Electronic Timer - Series Staircase

The staircase timer is used to control lighting devices in staircases and corridors. When the switch is pressed, the lights are switched ON for the time period that has been set, after which they are switched OFF automatically. The time period of operation can be varied from 30s to 20 min (30 min - 20 hrs for 'Long Run' modes) with the help of the knob on the front facia of the timer.

The Pre-Warning feature alerts the user well in advance before the lights are switched OFF. The pushbuttons along with the glow-lamps (load up to 50mA) connected to the control input allows the device to be re-triggered. The product can be connected in 3 wire or 4 wire applications.

FEATURES

- · Compact 17.5mm wide with 10 operating modes
- Time Range: 0.5min 20min
- Long Run mode with time range from 0.5h 20h
- Time extension using re-trigger
- Functions with pre-warning & maintenance mode available
 Switch indications (glow-lamps / pilot lamps) up to 50 mA
- Switch indications (glow-lamps / pilot lamps) upto :
 3 wire & 4 wire configurations
- Maintenance mode available

Time Extension using Re-trigger

This feature allows the duration for which the lights are 'ON' to be extended with the press of the push button. If the push button is pressed again before the set time period has expired, the 'ON' time duration of the lights is extended by the value indicated on the timer during run time.



The time extension feature is present in Mode 1, 2, 3 & 4

Pre - Warning

The pre-warning feature alerts the user by blinking the lights before they are switched 'OFF'. On completion of the set time duration, the output blinks once & after a delay of 10 seconds, it blinks twice. After a further delay of 10 seconds, the output is switched 'OFF'. This allows the user to extend the 'ON' time duration of the lights by pressing the push button if it is desired.



The pre-warning feature is present in Mode 2, 4, 6 & 8.

Cut-Off

The cut-off feature allows the user to switch OFF the lights before completion of the set time period. *For modes without Pre-warning:*

If the push button is pressed for 2 seconds or more the output is switched OFF immediately.

For modes with Pre-warning:

If the push button is pressed for 2 seconds or more during run time, the pre-warning period starts immediately. If it is pressed during the pre-warning period it is ignored.



The cut-off feature is present in Mode 5, 6, 7 & 8.

MODES OF OPERATION

There are 10 different modes of operation which can be selected with the help of the mode selection knob on the timer. Following are the modes and their symbolic representation.

- 1. Staircase Relay (St)
- 2. Staircase Relay with Pre-warning (St * 🖄)
- 3. Staircase Relay with Cut-Off (Stc)
- 4. Staircase Relay with Cut-Off & Pre-warning (Stc * 🖄)
- 5. Timing Step Relay with Release Delay & Cut-Off (Tc)
- 6. Timing Step Relay with Release Delay & Cut-Off (Tc ⁺▲) & Pre-warning
- 7. Long Run (Lc)
- 8. Long Run with Pre-Warning (Lc * 🖄)
- 9. Step Relay (_-)
- 10.Premanent ON (영종)

Mode Change:

Select the desired mode by changing the mode selection knob on the timer. For mode change to take effect, reset the timer.

TIMING RANGE

There is a wide timing range which can be set with the help of the time selection knob.

The Time selection options are:

0.5 min, 2 min, 4 min, $\hat{6}$ min, 9 min, 15 min, 20 min These timings are applicable only for Modes 1, 2, 3, 4, 5 & 6.

For Long Run modes (Mode 7 & 8):

The unit changes from minutes to hours. Therefore the Time selection options for these modes are: 0.5 hr. 2 hrs. 4 hrs. 6 hrs. 9 hrs. 15 hrs. 20 hrs

MODE DESCRIPTION

1) STAIRCASE RELAY

On Initial Signal, the output is switched ON & timing starts for the set duration. Subsequent signals during this period will extend the time duration by the value indicated on the timer during run time.



2) STAIRCASE RELAY WITH PRE-WARNING

On Initial Signal, the output is switched ON & timing starts for the preset duration. On completion of the set time duration the output blinks once & after a delay of 10 seconds, it blinks twice. After a further delay of 10 seconds, the output is switched OFF. Any signal during the run time or the pre-warning period will extend the time duration by the value indicated on the timer during run time.



3) STAIRCASE RELAY WITH CUT-OFF

On Initial Signal, the output is switched ON & timing starts for the set duration. Subsequent signals during this period will extend the time duration by the value indicated on the timer during run time. If a signal of duration 2 seconds or more is applied, then the output is switched OFF instantly.



4) STAIRCASE RELAY WITH CUT-OFF & PRE-WARNING

On Initial Signal, the output is switched ON & timing starts for the set duration. On completion of the set time duration the output blinks once & after a delay of 10 seconds, it blinks twice. After a further delay of 10 seconds, the output is switched OFF. Any signal during the run time or the pre-warning period will extend the time duration by the value indicated on the timer during run time. If a signal of duration 2 seconds or more is applied, then the output is switched OFF after completion of the pre-warning period.



5) TIMING STEP WITH RELEASE DELAY & CUT-OFF

On Initial Signal, the output is switched 'ON' & timing starts for the set duration. During run time, if a signal of duration less than 2 seconds is applied, it is ignored. If the duration of the signal is 2 seconds or more, then the output is switched OFF instantly.



6) TIMING STEP WITH RELEASE DELAY, CUT-OFF & PRE-WARNING

On Initial Signal, the output is switched 'ON' & timing starts for the set duration. On completion of the set time duration the output blinks once & after a delay of 10 seconds, it blinks twice. After a further delay of 10 seconds, the output is switched 'OFF'. During run time, if a signal of duration less than 2 seconds is applied, it is ignored. If the duration of the signal is 2 seconds or more, then the output is switched OFF after completion of the pre-warning period.



On Initial Signal, the output is switched ON & timing starts for the preset duration. On completion of the time duration the output contacts open. Any signal during the run time is ignored. During run time, if a signal of duration less than 5 seconds is applied, it is ignored. If the duration of the signal is 5 seconds or



8) LONG RUN WITH PRE-WARNING

On Initial Signal, the output is switched 'ON' & timing starts for the preset duration. On completion of the set time duration the output blinks once & after a delay of 10 seconds, it blinks twice. After a further delay of 10 seconds, the output is switched OFF. During run time, if a signal of duration less than 5 seconds is applied, it is ignored. If the duration of the signal is 5 seconds or more, then output is switched OFF after completion of the prewarning period.



9) STEP RELAY

After every signal, the output changes state, alternately switching from ON to OFF.



10) PERMANENT ON

In this mode the output contacts are permanently closed until the mode is changed and the device is reset.



If the relay is OFF and a signal of duration more than 5 seconds is applied, the maintenance mode is activated. In this mode the output is switched ON for a duration of 60 minutes after which it is switched OFF. During this period if a signal of duration more than 5 seconds is applied, the maintenance mode is interrupted and the output is switched OFF. The mode can be activated from any one of the modes (Mode 1, 2, 3, 4, 5, 6 & 9) provided that the output is switched OFF initially.



CAUTION

- Always follow instructions stated in this product leaflet.
 Before installation, ensure that the specifications agree with the intended application
- 3. Installation to be done by skilled electrician.
- Automation & Control devices must be properly installed so that they are protected against any risk of involuntary actuations.
- 5. Suitable dampers should be provided in case of excessive vibrations.
- applied, it is ignored. If the duration of the signal is 5 seconds or more, then output is switched OFF instantly. 6. Setting of all potentiometers must be in clockwise direction only.
 - 7. Use of 250 mA fuse in series with product supply is recommended.
 - 8. The timers shall be placed in an enclosure that is minimum 200% of the size of the timer in the end use application.

TECHNICAL SPECIFICATIONS:	
Cat. No.:	27B1C3B1 27C1C3B1
SUPPLY CHARACTERISTICS:	
Nominal Supply (中)	230 VAC
Supply Variation	-25 % to +15 % of
Supply Frequency	47 to 53 Hz
Power Consumption (Max.)	2 VA
RELAY O/P CHARACTERISTICS:	
Contact Arrangement	1 NO
Contact Rating	16 A @ 240 VAC
Contact Material	Aq Alloy
Mechanical Life	10 Million
Electrical Life	0.1 Million
Switching Frequency (Max.)	Electrical : 600 cycles per hour at rated load
FEATURE CHARACTERISTICS:	
Set Time (Ts)	0.5m, 2m, 4m, 6m, 9m, 15m, 20m
Setting Accuracy	+/- 5% of marking
Repeat Accuracy	+/- 1%
Initiate time	>350 ms
Reset time	<500 ms
	Green LED - Power ON, Yellow LED - Relay Status
Mounting	Din Bail
Dimensions (W X H X L)	18 x 65 x 85 (in mm)
Weight (Uppacked)	72 gms
Humidity	95% max without condensation
Storage Temperature	-10 C to 30 C
	ID 20 for terminal ID 40 for Housing
Pollution Degree	
Isolation (Terminal and Casing)	
Enclosure Color	4 KV
Cortifications	CE as par JEC 61912 1 Ed 1 0 (1006 10) Dalk
	CE, as per IEC 61812-1 Ed. 1.0 (1996-10) R0HS,
EMI / EMC.	
	IEC 61000-3-2 Ed. 3.0 (2005-11) Class A
	IEC 61000 4 2 Ed. 2.0 (2006 02) Level II
Raulaleu Susceptibility	IEC 01000-4-3 Ed. 3.0 (2006-02) Level III
	IEC 61000-4-4 Ed. 2.0 (2004-07) Level IV
Surge between supply terminals	IEC 61000-4-5 Ed. 2.0 (2005-11) Level III
	IEC 61000-4-6 Ed. 2.2 (2006-05) Level III
Voltage Dips & Interruptions (AC)	IEC 61000-4-11 Ed. 2.0 (2004-03) Level III
Conducted Emission	CISPR 14-1 Ed. 5.0 (2005-11) Class B
	CISPK 14-1 EU. S.U (2005-11) Class B
SAFETY:	
lest voltage between all terminals and enclosure	IEC 60947-5-1 Ed.3.0 (2003-11) Level 4 kv
Single Fault	IEC 61010-1 Ed.2.0 (2001-02)
Insulation Resistance	UL 508 Ed.17 (1999-01) >2000 MΩ
	UL 508 Ed.17 (1999-01) <3 mA
ENVIRONMENTAL:	
Cold Heat	IEC 60068-2-1 Ed.6.0 (2007-03)
Dry Heat	IEC 60068-2-2 Ed.5.0 (2007-07)
Repetitive Shock	IEC 60068-2-27 Ed.4.0 (2008-02), 40 g, 6 ms
Non-Repetitive Shock	IEC 60068-2-27 Ed.4.0 (2008-02), 30 g, 15 ms
Vibration	IEC 60068-2-6 Ed.4.0 (2007-12), 5 g



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Mode Selection

Knob

Time Setting

Knob

RoHS

1.67 CONNECTION DIAGRAM

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