INSTALLATION INSTRUCTIONS FOR S2 FMR1

INTRODUCTION

Thank you for selecting and purchasing **MINILEC** make frequency monitoring relay.The following installation instructions would guide you in installing your S2 FMR1 making the best use of it.This unit offers following functions,

* Under Frequency.
* Over Frequency.

S2 FMR1 is microcontroller base Frequency monitoring Relay used for single phase system supply where accurate and precies Under and Over frequency monitoring is required.

CAUTION

1 . Ensure that S2 FMR1 is -

* Not installed near any heat sources like Burner, Sunlight, Electric arc etc.
* Not subjected to abnormal vibrations.
* Installed as near to starter as possible.
* Not subjected to Direct heat, Sunlight, Rain, Stormy wind and Dust.

2. The unit is provided with settable UF and OF Trip setting with settable Power on delay.
3. Program the relay to suit your application. (Refer table 1 for programming the relay).
4. **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.**

APPLICATION EXAMPLES

1. Frequency supervision on AC generator sets.
2. Over and Under Frequency detection.
3. Protection of Frequency sensitive equipments
4. Detection of Over frequency on generator sets to prevent over heating / over speed.

ELECTRICAL CONNECTION

See Fig. 1 for installation of the unit in the electrical connection diagram.

PROGRAMMING/ SETTING

With the help of push button provided on front, you can Program the relay for suitable operation. Please see Table 1.

MOUNTING -

All models are suitable for DIN RAIL mounting. see Fig-2 for details.

WARRANTY

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

MANUFACTURED BY:

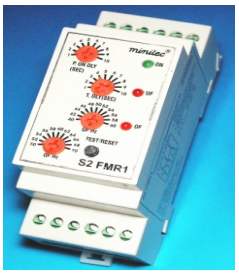
minilec®

S. NO. 1073/ 1-2-3, AT POST : PIRANGUT, TAL: MULASHI, DIST: PUNE (INDIA) PIN : 412 111

VERSION 02 (13/ 03/ 09)

www.minilecgroup.com

INSTALLATION INSTRUCTION FREQUENCY MONITORING RELAYS S2 FMR1



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PRODUCT SPECIFICATION

Sr. No.	PARAMETERS	S2 FMR1
1	System supply voltage	100 - 120 VAC± 20 % 220 - 240 VAC± 20 %
2	Aux. Supply	240 VAC± 20 %
3	Frequency	38 Hz to 72 Hz.
4	Output relay contacts	1CO + 1CO / (2CO) (Selectable for UF and OF, (refer programming chart).
5	Output contact rating	5 Amp, 240VAC [resistive]
6	UF trip setting	40 Hz TO 60 Hz [Variable] ± 1 Hz of set Frequency
7	OF trip setting	50 Hz TO 70 Hz [Variable] ± 1 Hz of set Frequency
8	Hysteresis	5% ± 1%[fixed] of set value.
9	Power on delay	1 to 10 sec (Adj) ± 1 sec
10	Trip time delay	1 to 10 sec (Adj) ± 1 sec
11	Resetting	Auto / Manual(By push button)
12	Test push button	For resetting and programme mode refer programming chart.
13	Indications	Power on (Green) - ON Under Frequency (Red) - UF Over Frequency (Red) - OF
14	Enclosure	S2 series - ABS / PC ABS
15	Dimensions (mm)	Overall (L X W X D) = 90 x 35 x 60 Mounting = Rail Mounting
16	Weight (gms.)	140
17	Operating conditions	Temperature = - 5°c to + 60°c Humidity = upto 95 % rh.
18	Programming mode for [BY FRONT PUSH BUTTON]	Test facility, Auto / manual Reset, Fail Safe / Non fail safe , 1CO + 1CO and 2CO selection

TABLE -1 PROGRAM MODE FOR S2 FMR1

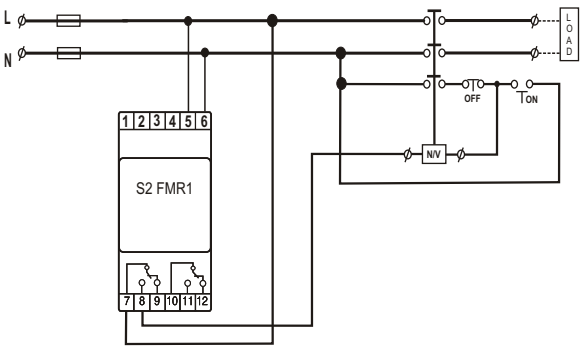
PRESS TEST/ RESET PUSH BUTTON FOR	LED STATUS ON-LED	UF-LED	OF-LED	Mode
	●	○	○	Run Mode
≥ 5 SEC	☆	☆	☆	Program Mode
1 to 2 SEC	●	●	●	Test Facility.
WAIT 3 SEC	○	○	○	Exit Test Mode.
≥ 5 SEC	☆	○	○	Auto / manual Reset selection
1 to 2 SEC	● / ○	○	○	● Auto Reset / ○ Manual Reset
≥ 5 SEC	○	☆	○	Fail Safe / Non Fail Safe selection
1 to 2 SEC	○	● / ○	○	● Fail Safe / ○ Non Fail Safe
≥ 5 SEC	○	○	☆	Common or Separate Relay selection
1 to 2 SEC	○	○	● / ○	● Relay - 1,Relay - 2 for UF & OF ○ Relay -1 for UF & relay - 2 for OF
≥ 5 SEC	☆	○	○	Mode setting Cycle repeat.
IF P. B. IS NOT PRESSED FOR>7 SEC	☆	☆	☆	AUTO EXIT program mode after flashing for 3 sec.

● LED ON ○ LED OFF ☆ LED FLASHING

NOTE:- BY PRESSING P. B. CONTINUOUSLY ENTER IN DESIRED MODE, SKIPPING IN BETWEEN MODES.

Fig.1

ELECTRICAL CONNECTIONS DIAGRAM



■ **NOTES :** RELAY CONTACTS SHOWN FOR UNIT IN OFF CONDITION.

TIMING DIAGRAM OF S2 FMR1

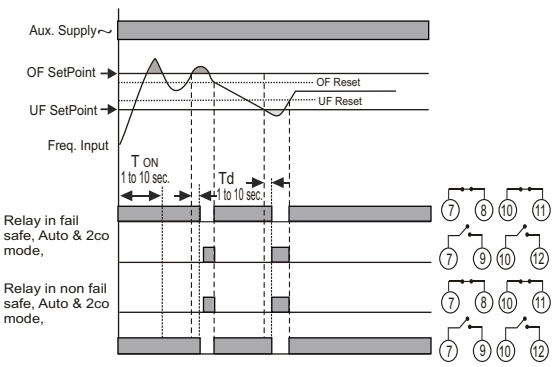


Fig - 2 ENCLOSURE DIMENSIONS