Instruction Leaflet

Multifunction Digital Timer

RS stock no. 343-997

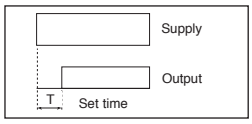
Operating instructions

This timer is a multi time range, multi function digital timer fully programmable via two front panel push buttons, designed to fulfil the majority of time delay relay requirements. The timer may be operated from a wide range of supply voltages, 18 to 260V d.c. or a.c., without adjustment. An integral NiCd rechargeable battery ensures that the selected function and other stored settings will be retained in the event of a supply failure. In addition, with the battery in a suitably charge state it is possible to remotely programme the unit prior to installation. A single pole changeover relay contact output is incorporated in the timer. An additional switch input, pin 11, is provided for the Delay on De-energise mode (DD) which are also be used as an enabling input in other modes. Where this facility is not required this input should be permanently connected to the supply, pin 2.

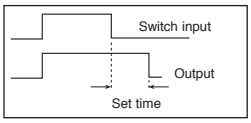
Operating modes

Six operating modes are available, user selectable in the following sequence:

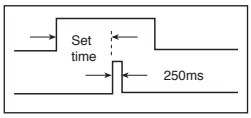
1. DE Delay on Energise - the output energises after the set time following the application of the supply.*



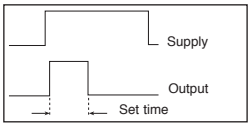
2. DD Delay on De-energise - this mode requires the supply to be maintained during the operation, control being affected by the switch input. The output relay energises immediately on closure of the switch (or by application of the supply if the switch input is opened the delay period is initiated and after the set time has elapsed, the output relay de-energises.



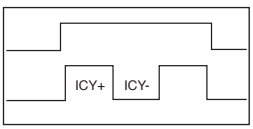
3. DP Delayed Pulse - output relay remains de-energised for the set time following application of the supply* and is then energised for 250ms only.



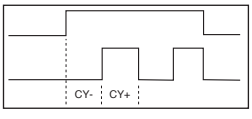
4. INT Interval - has the opposite action to DE in that the output energises immediately after the application of the supply* and de-energises after the set time has elapsed.



5. ICY Immediate cycle - the output relay energises after the application of the supply* for the ICY + set time. The relay then de-energises for the ICY - set time and cycle continues whilst the supply and switch input are maintained.

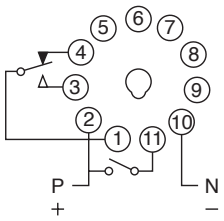


6. CY Cycle - the output relay remains de-energised for the CY - set time following the application of the supply*, then energises for the CY + set time. The cycle continues whilst the supply and switch input are maintained.



*Alternatively the supply may be maintained and the switch input used to initiate the function.

Connections



Pin	Function
1	Relay common
2	Supply
3	Relay N/O
4	Relay N/C
10	Supply
11	Switch input

Time range and display mode

Six time ranges are available, 9.99 seconds, 9.99 minutes, 9.99 hours and 99.9 hours. These can be displayed as time elapsed or time to elapse, indicated on the left of the display by the symbol ∧ for “time elapsed” or ∨ for "time to elapse".

First time use

Initially it may be found necessary to connect the timer to the supply in order to recharge its internal NiCd battery. Before any set time can be entered it is essential to select the required operating mode and time range as described below.
To set the MODE, RANGE or SET TIME:

1. Remove the supply - this must be done, otherwise mode and range cannot be set.
2. Press and hold down the SET button firmly for 5 seconds. The current mode flag will flash at the bottom of the display: DE, DD, DP, INT, ICY or CY.



3. Use the △ button to step through the modes until the required mode flag flashes.
4. Press the SET button to store the selected mode, and the display will now flash the current range, indicated on the right of the display as SEC, MIN or HRS plus a decimal point.



5. Use the △ button to step through the ranges until the required range is reached. Press the SET button to store range.

Note: Where CY or ICY modes have been selected, this procedure must be repeated as two ranges must be entered. This is indicated by CY+ and CY- or ICY+ and ICY-.

6. The display will now flash the ∧ or ∨ symbol in the top left corner.



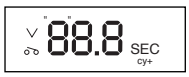
7. Use the △ button to alternate between the two; ∧ means that when operating, the display will show the time elapsed, and ∨ means that the time remaining will be displayed.
8. Press the SET button and the display will now show the SET TIME, with the most significant digit flashing.



9. Use the △ button to select the required value for this digit.
10. Press the SET button to store this, and the next digit will flash.



11. Repeat steps 9 and 10 until all parameters have been set and the display goes blank.



Note: Where CY or ICY modes have been selected this procedure must be repeated as two times must be set, indicated by CY+, CY-, ICY+, or ICY-.

Changing the SET TIME within a range

If only the SET TIME is to be subsequently altered then the following sequence can be used:

1. Press SET button, and the display will indicate the SET TIME.
2. Press the SET button again, and the most significant digit will flash. Time may now be set as per the set up procedure detailed earlier (8. to 11.)
3. If a cycle mode CY or ICY is being used then the two set times will first be displayed before it is possible to alter them.

Note: During this procedure power may be maintained and the times will not take effect until stored, and then only when the next called for by the timer.

Note 1: This timer has an integral saving function which will switch off the display if no button has been pressed for 20 seconds during setting up procedure. When this happens the current parameter being set will not be saved, but all previous parameters will be saved.

Note 2: If the wrong mode or time range has been selected it is necessary to cycle through all other setting procedures until display blanks and the selection procedure can be restarted at step 2. This may readily be achieved by repeatedly pressing the SET button.

Note 3: The SET TIME, RANGE, and MODE data is retained in battery backed memory for at least three months without power applied. If the timer is not powered up for a long time and the set up data has been lost, "SET" will flash on the display.

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