



# ION Electricals Pvt. Ltd.

## OPERATING MANUAL

OF



## WATCHMAN TIMER

- Make sure you read this operating manual before using the WATCHMAN TIMER.
- Store this operating manual safely so that you can use it in future.

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# 1.GETTING STARTED

THIS SECTION MAKES YOU FAMILIAR WITH OUR [WATCHMAN TIMER](#).

## 1.1 FRONT PANEL

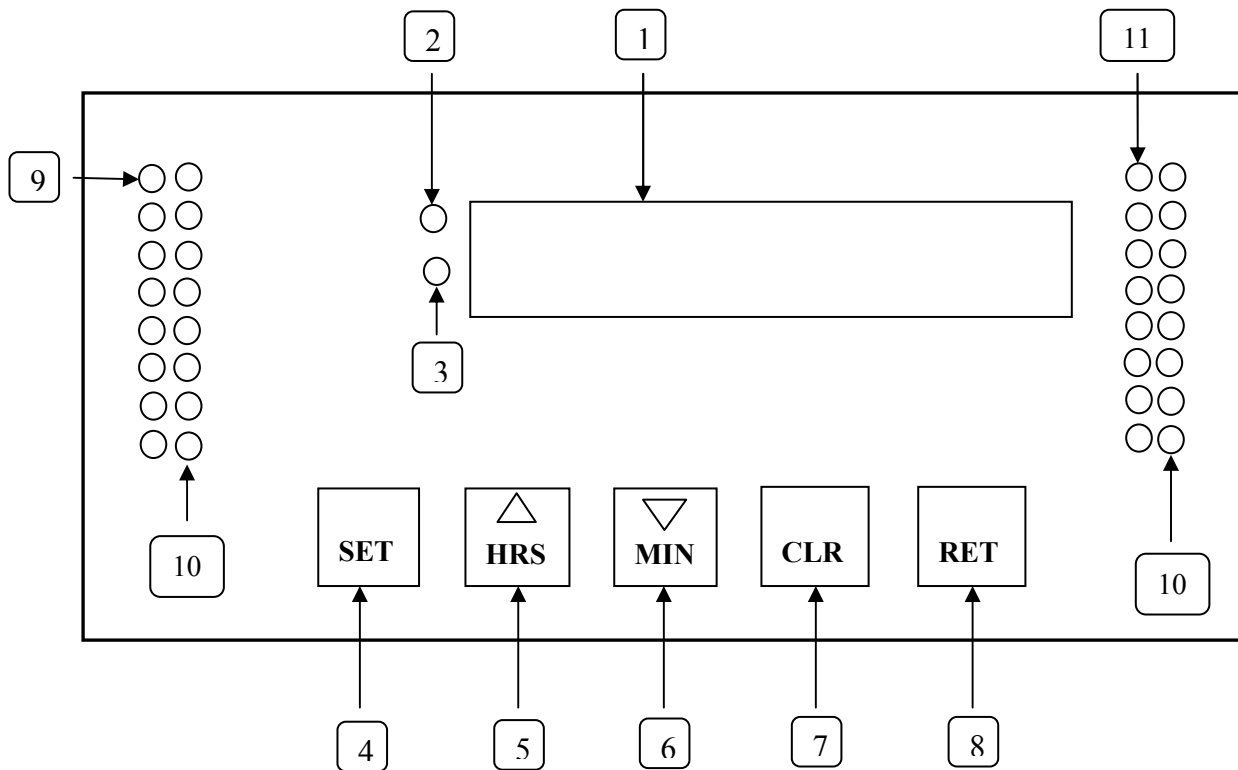


Figure 1: FRONT VIEW OF WATCHMAN TIMER

- |   |                        |    |                                       |
|---|------------------------|----|---------------------------------------|
| 1 | -- DISPLAY             | 7  | -- CLEAR KEY                          |
| 2 | -- AM INDICATION       | 8  | -- RETURN KEY                         |
| 3 | -- PM INDICATION       | 9  | -- 1 <sup>ST</sup> HORN LED OF DAY 1  |
| 4 | -- SET KEY             | 10 | -- 16 <sup>TH</sup> HORN LED OF DAY 1 |
| 5 | -- INCREMENT/ HOUR KEY | 11 | -- 1 <sup>ST</sup> HORN LED OF DAY 2  |
| 6 | -- DECREMENT/ MIN KEY  | 12 | -- 16 <sup>TH</sup> HORN LED OF DAY 2 |

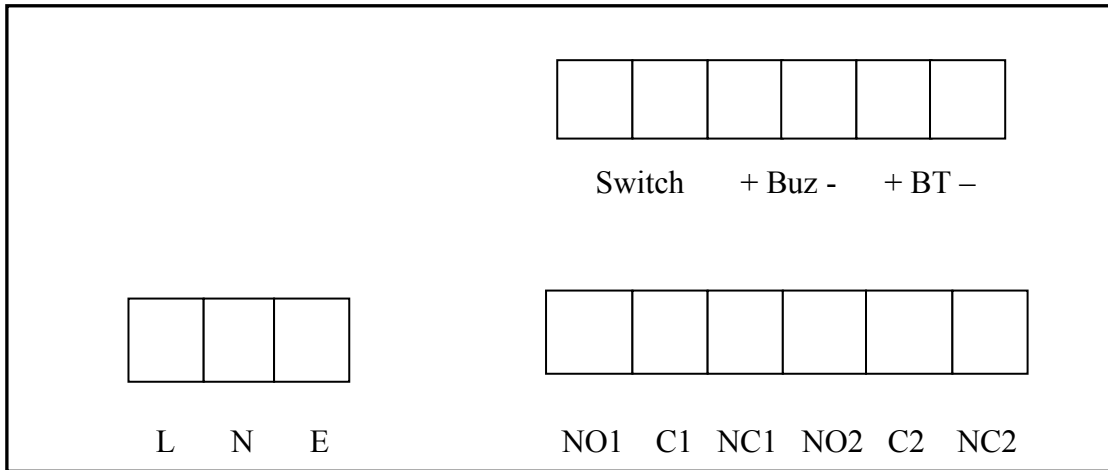


Figure 2: BACK VIEW OF WATCHMAN TIMER

## 1.2 TERMINAL CONNECTIONS

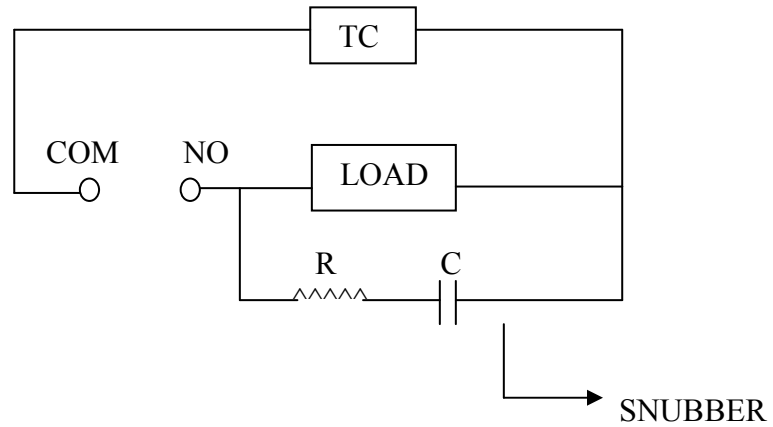
L	LINE
N	NEUTRAL
E	EARTH
NO1	NORMALLY OPEN TERMINAL OF RELAY 1
C1	COMMON TERMINAL OF RELAY 1
NC1	NORMALLY CLOSE TERMINAL OF RELAY 1
NO2	NORMALLY OPEN TERMINAL OF RELAY 2
C2	COMMON TERMINAL OF RELAY 2
NC2	NORMALLY CLOSE TERMINAL OF RELAY 2
SWITCH	WATCHMAN
+BUZ	POSITIVE TERMINAL OF BUZZER
BUZ-	NEGATIVE TERMINAL OF BUZZER

## 1.3 FEATURES

- i. 16 WATCHMAN ALERT HORNS
- ii. 8 SIRENS
- iii. REAL TIME CLOCK
- iv. BATTERY BACKUP

## 1.4 PLEASE NOTE

**IF THE LOAD IS INDUCTIVE, CONNECT SNUBBER ACROSS THE LOAD.**



R = 56 OHMS / 2WATT.

C = 0.1 MFD / 250 V AC.

TC = TEMPERATURE CONTROLLER

## 2. LEARNING TO OPERATE

Watchman timer has 16 watchman alert horns, 8 sirens and 2 alarms. These 8 sirens are used for factory purpose like factory ON and OFF time, Lunch time, Tea time etc.

### HOW IT WORKS?

Before switching ON the mains supply, check all the connections. The display shows the real time. If real time reaches to Horn time, Horn starts beeping and respective Horn LED (red) glows. Watchman has to press watchman switch before Horn stop beeping. If he fails to press the switch, LED gets latch indicating that watchman was not alert at that time. After completion of a day, red LEDs gets OFF and respective green LEDs glows.

### 2.1 HORN SETTING

There are 16 watchman alert horns. To set these horns, follow the steps given below:

- Press SET key, display will show '**St Hn**'.
- Again press SET key, display will show '**Hn 01**'.
- Press SET key, display will show time in hours and minutes in 12 hours format. Horn time can be set by using HRS and MINS key. Two flat LEDs are used for AM & PM indication.
- Press SET key to save the setting & to go next stage. Now display will show '**Hn 02**'.
- Press SET key, set the time using Hours and Mins key.  
Follow the same process to set all 16 watchman alert horns.

#### Note:

Horn time must be in increasing order i.e. '**Hn 02**' must be greater than '**Hn 01**', '**Hn 03**' must be greater than '**Hn 02**' and so on.

### 2.2 SIREN SETTING

There are 8 sirens. To set these, follow the steps given below:

- Press SET key, display will show '**St Fn**'.
- Press UP key, display will show '**St Fn**'.
- Now press SET key, display will show '**Fn 01**'.
- Press SET key, display will show time in hours and minutes in 12 hours format. Siren time can be set by using Hours and Mins key.
- Press SET key to save the setting and to go next stage. Now display will show '**Fn 02**'.  
Set the time using Hours and Mins key.  
Follow the same process to set all 8 sirens.

### 2.3 ALARM SETTING

There are 2 alarms. To set these, follow the steps given below:

- Press SET key, display will show '**St Hn**'.
- Press UP key, till display will show '**St AL**'.
- Now press SET key, display will show '**AL 01**'.
- Press SET key, display will show time in hours and minutes in 12 hours format. Alarm time can be set by using HRS and MINS key.
- Press SET key to save the setting and to go next stage. Now display will show '**AL 02**'. Set the time using Hours and Mins key.
- Press RET key to come in normal mode.

## 2.4 HORN DELAY SETTING

Horn delay time means for how many seconds the Horn relay will stay ON. To set this time, follow the steps given below

- Press SET key, display will show '**St Hn**'
- Press UP key till the display shows '**St Ht**'.
- Press SET key, display will show '**Ht with some number**'. Set this number using MINS key. This number indicates for how many seconds the horn relay will stay ON.

## 2.5 SIREN DELAY SETTING

Siren delay time means for how many seconds the Siren relay will stay ON. To set this time, follow the steps given below

- Press SET key, display will show '**St Hn**'
- Press UP key till display will show '**St Ft**'.
- Press SET key, display will show '**Ft with some number**'. Set this number using MINS key. This number indicates for how many seconds the Siren relay will stay ON.

## 2.6 CLOCK SETTING

To set the clock, follow the steps given below

- Press SET key, display will show '**St Hn**'.
- Press UP key till display will show '**St CL**'.
- Press set key, display will show time in hours and minutes. Change the time using HRS and MINS key.
- Press RET key to return in normal mode.

## 3.SPECIAL FUNCTIONS

### 3.1 CLR KEY

- CLR key is use to clear all the LEDs that are glowing.
- CLR key is also use in horn, siren and alarm mode to clear the respective time.

### 3.2 RET KEY

- RET key is use to return in normal mode from any mode (like from horn setting mode to normal mode).

To change the time every day is a time consuming process. Hence in order to make it simple, two functions are added in the logic setting. These are as follows.

### 3.3 Add mn

This setting is use to add minutes in the previously set Horn timings.

Eg:

Suppose previous time setting of first horn is '2:10 Am' and if **Add mn** is set as 30 minutes, then new time of first horn becomes '2:40 Am'.

To set Add mn, follow the steps given below

- Press SET key, display will show '**St Hn**'.
- Press HRS key till the display shows '**Add mn**'.
- Press SET key, display will show '**Ad 00**'. Set the minutes using MINS key. Then press RET key to come in normal mode.

#### NOTE:

The time set in **Add mn** gets added in all the 16 previously set Horns timing. So no need to set all 16 Horns separately.

### 3.4 Sub mn

This setting is use to subtract minutes from the previously set Horn timings.

Eg:

Suppose previous time setting of first horn is '2:10 Am' and if **Sub mn** is set as 30 minutes, then new time of first horn becomes '1:40 Am'.

To set Sub mn, follow the steps given below

- Press SET key, display will show '**St Hn**'.
- Press HRS key till the display shows '**Sub mn**'.
- Press SET key, display will show '**Sub 00**'. Set the minutes using MINS key. Then press RET key to come in normal mode.

#### NOTE:

The time set in **Sub mn** is gets subtracted from all the 16 previously set Horns timing. So no need to set all 16 Horns separately.