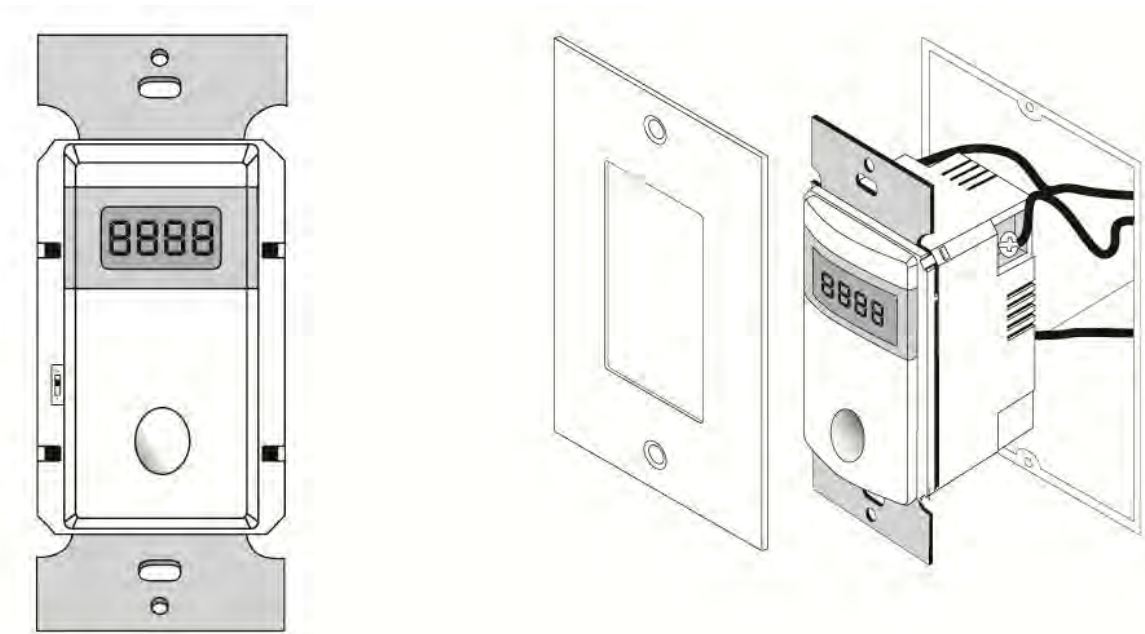




## **Watt Stopper® Timer model TS-400-24**

For use with the **200DX RecoupAerator®**

### *Wiring Instructions and User Guide*



The **Watt Stopper® Timer** is used to run the **RecoupAerator®** for a specified amount of time at full air flow, also known as Boost mode. (Please see Illustrations)

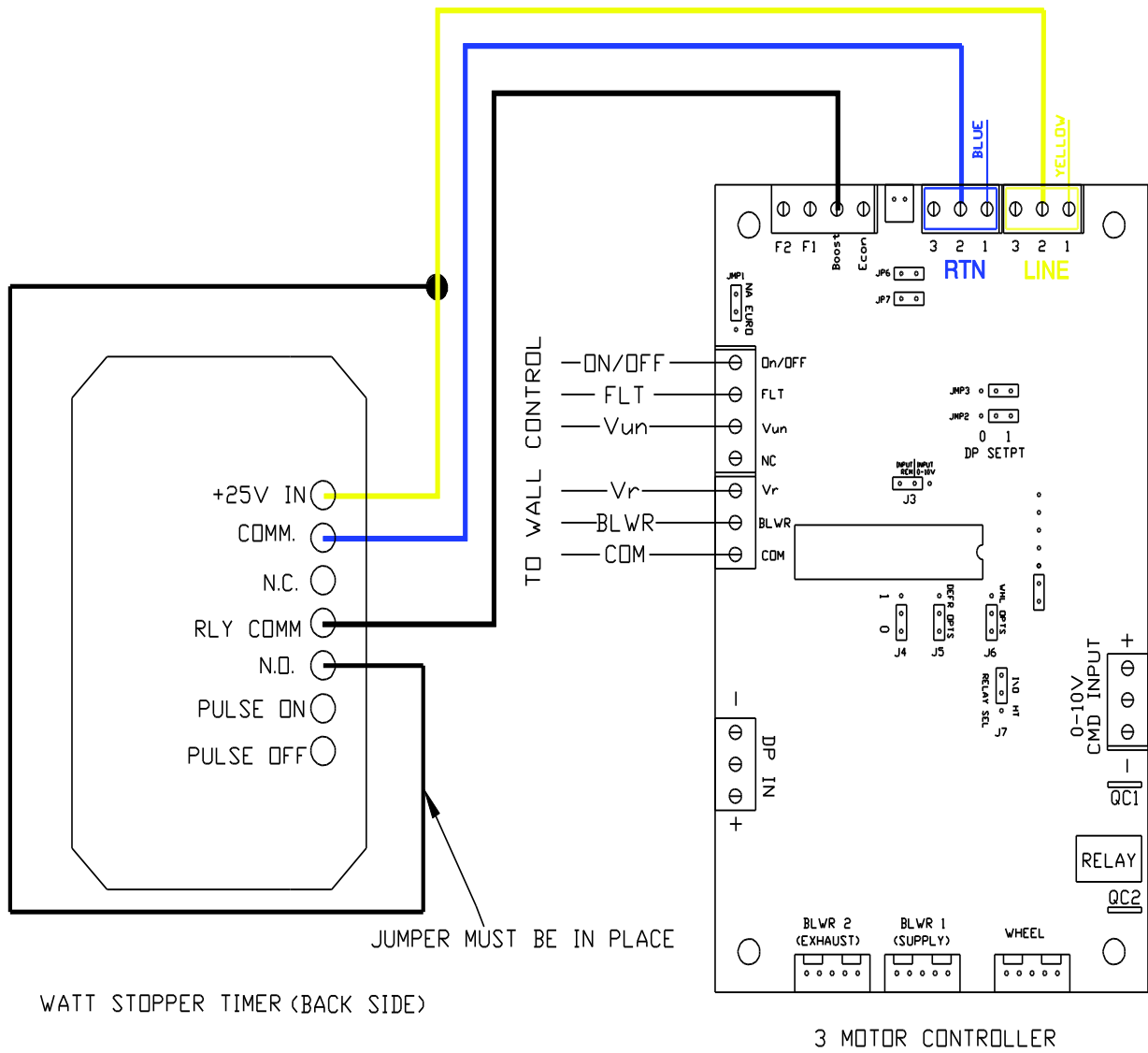
The **Watt Stopper® Timer** fits into a standard residential electrical wall box and is wired to the control board of the **RecoupAerator®** using a 3-conductor wire (20/22GA).

#### **Countdown Timer:** To use the **Watt Stopper® Timer**

Press the front On/OFF button to select the appropriate time to run the **RecoupAerator®** in boost mode. The switch can be reset by pressing and holding the ON/OFF button for 2 seconds. Located under the face plate on the left side of the timer is a calibration button for further customization of timer functions.

For more details about the Watt Stopper Timer functions and customization, please refer to the manufactures instruction included with the **Watt Stopper® Timer**.

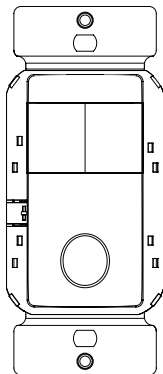
# Wiring Watt Stopper® Timer for BOOST (Full Flow)



Note\* After the timed run has completed the **RecoupAerator**® will return to normal operation set on the wall dial control.

# TS-400-24

InteliSwitch<sup>®</sup> Digital Time Switch  
24VDC/VAC



## SPECIFICATIONS

Voltages .....	24VAC, 24VDC, VAC Half Rectified
Current Consumption.....	Max. 15mA DC
.....	Max. 15mA AC
Outputs	
Isolated Relay.....	1A/30V SPDT
Pulse On/Off:	
Width.....	.150ms
Current.....	1.5A
Time-Out Adjustment .....	5 minutes to 12 hours
Time-Out Override .....	.0 to 1 hour in 5 minute increments
.....	1 hour to 12 hours in 15 minute increments
Operating Temperature.....	32° to 104°F (0° to 40°C)
Humidity .....	Rh 5% to 95%, non-condensing

U.S. Patent: 5,640,113

**WattStopper<sup>®</sup>**

Installation Instructions

## UNIT DESCRIPTION AND OPERATION

The IntelliSwitch<sup>®</sup> TS-400-24 is a digital time switch that automatically turns lights off after a preset amount of time. The lights can also be turned off anytime during the timer's countdown by pushing the ON/OFF button. The Digital Time Switch has four user-adjustable features: time-out period, time scroll direction, time-out visual and audible warnings.

### Time-Out Period

The timer can be adjusted to hold lights on for five minutes to 12 hours. The default setting is 3 hours. See the DELAY switch adjustment to set the length of the time-out period.

### Time Scrolling

The user can manually and temporarily override the time-out period without changing the DELAY adjustment. The SCROLL adjustment determines whether the user's override options decrease from a longer time to a shorter time (scroll **down**) or increase from a shorter time to a longer time (scroll **up**). To choose the scrolling direction, consider the time-out DELAY setting, and then whether the usual temporary need will be for more or less time.

**Override Operation:** Holding the ON/OFF button for longer than 4 seconds causes the timer to scroll through time increments, starting from the time-out DELAY setting. Releasing the ON/OFF button resumes the countdown from that point. The minimum override setting is 5 minutes, maximum 12 hours.

The timer resets automatically to the time-out DELAY setting when the countdown runs out or the ON/OFF button is pushed.

### Visual (Flash) Option

If this option is on there are two occasions when the controlled lights flash. They flash one time when the countdown reaches 5 minutes and twice when the countdown reaches 1 minute.

### Audible (Sound) Option

If this option is on, the timer beeps every 5 seconds during the last minute of the time-out period.

**Timer Countdown**

Since the time-out period can be set for 5 minutes to 12 hours, the time is displayed in two different ways. For a countdown of less than an hour, the display shows **minutes:seconds**. The seconds count down. For a countdown of more than an hour, the display shows **hours:minutes**, the colon flashes every second.

Minute Countdown	Seconds Elapsed	Hour Countdown
04:59	:01	01:14
04:58	:02	01:14
04:57	:03	01:14

## INSTALLATION



**CAUTION: TURN THE POWER OFF**



**AT THE CIRCUIT BREAKER BEFORE WIRING.**

1. Connect the existing wires to the TS-400-24 terminals.

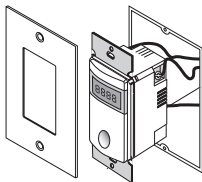
**For Power Pack wiring:**

- +24VDC supply to +24V IN
- +Supply Common to COMM

**Isolated Relay** uses N.O. , N.C, and RLY COMM terminals.

**For Control Panel wiring:**

- +24VAC or +24VDC supply (BLU) to +24V IN
- +Supply Common (WHT) to COMM.
- On (RED) to PULSE ON
- Off (BLK) to PULSE OFF



2. Mount the switch in the wall box with 2 mounting screws provided.
3. Turn on power to the time switch
4. 5-10 seconds after power is supplied to the time switch, it will be ready to function. The time switch beeps and the word **OFF** appears in the display. Push the **ON/OFF** switch to activate the lights. The timer begins its countdown. Push the **ON/OFF** switch during countdown to turn the lights off.
5. Select feature settings using the Switch Adjustment procedures.
6. Install cover plate.

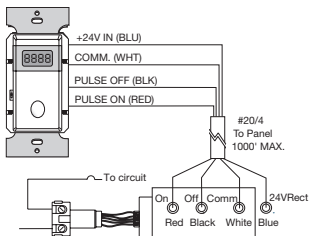


**WARNING**

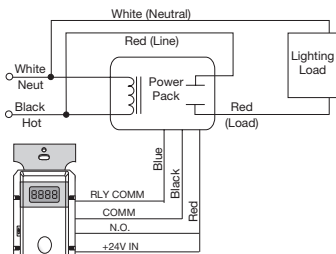


**BE SURE THE GROUND WIRE IS SECURELY CONNECTED.**

## WIRING DIAGRAMS



Lighting Control Panel wiring



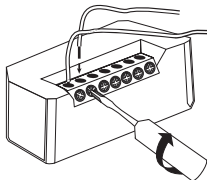
Power Pack wiring

## WIRING

#16-#18

Strip Gauge

Insert wires as shown and tighten screw in the clockwise direction.



## SWITCH ADJUSTMENT

Enter Settings Mode by pressing the Calibration Button (located on the left, behind the faceplate).

- If no input occurs within four seconds the display flashes then moves to the next setting.
- Press the Calibration Button to view the settings without making changes.
- Press the ON/OFF button within four seconds to change the setting.

**DELAY: 5 min. to 12 hr.**

DELAY sets the time-out period. The selections begin at the currently set time (3 hours, default). When the time is less than an hour, the time increases by 5 minutes each time you press the ON/OFF button. When the time is more than an hour, it increases by 15 minutes. When the selection passes 12 hours, it restarts the selection scrolling at 5 minutes.

**Scroll: UP or down (dn)**

To have the user's time override options decrease from a longer time to a shorter time, set Scroll for dn (down). To increase from a shorter time to a longer time, set Scroll for UP.

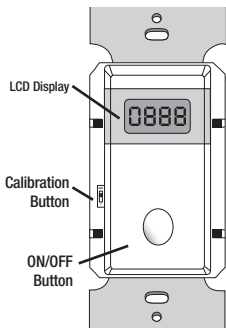
**FLASH: ON or OFF**

**Sound: ON or OFF**

When the setting selection is complete the unit will either:

- Beep once and display END if the calibration button is being held; release the button to continue.
- Beep three times while it displays END. This gives you a chance to press the ON/OFF button to restart the setting procedure.

If you don't press either button within three seconds, the unit exits the Settings Mode and resumes its previous state.



TS-400-24

Call 800.879.8585 for Technical Support

## TROUBLESHOOTING



CAUTION



**TURN OFF THE POWER AT THE CIRCUIT BREAKER  
BEFORE WORKING WITH HIGH VOLTAGE**

### Lights will not turn on:

1. Verify that the ground wire is tightly secured.
2. If lights still do not go on, call 800.879.8585 for technical support.

### Lights will not turn off:

1. Do the lights turn off when you press the **ON/OFF** button?
  - If yes, check that the time-out period is set to the correct time-out. If the time-out period is adjusted to maximum, the lights will remain on for 12 hours.
  - If no, call 800.879.8585 for technical support.
2. To test if the unit is operating properly, set the time-out period to minimum. Lights should turn off after five minutes.
3. If lights still do not turn off, call 800.879.8585 for technical support.

### Re-adjusting the Time-out Period:

To re-adjust the time-out period, set the new time delay in the user settings. If this is done while the timer is counting down a prior setting, the new setting will not be recognized until the present countdown has expired or the timer is turned **OFF** and **ON** again.

### Questions/Unsure?:

Call 800.879.8585 for Technical Support.

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## ORDERING INFORMATION

TS-400-24	Digital Time Switch 24VDC/24VAC, 60HZ
ASP-211	Cover plate for single-gang box
ASP-422	Cover plate for double-gang box
ASP-432	Cover plate for double-gang box with switch option

TS-400 and cover plates are available in White (-W), Light Almond (-A), Grey (-G), Black (-B), and Ivory (-I).

Cover plates are not included.

## WARRANTY INFORMATION

WattStopper warrants its products to be free of defects in materials and workmanship for a period of five years. There are no obligations or liabilities on the part of WattStopper for consequential damages arising out of or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.

# ***WattStopper***<sup>®</sup>

2800 De La Cruz Boulevard, Santa Clara, CA 95050

800.879.8585 • [www.wattstopper.com](http://www.wattstopper.com)

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**NEW:** Smaller, uncoated boxes are constructed from recycled cardboard to save resources. Wall plates are no longer included with sensors and time switches.



**OLD:** Older, harder-to-recycle packaging, with coated cardboard and more ink, will be phased out as stock is depleted.

## Sustainable packaging initiative includes launch of recycled boxes and removal of wall plates

WattStopper is updating its packaging to better harmonize with sustainable building practices. Newly-designed boxes are constructed from uncoated recycled cardboard, and require only a small amount of ink. Additionally, the company is removing wall plates from commercial and residential wall switch sensor and time switch packages. The changes have been implemented to save resources and reduce waste.

### Industry practice to purchase wall plates separately

The sustainable packaging initiative harmonizes with the standard industry practice, where wall plates are purchased separately from controls to accommodate style, color and ganging requirements of each job.

An additional benefit will be diverting unneeded single gang wall plates from landfills. And, the smaller sensor and time switch boxes require up to 37% less space for storage and transportation.

### Rollout schedule for new packaging

WattStopper will begin shipping wall switch products in the recycled boxes, without wall plates, once old inventory is depleted. Expect to see repackaged sensors beginning late 2010 and throughout the first half of 2011.

- WS-250: December 2010
- PW/DW/UW sensors: Second quarter 2011
- WD and WN sensors: Second quarter 2011
- TS time switches: Second quarter 2011
- Residential sensors and time switches: First quarter 2011

The easy-to-recycle uncoated cardboard boxes are being implemented across the entire WattStopper product offering. Products such as power packs and ceiling sensors will be shipped in the new packaging when old stock is depleted.