELAYS

S2 VMR



PROGRAMMING MODE SETTING

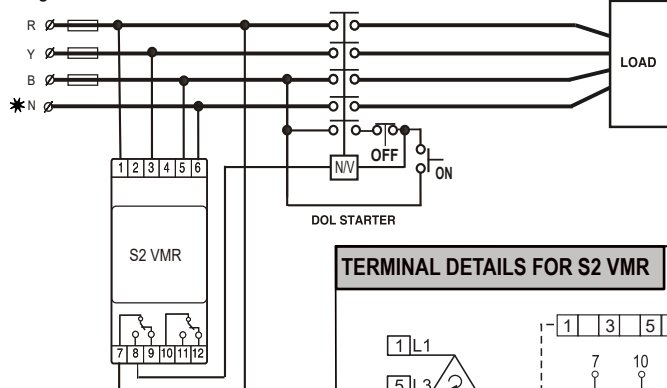
TABLE 1

PRESS PRG/ RST P.B. FOR	LED STATUS			MODE
	L1-LED	L2-LED	L3-LED	
	●	○	○	Run Mode
≥ 8 SEC	☆	☆	☆	Program Mode
≤ 4 SEC	○	●	●	Test Facility
WAIT 3 SEC	○	○	○	Exit Test Mode.
≥ 4 SEC	☆	○	○	Auto / manual Reset selection
≤ 4 SEC	●/○	○	○	● Auto Reset / ○ Manual Reset
> 4 SEC	○	☆	○	Fail Safe/ Non Fail Safe selection
≤ 4 SEC	○	●/○	○	● Fail Safe / ○ Non Fail Safe
> 4 SEC	○	○	☆	3Phase 3 Wire/ 3Phase 4 Wire selection
≤ 4 SEC	○	○	●/○	● 3Phase 3 Wire selection ○ 3Phase 4 Wire selection
≥ 4 SEC	☆	○	○	MODE setting Cycle repeat.
IF P. B. IS NOT PRESSED FOR >10 SEC	☆	☆	☆	AUTO EXIT program mode after flashing led for 3 sec.

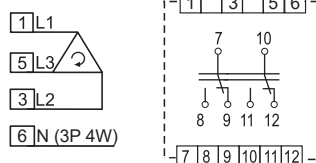
● LED ON ○ LED OFF ☆ LED FLASHING

ELECTRICAL CONNECTION IN POWER & CONTROL WIRING FOR S2 VMR

Fig. 1



TERMINAL DETAILS FOR S2 VMR

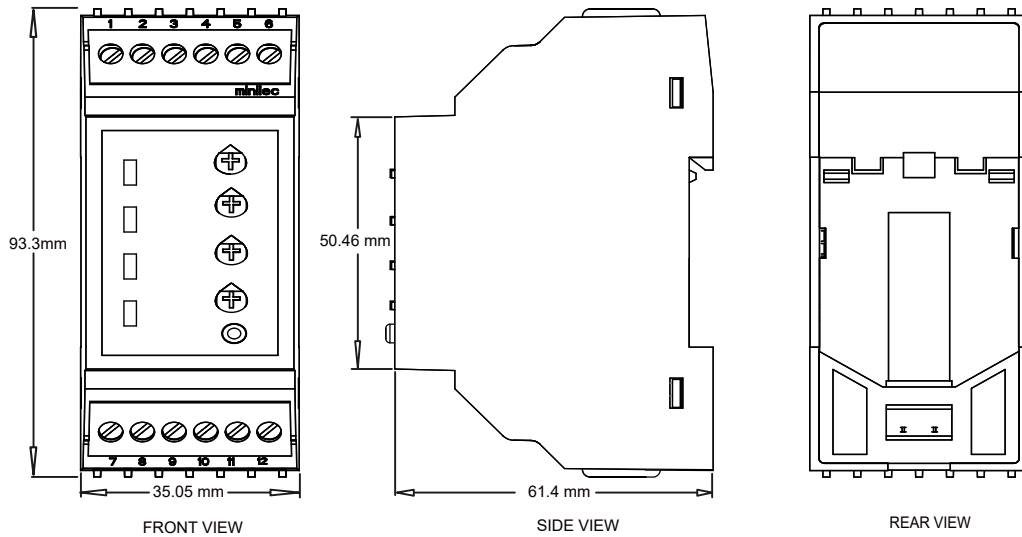


- INDICATIONS:
- ON (GREEN) - POWER ON (STEADY)
 - UB/SP/RP (RED) - UNBALANCE, SINGLE PHASING (STEADY) REVERSE PHASING (FLASHING)
 - UV/OV (RED) - UNDER VOLTAGE (STEADY) OVER VOLTAGE (FLASHING)
 - UF/OF/NF (RED) - UNDER, OVER FREQUENCY (STEADY) NEUTRAL FAIL (FLASHING)
- NOTE:
- RELAY CONTACTS ARE SHOWN FOR RELAY IN POWER OFF CONDITION.

Sr. No.	PARAMETERS	S2 VMR	
1.	System supply voltage	Model #1: 380-415-440 vac ± 20 % Model #2: 220-230-240 vac ± 20 % Model #3 : 100-110-120 vac ± 20 % 3 Phase - 3 Wire, 3 Phase - 4 Wire	
2.	Aux. Supply	In - Built from three phase	
3.	Frequency	48 - 63 hz.	
4.	Output relay contacts	2CO.	
5.	Output contact rating	5 Amp, 240VAC [resistive]	
6.	Unbalance trip setting	2% to 20%, ± 5 % of full scale	
7.	Under voltage trip (Variable By POT)	3phase-3wire	3phase-4wire
		55% to 95% of 415VAC 55% to 95% of 230VAC 55% to 95% of 110VAC	55% to 95% of 230VAC 55% to 95% of 130VAC 55% to 95% of 63VAC
8.	Over voltage trip setting (Variable By POT)	3phase-3wire	3phase-4wire
		105% to 125% of 415VAC 105% to 125% of 230VAC 105% to 125% of 110VAC	105% to 125% of 230VAC 105% to 125% of 130VAC 105% to 125% of 63VAC
9.	Power on delay	5 sec ± 1 sec	
10.	Trip time delay for	UB/SP/UV/OV=1-10 sec, ± 5 % of full Scale RP=Instant	
11.	Set Accuracy for UV & OV Settings	± 2% of set value for model 415VAC & 240VAC & ± 3% for model of 110VAC.	
12.	Resetting	Auto/ Manual reset	
13.	Resetting gap for unbalanced & for UV & OV	For UB = 20%, ± 5% For UV/OV = 3%, ± 1%	
14.	LED Indications Led1 (Green) Led2 (Red) Led3 (Red) Led4 (Red)	Power On UB,SP (Red steady), RP (Red flashing) UV (Red steady), OV (Red flashing) UF,OF (Red steady), NF (Red flashing)	
15.	Under Frequency trip Over Frequency trip	48 Hz fixed 63 Hz fixed	
16.	Enclosure	S2 Series, ABS/PC-ABS	
17.	Dimensions (mm)	Over all (LXWXD)= 93.3 X 61.4 X 35.05 Mounting = 35mm Din Rail Mounting	
18.	Weight (approx.)	117.8 Gms.	
19.	Operating conditions	Temperature= -5c to +60c Humidity = upto 95 % rh.	
20.	Programming mode for (By Front push button)	Auto/ Manual reset Failsafe/ Non failsafe selection 3 wire/ 4 wire selection	


- NOTES :
- RELAY CONTACTS ARE SHOWN FOR UNIT IN POWER OFF CONDITION.
 - * CONNECT NEUTRAL "N" ONLY IN CASE OF 3P 4W CONDITION.

ENCLOSURE DIMENSIONS



Instructions for Screw Gun torque adjustment –

- Torque should be 1 Nm max.
- Max 2.5 sq. mm size wire can be used.

 **WEEE (Waste Electrical & Electronic Equipment) Regulations:** After end of equipment life, recycle or disposal needs to be done as per guidelines or handover it to Ewaste processing authorized agencies. For more details contact us.

TESTING PROCEDURE

