

Item #1301007R (120V Clock) and #1301008R (240V Clock)

THIS PROCEDURE MUST BE PERFORMED BY A QUALIFIED TECHNICIAN

REPLACEMENT

1. De-energize the system.
2. For time clocks mounted on din rail, remove the existing time clock from the mounting rail. Pry down on the tab located at the bottom of the clock (Figure 1) and pull outward.
3. Position the new clock on the appropriate mounting bracket and connect wiring in accordance with the wiring diagram for the application (Figures 2 - 7).



WARNING

HAZARDOUS VOLTAGE:
Risk of electric shock. Can cause injury, or death. System may be connected to more than one branch circuit. Disconnect power to all circuits before servicing.

SETTING THE TIME CLOCK

NOTE: The Theben time clock is equipped with a lithium battery with an approximate 4-year power reserve.

Throughout the programming of the time clock, if there is approximately 90 seconds of inactivity (no buttons are pushed), the display will automatically reset to normal operation. If the clock resets and the program information entered or edited is not stored, the time clock will default to the previous settings. The new information will need to be reprogrammed.

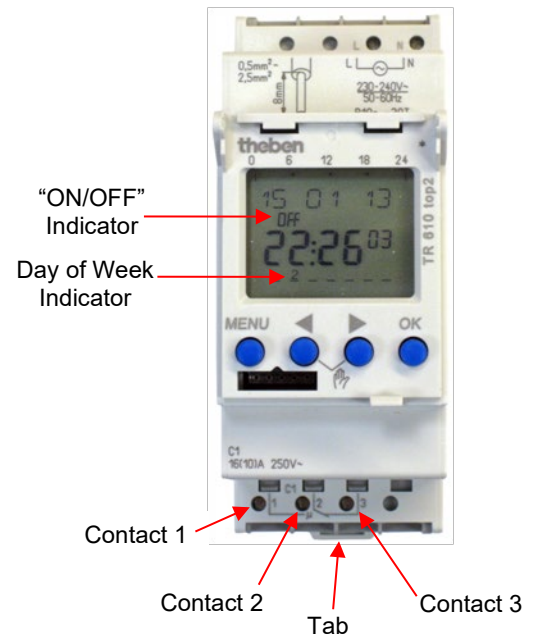
1. The time clock is delivered in a "sleep" mode. To activate without a service voltage, press and release one of the four buttons.
2. Press and hold "MENU" and "OK" buttons until display goes blank. Press "OK".

NOTE: To navigate through the menus below, press the "◀" or "▶" button. Press the "OK" to save each selection and move to the next one.

3. Select the national language.
4. If "Form Data" appears, select the desired format – mm/dd/yy, yy/mm/dd, dd/mm/yy.
5. Set the current year.
6. Set the current month.
7. Set the current day of the month. This display will show the day followed by the month (i.e. 09.01 is January 9th).
8. If "Form Time" appears – select 12 hr or 24 hr clock.
9. Set the current hour. Verify the correct am/pm hour is selected if using a 12-hour clock.
10. Set the current minutes.

NOTE: The time clock should continue with setup of daylight savings time' however, may return to normal operating mode and skip daylight savings section. If this occurs, press MENU button until "☀" is flashing at the top of the display. Press "OK" and repeat Steps 3-8.

Figure 1



11. To set if daylight savings time (DST) is used, press "▶" button until "SUM/WIN" is displayed. Press "OK".
 - a. **With Daylight Savings Time**
 - ◆ Use the "▶" button until "SU-WI USA" is displayed. Press "OK".
 - b. **Without Daylight Savings Time**
 - ◆ Use the "▶" button until "NO SU-WI" is displayed. Press "OK".
12. The clock will return to the time/status display and the day of the week should automatically be indicated by number (1 = Monday...7 = Sunday) at the bottom.

SETTING THE CHARGE (ON) AND CONTROL (OFF) CYCLES

NOTE: Start times for each charge (on) and control (off) cycle MUST be set. To ensure proper operation, the first program setting should be charge (on). If the first cycle would normally be control (off), set a 12:00 a.m. change (on) time as part of the schedule.

1. Press the "MENU" button until "Program" is displayed in the upper portion of the display. Press "OK".
2. Use the "◀" or "▶" button until "NEW" is displayed. Press "OK". "MEM FREE" and a number will automatically appear after a few seconds to indicate how many program locations are available. There are 56 program location available if no program settings have been entered.
3. The clock will automatically display "ON" or "OFF" toward the top of the display. "On" or "Off" will flash. Use the "◀" or "▶" button until "ON" displays and press "OK" to set the charging period.

NOTE: "ON" is a charging cycle and "OFF" is a control cycle.

4. "HOUR" will be displayed across the top. Use the "◀" or "▶" button to adjust the hour. Press "OK".
5. "MINUTE" will be displayed across the top. Use the "◀" or "▶" button to adjust the minutes. Press "OK".
6. "MONDAY" will display. Select the days of the week this program setting pertains to by using the the "◀" or "▶" button until the first day of the cycle is flashing. Press "OK" and "COPY" will flash. Press "OK" and "ADD TUESDAY" will appear. Continue to press "OK" to select the desired days. To bypass a day, press "▶". After "ADD SUNDAY" is displayed and/or selected, "SAVE" flashes on the display. Press "OK". "NEW" will display.

NOTE: Bypassing a day keeps the time clock in the last state it was in prior to the bypassed day.

7. Press "OK" repeat Steps 3 – 6 to program "TIME OFF" (control cycle).
8. Press "OK" to enter another program cycle or press "MENU" until you reach the standard display.

VIEWING THE CHARGE (ON) AND CONTROL (OFF) CYCLES

1. To view the program settings, press "MENU" until "Program" is displayed. Press "OK". "NEW" will be displayed. Press the "◀" or "▶" button until "CHECK" is displayed.
2. Continue to press and release "OK" button to review the programs or press "MENU" until you reach the standard display.

CLEARING A SINGLE CHARGE (ON) / CONTROL (OFF) CYCLE

1. To clear individual program settings, press "Menu" until "Program" is displayed. Press "OK". "NEW" will be displayed. Press the "◀" or "▶" button until "DELETE" is displayed. Press "OK".
2. "SINGLE" will display. Press "OK" and use the "◀" or "▶" button until the day of the week desired is displayed. Press "OK".
3. Use the "◀" or "▶" button to select "DELETE" if clearing the current program setting. Press "OK" and the current program setting will be cleared.

CLEARING ALL CHARGE (ON) AND CONTROL (OFF) CYCLES

1. To clear all existing program settings, press “Menu” until “Program” is displayed. Press “OK”. “NEW” will be displayed. Press “◀” or “▶” button until “DELETE” is displayed. Press “OK” and “CONFIRM” will display.
2. “SINGLE” will display. Use “◀” or “▶” button until “DELETE ALL” is displayed. Press “OK” and “CONFIRM” will display.
3. Press “OK” to confirm the clearing of all program settings or press “MENU” button to escape and not clear any program settings.

OVERRIDES

1. To temporarily override a current charge or control cycle, press and release the “◀” or “▶” buttons at the same time. “OVERRI On” will appear and the clock will reverse the current program cycle. This override status will remain until the next program cycle time, or it can be canceled by pressing and releasing the “◀” or “▶” buttons at the same time again and “Off” will display.
2. The time clock can also be placed in a permanent ON (charge) or permanent OFF (control) status. To do so, press and hold both “◀” or “▶” buttons until “PERM On” or PERM Off” is displayed. Follow the same procedure to cancel the override.

FINAL CHECKOUT

1. The heater(s) should reflect the program time.
 - a. During a charge (on) period the heater will display a “C”.
 - b. During a control (off) or peak period the heater will display a “P”.
2. The bars on the bar graph on the top side of the display indicate the charge (on) times. The numbers indicate time in 24-hour format (Figure 1). The “ON/OFF” indicator reflects the status of the contacts.
 - a. “OFF” displayed above the time indicates contacts 2 and 3 are closed (peak time).
 - b. “ON” displayed above the time indicates contacts 1 and 2 are closed (off peak or charge time).
 - c. The relay only operates when the time clock is energized.

Figure 2
EXT Series

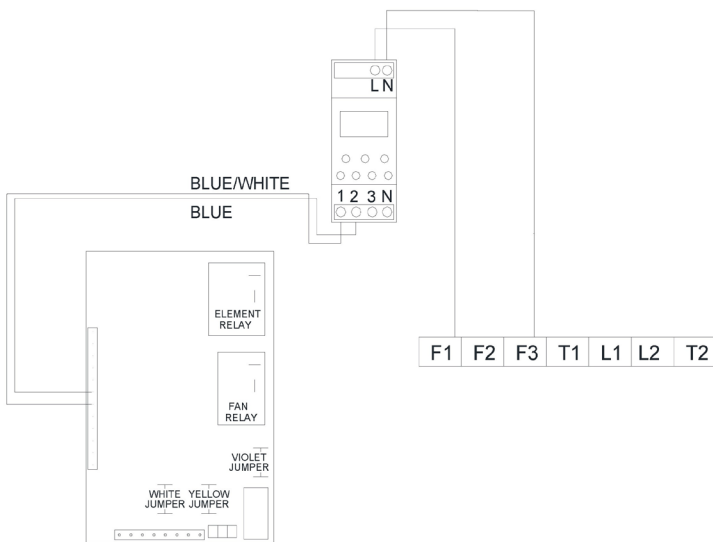
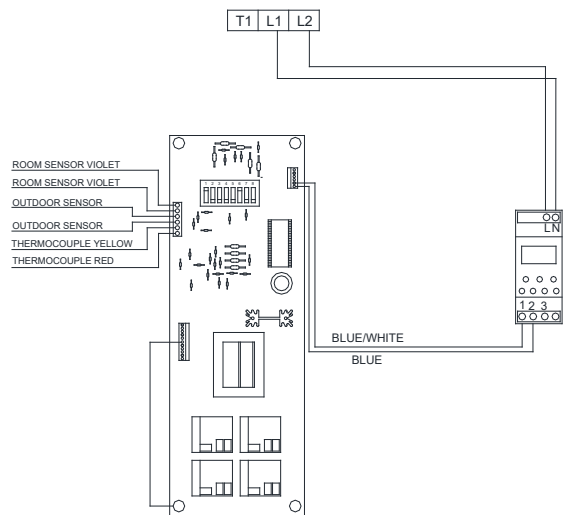


Figure 3
1000 Series and 2000 Series
Cord Connected



NOTE: Theben Time Clock should be mounted on a bracket. For EXT Series Order Item #1040322 and 1000/2000 Series Order Item #1040308.

Figure 4
2000 Series Direct Connected

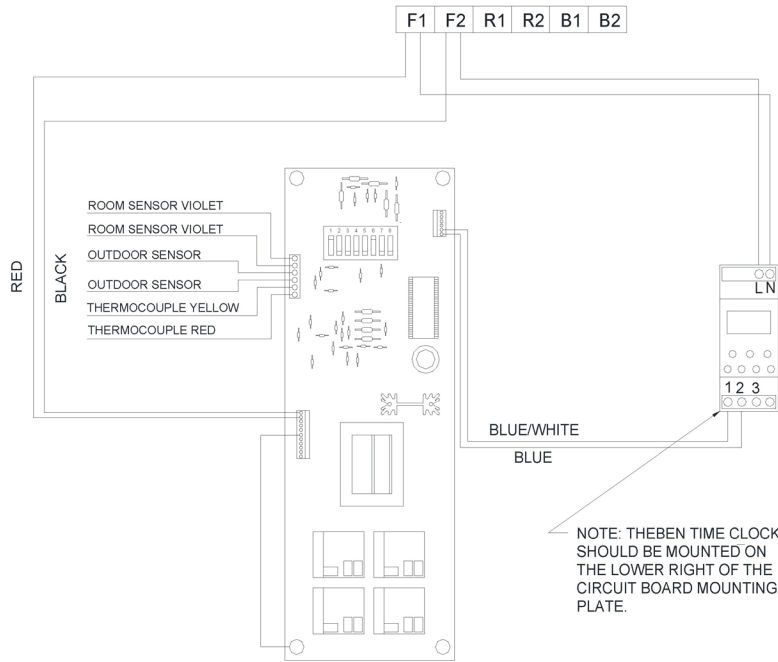


Figure 5
CCRP

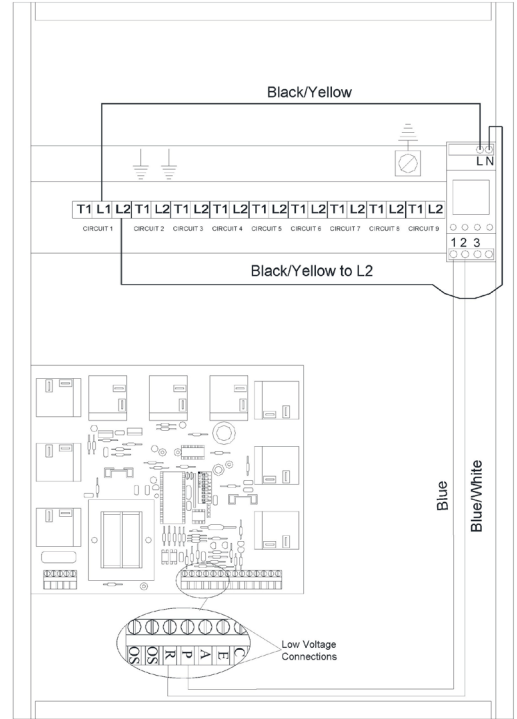


Figure 6
Transceiver

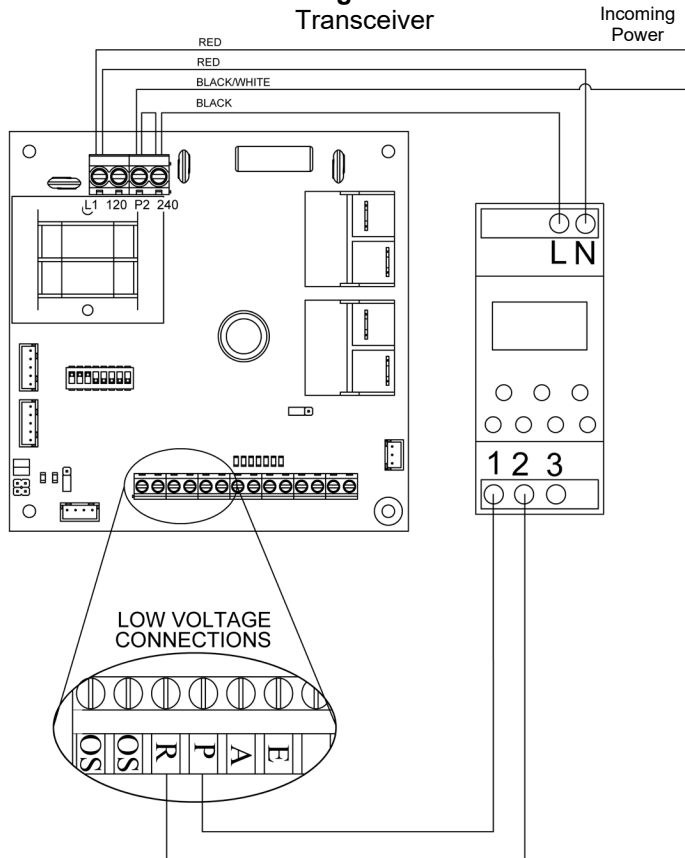
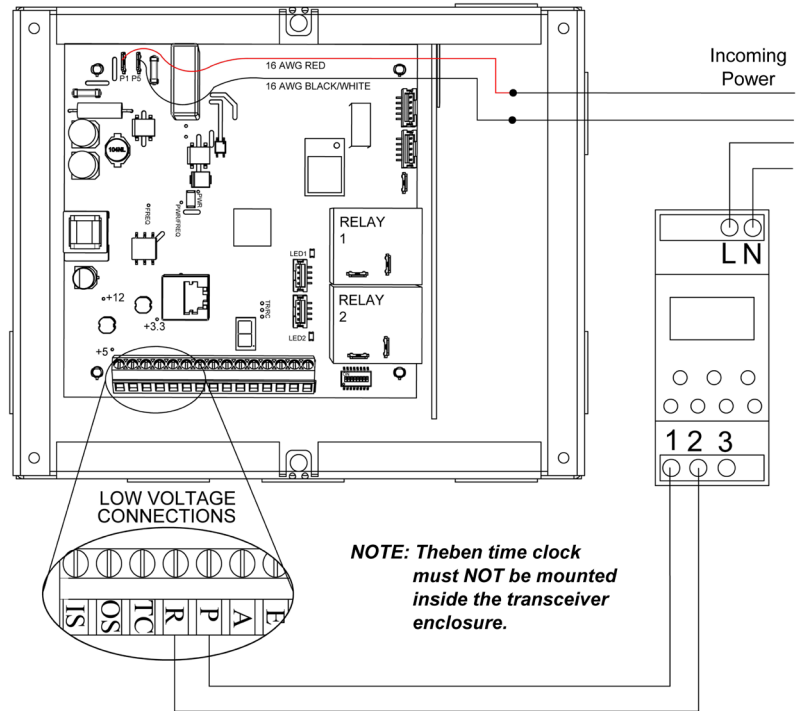


Figure 7
Transceiver
With 7-Segment Display



NOTE: Transceiver MUST be wired as shown for proper operation.