Bigelow Brook Farm, LLC
www.BigelowBrook.com

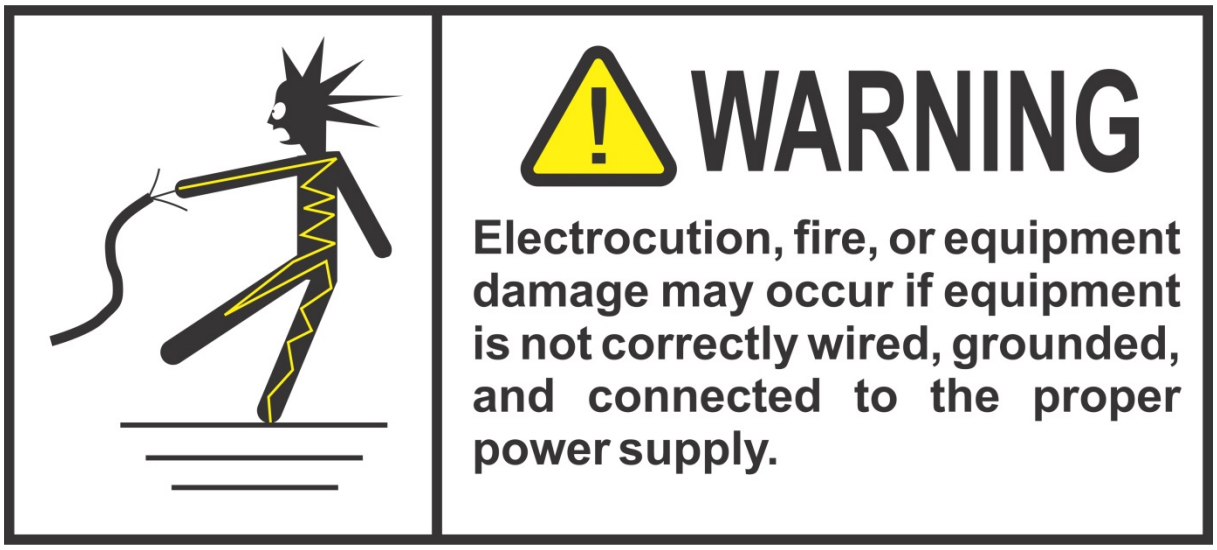
OPERATION MANUAL

For

MODEL IX-150 & IX-180
DUAL-RELAY SEQUENCING TIMER

(IX-180)

SECTION 1: SAFETY



1. The Assembly and Operation manuals can be found on our website at http://www.BigelowBrook.com/timer.

2. This manual provides critical safety instructions on the proper setup and operation of this equipment.

3. If you are not familiar with electrical wiring, consult with a qualified electrician.

4. Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including electrocution or death.

5. The owner of this equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training, usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, and the usage of personal protective equipment.

6. The manufacturer will not be held liable for injury or property damage from negligence, improper training, equipment modifications, or misuse.

7. DO NOT USE IN DANGEROUS ENVIRONMENTS. DO NOT use equipment in damp, wet locations, or where any flammable or noxious fumes may exist. Electronic equipment should be located in a NEMA 4x rated enclosure.

8. ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

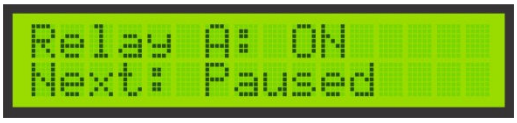
SECTION 2: OPERATING THE TIMER

HOME SCREEN

When power is applied, the unit will briefly display a startup screen. The timer(s) will start automatically.

Pressing the **Up** or **Down** buttons will enter a menu mode which provides a list of options. Once in the **Options** menu, press the **Up** or **Down** button to scroll through the options then press the **Next/Enter** button to select the option. The timer will continue to operate while you choose and edit the various options.

While on the main timer screen, pressing the **Next/Enter** button will stop the timer.



The following options will be available:

1) **Paused**: The current paused mode.
2) **Start**: Starts the timer.
3) **Next**: Forces the timer to go to the next event. The timer will remain paused.

OPTIONS

To view the various options, press the **Up** or **Down** buttons to enter the **Option** menu. To select a menu option, press the **Up** or **Down** button until the desired option is displayed, then press the button. The following options are available:

1) **Settings** – Allows the settings to be adjusted.
2) **Info** – Displays information about the timer.
3) **Back** – Returns to the Home display.

SETTINGS – The following settings are available:

1) **Relay A** – Changes various options for this relay.
    a. **Mode** – Changes the operating mode for the timer. The following modes are available:
        i. **Index Timer** – Interlocks the 2 relays so they operate in sequence.
        ii. **Timer** – Allows the 2 relays to operate independently.

iii. **Thermostat** (IX-180) – Sets the relay to operate as a temperature sensor. (Requires the optional temperature sensor.)

iv. **Analog** (IX-180) – Sets the relay to operate based on a voltage input from 0 to 5VDC.

b. **Time On** – Sets the time that the relay is in the On (NO) position.

A blinking cursor indicates which character you are currently editing. Press the **Up** and **Down** buttons to scroll through the values. Press the **Next/Enter** button to move to the next position.

When you are done editing the time, press the **Next/Enter** key until the cursor is over **Save**. You can then press the **Up** and **Down** buttons to choose the following options:

Save: Saves the changes to memory and returns to the previous menu. If you save a time that the timer is currently counting, it will not interrupt the counting process. The new time will be used the next time the timer is at this sequence.

Cancel: Cancels all changes and returns to the previous menu.

Edit: Returns the cursor back to the first digit so you can continue editing.

Example: The On Time for Relay A is set to 15 minutes, 0 seconds.

c. **Time Off** – Sets the time that the relay is in the Off (NC) position.

d. **Analog** (IX-180) – Settings for how the relay operates when the timer is operating in Analog mode.

The blinking cursor will be on the value that can be changed. The first position is the input sensor that is assigned to Relay A. The second position is the comparator. The third through sixth positions contain the comparison value for the sensor. When the condition is met, the relay will perform the following options:

NO: The A-NO terminal block is "on".

NC: The A-NC terminal block is "on".

Dsbld: The relay is disabled. (The A-NC terminal will always be "on".)

Example: When the sensor on terminal C is greater than 75, the NO terminal will have power.

e. **Thermostat** (IX-180) – Settings for how the relay operates when the timer is operating in Thermostat mode. (See above "Analog" on how to change values.)

Example: When the temperature sensor on terminal D is greater than 30, the NO terminal will have power.

f. **Back** – Returns to the Settings menu.

2) **Relay B** – Changes various options for this relay. See Relay A.

3) **Alarm** (IX-180) – Changes the options for the alarm speaker.

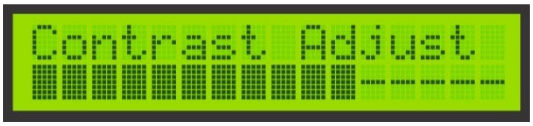
The blinking cursor will be on the value that can be changed. The first position is the input sensor that is assigned to the alarm. The second position is the comparator and the third through sixth contains the comparison value for the sensor. When the condition is met, the alarm has the following options:

Beep: The speaker will beep every second.
Tone: The speaker will produce a constant tone.
Dsbld: The alarm is disabled.

Example: Alarm will beep when the sensor on the C connection terminal is greater than 100.

4) **Contrast** – Adjusts the display's contrast.

To change the display's contract, press the **Up** or **Down** buttons. When complete, press the **Next/Enter** button to save.



5) **Back** – Returns to the Options menu.

INFO

The **Info** option allows you to view information about the timer. The following options are available:

Hardware: Display the model number and firmware revision.

Analog C, Analog D, Temp. C, & Temp. D (IX-180): These options are helpful when troubleshooting the input sensors. The timer will attempt to read the device connected to it and display the value.

SECTION 3: DEFINITIONS

Independent: Both relays operate on their own timing cycle, essentially splitting the timer unit into two separate timers. Both relays can be On and/or Off at the same time.

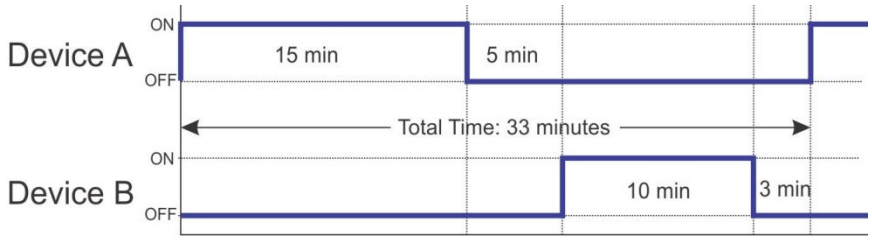
Interlocked: The two relays are locked together in the same time cycle. Relay A will run through its ON & OFF cycle and then Relay B will run through its cycle. Only one relay is on at a time.

NC (Normally Closed): The position the relay is in during the "off" cycle. Power is available at this terminal during this cycle.

NO (Normally Open): The position the relay is in during the "on" cycle. Power is available at this terminal during this cycle. This is usually the terminal to which the power wire is connected to leading to a device such as a pump or fan.

SECTION 4: EXAMPLES

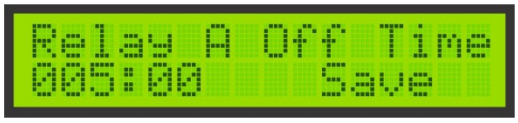
EXAMPLE A: Set the timer so that Relay A is on for 15 minutes and off for 5 minutes. Then turn Relay B on for 10 minutes and off for 3 minutes. Only one relay can be on at a time.



1) Go to **Settings → Relay A → Mode** and select **Index Timer**. Press the **Next/Enter** button to save the setting.

2) Go to **Settings → Relay A → Time On** and set the time to **015:00**. Choose **Save** and press the **Next/Enter** button.

3) Go to **Settings → Relay A → Time Off** and set the time to **005:00**. Choose **Save** and press the **Next/Enter** button.

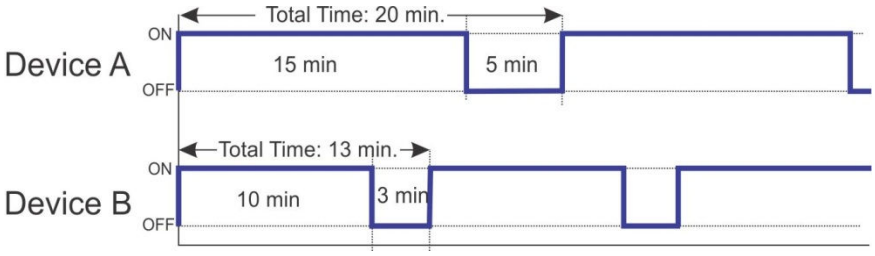


4) Go to **Settings → Relay B → Time On** and set the time to **010:00**. Choose **Save** and press the **Next/Enter** button.

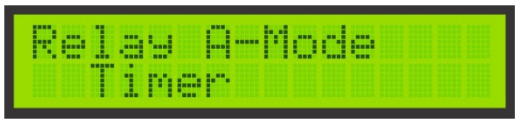
5) Go to **Settings → Relay B → Time Off** and set the time to **003:00**. Choose **Save** and press the **Next/Enter** button.

6) Return back to the home screen. It will display the current relay status, and the amount of time until the next event occurs.

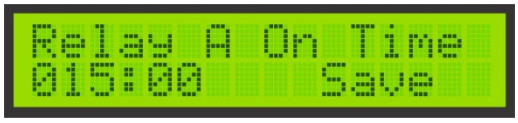
EXAMPLE B: Set the timer so that each relay can run independently with their own times. Relay A will be on for 15 minutes, then off for 5. Relay B will be on for 10 minutes then off for 3.



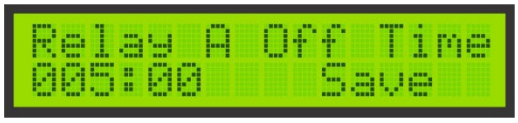
1) Go to **Settings → Relay A → Mode** and select **Timer**. Press the **Next/Enter** button to save the setting.



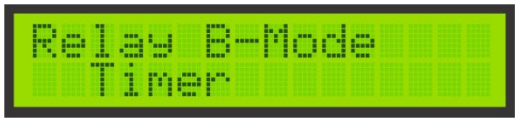
2) Go to **Settings → Relay A → Time On** and set the time to **015:00**. Choose **Save** and press the **Next/Enter** button.



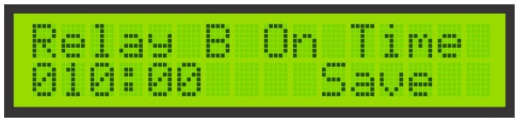
3) Go to **Settings → Relay A → Time Off** and set the time to **005:00**. Choose **Save** and press the **Next/Enter** button.



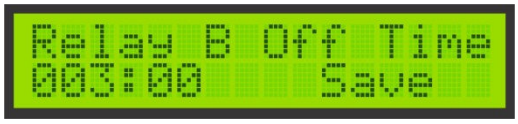
4) Go to **Settings → Relay B → Mode** and select **Timer.**



5) Go to **Settings → Relay B → Time On** and set the time to **010:00**. Choose **Save** and press the **Next/Enter** button.



6) Go to **Settings → Relay B → Time Off** and set the time to **003:00**. Choose **Save** and press the **Next/Enter** button.



7) Return back to the home screen. It will display the status for each relay, and the amount of time until the next event occurs.

For additional examples, please visit our web site at http://www.BigelowBrook.com/timer