INTERMATIC®

Spring Grove, Illinois 60081
www.intermatic.com

ST01/ST01K/EI600

In-Wall Timer with Astro Feature

Installation and User Guide

RATINGS

	ST01/ST01K	EI600
Operating Voltage	120-277 VAC, 50/60 Hz	
Resistive (heater)	15 A, 120-277 VAC	20 A, 120-277 VAC
Tungsten (incandescent)	15 A, 120 VAC; 6 A, 208-277 VAC	
Ballast (fluorescent)	8 A, 120 VAC; 4 A, 208-277 VAC	16 A, 120-277 VAC
Motors	1 HP, 120 VAC; 2 HP, 240 VAC	
DC Loads	4 A, 12 VDC; 2 A, 28 VDC	
Operating Temperature	32° F to 104° F (0° C to 40° C)	
Dimensions	4 1⁄8" H x 1 3⁄4" W x 1 13⁄16" D	

SAFETY SECTION

⚠ WARNING

Risk of Fire or Electric Shock
- Disconnect power at the circuit breaker(s) or disconnect switch(es) before installing or servicing (including replacing the battery).
- Installation and/or wiring must be in accordance with national and local electrical code requirements.
- Use COPPER conductors ONLY.
- Do Not recharge, disassemble, heat above 212° F (100° C), crush, or incinerate the Lithium battery. Keep out of reach of children.
- Replace battery with Type CR2 only that is certified by Underwriters Laboratories (UL).
- Do NOT use timer to control devices that could have dangerous consequences due to inaccurate timing, such as: sun lamps, saunas, heaters, slow cookers, etc.
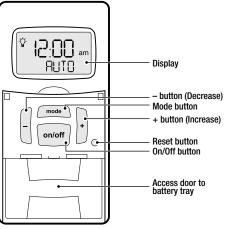
NOTICE
- Risk of timer damage due to leakage if weak battery is not replaced promptly.
- Dispose of product per local regulations for disposal of Lithium batteries.

PRODUCT DESCRIPTION

The ST01 Series and EI600 Series In-Wall Timers give you versatility in a simple to install, 24/7 programmable package. These timers allow you to customize your timer schedule with automatic dusk/ dawn, random, and Daylight Saving Time (DST) programming options for up to 40 ON/OFF events. The ST01 Series and EI600 Series are incandescent/ fluorescent/CFL/LED compatible. In addition, these timers can handle any load type and require no neutral wire connection, making them ideal for any application, regardless of complexity.

TIMER INTERFACE

- Display
- – button (Decrease)
- Mode button
- + button (Increase)
- Reset button
- On/Off button
- Access door to battery tray

PRE-INSTALLATION

Before mounting the timer in the wall, install the supplied battery.

1. Gently pry open the access door, located below ON/OFF, and remove the battery tray from the timer.

2. Place the supplied CR2 battery into the battery tray, matching the battery **+** and **–** markings to the **+** and **–** markings on the tray, then place the battery tray back in the timer.

3. The display initializes, then flashes 12:00 am in manual mode.

4. Press ON/OFF. The timer "clicks" to confirm it is ready for programming.

Note: *If the display doesn't flash 12:00 am, check/replace the battery before proceeding.*

NOTES

Read these notes before continuing with the timer installation and programming process.

- The timer is battery-powered and does not need AC power for initial setup and programming. For new installations, it is recommended that you set-up and program your timer before installing it.
- The battery controls the ON/OFF function ("click-ing" sound) and maintains the time and date. The screen flashes BATT when the battery strength is low. When replacing the battery, disconnect AC power. You will have a few minutes to insert new batteries before the date and time settings are lost. All other settings will remain in memory, without battery or AC power.
- Each ON or OFF setting is an event. Each event must be programmed separately.
- The MODE menu includes SETUP, PGM (program), AUTO (automatic), RAND (random), and MAN (manual). AUTO and RAND modes do not appear on the menu options until the time of day is set and at least one ON or OFF event is programmed.
- All menus loop (repeat options when you get to the end of the menu). When in a specific Mode, press ON/OFF to loop within that Mode.
- When using the **+** or **–** buttons to change a flash-ing setting, hold the button to make the numbers scroll faster.
- When advancing to the next setting, the timer automatically saves the data from the previous screen whether you changed a setting or not. All settings save automatically after five minutes.

PROGRAMMING

Follow these steps for initial setup and programming of the ST01 Series and EI600 Series timers. (On the following images, a white background with dashed lines indicate what should be flashing on the unit).

Reset

1. Press and hold ON/OFF and RESET for five seconds. A paper clip or pen may be necessary to depress RESET.

2. Release RESET, then release ON/OFF. The display flashes 12:00 am.

Initial Setup

1. Press MODE until SETUP appears on the display.

2. Press ON/OFF to confirm.

3. Press + or - to adjust the menu item (HOUR).

4. Press ON/OFF to advance to the next menu item (MINUTES).

5. Repeat steps 3 & 4 to set the MINUTES, YEAR, MONTH, and DATE.

Note: *After setting the DATE, the current day of the week flashes. Verify the DAY. If wrong, press + or - to review and adjust the YEAR, MONTH, and DAY. Press ON/OFF to confirm.*

6. DST (Daylight Saving Time) flashes.
   - If you live in a state that DOES NOT observe DST, press + to change DST to MAN, then press ON/OFF.
   - If you observe DST, press ON/OFF.

7. Press + to select a ZONE.

Note: *Your ZONE is astronomically based on how far North, Center or South you are in North America. Canada, select North. Mexico, select South.*
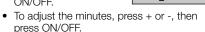

8. Press ON/OFF to confirm. You will see the sunrise hour flashing and DAWN.

(ONLY IF necessary, do the next two steps, otherwise go to 9).
   - To adjust the hour, press + or -, then press ON/OFF.
   - To adjust the minutes, press + or -, then press ON/OFF.

9. Press ON/OFF to confirm. Use the same process when adjusting the time for DUSK.

Programming Events

Note: *Program ON and OFF events as separate events.*

1. Press MODE until PGM appears on the display.

2. Press ON/OFF to confirm. An event number flashes.

Note: *If this is the first event, you will see 01.*

3. Press ON/OFF to confirm the event number.

4. Use + to select the event type.
   - ON - sets an ON event
   - SKIP - stops the event
   - OFF - sets an OFF event

5. Press ON/OFF to confirm.

6. Use + to select a time type.
   - DAWN
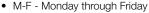   - DUSK
   - Fixed Time

7. Press ON/OFF to confirm.

Note: *To set a Fixed Time, press ON/OFF, then + or - to adjust the hour. Press ON/OFF. Use the same process to set minutes. Press ON/OFF to confirm.*

8. Use + to select the days the event runs.
   - ALL - all seven days of the week
   - M-F - Monday through Friday
   - WKD - Saturday and Sunday
   - Individual day - select: SUN, MON, TUE, WED, THU, FRI, or SAT

   `DUSK`
   `ALL 01`

9. Press ON/OFF to confirm. The display reads SAVE, then flashes the event number to indicate the event is saved.

Note: *To continue programming events, such as the OFF event, use + to advance to the next event number, then repeat steps 3 through 9.*

Setting a Mode

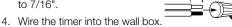| AUTO	Timer operates per your programmed schedule of ON/OFF events.
RAND	Timer operates your schedule at +/- 15 minutes from the programmed time.
MAN	Operates like a manual ON/OFF switch, disregards any programmed events.

Note: *To set the timer to recognize your programmed events, press MODE to scroll to AUTO or RAND only.*

Changing Events

1. Press MODE until PGM appears on the display.

   `12:30 pm`
   `PGM`

2. Press ON/OFF to confirm. An event number flashes. Use + to find the correct event number.

   `8:45 pm`
   `ALL 03`

3. Press ON/OFF to confirm.
   - To change the ON/OFF status of an event, use + to select the event type.

   `SKIP`
   `ALL 03`

     - ON - sets a previously OFF event to ON
     - SKIP - suppresses the selected event so it is not initiated by the timer. This is helpful for unusual programming needs, like vacation settings.
     - OFF - sets a previously ON event to OFF
   - To update an existing setting, press ON/OFF until the setting to be updated displays.
     - Press + to adjust the setting.
4. Press ON/OFF to cycle through the program until the display reads SAVE.
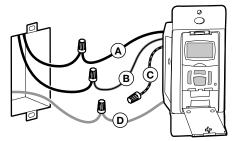5. Press MODE to exit the programming menu.

INSTALLATION

1. Disconnect the power at the service panel.
2. Remove wall switches, if applicable.
3. Strip the existing wire ends to 7/16".

   7/16"

4. Wire the timer into the wall box. An example of single-pole and three-way wiring follow. For other three-way wiring scenarios, go to www.intermatic.com.

Single-Pole Wiring

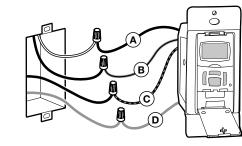| A	Black — Connects to the hot (black) wire from the Power Source
B	Blue — Connects to the other wire (black) from the load
C	Red — This wire is not used in single-switch installations. Cap with a twist connector
D	Green — Connects to the supplied ground

Three-Way Wiring

Note: *The distance between the timer and the remote switch must not exceed 100 feet.*

A	Black — Connect to the wire removed from the "COMMON" terminal of the switch being replaced
B	Blue — Connect to one of the other wires removed from the switch being replaced. Record the wire color connected to the blue wire for use during load-side installation
C	Red — Connect to the remaining wire removed from the switch being replaced. Record the wire color connected to the red wire for use during load-side installation
D	Green — Connect to the supplied ground

Note: *Connect the timer on the line-side.*

Note: *Consult a qualified electrician:*
- *If you have trouble differentiating the wiring colors for the building.*
- *When using a single-pole switch at the remote location for new construction or to replace a dimmer switch, a lighted switch, or a three-way switch without screw terminals.*

Finalizing Installation

1. Make sure the twist-on wire connectors (provided) are secure, then tuck the wires into the timer wall box, leaving room for the timer.
2. Using the provided screws, secure the timer to the wall box.
3. Cover the timer with the wall plate and secure using the provided screws.
4. For three-way wiring, install the remote switch in a wall box. Cover the switch with the wall plate and secure.
5. Reconnect the power at the service panel.

TESTING THE TIMER

1. To test the battery, press ON/OFF. The timer should "click."
2. Make sure the timer displays MAN mode during testing.
3. For three-way wiring, test the remote switch in each of its two positions by pressing ON/OFF several times. The timer should "click" and the controlled light or device (load) should turn ON or OFF.
4. For three-way wiring, if the timer clicks, but the load does not operate:
   a. Disconnect the power at the service panel.
   b. Re-check your wiring and make sure the load is functional.
   c. Reconnect the power at the service panel.
   d. Retest.
5. For three-way wiring, if the timer clicks, but the load only operates when the remote switch is in one of its two positions, repeat Step 4, a-d, paying close attention to the wiring that connects with the red and blue wires of the timer.

Note: *Consult a qualified electrician if the switch and timer fail to operate as intended.*

When the timer "clicks" and the controlled device turns ON and OFF as appropriate, congratulations, the timer is successfully installed! Enjoy your new timer!

TROUBLESHOOTING

Observed Problem	Possible Cause	What To Do
Timer does not switch ON/OFF but display looks normal.	Timer is not set in AUTO, RAND, or MAN mode.	Press MODE to select the operational mode you want to use.
Timer resets to 12:00.	Timer is installed in conjunction with a contactor or motor load.	Install a line filter.
Timer won't enter Auto or Random mode when you press Mode.	No schedule is selected.	Define a schedule of events.
Timer switches at incorrect times or skips some of the programmed times.	The active schedule has a conflicting setting.	Review the settings and revise them as necessary.
	Timer is in Random mode, which varies switching times up to +/- 15 minutes.	Select the Auto Mode.
	The Astronomic and Defined switching times are in conflict, your DST may or may not be turned on, and/or your Astronomic Zone is not set to Center, North, or South. **Note:** *Your timer automatically skips any conflicting ON event as summer approaches to prevent unwanted operation of lights or other controlled devices.*	Review your program settings and revise them as necessary.
	Switching inductive loads, such as electrical contactor or motor load.	Add a noise filter e.g., ET-NF. Connect filter across load's coil.
Load only operates when the remote (three-way) switch is in one position or the timer ignores the remote switch.	The remote switch is wired incorrectly.	Recheck the wiring, especially for the jumper.
The timer ignores a three-way remote switch even though it is wired correctly or the load turns off immediately after being turned ON.	• The remote switch or timer is wired wrong. • There is an excessive length of wire (greater than 100 feet). • There is buried wire to the remote switch. • The remote switch is not functioning properly or worn out.	Contact a qualified electrician.
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.

Note: *When installing either timer with a contactor or motor load, a line filter is recommended.*

LIMITED WARRANTY

For detailed warranty information, refer to the Intermatic website at www.intermatic.com, contact Intermatic by mail at Intermatic Incorporated Customer Service / 7777 Winn Rd., Spring Grove, Illinois 60081¬9698, or by phone at: 815-675-7000.

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