

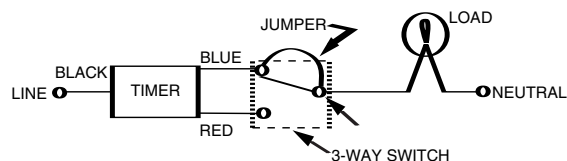


EI40C/EI40AC  
Electronic Automatic Shut-Off Timer

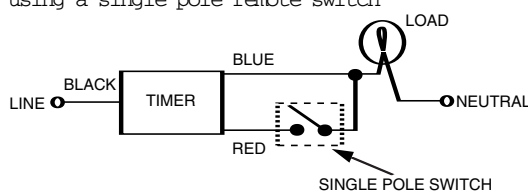
Other Installations

**MULTISWITCH APPLICATIONS USING THE ELECTRONIC TIMER ARE WIRED DIFFERENTLY THAN WHEN USING CONVENTIONAL TOGGLE SWITCHES. READ THE FOLLOWING INSTRUCTIONS CAREFULLY.** Multiple EI40 timers may be mounted in adjacent junction box slots. No derating is required for multiple timers. Note: THE REMOTE SWITCH(ES) MAY NOT FUNCTION RELIABLY WHEN THE ACCUMULATED WIRE LENGTH TO THE REMOTE SWITCH(ES) EXCEEDS 200 FEET OR IF THE WIRING TO THE REMOTE SWITCH(ES) IS BURIED UNDERGROUND. Consult factory 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.

Wiring diagram, 2 switch installation (3-way)



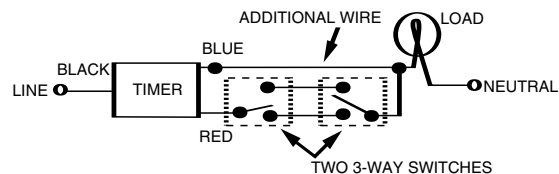
Wiring diagram, 2 switch installation (3-way) using a single pole remote switch



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.

Wiring diagram, 3 switch installation

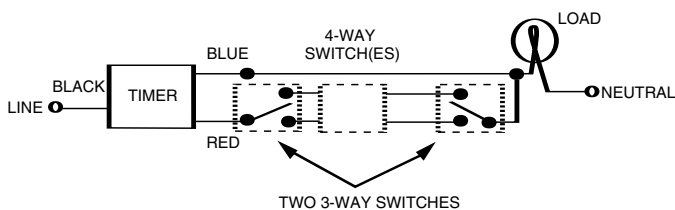
For 3 or more switch operation, AN ADDITIONAL WIRE MUST BE ADDED between the load and the timer. The jumper wire is not required for these applications.



For existing 3 switch installations replace one of the existing 3-way switches with the timer and replace the existing 4-way switch with a 3-way switch as shown above.

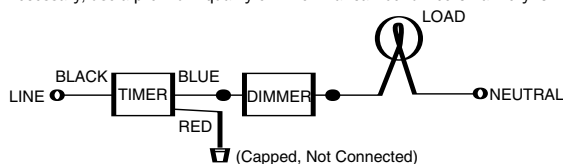
4 or more switch installation

For 4 or more switch installations use the preceding 3 switch installation diagram and wire 4-way switches between the two 3-way switches.



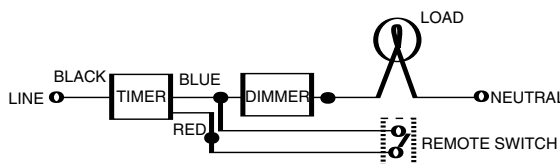
Installations including a dimmer

- The load size and type must not exceed the rating of the dimmer. (Typically 600 watts, 120 VAC, 60 Hz. incandescent lamps only.)
- If the dimmer is placed in it's 'OFF' position, the timer cannot operate the lights.
- If the dimmer is set too low, the lights may not turn back on under timer control. If necessary, use a premium quality dimmer that can be turned on at very low settings.



Multi-switch installation using a dimmer

A 3-way dimmer should not be used. If a multi-switch installation is required, use the following diagram.



Special applications

Because of it's unique "hard contact" switch feature, your EI40 timer may be used for applications not previously possible for electronic wall timers, such as with dimmers, without utility power, circuits other than 120 volts, controlling relays or contactors, or to control DC voltage (for example in recreational vehicles). See instructions above for dimmer applications. For DC and high voltage applications please note the reduced load ratings on product label. Consult factory for application details.

Warranty

If within 1 year from date of purchase, this product fails due to a defect in materials or workmanship, Intermatic Incorporated will repair or replace it free of charge. This warranty does not apply to: (a) damage caused by accident, abuse, mishandling, dropping; (b) units which have been subject to unauthorized repair, opened, taken apart; (c) units not used in accordance with directions; (d) damages exceeding the cost of

the product. Some states do not allow a limitation of damages, so the foregoing limitation may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

This warranty service is available by either: (a) returning the product to the dealer from whom the product was purchased or (b) mailing postage prepaid to the authorized service station listed below. Be sure to wrap the product securely when mailing to avoid shipping damage. This warranty is made by Intermatic Incorporated, Spring Grove, Illinois 60081-9698.

Authorized Service Station  
INTERMATIC INCORPORATED  
After Sales Service  
7777 Winn Road  
SPRING GROVE, ILLINOIS 60081-9698



## EI40C/EI40AC Electronic Automatic Shut-Off Timer

### Features

This electronic timer provides automatic shut-off for any load within the contact ratings, such as whole house fans, bathroom fans, air conditioners, lights and stereos/TVs. Features include:

- Silent timing operation – ideal for homes, libraries and other quiet areas
- Adjustable time limit from 1 second to 24 hours with simple “roll in” time entry
- Quick Set feature for 5, 10, 15, 30 min. and 1, 2, 4, 6, 8, 12 and 24 hours
- Digital readout continuously indicates time remaining
- A selectable “WARN” feature, which provides an audible and/or visual signal that the load is about to switch off
- Alkaline battery (included) backup lasts up to 1½ years, even without utility power
- Low battery indicator
- “Lifetime” memory so that all settings are maintained during battery replacement
- Heavy-duty “hard contact” switch that controls up to 1 & 2 H.P. motors at 120 & 240 volts respectively
- Replaces any existing wall switch controlling 120–277 VAC loads with no adjustment. No neutral or ground connection to the timer is required.
- “HOLD” feature for overriding the ON time indefinitely
- True 3-way function allows timed interval to be started, stopped and/or restarted from one or more remote switches.

The EI40 can replace your regular switch or 3-way switch (where two switches control the same load). The remote (3-way) switch (or switches) can be mounted up to 200 feet away. The EI40 can control an outlet to switch loads up to the contact ratings, and can control incandescent lights, fluorescent lights, HID (high intensity discharge) lighting and floodlights. It can also control many types of loads (12 to 277 volts AC and 12 to 28 volts DC). The timer may not be used with lighted switches in three way applications. A decorator style switch plate is required for installation (not supplied).

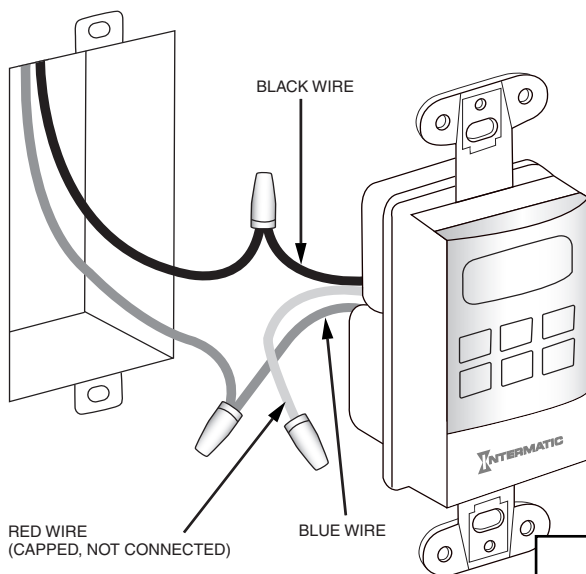
### Installation

1. **TURN OFF POWER** by REMOVING FUSE or turning the CIRCUIT BREAKER OFF.
2. Remove the existing wall switch and prepare the ends of the house wiring.
3. **Single Switch** – (See below) Connect one of the house wires to the black wire from the timer, using the wire nuts provided. Connect the other house wire to the blue wire from the timer. **THE RED WIRE IS NOT USED FOR SINGLE SWITCH INSTALLATIONS.** Cap the red wire with a wire nut. Make sure that all wire nuts are secure.  
**3-way Switch** – (See below) (See “Other Installations” to use a dimmer or if switching from 3 or more locations). A 3-way switch has three wires connected to it. One of the wires is “common” (the terminal has a different colored screw or there are markings on the old switch).

Connect the black wire from the EI40 to the common wire. Connect the other two wires to the blue and red wires from the EI40 (it doesn't matter which goes to which). Identify the “common” at the other (remote 3-way) switch. Connect the supplied jumper wire from the common terminal to one of the other two terminals of the switch. If the load does not turn on when you get to step 7, turn power off at the fuse or circuit breaker and switch the jumper wire to the other non-common terminal.

4. Tuck the wires into the wall box, leaving room for the timer.
5. Using the screws provided, mount the timer to the box and install the wall plate.
6. Your timer is ready for use. Return power to the circuit at the service panel.
7. Press on the clear cover. The display should change from OFF to a time interval, then the time should begin counting down. The load should turn on. Press the clear cover again. The word OFF should flash for 1 second, the load should turn off, and the word OFF should show steadily. On installations with remote switches, test their function by using them to turn the load on and off. As with the timer, there is a brief delay before the load turns off. Allow at least 2 seconds for the timer to respond to the remote switch.

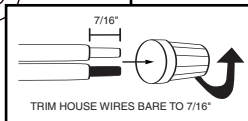
Single Switch Installation



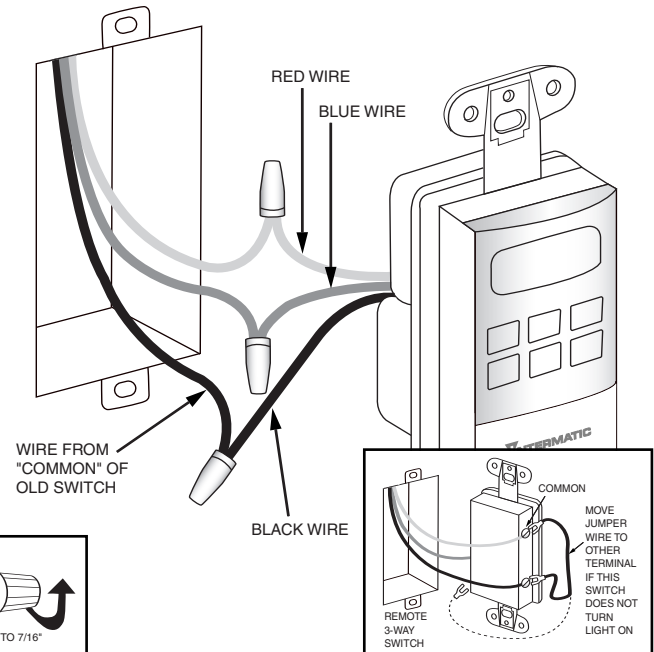
RED WIRE  
(CAPPED, NOT CONNECTED)

BLUE WIRE

BLACK WIRE



3-Way Switch Installation

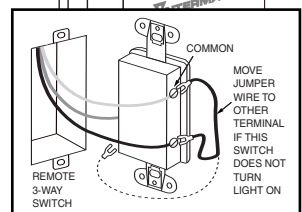


BLACK WIRE

RED WIRE

BLUE WIRE

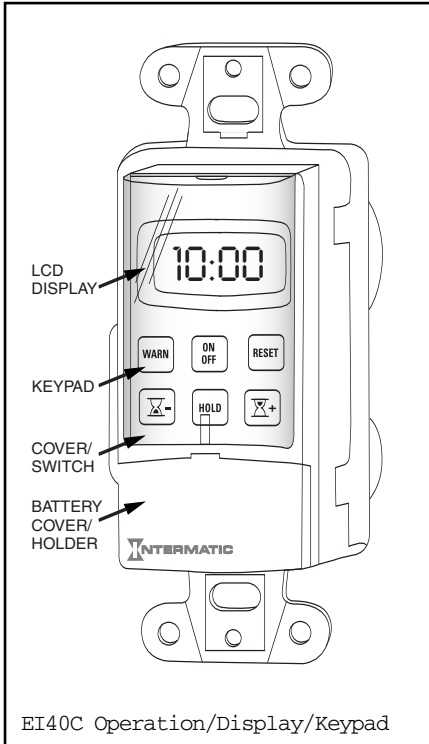
WIRE FROM  
"COMMON"  
OF  
OLD SWITCH



COMMON  
MOVE  
JUMPER  
WIRE TO  
OTHER  
TERMINAL  
IF THIS  
SWITCH  
DOES NOT  
TURN  
LIGHT ON  
REMOTE  
3-WAY  
SWITCH



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EI40C Operation/Display/Keypad

**Load Maintenance**

**WARNING! RISK OF SHOCK. DO NOT USE THE TIMER TO TURN OFF POWER FOR MAINTENANCE** (service, repairs, broken bulbs, etc.). ALWAYS TURN OFF POWER AT THE SERVICE PANEL BY REMOVING A FUSE OR SWITCHING OFF A CIRCUIT BREAKER BEFORE DOING ANY CIRCUIT REPAIRS.

**CAUTION:** This timer should not be used in precision timing applications where inaccurate timing could have dangerous consequences (i.e., sun lamps, sauna, etc.)

**Installing / Changing the Battery**  
To remove the battery cover, use a standard screwdriver in the bottom notch to gently pry the cover away from the housing. To reinstall, place battery in holder with "+" end towards the front of the timer. Insert battery and cover and push at the top so it clicks into place.

**Controls, Displays and Operation**  
**Cover/ Switch** – Pressing and releasing the clear cover/switch starts the interval timing functions. It also operates the manual ON/OFF function. See ON/OFF below.

**LCD Display** – Displays the word "ON" and the time remaining when counting down or displays the time being entered when setting. Displays the word "OFF" when the timer is off. May also display "LOW BATTERY", "FLASH", the Bell Symbol and "noOP" when appropriate (see Keypad to follow).



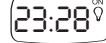
**OFF**  
Normal display when timer has timed out.



**LOW BATTERY**  
Warns that battery needs replacing soon.



**HOLD**  
Displays when HOLD is pressed and timer is ON indefinitely.

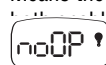


**23:28**  
Normal display when timing out. In this example the display shows 23 hours and 28 minutes or 23 minutes and 28 seconds.

**Bell Symbol**  
Means the audible signal is enabled.



**FLASH**  
Means the flash and audible warning are enabled.



**noOP**  
Timer fails to operate.

**Keypad**

Pull the clear cover/switch at the notch at the top edge to remove cover so you have access to the keypad. To replace the cover/switch set the bottom in first, then click in at the top. Keypad is inaccessible when the cover/switch is in place.

**ON/OFF** – Switches the load ON when the timer is OFF (operated by pushing the clear cover/switch) and starts the interval countdown cycle. Switches the load OFF when the timer is ON.

Pressing the ON/OFF key twice in less than 1 second or operating the remote (3-way) switch twice in less than 1 second (for 3-way applications) when the load is ON, will restart the timed interval without switching off the load. This is desirable when controlling high intensity discharge lighting.

Pressing and holding the ON/OFF key when the load is ON will shorten the interval that is in progress. The timer will continue counting down from the time that shows when the ON/OFF key is released. This does not disturb the preset interval.

**WARN** – Selects warning by audible signal ( ), flash of lights for lighting loads (the word FLASH appears), both audible and flash, or neither. Note that the timer is factory set for neither. If flash is selected, the load turns off for 2 seconds, 3 minutes before the load is to switch off. If audible is selected the timer beeps every 30 seconds, starting 3 minutes before the timer is to switch off.

**HOLD** – Pressing this key switches the load ON indefinitely. Pressing HOLD again, pressing the ON/OFF key or operating the remote switch (for 3-way applications) switches the load off. Not normally used for commercial applications.

**and** – The timer is factory preset to 1:00 hour. Press either key individually to increase/decrease the preset time. The time scrolls faster when the key is held longer. Pressing both keys simultaneously causes the timer to sequence through the preset times of 5, 10, 15, 30 minutes and 1, 2, 4, 6, 8, 12 and 24 hours. Once a preset time has been set, it can be modified using the and/or keys individually.

**RESET** – Used to reset the timer in the event it displays "noOP" or other meaningless information. Does not alter the preset time.

## Frequently Asked Questions

### **How easy is it to set a time interval or change a preset time?**

You can set the timer before installing since it does not require utility power. You can set the timer when it is OFF or when it is counting down. To set the timer for a time interval other than the factory preset of 1 hour, press the  $\Delta^+$  or  $\Delta^-$  key to scroll the time up, for a longer time interval, or down, for a shorter interval. Using these keys individually allows precise times to be set from 1 second to 24 hours. If you overshoot the time desired, press the other key to adjust. After using the timer you will notice that the displayed time scrolls at a faster rate the longer you hold the key. If you change the preset interval during timing, the timer will continue to countdown from the previous preset time until the load times out. The next time the timer is switched ON it will use the new preset time.

### **What is the Quick Set feature all about?**

By pressing the  $\Delta^+$  and  $\Delta^-$  keys simultaneously you can quickly set the timer to any one of several convenient presets: 5, 10, 15 and 30 minutes or 1, 2, 4, 6, 8, 12 and 24 hours. The timer begins at 5 minutes and then advances, with a slight delay, to 10 minutes onward until it reaches 24 hours. At that point the timer stops. To start again at the 5 minute interval, release the  $\Delta^+$  and  $\Delta^-$  keys momentarily, then press them simultaneously again. You can use the Quick Set feature to get close to a desired time, then use the  $\Delta^+$  and  $\Delta^-$  keys individually to obtain the precise time desired. For example, to set 9 minutes, use the Quick Set feature to select 10 minutes, then scroll the time down to 9 minutes using the  $\Delta^-$  key.

### **How do I restart the timer without switching OFF the load?**

Pressing the ON/OFF key twice in less than 1 second or operating the remote switch twice in less than 1 second (for 3-way applications) when the load is ON will restart the timed interval without switching off the load. This is desirable when controlling HID lighting.

### **What does the HOLD key do?**

The HOLD key functions as an override and switches the load on indefinitely, temporarily overriding the preset countdown time. Pressing HOLD again, pressing the ON/OFF key, or operating the remote (3-way) switch will switch the load back off. For example, HOLD can be used if you were wallpapering a bathroom where the lights are set for a 15-minute interval, to override the lights while you are working.

### **When LOW BATTERY appears, how long before the battery must be replaced?**

It will depend upon your usage. In other words, how many times a day you switch the timer, as well as other factors such as the ambient temperature. Typically you will have at least one month of reliable operation before the battery no longer has the power to drive the switch.

### **What happens to the preset time when the battery is changed?**

A unique "lifetime memory" saves the preset time that was last set, regardless of battery replacement. This saves resetting the time interval after the battery is replaced. This is true even if RESET is pressed. Reset simply resets the micro controller. The only way to change preset times is by using the and/or keys.

### **Do I lose manual control by installing this timer?**

No, the ON/OFF key is activated by the cover/switch and serves as a manual ON or OFF. The only difference is that the load will automatically switch off at the end of the preset time interval if you do not manually switch it off beforehand. A true energy saver.

### **What if I don't want a warning (WARN) signal?**

The timer is preset for no warning. In case you inadvertently set the audible alarm and/or the flash warning, you will know because the display will show and/or the word FLASH in the display. Simply press the WARN key

repeatedly until they both disappear.

### **Once the countdown has been started how do I know how much time is remaining?**

The digital display continually counts down and displays the time remaining. The display will show seconds as 0:XX, and either hours and minutes or minutes and seconds as XX:XX. You will know if the display is showing minutes and seconds because the seconds will be decrementing, one per second.

### **How do I know the preset time that is stored in the timer?**

You can switch the timer on; the preset time will show for 1 second, then the count down begins. You can then tell hours and minutes from minutes and seconds as described above.

### **What are the extra labels used for?**

After installation and set up are complete, the extra die cut labels can be used for hiding keys to prevent access by unauthorized personnel. For example, in a commercial application, you may wish to hide all of the keys except for the ON/OFF key. The remaining labels may be installed near the timer and/or 3-way switch as desired to explain timer operation to unfamiliar users. The labels may be separated so you can use only the portions appropriate for your installation.

### **What are the limits for 3-way switching?**

The 3-way switch function has been designed and tested to operate reliably for up to 200 feet. However, various environmental factors can affect this performance. This means there can be up to 200 feet of wire (one-way) between the remote (3-way) switch and the timer. For applications with 2 or more remote switches, 200 ft. is the wiring distance to the most remote switch. For best performance, do not install 3-way switches beyond the 200 ft. limit, and avoid electrically noisy environments.

## Trouble Shooting Guide

### Symptom

Timer does not operate or operates erratically; display is dim, blank, unreadable or LOW BATTERY shows in the display.

### Possible Cause

The battery is worn out, missing or is installed backwards or timer was operated when the battery was removed.

### Remedy

Install a fresh AAA size alkaline battery in the proper direction as indicated. Press the RESET button.

Display shows **noOP**.

Mechanism is inoperative.

If the timer is installed in a very cold environment (below 32° F). Try again when warmer. If not and the battery is good, the timer should be replaced.

Load only operates when the remote (3-way) switch is in one position or timer ignores the remote switch.

The remote switch is wired incorrectly.

Recheck wiring, especially for the jumper per "Installation Instructions – 3-way" and "Other Installations".

When the load is ON and the timer button is pressed, or the remote switch is operated, there is a slight delay before the load switches OFF.

This is normal and is designed to allow the timed interval to be restarted before the load switches off. This is important when controlling high intensity discharge lighting.