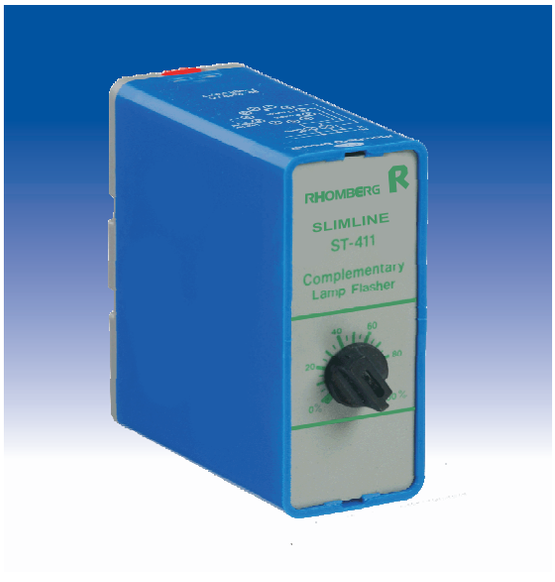
ST-410/ST-411

AC - Interval Lamp Flasher/ Complementary Lamp Flasher

SLIMLINE
MONITORING RELAYS



ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
ST	410	230V	AC	–

SEE PAGE 60 FOR ORDERING OPTIONS

Application Examples

- Flashing of traffic lights.
- Flashing of lights on pedestrian crossings.
- Flashing of warning lights on level crossings.
- Flashing of display signs.
- Flashing of warning beacons.
- Machine start-up indication (interval flashing).
- Machine failure indication (continuous flashing).
- Flashing of lights in shop windows.

Features

- Programmable: continuous flashing or interval flashing.
- Adjustable interval 1 - 10 seconds.
- Pulse rate of 90 flashes per minute as standard (other rates on special order).
- Solid state switching.
- Switching capacity 4A, 1000W/250V.
- Power supply range 90V - 250V AC.
- Two wire in-line connection (ST-410) or three wire in-line connection (ST-411).

Description of Operation

The **ST-410/ST-411** are programmable flashers designed specifically for incandescent lamps. The solid state switching output eliminates the arcing and mechanical wear and tear associated with relay contacts and thus ensures exceptional durability under continuous operation. The unit is programmable for continuous operation. The unit is programmable for continuous flashing or interval flashing, thus extending suitablity for traffic lights as well as “hurry-up” warning on pedestrian crossings.

Continuous Flashing: (no link between pin 8 and pin 9). When power is applied, the unit will flash the light on and off repetitively until the power supply is interrupted.

Complementary Flashing: (ST-411 only) When power is applied, the unit will alternately flash the lights connected to pin 3 and pin 4 repetitively until the power is interrupted.

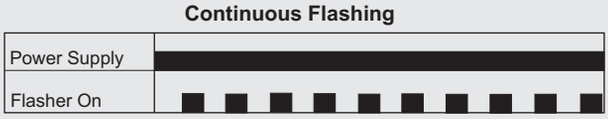
Interval Flashing: (link between pin 8 and pin 9)
When power is applied, the unit will flash the light on and off repetitively. When the set interval has expired, flashing will stop and the lamp will stay on continuously until the power supply is interrupted.

Note: *The power supply needs to be interrupted for at least 5 seconds to reset the unit before another cycle is started.*

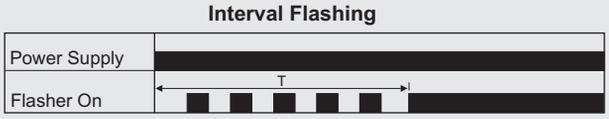
Operational Diagrams

ST-410

Continuous Flashing



Interval Flashing



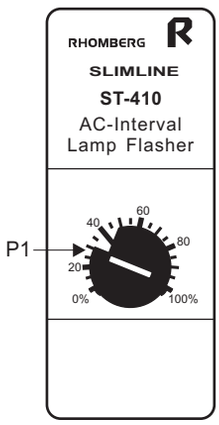
ST-411

Continuous Flashing

Interval Flashing

T = Interval period

Description of Controls



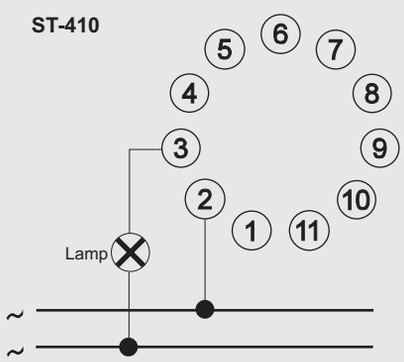
P1: The **Interval Period** is adjusted on P1.

Wiring and Connection

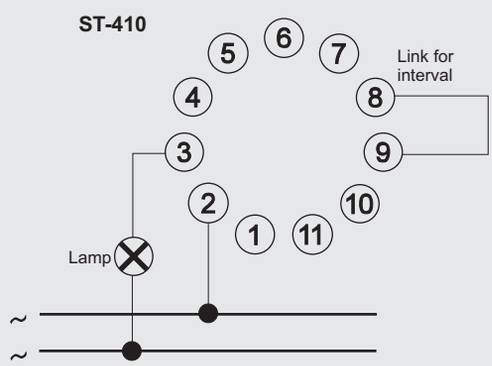
Power Supply

The ST-410 flasher is to be connected in series with the load.

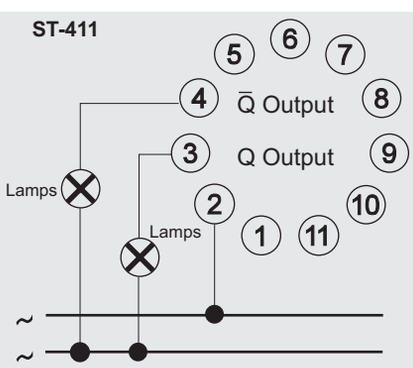
Note: *Make sure that the load is connected IN SERIES and does not exceed 1000W (250 VAC) or 400W (100VAC).*
A short circuit or overload will result in damage to the unit.



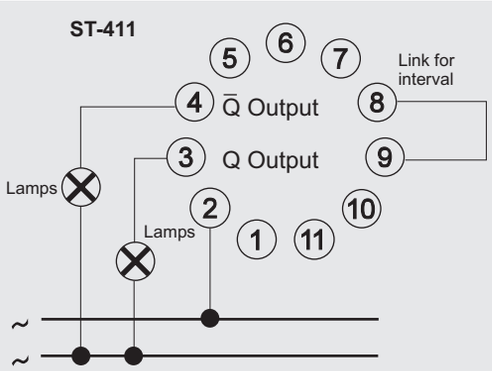
APPLICATION 1
Continuous flashing



APPLICATION 2
Interval flashing



APPLICATION 1
Complementary flashing



APPLICATION 2
Complementary flashing with interval

Technical Specifications

POWER SUPPLY

Supply voltage:	90-250V AC
Supply frequency:	45-70Hz
Minimum load:	15W (250V AC), 10W(110V AC)
Maximum load:	1000W (250V AC), 400W (110V AC)
Maximum load current:	4A continuous

TIMING

Flash rate: 90 flashes per minute (standard).
Optional pulse rates available on special order.
Interval: 1 - 10 seconds (adjustable).

RESET

Power supply to be interrupted for at least 5 seconds.

Additional information in Section J, page 131.