



Programmable timer bases

Instruction Leaflet

Type 1 RS stock no. 345-375
Type 2 RS stock no. 345-369

Mounting

These timers should be mounted in one of three ways:-

1. Clip the base onto a 35mm DIN rail to EN50 022 - removal is achieved by use of the spring release tab.
2. Surface mount unit using the supplied hardware as follows:-
 - a) Use the nut, screw, washer combination to replace the existing screw fitted through the central hole in the socket.
 - b) Fit the pan head screw into the M3 threaded bush in the underside of the unit.

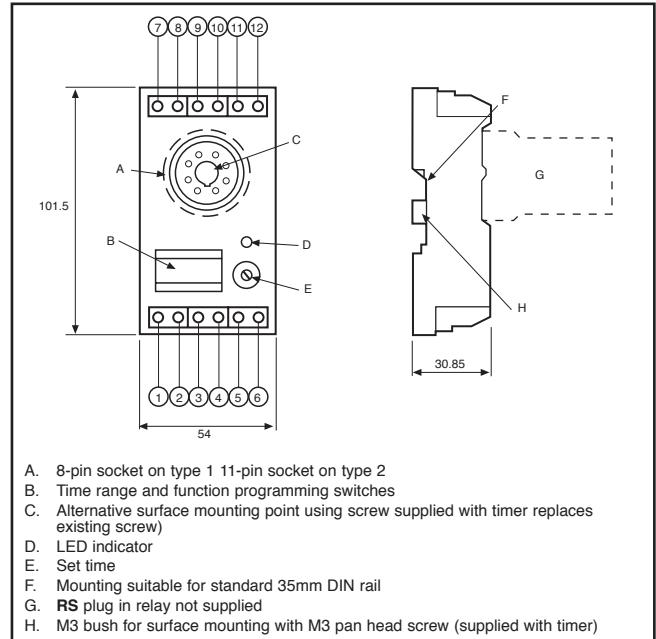
The chosen plug in relay will be held in place by the relay retention clip supplied.

Terminations

All terminations are onto the twelve screw clamp terminals - six at each end of the base moulding. Connections should be made as follows:

Dimensions

All dimensions are in mm.



- A. 8-pin socket on type 1 11-pin socket on type 2
- B. Time range and function programming switches
- C. Alternative surface mounting point using screw supplied with timer replaces existing screw)
- D. LED indicator
- E. Set time
- F. Mounting suitable for standard 35mm DIN rail
- G. **RS** plug in relay not supplied
- H. M3 bush for surface mounting with M3 pan head screw (supplied with timer)

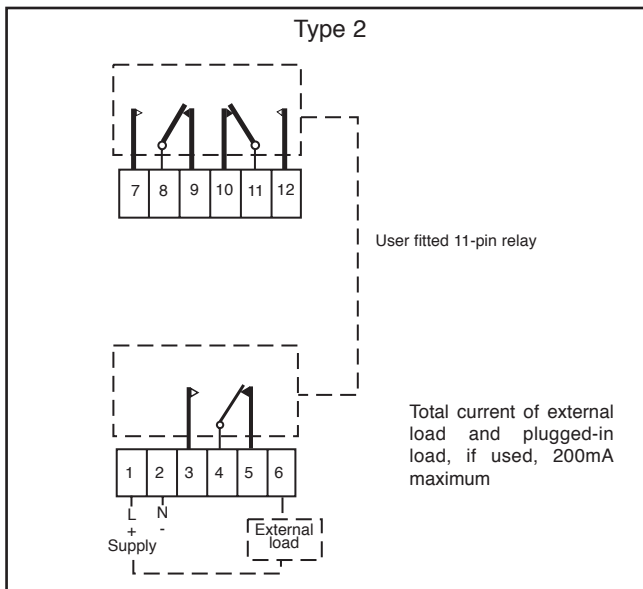
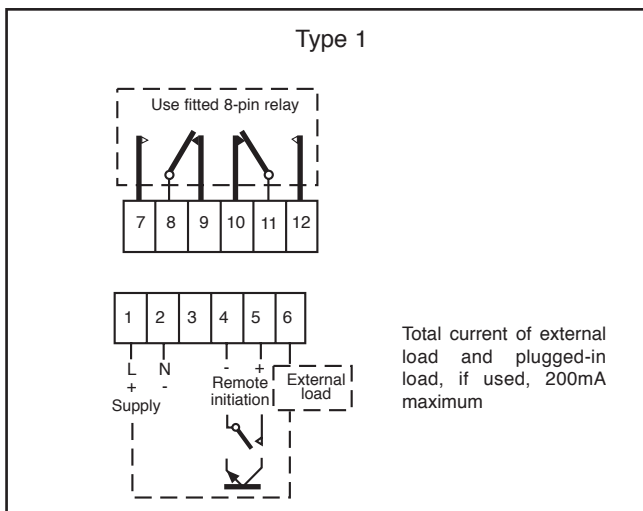
Specifications

- Supply voltage: _____ 12V to 120V d.c.
 or 20V to 250V a.c.
- Note:** Ensure relay coil used is compatible with chosen supply.
- Contact rating: _____ 8A, 250V a.c./30V d.c.
 (limited by the timer terminations)
 if used with **RS** relays.
- Max. total load: _____ 200mA (relay coil requirement plus any external load)
- Time repeatability: _____ 1%
- Reset time: _____ 50ms (the supply must be removed for this time to achieve a timer reset)
- Terminations: _____ Screw clamp terminals
- Indicator: _____ A red LED is 'ON' when the relay (or external load) is energised
- Ambient temperature range: _____ -20°C to 50°C

Time setting

Four different time range settings are available on type 1 timer (**RS** stock no. 345-375) and seven type 2 (**RS** stock no. 345-369). These are selected by using switches 3 and 4 on type 1 and switches 3, 4 and 5 on type 2. To obtain the required range use the switches in the positions as detailed below.

Note: These time range top limits are guaranteed minimums - typically longer times may be achieved.



Type 1 time ranges		
t	SW.3	SW.4
5 sec.	A	B
20 sec.	B	A
2.5 min.	B	B
20 min.	A	A

Type 2 time ranges			
t	SW.3	SW.4	SW.5
1 sec.	A	B	A
4 sec.	B	A	A
30sec.	B	B	A
1 min.	A	B	B
4 min.	A	A	A
4 min.	B	A	B
30 min.	B	B	B
4 hr.	A	A	B

Adjustment of time within these ranges can be made by using the potentiometer to the right of the switches.

Timing modes

The modes of operation of these timer bases are determined by what combination of switch positions (A or B) have been selected. In the case of type 2 only two switches (1 and 2) are used, with three switches (1, 2 and 5) being used for type 1. Switch 5 on type 1 selects remote control options.

Note: In all cases it is important to take into account the effect of the position of each of these switches to ensure that the desired operating mode has been selected.

The timing operations of these units are as follows:

Type 1 and type 2

Switch position

1A Pulse - immediately the supply is connected the relay will energise. The relay will de-energise after the set time and remain de-energised. Except when the cyclic (2A) mode has been selected (or the type 1 timer is being used under remote control initiation) disconnection from the supply is necessary to reset the electronic circuit for the next operation.

or 1B Delay - immediately the supply is connected a delay time as set will elapse, after which the relay will energise. Except when the cyclic (2A) mode has been selected (or the type 1 timer is being used under remote control initiation) the relay will remain energised until the supply is disconnected. If the supply is disconnected before the set time has elapsed the timing circuit will be reset without the relay energising. On subsequent re-connection of the supply timing will start again from zero.

Note: On the type 1 timer, selection of the remote control initiation (5A) can be used to provide a type of "DELAY OFF" function (supply permanently), i.e. delay initiated when remote control contacts are opened).

and 2A Cyclic - when selected, this mode will provide a continuous relay energised/relay de-energised timing cycle (total time 2t) with an equal mark/space ratio. when used with the **Pulse** mode (1A) the cycle will start with the relay energised and with Delay mode (1B) with the relay de-energised.

or 2B Single operation - with the switch in position the timer operation is determined solely by the position of switch 1 (and also switch 5 when using type 1).

5 Remote initiation - using standard supply initiation of the timer, an open contact on the remote control inputs will allow manual operation, as selected by switches 1 and 2 i.e. operation controlled by connection and disconnection of the supply. With the supply permanently connected, the following remote initiations are obtained.

5A Sustained - closing the contacts resets the timing circuit, which is the same as removal of the supply, re-opening of the contacts initiates a new timing cycle, which is the same as connection of the supply.

or 5B Momentary - closing the contacts resets the timing circuit momentarily and allows the next timing cycle to commence immediately, which is the same as briefly disconnecting the supply. Once timing has started the contacts can be re-opened without affecting operation.

Relay

These timer bases are designed to be used with standard octal, 2-pole (for type 1) or 11-pin, 3-pole (for type 2) plug in relays.

For suitable **RS** relays refer to relay section in the current **RS** catalogue (use octal types **RS** stock no. 348-756 (12V d.c.) etc. and 11-pin types **RS** stock no. 348-807 (12V d.c.) etc.)

It is very important to ensure the relay coil voltage used is the same as the supply to the timer. The wide operating voltage range available on the timer base enables operation from most supply rails, as long as a suitable relay is available. The chosen relay will be held in place by the relay retention clip provided.

Note: The terminations are used on the base limit the relay contacts maximum load to 8A, 250V a.c./30v d.c. (resistive).

External load

An external load requiring a maximum current of 200mA (resistive) at the supply voltage used, may be connected across terminals 1 (supply L or +) and 6. This load is usually in place of a plug in relay, although, if care is taken to ensure that the total load (external plus relay coil requirement) does not exceed 200mA, both may be used simultaneously.

Note: There is no short circuit or over-current protection when using these external load connections.

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