



OPERATING INSTRUCTIONS

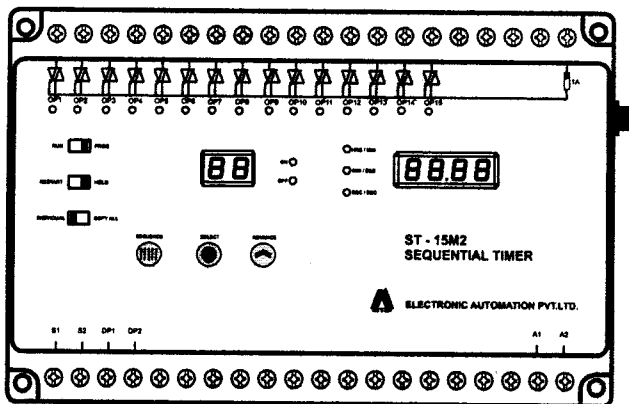
Model : ST-15M2

OPI No.: OPI/070

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Front Panel Layout:



Terminal details

- A1 & A2 : Power
- S1 & S2 : External Start Command (Potential Free)
- DP1 & DP2 : Differential Pressure Command (Potential Free Shorting)
Also available with 24V DC potential Input
- OP1 to OP15 : Triac outputs (500mA @250V AC)

ST-15M2 model is microcontroller based sequential timer with 15 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
ST-15M2	0.01Sec to 99Hrs 59 Mins.	85V AC/DC to 270V AC/DC	15 Triac output

NOTE: Input triac supply should be only 240V AC

Special Features:

RUN: When the slide switch on the front panel is kept in the RUN position, the timer is ready for operation.

PROG: When the slide switch on the front panel is kept in the PROG position, it enables the timer for programming.

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.

INDIVIDUAL: When the slide switch is kept in the INDIVIDUAL position, each channel can be programmed.

COPY ALL: When the slide switch is kept in the COPY ALL position, programmed ON/OFF time of the first channel shall be copied to all 15 channels & further programming is disabled.

SEQUENCE: Press sequence to select channel 01 to 15.

SELECT: Press SELECT for all the parameters of programming such as to program most and least significant digit, to select the time range.

ADVANCE: Press ADVANCE to increment the ON & OFF time.

EXTERNAL START COMMAND: The external command from PLC/DCS can be initiated by shorting S1 & S2 terminals (Potential Free) and sequence will work till the terminals S1 & S2 are kept shorted. On release, the sequence in progress will complete its time & then stop, even if differential pressure switch is in healthy condition. Once again, if S1-S2 is closed, it further continues depending on HOLD/RESTART mode.

DIFFERENTIAL PRESSURE SWITCH: DP1 & DP2 can be connected to DP switch, during operation these terminals has to be shorted and sequence will work till the terminals DP1 & DP2 are kept shorted. On release, the sequence in progress will complete its time & then stop, even if external start command (S1 & S2) are shorted. Once again, if DP1-DP2 is closed, it further continues depending on HOLD/RESTART mode.

The timer will run in cyclic mode as long as S1,S2 & DP1,DP2 are shorted.



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How to program the timer:

1. Slide the RUN / PROG switch to PROG mode.
2. Apply rated voltage across A1 & A2, sequence display shows 01 timing display shows **rng**. ON LED comes on.
3. Press ADVANCE to select the range (S/S , M/S , H/M).
4. Press SELECT, Most significant digit starts flashing.
5. Press ADVANCE to increment the flashing digit.
6. Press SELECT again, 2nd digit starts flashing.
7. Press SELECT again, 3rd digit starts flashing.
8. Press SELECT again, 4th digit starts flashing **0**. This digit cannot be advanced in S/S range. Press SELECT again the set value is saved in memory, depending on the position of the switch (INDIVIDUAL or COPY ALL)
9. Timing display shows **rng & OFF** LED comes on.
10. Repeat steps from 3 to 8 to program OFF time.
11. After completion of 1st channel, press SEQUENCE to increment next channel, if individual programming is selected.
12. Select the mode of operation (HOLD or RESTART) by moving the HOLD / RESTART slide switch.

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

How to initiate the sequence:

Short S1 & S2 and DP1 & DP2 Terminals

Timer starts operating with On time of the first channel followed by OFF time and then the next channel till channel 15. After the completion of 15 channels, timer comes back to first channel & continues as long as both S1 & S2 and DP1 & DP2 are applied.

Caution:

While Timer is running, if S1, S2 or DP1, DP2 shorting is removed, timer completes the current channel and stops. Upon shorting the signal timer starts from first channel or continues from the next channel depending on the position of RESTART / HOLD switch.

Do not try to change any program parameters when the units is in run mode to avoid malfunctioning of the timer