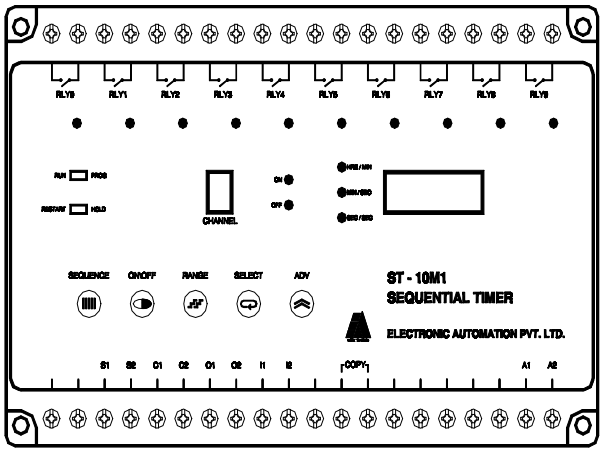
SEQUENTIAL TIMERS

Front Panel Layout:



Terminal details

A1, A2: Power
S1, S2: External start
C1, C2 short: Single cycle,
Open: cyclic operation
Selection terminal
O1, O2: Output for cascade selection
I1, I2: Inhibit terminals
RLY0 to RLY9: Normally open relay contacts (for ST10-M1)
RLY0 to RLY5: Normally open relay contacts (for ST6-M1)
OP0 to OP9: Triac outputs
(For ST10-M2)
Copy: Short-copy 1st rly. progm to all other rlys.
Open- Individually progm each relay

ST10-M1/ST10-M2/ST6-M1 models are microcontroller based sequential timers with 10 channel/6 channel outputs. The time range for ON and OFF can be selected from 0.01 Secs upto 99 Hrs. 59 Mins.

Model	Time range	Source voltage	No. of outputs
ST10-M1	0.1S to 99 Hrs.59 Mins.	85 V to 270 V AC / DC	10 relay outputs
ST10-M2	0.01S to 99 Hrs.59 Mins.	85 V to 270 V AC / DC	10 triac outputs
ST6-M1	0.1S to 99 Hrs.59 Mins.	85 V to 270 V AC / DC	6 relay outputs

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 had stopped.

Restart: When the slide switch is kept in the restart position, the timer resets in case of power failure and starts from beginning upon power resumption.

External Start: By shorting terminals S1 & S2 for a minimum period of 150 mSecs (potential free shorting) or by keeping S1 & S2 permanently shorted, the timing sequence is initiated.

Single cycle operation: By keeping the terminals C1 & C2 shorted (potential free) on the front panel, the sequential switching of output is executed for one cycle and stops.

Cyclic operation: By keeping the terminals C1 & C2 on the front panel open, the sequential switching of outputs keeps repeating after the end of each cycle.

Inhibit: By shorting terminals I1 and I2 (potential free) on the front panel, the status of relay/triac output (ON or OFF) is maintained irrespective of the programmed timing. By removing the short, the programmed timing continues and relay/triac responds as per the pre-programmed timings.

Cycle complete output: This feature namely an opto coupled output signal from terminals O1 & O2 is available at the end of one switching sequence. This signal is intended for cascading one more unit to increase the number of output channels.

Copy: When the terminals across "copy" are shorted, one has to program On and Off time for the first relay only. This prog is copied for all the remaining relays (before programming the terminals have to be shorted). When the terminals are kept open individual programming of 'On' and 'Off' time can be done for each relay.

How to program the timer:

Keep the PROG/RUN slide switch in the "PROG" position. Apply rated voltage across A1 & A2. By using the "Sequence" button, select the required output, to program the timing. By using the ON/OFF button, select the "ON" time and "OFF" time for a particular output. By using the "Range" button, select the desired time range (Sec/Sec or Min/Sec or Hrs./Min) as per requirement. Press 'Select' button. First Most Significant digit is seen blinking. Using ADV button set the required digit. Press SELECT. Choose the digit for Second Most Significant digit. Similarly set third Most Significant Digit and Least Significant Digit.

After programming the timer, keep the RUN/PROG slide switch in the "RUN" position. Now the unit is ready for operation.

Note: 'On-Off'', 'Range' button gets deactivated until all the 4 digits are being programmed.

How to initiate the sequence:

By shorting S1 and S2 terminals on the front panel for a minimum period of 150mSecs, the timing is initiated. The sequence starts with closure of "Rly 0/OP1" as the case may be. S1 & S2 can be kept permanently shorted also to start the sequence.

Caution:

1. Potential free contacts should be used to short terminals C1 & C2, I1 & I2, S1 & S2 & copy. Applying power to these points will damage the timer permanently.
2. When more than one unit is used in cascade, output O1 & O2 should be connected to S1 & S2 respectively of the next timer.
3. Do not connect O1 & O2 to S1 & S2 of the same timer. Use C1 & C2 for cyclic or single cycle mode operation.
4. Programming is not possible if terminals I1 & I2 are shorted.