

INTERMATIC®
MODEL EI400 Series
Installation and User Instructions

Ratings

- Resistive (*heater*) 20 Amp, 120-277 VAC
- Tungsten (*incandescent*) 15 Amp @ 120 VAC, 6 Amp @ 208-277 VAC
- Ballast (*fluorescent*) 16 Amp @ 120-277 VAC
- Motors 1 H.P. @ 120 VAC, 2 H.P. @ 240 VAC
- DC Loads 4 Amp @ 12 VDC, 2 Amp @ 28 VDC

⚠ WARNING

- **Electrical shock hazard. Risk of injury or death. Remove electrical power at service panel before installing.**
- **Risk of fire and burns. Do not recharge, disassemble, heat above 100° C, crush, or incinerate the lithium battery. Keep battery out of reach of children. Replace only with Panasonic Type CR2 or equivalent CR2 battery approved by Underwriters Laboratories (UL). Use of other battery may present risk of fire or explosion upon disposal of the battery.**
- **Risk of fire. Do not use timer to control devices that could have dangerous consequences due to inaccurate timing, such as sun lamps, sauna, heaters, crock pots, etc.**

NOTICE

- **Follow local electrical codes during installation.**
- **Risk of timer damage due to leakage if weak battery is not replaced promptly.**
- **Dispose of used battery promptly per local regulations.**

1 – Before Installing, Check the Battery

Before installing the shut-off timer into the wall, make sure the supplied battery is installed and working, and the device has been reset.

1. Open the access door to reveal the battery tray, located below the ON/OFF keypad.
2. If there is a pull tab at the battery tray, remove the tab to connect the installed battery. Make sure battery tray is pushed fully into place. Proceed to Step 6.
3. If the battery was supplied loose, use a flat screwdriver to pry loose the battery tray.
4. Place the supplied “CR2” battery into the tray, observing + and – markings on tray.
5. Replace the battery tray into the timer.
6. The display will initialize itself then display “OFF” with the dark light bulb icon. The timer will “beep”.
7. Press the **ON/OFF** button. The shut-off timer should “click.”
NOTE: There is an intentional 1-second delay, after pressing the ON/OFF button, before the timer clicks OFF.
8. If the display is blank, the battery may be dead. Replace the battery before installing the timer.

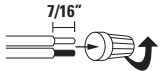
2 – Before Installing, Reset the Timer

Before installing, reset the timer to clear out any settings.

1. Hold down **ON/OFF**.
2. Using a pen or paper clip, press and release the **RESET** button, which is the small round button to the lower right of the + button. The display will initialize itself and the timer will “beep”.
3. When the screen displays “INIT”, release the **ON/OFF** button. The timer will display “OFF” with the dark light bulb icon.

3 – Install the Timer into the Wall

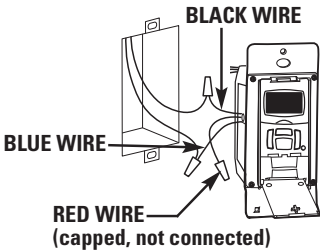
1. Turn off power at the service panel by REMOVING FUSE or TURNING THE CIRCUIT BREAKER OFF.
2. Remove the existing wall switch.
3. Trim building wires to 7/16” as shown.



Digital Auto Shut-Off Timer

If a Single Switch Setup:

- a. Connect one of the two wires from the wall to the black wire from the timer, using the twist connectors provided.
- b. Connect the other wire from the wall to the blue wire from the timer, using the twist connectors provided.



NOTE: The RED wire is not used in single-switch installations. Cap with a twist connector.

- c. Connect the GREEN wire to the grounding screw in the box. If a plastic box, connect to ground as supplied.
- d. Make sure all twist connectors are tight.

If a 3-Way Switch Setup:

NOTE: The distance between timer and remote switch must not exceed 100 feet.

- a. Locate the COMMON wire connected to first old switch. It might be attached to a different colored screw, or find markings on old switch.
- b. Connect BLACK wire from timer to COMMON wire, using a twist connector.
- c. Connect the other two wires from the old switch as follows: one to the BLUE wire and the other to the RED wire from the timer.
- d. Connect the GREEN wire to the grounding screw in the box. If a plastic box, connect to ground as supplied.
- e. Using diagram #1 below. Identify and remove wire “C” from the “Common” terminal of your existing remote switch.

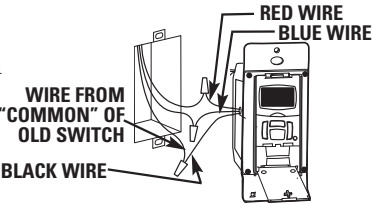
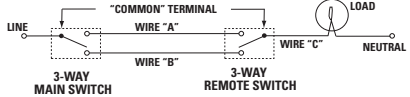


DIAGRAM 1:
TYPICAL EXISTING 2-SWITCH SETUP



- f. Using diagram # 2 below, remove and reconnect wires “B” and “C” to the “Common” terminal of your remote switch, using a jumper wire, if necessary. Follow diagram # 3 below, if using a new single-pole remote switch.

DIAGRAM 2:
2-SWITCH SETUP, TIMER INSTALL RE-USING EXISTING REMOTE 3-WAY SWITCH

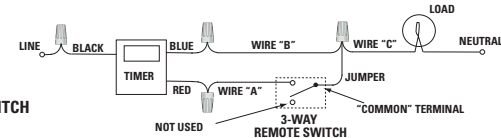
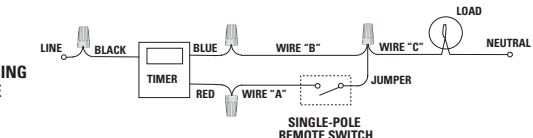


DIAGRAM 3:
2-SWITCH SETUP, TIMER INSTALL USING NEW SINGLE-POLE REMOTE SWITCH



NOTE: For new construction or to replace a dimmer switch, a lighted switch, or a 3-way switch without screw terminals, a single-pole switch can be used at the remote location, as shown.

NOTE: If the building’s wiring colors don’t allow you to tell wire “A” from “B,” just pick one of the two wires and connect as if it is wire “B.” After the installation is complete, if the controlled light or device will not turn on properly, simply reverse wires “A” and “B.” See Steps J and K for how to check.

- g. Tuck wires into the timer wall box leaving room for the timer.
- h. Using screws provided, mount the timer into the wall box, then install the wall plate.

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- i.

Install the remote 3-way switch in its box and install wall plate. Turn the power back on at the service panel.
- j.

Do the following test with the remote switch in each of its 2 positions: Press the **ON/OFF** button on the timer several times. Each time that you push the **ON/OFF** button, the timer should “click” and the controlled light or device (the “load”) should turn on or off. If so, proceed to Step **K**.

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If the timer clicks but the load does not operate, re-check your wiring and make sure the load is functional.

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If the timer clicks but the load only operates when the remote switch is in one of its 2 positions, you need to turn off the power at the service panel, then reverse wires “A” and “B.” You can reverse wires “A” and “B” at the remote switch wall box, or you can reverse wires “A” and “B” where they connect to the red and blue wires of the timer. Then turn power back on at the service panel and repeat Step **J**.
- k.

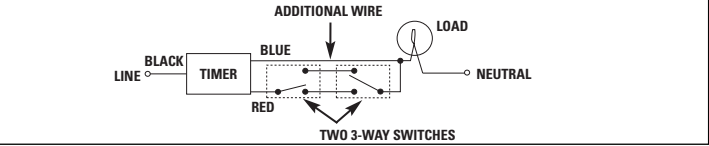
Verify that the controlled load turns on or off each time that the remote switch is operated.

If a Multiple Switch Setup:

Multi-switch applications using the EI400 Series timer are wired differently than when using conventional toggle switches. Read the following installation instructions carefully.

- Multiple timers may be mounted in an unlimited number of adjacent junction box slots.
- No derating is required for multiple timers.

For a three-switch setup:



For four or more switch setups:

Use the preceding 3-switch installation diagram and wire 4-way switches between the two 3-way switches.

***NOTE:** The remote switch(es) may not function reliably when the accumulated wire length to the remote switch(es) exceeds 100 feet or if the wiring to the remote switch(es) is buried underground. Contact Intermatic Customer Service for details.*

***NOTE:** Used remote switches from a previous conventional installation may not function reliably with an electronic timer. Try a brand new remote switch if function is intermittent.*

4 – Set Up the Timer

The Timer’s set-up procedure navigates through whether to set a 3-minute shut-off warning and whether to lock the timer setting function.

Setting the WARNing Option:

1.

Open the front cover.
2.

Press the **Pause** and **ON/OFF** buttons and hold for 5 seconds. The display shows the WARNing menu.
3.

Release the buttons.
4.

Press the **+** button to advance through the WARNing options, identified as the following words appear on the display:

• **Off** — the warning function is turned OFF.

• **Beep** — when the timer reaches 3-minutes before shut-off, it will “beep” three times every 30 seconds until shut-off. A “*bell*” icon will appear on the display.

• **Flash** — when the timer reaches 3-minutes before shut-off, it will flash the controlled lights (or other circuit) for 1 second. A “*sunburst*” icon will appear on the display.

• **All** — when the timer reaches 3-minutes before shut-off, it will both “beep” 3 times and flash the controlled lights (or other circuit). The beeper will continue to beep 3 times every 30 seconds until shut-off. Both “*bell*” and “*sunburst*” icons and the word “ALL” appear on the display (as shown).
5.

Select the WARNing option you want.

6.

Press the **Pause** button once to save your choice. The screen advances to the Lock menu.
- Setting the LOCKing Option:

7.

Press the **+** button to advance through the LOCKing options:

• **None** — no locking function is set.

• **Pause** — users cannot use the Pause function to suspend the timer countdown.

• **Time** — users can review but not change the time setting. Users can adjust a running countdown, but may not exceed the locked shut-off setting.

• **All** — both the pause and setting or changing of the timer’s shut-off setting are locked.
8.

Select “NONE”.
9.

Set the timer interval you want. (Refer to ***Section 5*** below.) This must be done before selecting a LOCKing option.
10.

After you have set the timer, select the LOCKing option you want.
11.

Press the **Pause** button once to save your choice. The screen returns to the function underway when set-up began — either OFF or ON.

5 – Set the Timer

The Shut-Off Timer can be set to keep the connected load powered ON for any duration from 1 second up to 24 hours.

1.

Open the front cover.

***NOTE:** Make sure timer setting is not locked before trying to set the timer. (Refer to **Section 4** above.)*
2.

Press the **ON/OFF** button to make sure the display shows “OFF”.
3.

Press and hold the **+** and **–** buttons at the same time. The display shows 5 minutes 0 seconds, then displays larger intervals up to 24 hours 0 minutes.
4.

Release the **+** and **–** buttons at or near the time you want to set.
5.

Fine-tune the setting as necessary by pressing and holding either the **+** or **–** button till the display shows the exact time you want.

***NOTE:** After you have held the **+** or **–** button for a few seconds, the display “speeds up” in making the adjustment.*
6.

Release the **+** or **–** button. The display shows the timer setting for 2 seconds to confirm your selection, then saves it.

About the Battery

- The single lithium CR2 battery operates the ON/OFF function (“click-click”) and maintains the display. The screen flashes “BATT” and “REPL” when the battery is getting low.
- The battery may be changed without removing AC power.
- The timer settings remain in memory indefinitely without battery or AC power.
- To test the battery, press the **ON/OFF** button. The timer should “click.”
- Replace the battery per Section 1 Instructions as soon as possible after the “BATT” and “REPL” messages appear.
- Do not leave exhausted battery in shut-off timer. (Risk of leakage.)
- Replace only with Panasonic Type CR2 lithium battery or equivalent CR2 battery approved by Underwriters Laboratories (UL).
- Dispose of the used battery promptly according to local regulations. Keep battery away from children. Do not disassemble and do not dispose of battery in fire.

Copy and distribute this page to train users in day-to-day use and maximum efficiency from the Shut-Off Timer.

Everyday Use

- Press on the cover to turn the timer ON, where the load is powered ON and the timer is counting down to shutting OFF the load according to its setting. The display shows:
- Remaining time till shut-off.

-

An ***ON light bulb*** icon, indicating that the load is powered ON.

-

Optional (if set): the ***bell*** icon, indicating that — with 3 minutes remaining till powering OFF — the beep alarm will beep every 30 seconds as a shut-off a warning.

-

Optional (if set): the ***sunburst*** icon, indicating that — with 3 minutes remaining till powering OFF — the controlled load (probably lights) will flash once as a shut-off warning.

Press on the cover again to turn the timer OFF. The controlled load is also powered OFF.

Special Situations and Operating Tips

- Checking Timer Setting** — Press the **+** or **–** button to check the timer setting. The display shows the timer setting for 2 seconds.
- Setting Timer When Locked** — When the timer is LOCKED, the user cannot adjust the timer setting.
- Setting Timer When NOT Locked** — When the timer is NOT LOCKED, the user can adjust the timer setting, but must turn the timer OFF before making adjustments.
- Pausing a Countdown** — When pause is NOT locked, press the **Pause** button to pause a countdown in progress. Pause bars flash while the count holds steady. Press **Pause** again to continue the countdown, or press the **ON/OFF** button to power the load OFF.

Troubleshooting Guide

Observed Problem	Possible Cause	What to Do
Load only operates when the remote (3-way) switch is in one position, or the shut-off timer ignores the remote switch.	The remote switch is wired incorrectly.	Recheck the wiring, especially for the jumper, according to “If a 3-way Switch Setup” and “If a Multiple Switch Setup.”
The timer waits 1 second to power OFF after pressing the ON/OFF button or operating the remote switch.	This is intentional to allow you to operate the switch a second time to restart without powering the load OFF.	
The timer is acting erratically.	Operating software has become confused and needs to be reset.	Perform a Reset: Using a pen or paper clip, press and release the reset button (lower right of the + button).
The timer ignores a 3-way remote switch even though it is wired correctly.	There is an excessive length of wire (100+ feet), or there is buried wire to the switch.	Eliminate the condition: either replace the buried cable, do without the remote switch, or contact Intermatic Customer Service for more options.
	The remote switch is not functioning properly or is worn out.	Replace the remote switch.
The load turns off immediately after being turned on.	• The remote switch or timer is wired wrong. • There is an excessive length of wire (100+ feet) • There is buried wire to the remote switch. • The timer is not functioning properly.	If the problem persists with the timer’s red wire disconnected or with a remote switch temporarily connected right at the timer, replace the non-functioning timer. Otherwise, try the above suggestions.
The battery tray is difficult to replace.	• Battery is not seated in the tray. • The tray is misaligned. • The contact tabs of the tray are bent.	Seat the battery in the tray, then reinstall.
The timer operation is sluggish or not switching ON/OFF at all.	Though the “BATT” message is not being displayed, the battery is getting weak.	Replace the battery. To test the battery, press the ON/OFF button. The timer should “click.”
Timer shows ON but the light or other controlled device is OFF.	The light or controlled device itself may be switched OFF.	Make sure the light or controlled device is switched ON and plugged in.
The timer setting cannot be changed, or the PAUSE button does not function.	The timer setting or pause functions are locked.	Unlock the functions according to instructions provided in <i>Section 4 — Setting the LOCKing Option</i> .