



MODEL SS8 SERIES INSTALLATION AND OPERATING INSTRUCTIONS

LOAD MAINTENANCE

WARNING: DO NOT USE THE TIMER TO TURN OFF POWER FOR MAINTENANCE (repairs, removing broken bulbs, etc.). ALWAYS TURN POWER OFF 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.)

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	REMEDY
Timer does not operate, display is dim, blank or unreadable, display shows nonsense or 'loBA', or timer operates erratically.	Battery is worn out, missing or is installed backwards, timer was operated while battery was removed, or battery was out too long during battery replacement.	Install a fresh AAA size alkaline battery in the direction indicated. Press RESET button, then reprogram the time-of-day.
Timer does not switch but display is normal.	Timer not in AUTO, AUTO RAND(om), or MAN(ual) mode.	Use MODE pushbutton to select the desired operating mode.
Timer works manually but does not follow scheduled program.	Timer not in AUTO or AUTO RAND(om) mode.	Use MODE pushbutton to select AUTO or AUTO RAND
Timer won't enter the AUTO or AUTO RAND modes when MODE button is pushed.	Time of day and/or switching times are not programmed.	Make sure time of day and at least one scheduled activity are programmed.
Timer switches at incorrect times or skips some switching times.	Programmed schedule(s) are incorrect.	Review / Revise ALL 7 ON/OFF switching time pairs by repeatedly pushing the next NEXT/ON/OFF button while in PGM mode.
	Timer is in AUTO RAND(om) mode (Varies switching times up to +/- 15 minutes).	Use MODE pushbutton to select AUTO mode.
When using a combination of Astronomic and Specific switching times, the timer switches at unexpected times or <i>doesn't</i> switch when expected.	Conflicting Astronomic and Specific switching time settings.	Complete the steps under "Setting the Calendar" then temporarily change your timer's calendar setting to June 21st. Now review the SUNUP and SNET times by pushing the NEXT/ON/OFF button. Make sure your Specific ON or OFF time settings won't interfere with these Astronomic switching times. Be sure to change the date back to today's date when you're done.
Load state doesn't match programmed state immediately after programming the time or schedule.	Timer does not "catch up" to the programmed load state. The load will remain in it's state prior to entering the PGM mode. The timer will begin following the scheduled program at the next contrary ON/OFF time.	After entering your schedules or the time, then returning to the AUTO modes, push the next NEXT/ON/OFF button to change the load state if necessary.
Display shows 'no Op'.	Mechanism is inoperative.	If timer is in a very cold environment, try again when warmer. If not, and if the battery is good, the timer should be replaced. Push in battery cover until you hear a click. Push reset button to clear display and reprogram the time-of-day. Replace device if NoOp will not clear from display.
Timer operates, but light doesn't come on in dimmer applications.	Dimmer is turned off or is set too low to turn back on or the bulb is burned out.	Make sure timer display shows 'ON' then check dimmer operation at full brightness setting. If timer control is required at very low brightness settings, use a premium quality dimmer that can be turned on when set low.
Load only operates when the remote (3-way) switch is in one position or timer ignores the remote switch.	Remote switch is wired incorrectly.	Recheck wiring, especially for the jumper, per "Installation Instructions - 3-Way Switch" and "Other Installations".
Timer ignores remote (3-way) switch even though it is wired correctly.	Excessive length of wire (greater than 100 feet) or buried wiring to the remote switch. Remote switch is defective or worn out.	Eliminate condition, replace the buried cable, do without the remote switch, or consult factory for other options. Replace remote switch.
Load turns off immediately after being turned on.	Remote switch or timer wired incorrectly, excessive length of wire (greater than 100') or buried wiring to remote switch, or defective timer.	If the problem persists with the red wire disconnected or with a 'remote' switch temporarily connected right at the timer, replace the defective timer, otherwise try the above remedies.
Battery holder is difficult to snap in place	Battery not seated in holder, holder misaligned, or contact tabs of holder are bent.	Line up tabs on bottom of holder with notches in timer housing when pushing in. Straighten bent contact tabs.

LIMITED ONE YEAR WARRANTY

If within the warranty period specified, this product fails due to a defect in material or workmanship, Intermatic Incorporated will repair or replace it, at its sole option, free of charge. This warranty is extended to the original household purchaser only and is not transferable. This warranty does not apply to: (a) damage to units caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened, taken apart or otherwise modified; (c) units not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) sealed lamps and/or lamp bulbs, LED's and batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs. INTERMATIC INCORPORATED WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY MODIFIED TO EXIST ONLY AS CONTAINED IN THIS LIMITED WARRANTY, AND SHALL BE OF THE SAME DURATION AS THE WARRANTY PERIOD STATED ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Warranty service is available by mailing postage prepaid to Intermatic Incorporated/After Sales Service/ 7777 Winn Rd., Spring Grove, IL 60081-9698/815-675-7000 <http://intermatic.com>

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Introduction

The timer can replace your regular or 3-way light switch (where two switches control the same light) to control lights for security, or can control an outlet to switch most 120VAC loads up to the maximum rating on the timer label. The timer can control incandescent lights, fluorescent lights, flood lights (PAR lamps), stereos, or appliances such as an air conditioner. The timer can also control many loads 12 to 277 VAC and 12 to 28 Volts DC. Timer may not be used with lighted 3-way switches. You will need to use a Decorator style wall plate with this timer (not supplied).

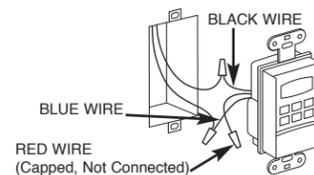
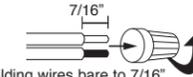
The installation instructions on this page are for replacing a light switch (or 3-way light switch) with the timer. See "Other Installations" on the next page for wiring diagrams for new construction, switching from 3 or more locations, or using the timer with a dimmer.

Features

- Automatic or manual operation. Push the clear cover/switch to switch On or Off at any time.
- Program up to 7 On/Off setting pairs (14 automatic switch settings).
- Astronomic Feature automatically adjusts for changing seasons.
- Automatic Daylight Savings Time adjustment.
- Each setting time can be once a week, every day, every weekday, or only on weekends.
- LCD digital clock and readout.
- Random feature automatically varies switching times for a "lived-in" look.
- One AAA alkaline battery keeps time and operates timer for up to 1 1/2 years, even without utility power.
- Built in memory holds settings indefinitely without battery.
- Can be used for flood (PAR) and compact fluorescent lamps and dimmers.
- Unique "hard contact" output switch allows timer to control most 120 VAC loads. Also controls many loads 12 to 277 VAC and 12 to 28 Volts DC. Refer to product label for maximum ratings for various voltages and load types.

Installation Instructions - Single Switch or 3-way - to replace an existing switch:

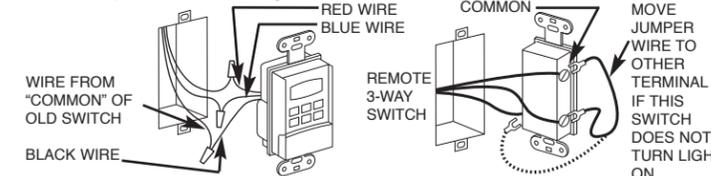
1. TURN OFF POWER by REMOVING FUSE or turning the CIRCUIT BREAKER OFF.
2. Remove the existing wall switch. Prepare the ends of the building wiring as shown.



Single switch:
3. Connect one of the building wires to the black wire from the timer, using the twist on wire connectors provided. Connect the other building wire to the blue wire from the timer. THE RED TIMER WIRE IS NOT USED FOR SINGLE SWITCH INSTALLATIONS. Cap the red wire with a twist on wire connector. BE SURE THAT ALL THE TWIST ON WIRE CONNECTORS ARE SECURE.

3-way switch: (See "Other Installations" to use a dimmer or if switching from 3 or more locations)

- 3a. A three 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 timer to the common wire. Connect the other two wires to the Blue and Red wires from the timer (it doesn't matter which goes to which.)



- 3b. Identify the "common" terminal 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 light does not turn on when you get to step 6, turn power off at the fuse or circuit breaker and switch the jumper wire to the other terminal.)

4. Tuck the wires into the wall box leaving room for the timer.
5. Using the screws provided, mount the timer to the wall box then install the wall plate.
6. Return the power to the circuit at the service panel. Install battery if not already installed. Press reset button.

After display starts flashing "12:00 AM", press the "NEXT/ON/OFF" button. The display should switch between ON and OFF. Your timer is now ready to set.

Controls and Displays

Cover/Switch

The clear cover/switch is the manual ON/OFF control.

1. Pull at notch at top edge to remove cover so you can use the programming buttons.

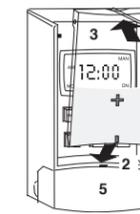


Battery Holder

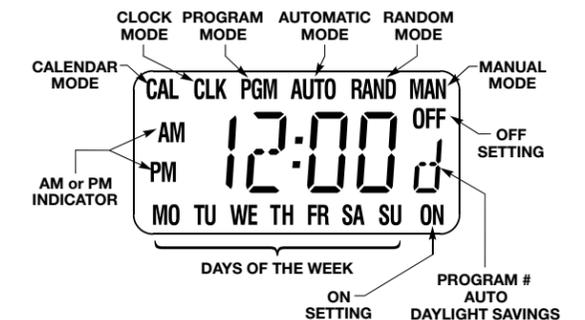
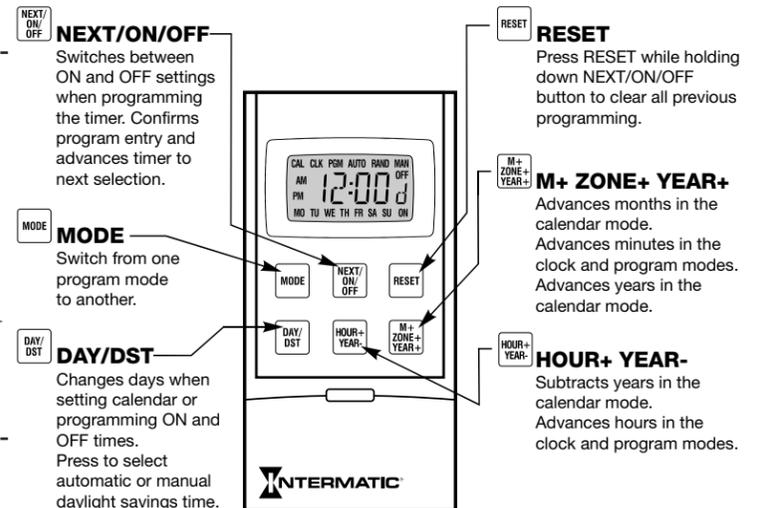
2. To replace cover/switch: Set bottom in first. Click in the top.

4. To remove battery: Release battery holder with flat screwdriver at notch (4a) and pull straight out.

5. To re-install battery: Place AAA Alkaline battery in holder with "+" end towards front of timer. Insert battery and holder into timer. Push at (5) so it clicks into place.



4a



Programming and Operating Instructions

Glossary of Terms

Astronomic - The SS8 Astronomic Timer automatically compensates for changes in the length of daylight throughout the year. For example, the sunset in Chicago, IL varies from approximately 4:30 PM during December to approximately 9:00 PM during June. The SS8 automatically adjusts for these changes in daylight.

Daylight Savings Time (DST) - The SS8 timer has an automatic daylight savings time feature to account for daylight savings time changes. Daylight savings time begins on the first Sunday in April and ends on the last Sunday in October, but does not apply to all areas. The Automatic setting will adjust for daylight savings time changes. The Manual setting prevents automatic daylight savings time adjustments. To adjust for daylight savings time when you are not using the automatic setting, simply press the DST button to adjust the clock forward or back by one hour.

Program Zone - The SS8 divides the United States into 3 zones. The North zone refers to locations from Chicago, IL northward. The Central zone refers to locations between Chicago, IL and Atlanta, GA. The South zone refers to those locations South of Atlanta, GA. The timer is programmed with specific geographic time offsets and will adjust automatically based on your location. Astronomic feature will not work in far Northern or Southern latitudes. Please use specific ON/OFF times only.

SUNUP - The morning sunrise is automatically calculated by the timer. This time setting can be manually adjusted up to 2 hours in either direction. For example, a calculated SUNUP setting of 6:30 AM can be changed to any time between 4:30 AM or 8:30 AM. Simply consult your local newspaper or weather report to determine the sunrise time in your area.

SUNSET - Operates the same as the SUNUP setting and can also be adjusted 2 hours in either direction of the preprogrammed time.

Please Read Before Setting the Calendar or Clock:

1. If you wish to skip a programming step such as SUNUP and SUNSET settings, simply press the NEXT/ON/OFF button to pass up these sections of the program.
2. When you complete each step in setting the calendar and ON/OFF times, press the NEXT/ON/OFF button. The next selection will flash on the display. In order to stop the flashing and enter your selection, press the applicable function button(s) once, and then enter your selection. For example, after you have programmed the year, and confirmed the setting by pressing the NEXT button, the word DATE will flash on the display. Press either the DAY or M+ button once stop the display from flashing. Then ,press either the DAY or M+ buttons to enter the date.
3. By pressing and holding the keypad buttons, the display will advance rapidly.
4. In order for the astronomic features and automatic daylight savings time setting to function properly, the Calendar settings must be entered correctly.
5. In the event that the battery is allowed to run down, or is removed for more than 15 seconds, the timer will maintain the year, month, and day settings of when the battery is removed. In this event, if the battery were replaced the same day, only the time of day would have to be reset.

NOTE - If you wish to use the SS8 timer without the calendar setting; you may skip the calendar program mode and proceed directly to the clock mode to set the current time. If you choose not to set the calendar, you will not be able to use the astronomic features including sunup and sunset. Daylight savings time will not automatically update.

Setting the Calendar

After installing the timer, press the reset button. The display will begin flashing 12:00 AM. Press the **MODE** button until calendar mode (CAL) is illuminated. The display will alternate between the word "YEAR" and the year "2000", or another previously programmed year. Press **YEAR+** button once to stop display from flashing. Press YEAR+ button again until you reach the current year. Press **YEAR-** button if you scroll too far. Press the **NEXT** button. Display will flash "DATE". Press **MONTH (M+)** or **DAY** button once to stop display from flashing. Using **M+** and **DAY** buttons, set correct month and date. Display is in mm/dd format. June 7th would appear as 0607 on the display. The day of the week is automatically calculated. Once the correct month and day are set, press the **NEXT** button. Display will alternate between the letters "**DST**", and "AUTO", or between "DST" and "MAN" for daylight savings time selections. Press DST button once to stop the display from flashing. By pressing DST button, you can select either manual (MAN) or automatic (AUTO) daylight savings time features. The Automatic setting will adjust the time one hour forward at 2 AM on the first Sunday in April, and one hour back at 2 AM on the last Sunday in October. When automatic daylight savings time has been selected, the letter "d" will be displayed in the clock, auto, auto random, and manual modes during the daylight savings months. Once daylight savings time setting has been chosen, press **NEXT**. Display will alternate between the words "ZONE" and "CENTR". Press the **ZONE+** button to stop the display from flashing Zone. Use the **ZONE+** button to select the zone (Center, South, or North) in which you live by referring to the map below.

Once you have selected the correct zone, press the **NEXT** button.

Display will alternately flash SUNUP and an AM time. If you wish to adjust the calculated SUNUP setting, press the **Hour+** or **M+** button once to stop display from flashing SUNUP. Use **Hour+** and **M+** to set correct sunrise time in your area. Consult local paper or weather report for specific times. If you wish to use the preprogrammed setting, simply press **NEXT** to advance to the sunset selection. After you have selected the desired SUNUP time, press **NEXT**. Display will flash SNSET. Press **Hour+** or **M+** to stop display from flashing. Press **Hour+** and **M+** buttons again to set desired sunset time as you did for the sunrise setting. You can also select the preprogrammed setting by pressing the **NEXT** button.

Setting the Time of Day

Press **MODE** button until clock mode (CLK) is illuminated. Display will show 12:00 AM, or current time if already programmed. Use the **Hour+** and **M+** buttons to set the current time in hours and minutes.

NOTE - If you have not programmed the calendar settings, be sure to also set the current day of the week while programming the current time. To do this, press the DAY button until the correct day of the week is illuminated.

Programming ON and OFF Times

There are two ways to program the SS8 timer. You may program each desired ON/OFF setting by selecting specific times, or you may use the astronomic SUNUP or SUNSET settings. In order to use the astronomic programming feature, you must have already set the calendar and current time. If you have not done so, please see instructions on "Setting the Calendar." The SS8 timer has up to 7 ON and 7 OFF settings. Each ON or OFF setting may be programmed to occur on any specific day, all days of the week, weekdays only, or weekends only. Begin by pressing the **MODE** button until program mode (PGM) is illuminated. Program 1 and the word "ON" will be displayed.

1. Use **DAY**, **H+**, and **M+** buttons to set the day(s) and specific times that you wish the timer to turn ON. Be sure the word ON is displayed when setting the ON time.
2. Press **NEXT/ON/OFF** button to move between the seven pairs of ON and OFF time settings.
3. Use **DAY**, **H+**, and **M+** buttons to set the day(s) and specific times that you wish the timer to turn OFF. Be sure the word OFF is displayed when setting OFF time.
4. To use the astronomic SUNUP or SUNSET times, keep pressing the **DAY** button to scroll through all days of the week, weekdays, weekends, and individual days until "SNSET" or "SUNUP" is illuminated. The sunup or sunset selections can also be selected for specific days or groups of days by continuing to press the day button until the desired days are illuminated. Sunup is always an "OFF" event and sunset is always an "ON" event.

You can program any combination of specific ON and OFF times or astronomic SUNUP or SUNSET times. These can be programmed to occur on all days, weekdays only, weekends only, or any specific day. Refer to troubleshooting section for helpful hints when combining astronomic and specific times.

NOTE - When pressing the NEXT/ON/OFF button the words ON and OFF will alternate below and above the numbers 1 through 7. These are the seven possible ON and OFF settings. If you are setting the timer to turn ON and OFF only once per day, you would only need program 1 ON setting and 1 OFF setting, with all seven days of the week displayed.

5. When programming is complete see mode selection (6) following example #3.

Programming Examples

Example #1

Assume you would like your timer to turn the lights on from 9 PM to 1 AM every day of the week.

- Press MODE until program mode (PGM) is displayed, and program 1 ON is shown.
- Press DAY until all days of the week are displayed.
- Press HOUR+ and M+ to set desired ON time. (9:00 PM)
- Press NEXT/ON/OFF. Display shows program 1 OFF.
- Press DAY until all days of the week are displayed.
- Press HOUR+ and M+ to set desired OFF time. (1:00 AM)

Additional settings (up to 7 ON/OFF pairs) can be added to the program. For example, suppose your child's newspaper delivery route is early Thursday morning and you would like the lights to be on when they are folding newspapers on the front porch. See example #2.

Example #2

Assume you would like your timer to turn the lights on from 9 PM to 1 AM every day of the week, and on from 4:30 AM to 6:00 AM on Thursday.

- Press MODE until program mode (PGM) is displayed, and program 1 ON is shown
- Press DAY until all days of the week are displayed.
- Press HOUR+ and M+ to set desired ON time. (9:00 PM)
- Press NEXT/ON/OFF. Display shows program 1 OFF
- Press DAY until all days of the week are displayed.
- Press HOUR+ and M+ to set desired OFF time. (1:00 AM)
- Press NEXT/ON/OFF. Display shows program 2 ON
- Press DAY until the desired day is selected. (TH)
- Press HOUR+ and M+ to set desired ON time. (4:30 AM)
- Press NEXT/ON/OFF. Displays shows program 2 OFF
- Press DAY until the desired day is selected. (TH)
- Press HOUR+ and M+ to set desired OFF time. (6:00 AM)

Example #3

Assume you would like the timer to turn the porch light ON at Sunset and OFF at 1 AM, all days of the week.

- Press MODE until program mode (PGM) is displayed, and program 1 ON is shown
- Press DAY until SUNST is displayed and all days of the week are displayed.
- Press NEXT/ON/OFF. Display shows program 1 OFF.
- Press DAY until all days of the week are displayed.
- Press HOUR+ and M+ to set desired OFF time. (1:00 AM)

6. After you have programmed the desired ON and OFF times, press the mode button to select the automatic mode (AUTO), the auto random mode (AUTO RAND), or the manual (MAN) mode.
 - The AUTO mode turns the timer on and off according the programs.
 - The AUTO RAND mode turns the timer on and off within 15 minutes of the programmed time. This feature prevents your lights from turning on and off at exactly the same time everyday, giving your home a lived-in look.
 - The MAN mode maintains the program in memory but does not turn the timer on or off according to the program. To return to the program, press the MODE button until AUTO or AUTO RAND appears.

Congratulations! You have now successfully programmed the SS8 Astronomic Timer. Re-install the clear plastic cover over the display and keypad. Your timer is now ready to use.

How to Review or Make Changes to the Calendar or Program Settings

Reviewing or Changing Calendar Settings

Press the MODE button until the calendar mode (CAL) is displayed. Use the NEXT/ON/OFF button to scroll through all the calendar settings. Use the instructions under "Setting the Calendar" to make any changes.

Reviewing or Changing ON/OFF Programs

To review or change your programs, press the MODE button until the program mode (PGM) is displayed. Press the NEXT/ON/OFF button to scroll through the existing programs. The sequence will start with Program 1 ON, then Program 1 OFF, continue through all seven ON/OFF settings, then will repeat. When the display shows --:--, this means no setting has been made. If you wish to change a specific ON or OFF time, scroll to that program setting and using the DAY, HOUR+, and M+ buttons, change the day, hour, or minute setting as desired. Use the DAY button to change display to ---:-- to eliminate an unwanted ON or OFF setting

Clearing All Time and Program Settings

To clear the time, all calendar settings, and all current program settings, press and release the RESET button while holding down the NEXT/ON/OFF button.

Manual Operation

At any time, the timer can be used as a manual wall switch by pressing the clear plastic cover, or operating the remote switch in 3-way installations. If you press the cover to turn the timer on and off, the program will continue to function by turning the timer on or off at the next programmed time. This feature functions when the timer is in AUTO or AUTO RAND modes. If you wish to maintain the existing programs, but only operate the timer as a manual switch, press the MODE button until the manual mode (MAN) is illuminated. The programs are maintained in memory until you change to either the AUTO or AUTO RAND modes.

This product has been designed to provide years of dependable service. It is therefore important to save this instruction manual for future reference.

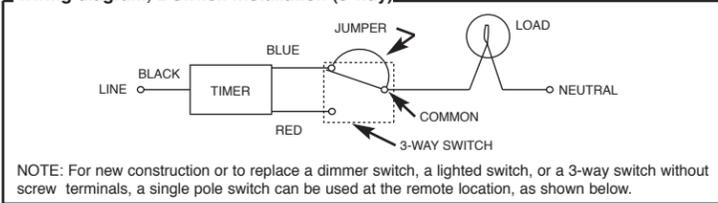


Other Installations

MULTISWITCH APPLICATIONS USING THE ELECTRONIC TIMER ARE WIRED DIFFERENTLY THAN WHEN USING CONVENTIONAL TOGGLE SWITCHES. READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

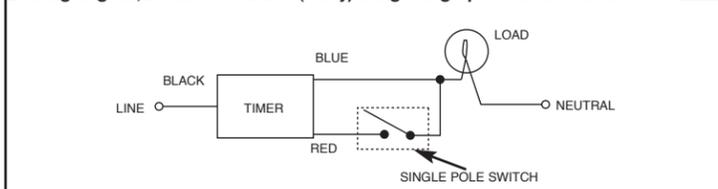
Multiple timers may be mounted in adjacent junction box slots. No derating is required for multiple timers.

Wiring diagram, 2 switch installation (3-way):



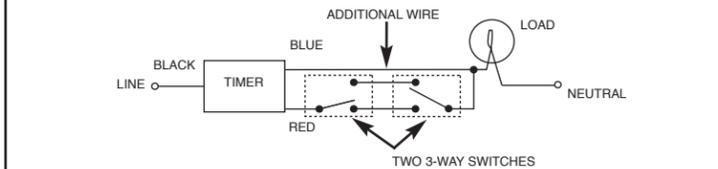
NOTE: For new construction or to replace a dimmer switch, a lighted switch, or a 3-way switch without screw terminals, a single pole switch can be used at the remote location, as shown below.

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



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 3-way switch with the timer and replace the 4-way switch with a 3-way switch.

4 or more switch installation:

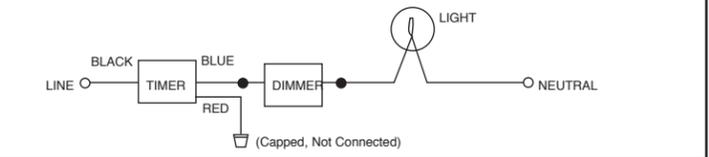
For 4 or more switch installations use the preceding 3 switch installation diagram and wire 4-way switches between the two 3-way switches.

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. 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.

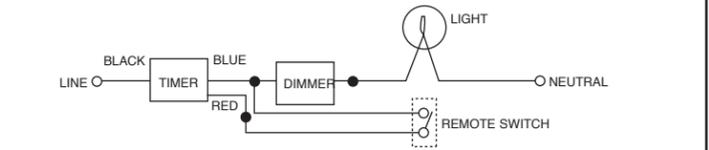
Installations including a Dimmer:

- 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 timer may be used for applications not previously possible for electronic wall timers, such as use with dimmers, use without utility power, use on 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.