# MULTI-FUNCTIONAL ELECTRONIC TIMER (SM-7  SM-8  SM-9 MCB-7 MCB-8 MCB-9 )

**SM-7,SM-8,SM-9 MCB-7, MCB-8, MCB-9** are microprocessor based electronic time devices with slim case, having up to four operating modes. Time range is selected easily by dip-switches and potentiometer.

## SM-7 / MCB-7
⬤ DELAY ON

Time interval can be adjusted easily by dip switches as below.

| TIME SM-7 MCB-7 | POSITION OF SWITCHES | | | |
|---|---|---|---|---|
| | 1. switch | 2. switch | 3. switch | 4. switch |
| 0.1-1 s. | ◯ | ◯ | ◯ | ◯ |
| 0.25-5 s. | ◯ | ◯ | ◯ | ⬤ |
| 0,5-10 s. | ◯ | ◯ | ⬤ | ◯ |
| 1-20 s. | ◯ | ◯ | ⬤ | ⬤ |
| 1,5-30 s. | ◯ | ⬤ | ◯ | ◯ |
| 3-60 s. | ◯ | ⬤ | ◯ | ⬤ |
| 5-100 s. | ◯ | ⬤ | ⬤ | ◯ |
| 0,5-10 min. | ◯ | ⬤ | ⬤ | ⬤ |
| 1-20 min. | ⬤ | ◯ | ◯ | ◯ |
| 1,5-30 min. | ⬤ | ◯ | ◯ | ⬤ |
| 3-60 min. | ⬤ | ◯ | ⬤ | ◯ |
| 5-100 min. | ⬤ | ◯ | ⬤ | ⬤ |
| 0,5-10 hour | ⬤ | ⬤ | ◯ | ◯ |
| 1-20 hour | ⬤ | ⬤ | ◯ | ⬤ |
| 1,5-30 hour | ⬤ | ⬤ | ⬤ | ◯ |
| 3-60 hour | ⬤ | ⬤ | ⬤ | ⬤ |

on off ⬤ ◯

Figure-1

## SM-8 / MCB-8
⬤ DELAY ON
⬤ DELAY OFF

Operating modes can be selected by first dip switch.Time interval can be adjusted easily by dip switches as below.

| TIME SM-8 MCB-8 | POSITION OF SWITCHES | | |
|---|---|---|---|
| | 2. switch | 3. switch | 4.switch |
| 0.1-1 s. | ◯ | ◯ | ◯ |
| 0.5-10 s. | ◯ | ◯ | ⬤ |
| 1.5-30 s. | ◯ | ⬤ | ◯ |
| 3-60 s. | ◯ | ⬤ | ⬤ |
| 0.5-10 min. | ◯ | ◯ | ◯ |
| 3-60 min. | ◯ | ◯ | ◯ |
| 0.5-10 hour | ⬤ | ⬤ | ◯ |
| 1.5-30 hour | ⬤ | ⬤ | ⬤ |

on off ⬤ ◯

Figure-2

## SM-9 / MCB-9
⬤ DELAY ON
⬤ DELAY OFF (JUST FOR SM-9)
⬤ FLASHER
⬤ ON  FLASHER (JUST FOR SM-9)
⬤ OFF FLASHER

For SM-9 operat'ng modes can be selleted by f'rst and second sw'tches while for MCB-9 mode selection is done by only switch 1.

**Switch 1** is used to select timer or flasher function.
**Switch 2** is used to select the output relay contact position at start.
Time interval can be adjusted easily by dip switches as below.

| TIME | POSITION OF SWITCHES | | |
|---|---|---|---|
| SM-9 | 3/6.switches | 4/7. switches | 5/8. switches |
| MCB-9 | 2. switch | 3. switch | 4. switch |
| 0.1-1 s. | ◯ | ◯ | ◯ |
| 0.5-10 s. | ◯ | ◯ | ⬤ |
| 1.5-30 s. | ◯ | ⬤ | ◯ |
| 3-60 s. | ◯ | ⬤ | ⬤ |
| 0.5-10 min. | ⬤ | ◯ | ◯ |
| 3-60 min. | ⬤ | ◯ | ⬤ |
| 0.5-10 hour | ⬤ | ⬤ | ◯ |
| 1.5-30 hour | ⬤ | ⬤ | ⬤ |

on off ⬤ ◯

Figure-3

### Caution:
1) In order to change operating modes, SM-9 must be de-energized
2) Rated voltage of SM-7, MCB-7 and SM-8, MCB-8 must raise to the indicated value in less  than 1s.

## Operating Modes

1- Delay ON



2- Delay OFF

3- OFF Flasher

4- ON Flasher

Figure 4

## TIME SETTINGS
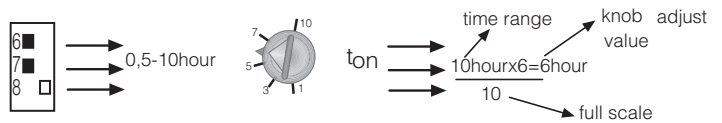**Adjusting OFF time** (SM-7, SM-8, SM-9, MCB-7, MCB-8, MCB-9)
OFF time is selected by following DIP switches for each device; SM-9: 3,4,5; SM-8/MCB-8/MCB-9: 2,3,4; SM-7/MCB-7: 1,2,3,4. ''t off'' knob is used to adjust ''OFF time'' between 1-10 times of the selected range. *Example*: To adjust 15 seconds OFF time for SM-9 first select 1.5-30 sec. scale by DIP switches and then adjust "t off" knob to "5".
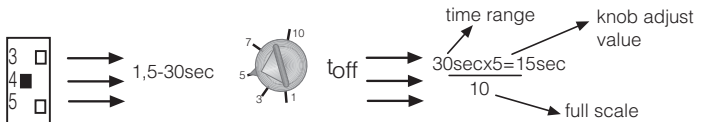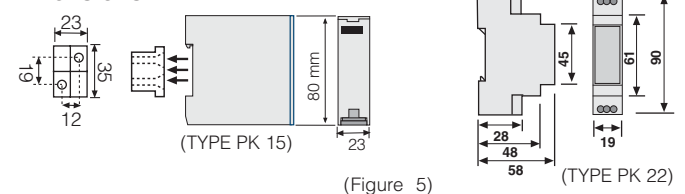


### Adjusting ON time (SM-8, SM-9, MCB-8, MCB-9)
ON time is selected by the following DIP switches for each device; SM-9: 6,7,8; SM-8/MCB-8/MCB-9: 2,3,4. "t on" knob is used to adjust ON time between 1-10 times of the selected range.
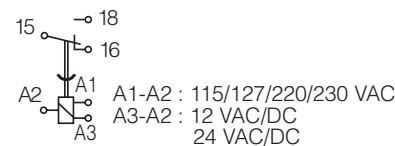*Example*: To adjust 6 hours ON time in SM-9 first select 0.5-10 hour scale and then adjust "t on" knob to "6".



## Dimensions



(TYPE PK 15)

(Figure 5)

(TYPE PK 22)

## Connection Diagram



A1-A2 : 115/127/220/230 VAC
A3-A2 : 12 VAC/DC
24 VAC/DC

For all devices

## Technical Data

| | |
|---|---|
| Rated Voltage (Un) | : 220 VAC,230 VAC, 240 VAC , 24 VAC/DC 115 VAC, 12 VAC/DC (115, 127 VAC and 12 VAC/DC available upon request.) |
| Operating Range | : (0.9-1.1) x Un |
| Operating Frequency | : 50/60 Hz. |
| Output Contact | : 1 Change-Over 8A/2000 VA (NO: 8A, NC: 6A)Cosφ =1 |
| Repetition Error | : +/-%0.1 |
| Reset Time | : <=150 msec. |
| Ambient Temperature | : -5°C ; +50°C |
| Dimensions | : Type PK15 / PK22 |
| Protection Class | : IP 20 |
| Connection | : Slimline,Terminal (Panel mount is available with the plastic adapter part. Refer to fig. 5 |
| Package Weight | : 2.5 kg. (24 pcs. per package) |

## PRECAUTIONS FOR INSTALLATION AND SAFE USE
**Failure to follow those instructions will result in death or serious injury.**
- **Disconnect all power before working on equipment.**
- **When the device is connected to the network, do not remove the front panel.**
- **Do not try to clean the device with solvent or the like. Only clean the device with a dried cloth.**
- **Verify correct terminal connections when wiring.**
- **Electrical equipment should be serviced only by your compedent seller. No responsibility is assured by the manufacturer or any of its subsidiaries for any consequences arising out of the use of this material.**
- **Mount device to the panel**