MICROCONTROLLER - BASED

4 - DIGIT

8 – STAGE

SEQUENTIAL TIMER

(INPUT – LIMIT SWITCH)

Installation and Operating Manual

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CHAPTER 1

GENERAL INFORMATION:

1. WHEN THE INSTRUMENT IS VIEWED FROM THE FRONT. THERE ARE 2 DISPLAY WINDOWS, WHICH ARE VISIBLE.

A. A 4 DIGIT DISPLAY WINDOW (TIMER VALUE)= **W-1.**

B. A 4 DIGIT DISPLAY WINDOW (STAGE NO) = **W-2.**

BELOW THE DISPLAY WINDOWS, THERE ARE EIGHT TUCTILE KEYS. THESE ARE

SET KEY	USED FOR SETTING THE SET POINTS FOR INDIVIDUAL RELAYS.
F1 KEY	NOT USED HERE.
RST KEY	TO RESET THE TIMER.
ENT KEY	FOR ADVANCING IN THE SET POINT MODE.
ARROW KEYS	TO SET THE DISPLAY.

CHAPTER 2

SPECIFICATIONS:

MAINS SUPPLY	90 - 260 VAC, 50 Hz.
POWER CONSUMPTION	LESS THAN 12 VA AT 230 VAC.
SIGNAL INPUT	LIMIT SWITCH
CONTROL OUTPUT	8 RELAY O/PS. (ONE RELAY FOR EACH STAGE)
DISPLAY RANGE	0 – 9999 SEC.
ACCURACY	+/- 1 SEC.
OPERATING TEMPERATURE	0 TO 50 °C.
SIZE	96 * 192 * 200 MM

CHAPTER 3

PRINCIPLE OF OPERATION:

1. WHEN THE INSTRUMENT IS POWERED ON, THE TIMER SHOWS "0000" IN "W-1" AND "----" IN "W-2".

ON RECEIVING PULSE FROM LIMIT SWITCH TIMER STAGE-1 STARTS AND RELAY-1 IS PUT "ON". THE "W-1" WILL INDICATE ON-TIME-1 & THE "W-2" WILL DISPLAY "ON_1" & 1st RELAY IS TURNED ON. THIS IS ON-TIMER MODE FOR 1st RELAY. THE FIRST AMBER LED IS TURNED ON FOR VISUAL INDICATION.

2. AT THE COMPLETION OF THE 1^{ST} ON-TIME, THE 1^{st} RELAY IS TURNED OFF & THE TIMER STOPS INDICATIONG "0000" IN "W-1" AND "----" IN "W-2". ON RECEIVING NEXT PULSE FROM LIMIT SWITCH STAGE-2 STARTS AND RELAY-2 IS PUT "ON". THE "W-1" WILL INDICATE ON-TIME-2 & THE "W-2" WILL DISPLAY "ON_2" & 2^{ND} RELAY IS TURNED ON. THIS IS ON-TIMER MODE FOR 2^{ND} RELAY. THE SECOND AMBER LED IS TURNED ON FOR VISUAL INDICATION.

3. LIKEWISE THE INSTRUMENT WILL GO ON FOR THE REMAINING STAGES UPTO STAGE-8.

6. AT THE COMPLETION OF THE 8^{TH} ON-TIME, THE INSTRUMENT WILL LOOP BACK TO STEP 1^{ST} ON-TIME STAGE i.e. TURNING ON THE 1st RELAY.

THIS IS HOW THE TIMER WILL WORK.

7. RESET KEY IS PROVIDED TO RESET THE TIMER AND START FROM THE FIRST STAGE ON-TIME ON RECEIVING PULSE FROM LIMIT SWITCH.

NOTE:

IF ON TIME OF ANY STAGE IS "ZERO". THEN TIMER WILL GOTO THE NEXT STAGE.

CHAPTER 4

KEYBOARD SETTINGS:

TO SET SETPOINTS FOR INDIVIDUAL RELAYS

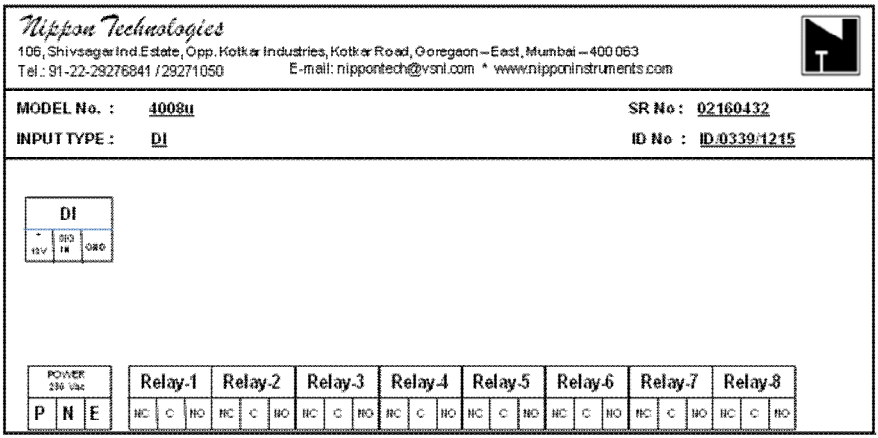
KEYS	DISPLAY	COMMENT
PRESS SET	0010 SP_1	LAST SET VALUE VIZ. 0010 SECONDS. THIS IS THE TIME FOR WHICH THE 1ST RELAY WILL REMAIN ON.
ARROW KEYS		TO CHANGE THE TIME.
ENT	0010 SP_2	LAST SET VALUE VIZ. 0010 SECONDS. THIS IS THE TIME FOR WHICH THE 2ND RELAY WILL REMAIN ON.
ARROW KEYS		TO CHANGE THE TIME.
SIMILAR PROCEDURE IS APPLIED FOR REMAINING STAGES UPTO 8TH. AFTER SETTING 8TH STAGE ON-TIME, PRESS "ENT" TO COME OUT OF THE SETTING MODE. AFTER THIS LAST STEP THE TIMER WILL RESUME THE COUNTING.		

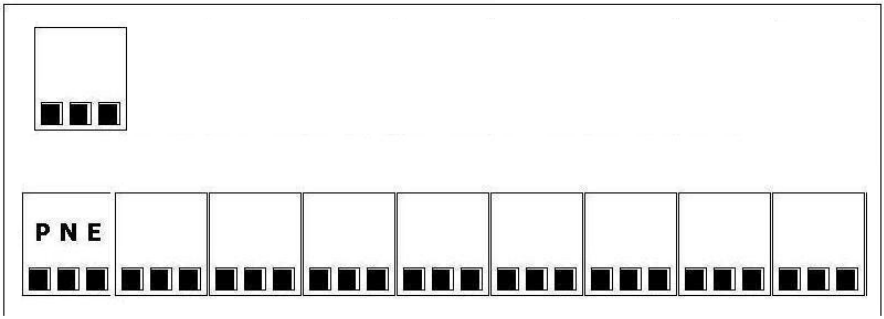
NOTE:

ALWAYS REMEMBER TO COME OUT OF THE KEYBOARD SETTING MODE.

CHAPTER 5

CONNECTION DIAGRAM:

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