ST-100/ST-101

Multi-Function Timer

SLIMLINE
MONITORING RELAYS

ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
ST	100	230V	AC	DP

SEE PAGE 60 FOR ORDERING OPTIONS

Application Examples

- Delayed energisation of loads on power-up.
- Energisation of loads for a set period of time.
- Switching loads on and off repetitively in equal intervals.
- Alternating operation of two loads in equal intervals.
- Sequential switching of loads.

Features

- Failsafe feature.
- Programmable functions: delayed ON, interval (one shot), equal cycling.
- Programmable in six independent overlapping time ranges.
- Extended supply voltage range:
  10V to 30V AC/DC,
  90V to 250V AC.
- Specific power supply voltage available on request.
- Time adjustment on calibrated scale: 0 - 100%
- High repetitive accuracy.
- 5A double pole relay output (10A SPDT offered on request).
- Time range:
  ST-100: Up to 120 sec.
  ST-101: Up to 240 min.
  Extended time ranges available up to 25 hours or 200 hours on special order.

Description of Operation

The **ST-100** and **ST-101** are programmable multi-function, multi-range timer. The ST-100 and ST-101 covers a time range of 0,15 seconds to 120 seconds/ 240 minutes. Time adjustment is provided in six independent overlapping ranges. The unit can be programmed to operate in either one of the following modes:

1. Delayed ON Operation: When power is applied to the unit, the LED illuminates dimly while the relay remains off. After expiry of the set time delay, the relay energises and the LED comes on brightly. The relay remains energised until the power supply to the unit is interrupted.

2. Interval Operation: When power is applied to the unit, the relay energises immediately and the LED comes on brightly. After expiry of the set time delay, the relay de-energises and remains off until the power supply is interrupted and re-applied to start another cycle.

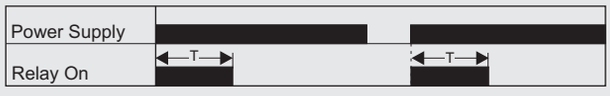
3. Equal Cycling, First Cycle Off Operation: When power is applied to the unit, the relay will switch on and off repetitively, starting with the OFF cycle. The LED will glow dimly while the relay is de-energised and will come on brightly during the relay ON cycle. The duration of the ON cycle and OFF cycle are both equal to the set time.

4. Equal Cycling, First Cycle ON Operation: When power is applied to the unit, the relay will switch on and off repetitively, starting with the ON cycle. The LED will glow dimly while the relay is de-energised and will come on bright during the relay ON cycle. The duration of the ON cycle and OFF cycle are both equal to the set time.

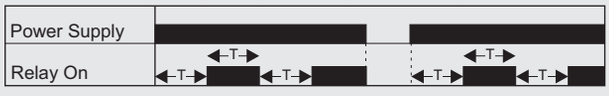
Operational Diagrams

Function 1: Delayed ON Operation

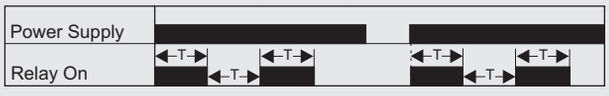
Function 2: Interval (One-shot) Operation



Function 3: Equal Cycling, First Cycle OFF Operation

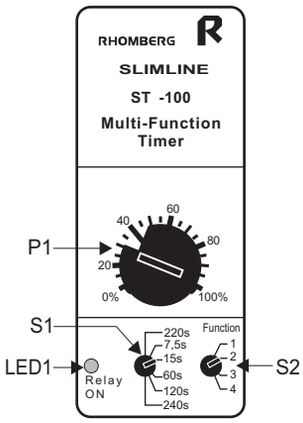


Function 4: Equal Cycling, First Cycle ON operation



T = set time

Description of Controls



LED 1: The LED marked **"Relay ON"** glows dimly when power is on, but the relay is de-energised. The light illuminates brightly when the relay is energised.

P1: **The Time Setting** is adjusted on P1. Maximium setting of 100% corresponds with the time selected.

S1: **The Time Range** is set on S1, using a screwdriver.

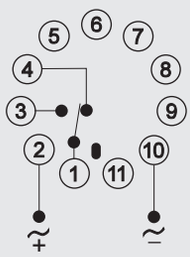
S2: **The Timing Function** is set on S2, using a screwdriver.
Position 1: - delayed ON operation.
Position 2: - Interval (single shot) operation.
Position 3: - Equal cycling, first cycle Off operation.
Position 4: - Equal cycling, first cycle ON operation.

Wiring and Connection

Power Supply	
Phase/Positive	Pin 2
Neutral/Negative	Pin 10

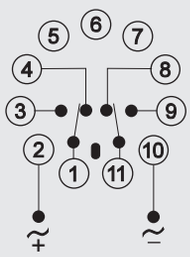
Relay Contacts (SPDT)	
Normally Open	1 + 3
Normally Closed	1 + 4

Relay Contacts (DPDT)	
Normally Open	1 + 3
Normally Closed	1 + 4
Normally Open	11 + 9
Normally Closed	11 + 8



AC or DC
Power Supply

APPLICATION 1
Single pole (SPDT)



AC or DC
Power Supply

APPLICATION 2
Double pole (DPDT)
Note: *DPDT supplied as standard*

Note: *The timer can be supplied with an instantaneous relay on special order.*

Technical Specifications

POWER SUPPLY

AC: Supply voltage:
Not Galvanic: 90 - 250V
Galvanic: 12, 24, 110, 230, 400, 415, 525V ±15%
Power consumption: 3VA (approx.)
6VA for 415, 525V (approx.)

DC: Supply voltage: 48, 60, 110V ± 15%
Power consumption: 30mA

AC/DC: Supply voltage: 10 - 30V AC/DC
Power consumption: 100mA

ST-100	
Switch S1	**Time Ranges**
1,8s	- Up to 1,8s
7,5s	- Up to 7,5s
15s	- Up to 15s
30s	- Up to 30s
60s	- Up to 60s
120s	- Up to 120s

ST-101	
Switch S1	**Time Ranges**
220s	- Up to 220s
7,5m	- Up to 7,5m
15m	- Up to 15m
60m	- Up to 60m
120m	- Up to 120m
240m	- Up to 240m

Reset: Power supply to be interrupted for at least 0,5 seconds. For high speed reset applications, refer to ST-110.

Extended time range available on special order:
• 6, 12, 5 and 25 hours
• 50, 100, and 200 hours

Additional information in Section J, page 131.