S-Series Sequential Timers
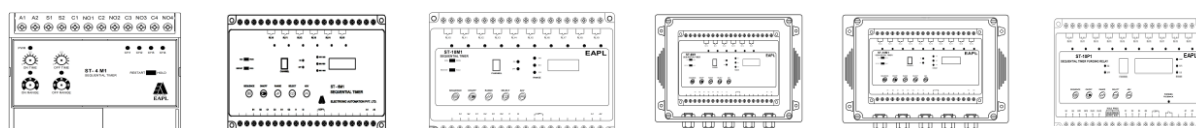## ST4-M1/ST6-M1/ST10-M1/ST10P1/ST6-M1(IP)/ST10-M1(IP)

Features

• Hold /Restart - User Selectable.
• Program of the first relay can be copied to all remaining relays or individually programmed for each relay.
• LED indications to select DELAY/ON time range during programming and relay status during operations.
• User Selection for single/repeat cycle.
• Cascading of units to achieve higher outputs.
• ST6-M1,ST10-M1:Also available with Aux Supply 24V DC

Ordering Information

Models	Function	Source Voltage	Time Selection	Output
ST4-M1	Sequential Switching 4 channels	240V AC	0.1S/M/H to 1S/M/H	
ST6-M1	Sequential Switching 6 channels			
ST10-M1	Sequential Switching 10 channels			1 C/o NO Relay for each channel
ST10-P1	Sequential Switching 10 channels with purging relay	85V to 270V AC / DC	0.1Secs to 99Hrs 59Mins	
ST6-M1(IP)	Sequential Switching 6 channels with IP Enclosure			
ST10-M1(IP)	Sequential Switching 10 channels with IP Enclosure			

Front View ST4-M1   ST6-M1   ST10-M1   ST6-M1(IP) ST10-M1(IP) ST10-P1

Side View ST4-M1   ST6-M1   ST10-M1 ST6-M1(IP) ST10-M1(IP) ST10-P1
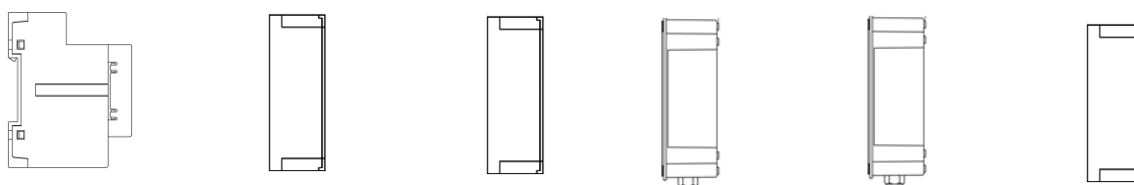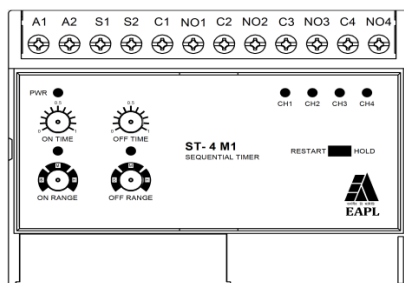

Over-all Dimension

Models	Dimension Details in mm		
	W	H	D
ST4-M1	86	110	68
ST6-M1/ST10-M1/ST10-P1	200	130	45
ST6-M1(IP)/ST10-M1(IP)	291	214	68

■ Specifications

Parameters Models	ST4-M1	ST6-M1	ST10-M1	ST10-P1	ST6-M1(IP)	ST10-M1(IP)
Function	Sequential timer with 4 channels.	Sequential timer with 6 channels.	Sequential timer with 10 channels.	Sequential timer with 10 channels with purging relay	Sequential timer with 6 channels with IP.	Sequential timer with 10 channels with IP.
Rated supply Voltage	240V AC	85V TO 270V AC/DC				
Operating voltage range	± 10% of the rated voltage	-	-	-	-	-
Rated Frequency	50Hz ± 5%	50 / 60Hz ± 5%				
Power consumption	AC Approx. 20VA / 4W.	AC Approx. 15VA / 3W.		AC Approx. 15VA / 8W	AC Approx. 15VA / 3W.	
Control output	4 O/P'S (5A @ 250V AC/28V DC resistive)	6 (RLY0 to RLY5, 'NO' relay contacts rated for 10A @ 250V AC/28VDC resistive)	10 (RLY0 to RLY9, 'NO' relay contacts rated for 10A @ 250V AC/28VDC resistive)	10(RLY0 to RLY9, 'NO' relay contacts rated for 10A @ 250V AC/28VDC resistive)a) Purging Relay: 'NO' relay contacts rated for 10A @ 250V AC/28VDC resistive)	6 (RLY0 to RLY5, 'NO' relay contacts rated for 10A @ 250V AC/28VDC resistive)	10 (RLY0 to RLY9, 'NO' relay contacts rated for 10A @ 250VAC/28VDC resistive)
Start Signal (S1,S2)	Potential free closure (CONTINUOUS)	Potential free closure for a minimum of 120mSec.	Potential free closure for a minimum of 150mSec.	Potential free closure for a minimum of 120mSec.	Potential free closure for a minimum of 150mSec.	
Conduction time (O1,O2)	-	>120 mSec.	>150 mSec	>120 mSec.	>150m Sec.	
On time range	0.1 to 1 S/M/H for each channel	0.1Sec to 99Hrs 59Min for each channel				
Off time range	0.1 to 1 S/M/H for each channel	0.1Sec to 99Hrs 59Min for each channel				
Setting accuracy	± 10 % max. w.r.t full scale ± 100mSec	± 0.1% max. w.r.t Setting ± 50mSec				
Repeat Accuracy	± 1 % max. ± 100mSec	± 0.05% max. ± 50mSec				
Recovery Time	1Sec minimum	2Sec minimum				
Variation due to voltage change	± 2% max. ± 100mSec	± 1% max. ± 50mSec				
Variation due to temperature change	± 5% max. ± 100mSec	± 2% max. ± 50mSec				
Variation due to frequency change	± 2% max. ± 100mSec	± 1% max. ± 50mSec				
Ambient temperature	Operating : -10^0 C to +55^0 C Storage : -25^0 C to +80^{0}C					
Humidity	MAX 85% RH @ 40^{0}C					
Electrical life (under full load)	10^5 operations minimum					
Service life (under no load)	10^6 operations minimum					
Rated frequency of operation	1800 ± 5% operations per hour max.					
Insulation resistance	>100M ohms @ 500V DC					
Dielectric strength	a) 2.5KV AC, 50Hz for 1 minute. (Between current carrying& non-current carrying parts) b) 1.5KV AC, 50Hz for 1 minute.(Between contacts & control circuit) c) 750V AC, 50Hz for 1 minute.(Between non-continuous relay contacts)					
Electrical connection	Screw type terminals with self lifting clamps					
Dimension (W x H x D)	86 x 110 x 68 mm	200 x 130 x 45 mm			291 x 202 x 82 mm	

Connection and Terminal Details

ST4-M1

A1,A2 : Source
S1-S2 : Open - Stop Signal Continuous – Timing Initiation .
C1,NO1 : Control output 1
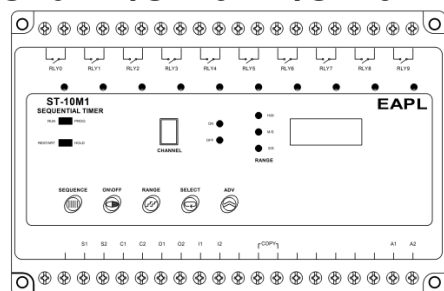**C2,NO2 :** Control output 2
C3,NO3 : Control output 3
C4,NO4 : Control output 4
HOLD MODE: Continue the timing after resumption of interrupted power, provided continuous start signal is available
RESTART MODE: After the resumption of interrupted power operation starts from the CH1 or waits for the start signal.

ST6-M1/ST10-M1/ST10-P1

A1,A2 : Source
S1-S2 : Start signal for a minimum of 150mS.
C1-C2 : SHORT – Single cycle operation(i.e. timer stops at the end of one cycle)   OPEN – Cyclic operation (i.e. timer continues to operate).
O1-O2: Cycle Complete Output. This output is available after completion of 1 cycle in single cycle operation mode (C1-C2 shorted).
I1-I2 : Time Pause Input. By shorting these terminals timing is temporarily stopped and relay status maintained, again by opening timing continues.
COPY : SHORT – First channel program shall be copied to all 10 channels during program mode.
         OPEN – Individual channel shall be programmed with different values.
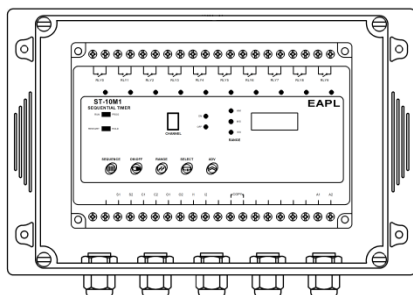**RLY0-RLY5:** Control Output for ST6-M1
RLY0-RLY9: Control Output for ST10-M1
HOLD MODE: Continue the timing after resumption of interrupted power.
RESTART MODE: After the resumption of interrupted power operation starts from the sequence 0 or waits for the start signal if C1–C2 is shorted.

ST6-M1(IP)/ST10-M1(IP)

A1,A2 : Source
S1-S2 : Start signal for a minimum of 150mS.
C1-C2 : SHORT – Single cycle operation(i.e. timer stops at the end of one cycle) OPEN – Cyclic operation (i.e. timer continues to operate).
O1-O2: Cycle Complete Output. This output is available after completion of 1 cycle in single cycle operation mode (C1-C2 shorted).
I1-I2 : Time Pause Input. By shorting these terminals timing is temporarily stopped and relay status maintained, again by opening timing continues.
COPY : SHORT – First channel program shall be copied to all 10 channels during program mode.
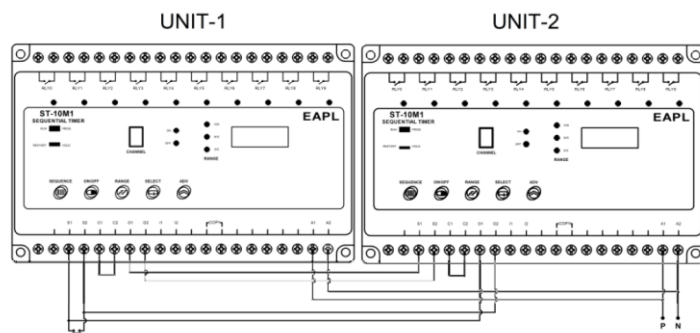   OPEN – Individual channel shall be programmed with different values.
RLY0-RLY5: Control Output for ST6-M1
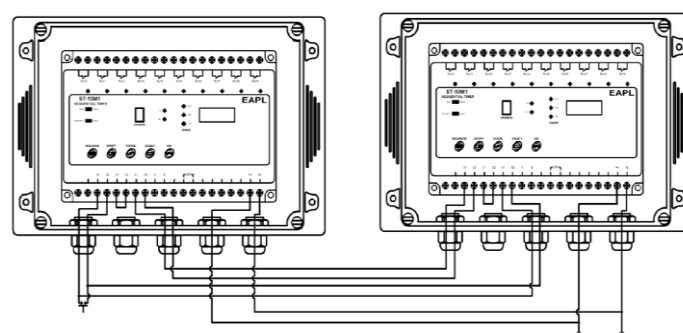**RLY0-RLY9:** Control Output for ST10-M1
HOLD MODE: Continue the timing after resumption of interrupted power.
RESTART MODE: After the resumption of interrupted power operation starts from the sequence 0 or waits for the start signal if C1–C2 is shorted.

Cascading Connection

Without IP66

With IP66