

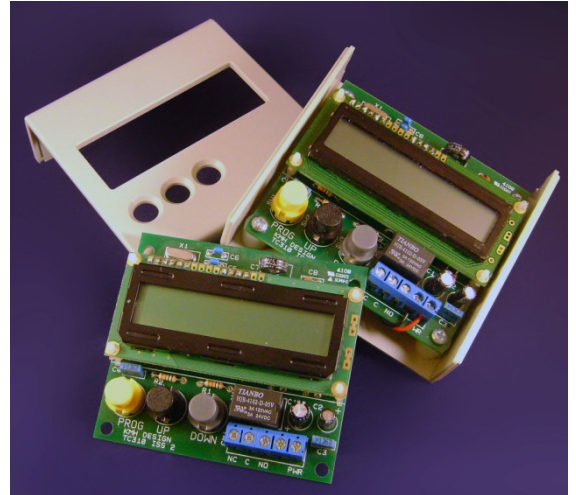
TC310 TIME CLOCK with automatic daylight saving operation

Introduction

The TC310 is a simple to program time clock with automatic daylight saving time correction. It offers 6 programmable time zones and can operate from a wide range of input voltages (AC or DC).

Specification

Dimensions	80 x 73 x 20 mm.
Input Voltage	9 to 28V DC. 7 to 20V AC.
Input Current	10mA (Relay off). 45mA (Relay on). (30mA and 70mA With Backlit Display)
Output	Changeover Relay contacts. Contact ratings. 120VAC / 60VDC @ 2A
Settings	6 Time Zones. These can be set to operate daily, weekdays, weekend and individual days or switched off.
GMT/BST Backup	Automatic Operation. On board battery backup will keep time and time zone settings for > 100 hours.



Connection

Connection is via a 5 way terminal block.

The 2 terminals marked PWR are to be connected to a power supply either AC or DC in the following range 9-28V DC or 7-20V AC. Note the voltage input is not polarity conscious. The remaining 3 terminals (NC, C, NO) are voltage free changeover contacts rated at 120VAC/ 60VDC @2A.

Operation

The Display shows the date on the 8 left-hand digits in DD/MM/YY format. The time is displayed on the next 6 digits in HH:MM format. The colon will flash once every second. The last character on the right will be blank if the relay is off and # if the relay is on.

Pressing the UP (Black) button replaces the date with the day of week, this returns to the date when the button is released.

Pressing the DOWN (Grey) button changes the state of the output relay. This will remain in operation until the next on / off time is reached, or the DOWN button is pressed again.

When one of the preset on times is reached the relay will operate. This will remain on until the off time is reached or the relay output is overridden by pressing the DOWN button.



PROGRAMMING

The TC310 is programmed using only 3 buttons. Each button has the following function.

PROG (Yellow) used to enter program mode and to step through program items.

UP (Black) replaces the date with the day of week during normal operation. Increments the flashing item in program mode.

DOWN (Grey) overrides the relay output On to Off or vice versa during normal operation. Decrements the flashing item in program mode.

If during program mode no button is pressed for 1 minute the clock automatically reverts to the time display.

STEP BY STEP PROGRAM GUIDE

Setting the Time

Press the PROG (Yellow) button once to enter programming mode. The display will show TIME ? followed by the present time setting (HH:MM) the hour digits will be flashing.



Use the UP (Black) / DOWN (Grey) buttons to select the correct hour in 24 hour format (0-23). When the correct hour has been selected press the PROG button to advance to the minutes. The hour digits will stop flashing and the minute digits will start flashing. Use the UP / DOWN buttons to select the correct minutes (0-59). When the correct time is displayed press the PROG button.

Setting the Date

The display will show DATE ? followed by the present date setting (DD/MM/YY).



The day digits will be flashing. Use the UP / DOWN buttons to select the correct day of month (1-31). When the correct day is shown press the PROG button to advance to the month. The month digits will start flashing and the day digits will stop flashing. Use the UP / DOWN buttons to select the correct month (1-12). When the month is correct press the PROG button to advance to the year. The year digits will start flashing and the month digits will stop flashing. Use the UP / DOWN buttons to select the correct year (0-99).

When the correct date is displayed press the PROG button.

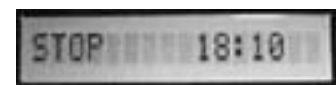
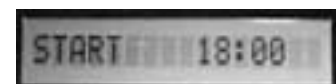
NOTE it is important that the date is set correctly for correct daylight saving operation.

Setting Time Zones

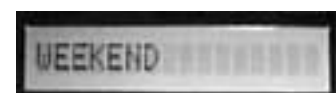
The display will show ZONE 1 followed by the present ON / OFF setting.



Use the UP button to turn the time zone ON or the DOWN button to turn the time zone OFF. Press the PROG button. If the time zone is turned OFF the display will move to the next time zone. If the time zone was switched ON the display will show START followed by the present start time setting. Use the UP / DOWN and PROG buttons to select the correct time as described in the section setting the time. When the correct time is displayed press the PROG button. The display will show STOP followed by the present stop time setting. Use the UP / DOWN and PROG buttons to select the correct time as described in section setting the time. When the correct time is displayed press the PROG button.



The display will show the present setting for day of operation use the UP / DOWN buttons to select when the time zone is to operate this can be set for individual days, weekends only, weekdays only or everyday. When the correct option is displayed press the PROG button. Repeat above for all time zones.



NOTE when programmed if the time falls within a programmed time zone on period the relay will not switch ON. Use the override (GREY) button to turn the relay ON. After this the relay will operate normally with the programmed time zones.