

# ST-300/ST-301

No Power Delayed OFF Timer

# SLIMLINE

MONITORING RELAYS



## ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
ST	300	230V	AC	DP

SEE PAGE 60 FOR ORDERING OPTIONS

## Application Examples

- Timed interval during the change-over sequence from main supply to stand-by supply.
- Prevention of unnecessary generator set initiation due to brief power failure.
- Prevention of unnecessary plant or equipment shut-down due to brief power failure.
- Power failure alarm timing.

**Important:** This timer is designed for power failure applications. Refer to 'Note' in Description of Operation (below).

## Features

- Internal NiCd battery back-up on ST-301.
- Programmable in 6 independent overlapping time ranges.
- Extended supply voltage range: 10V to 30V AC/DC.
- Time adjustment on calibrated scale, 0-100%.
- High repetitive accuracy.
- 10A single pole or 5A double pole relay output.
- Time ranges:  
ST-300: up to 120 sec.  
ST-301: up to 240min.

## Description of Operation

The **ST-300/ST-301** are multi-range timers, providing delayed release of the relay after power supply failure. The time delay is adjustable in six overlapping ranges.

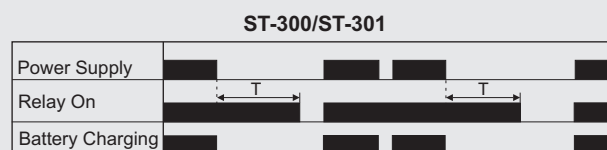
When power is applied to the unit the relay energises immediately and the LED indicates that power is on. While power is on, an internal battery or capacitor is charged. As soon as power fails, the LED goes off but the relay still remains in its energised position. The timer now draws power from the internal capacitor or battery. If power remains off for longer than the set time, the relay de-energises. If however, power is re-applied before the set time has elapsed, the relay will remain energised.

**ST-300:** The ST-300 covers a time range of 0.15 seconds to 120 seconds. Power has to be applied to the unit for at least two seconds before interruption to allow the internal capacitor to be charged.

**ST-301:** The ST-301 covers a time range of 10 seconds to 240 minutes. Prior to commissioning or when the unit has been without power supply for an extended periods of time, power should be applied for at least 24 hours to allow sufficient charging of the battery before a time cycle is initiated. During repetitive power ON-OFF operation, the power ON time should be twice as long as the power OFF duration (i.e. 67% duty cycle) to sufficiently recharge the battery.

**Note:** In applications where the supply voltage is present and delayed release of contacts is required, the ST-110 or ST-111 is the correct timer to use.

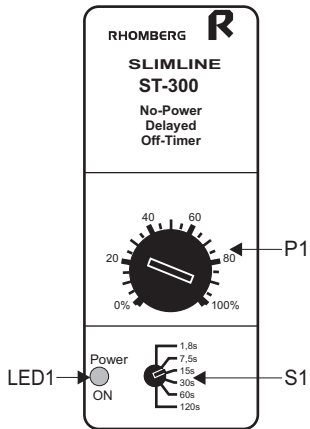
## Operational Diagram



$T = \text{set time}$



## Description of Controls



P1: The **Time Setting** is adjusted on P1. Maximum setting of 100% corresponds with the time selected on S1.

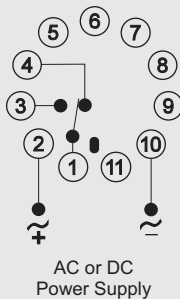
S1: The **Time Range** is set on S1, using a screwdriver.

LED 1: The **“Power ON”** LED illuminates when power is supplied to the unit.

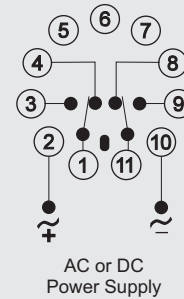
## Wiring and Connection

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



**APPLICATION 1**  
Single pole (SPDT)



**APPLICATION 2**  
Double pole (DPDT)

## Technical Specifications

### POWER SUPPLY

**AC:** Supply voltage: 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-300	
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-301	
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

Additional information in Section J, page 131.