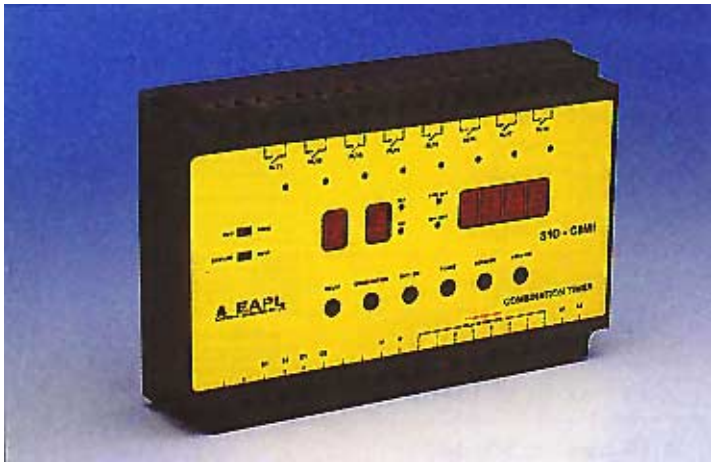
Quick Reference Guide



Combination Timer S1DC8M3

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INTRODUCTION

Thank you for purchasing EAPL's Combination Timer. This instruction manual describes every aspect of installation, set-up, and operation of the Combination Timer. If you run into difficulties and need technical assistance, feel free to call our technical support at (080) 8567561 available between 9 AM – 5:30PM IST or visit our web site at www.eaplindia.com.

EAPL, an ISO 9001 company, leaders in Timer Technology Brings to you a new range of micro controller based programmable timers. High reliability, accuracy, compactness are some of the striking design features.

Uncompromising quality with cost effectiveness has been the watchword at EAPL.

For Customer Use

Enter below the serial Number which is located on the timer cabinet. Retain this information for future reference.

Model No:

Serial No:

Batch No:

Date of Purchase:

Purchase Point:

Accessories

- S1DC8M3 - 1 no.
- Quick reference guide

Note: Please acknowledge that we reserve the right to make changes in product performance or specifications without prior notice. Also please note that we bear no responsibility for mistakes, misprints or omissions of the instruction manual Specifications.

Salient Features

- State of the art microcontroller design
- User friendly programming for On/Off time selection up to 99 hrs 59 mins.
- 7 segment display indication for channel & timing operation.
- Program & process value retention incase of power failure.
- External contacts for timing initiation & timing pause.

Ordering Information

Model	Function	Source Voltage	Time Range	Output
S1D-C8M3	Combination switching	110/240V AC/24 V DC	1 sec to 99hrs 59mins.59 sec	Relay

Special Features

HOLD: When the slide switch on the front panel is kept in the hold position, the Timing data is retained in case of power failure. Upon resumption of power the timing continues from the point where it has stopped.

RESTART: When the slide switch is kept in the restart position, their timer resets in case of power failure and waits for start signal from beginning upon power resumption.

EXTERNAL START: By shorting terminals S1 and S2 for minimum period of 150 milliseconds (potential free shorting) or by keeping S1 and S2 permanently shorted, the time sequence is initiated.

SINGLE CYCLE OPERATION: By keeping the terminals C1 and C2 shorted (potential Free) on the front panel, the switching of output is executed for one Cycle and stops.

CYCLIC OPERATION: By keeping the terminals C1 and C2 on the front panel opened, the switching of outputs keeps repeating after the end of each cycle.

INHIBIT: By shorting terminals I1 and I2 (potential free) on the front panel, status of relays output (ON or OFF) is maintained irrespective of the program timing. By removing the short, the programmed timing continues and relay respond as per the preprogrammed timings.

RESET: By shorting terminals R1 & R2 (potential free) on the front panel, and changing the RUN/PROG switch from RUN mode to PROG mode, the programmed setting resets and sets all programs to 00:00.

Specifications

	S1DC8M3(110/240 V AC)	S1DC8M3(24 V DC)
Operating Voltage Range	- 15% to + 10% of rated voltage	- 10% to + 10% of rated voltage
Rated frequency	50Hz/60 Hz ± 5%	-
Power consumption	20V A / 4W(for 240/110V AC)	DC approx.8W(for 24 VDC)
Time Range	1 sec to 99hrs 59mins. 59 sec for delay & ON	
Control output	8 `NO' relay contacts rated for 5A@ 250V AC/28V DC Resistive load	
Start Signal	Potential free closure for a minimum of 150msec.	
Reset Signal	Potential free closure	
Setting Accuracy	± 0.2% ± 50msecs	
Repeat Accuracy	± 0.2% ± 50msecs.	
Recovery Time	2secs min	
Variation due to voltage change	±1% max. ± 50msecs	
Variation due to temp change	±2% max. ± 50msecs	
Variation due to frequency change	±1% max. ± 50msecs.	-
Ambient Temperature	Operation: -10 degree C to + 55 degree C Storage : -25 degree C to + 80 degree C	
Humidity	Max. 85% RH @ 40 degree C	
Electrical Life	10^5 Operations min. with full load	
Service Life	10^6 Operations min. under no load	
Insulation Resistance	>100M ohm@500VDC	
Dielectric Strength	a)2.5 KV AC ,50HZ for 1 min(between current carrying &non current carrying parts) b)1.5 KV AC,50HZ for 1 min(between contacts and control circuit) c)1 KV AC, 50HZ for 1 min(between non continuous relay contacts)	
Connections	Screw type terminals with self lifting clamps	
Dimensions	200 x 130 x 45 mm [W x H x D]	

Operating Instructions

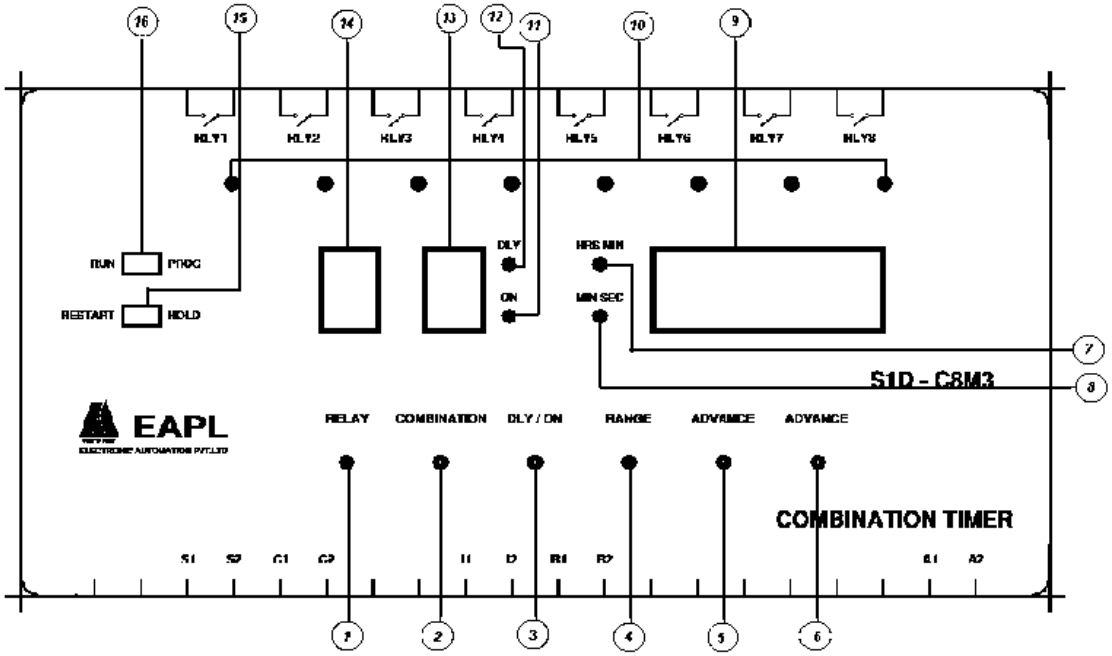
Caution

- Potential free contacts should be used to short terminals C1 & C2 ,I1 & I2,R1 & R2, S1&S2.Applying power to these points will damage the timer permanently.
- Programming is not possible if terminals I1 & I2 are shorted.

- Before starting to program the timer ensure that all the programs in the 64 combinations are made zero (Check in all Hrs: min, Min: sec and sec: sec are all made 00:00:00) before programming.

- Ensure R1-R2 is open before programming for new setting.

Front Panel



1 RELAY
This button is used to select the required output to program the timing.

2 COMBINATION
This button is used to choose the combination particular output (upto 8 combination can be selected for each output relay)

3 DLY/ON
This button is used to select the delay time and ON time for each relay output as per requirement.

4 RANGE
This buttons is used to select the desired time range (MIN/SEC OR HRS/MIN).

5, 6 ADV
This button is used to increment the DLY/ON time.

7, 8 INDICATOR
It displays the selected time range combination like HRS/MIN OR MIN/SEC.

9 DISPLAY
It displays the functioning time.

10, INDICATOR
It indicates relay ON.

11 & 12 INDICATORS
It indicates the DLY time and ON time.

13 DISPLAYS
It displays the program number.

14 DISPLAY
It displays the relay number selected for programming.

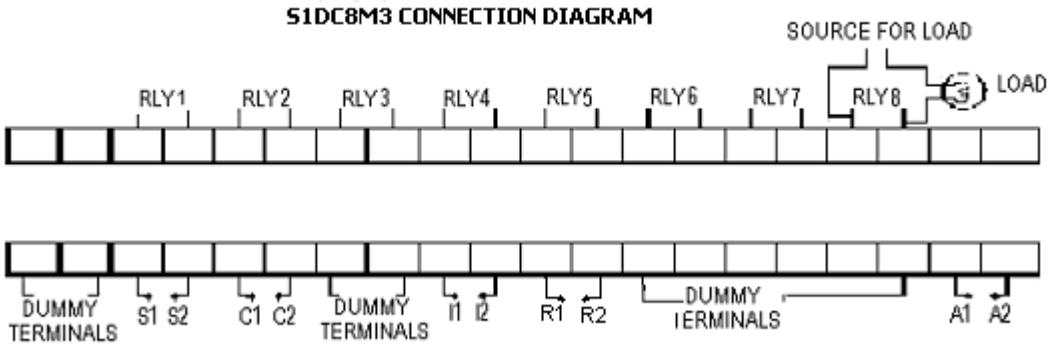
15 HOLD/RESTART
This is the slide switch to select the mode from HOLD or RESTART.

16 PROG/RUN
This is the slide switch to select the mode from PROGRAM or RUN state.

Terminal Details

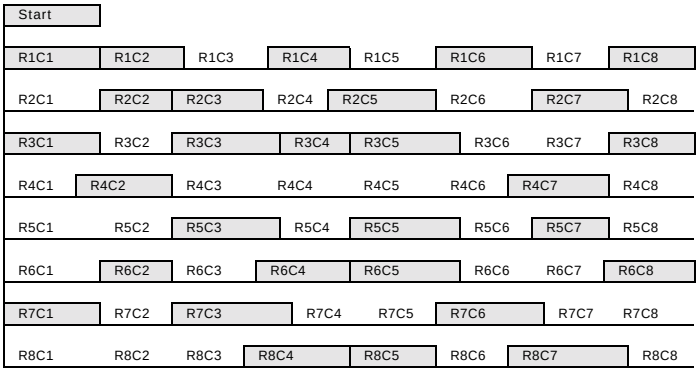
A1, A2 : Power
S1, S2 : External Start
I1, I2 : Inhibit
C1, C2 : Single Cycle or Cyclic
Function Implementation
Short: Single Cycle function
Open: Cyclic function
R1, R2 : Resets all preset timings to 00:00:00.
RLY1 to RLY8 : Normally open relay output

Connection Diagram



Timing Diagram

Single Cycle Model



R1C1 to R1C8 - Relay 1 combination 1 to Relay1 combination 8
R2C1 to R2C8 - Relay 2 combination 1 to Relay2 combination 8
R3C1 to R3C8 - Relay 3 combination 1 to Relay3 combination 8
R4C1 to R4C8 - Relay 4 combination 1 to Relay4 combination 8
R5C1 to R5C8 - Relay 5 combination 1 to Relay5 combination 8
R6C1 to R6C8 - Relay 6 combination 1 to Relay6 combination 8
R7C1 to R7C8 - Relay 7 combination 1 to Relay7 combination 8
R8C1 to R8C8 - Relay 8 combination 1 to Relay8 combination 8
*** In cyclic mode the above sequence will repeat till the timer is reset**

NOTE: The above timing diagram is only a illustration of the Sequences that can be programmed. all 64 combinations can be programmed.

Programming the Timer

- Keep the PROG / RUN slide switch in the “PROG” position. Apply rated voltage across A1 and A2.
- Press "Relay" button to select desired relay output (Relay1 to Relay 8).
- Press "Combination" button to select the desired combination 1 to 8 for a particular relay output Relay 1 to 8
- Press “DLY / ON” button so as to select the “Delay” time for selected combination.
- Press the “RANGE” button, to select the desired time range (Min – Sec or Hrs. – Min) for the selected combination.
- Press DLY/ON button again, so as to select ON time duration for the selected combination.

Repeat step 5 to select desired time range. Use “ADVANCE” button to increment the DLY / ON time.

- Repeat steps 2 to 6 to program other combination for Relay 1.
- After completing programming for Relay 1, repeat steps 2 to 7 to program other relays (2 to 8).

Initiating a Sequence

- By shorting the S1 and S2 terminals on the front panel for a minimum period of 150 milliseconds, the timing is initiated.
- S1 and S2 can be kept permanently shorted to start the sequence.

NOTE:

Before starting the programming ensures HRS/MIN & MIN/SEC timings of all 64 combinations of 8 relays are made zero.

Reset the programmed settings

- Short R1-R2 and slide the Run/Prog switch from the run mode to program mode. All programs get reset to zero
- Remove R1-R2 and program for new settings.