

## IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED. DISCONNECT POWER TO ALL CIRCUITS BEFORE WIRING FIXTURE. INSTALL IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES. DO NOT CONNECT TO AN UNGROUNDED SUPPLY. READ ALL FIXTURE MARKINGS AND LABELS TO ENSURE CORRECT INSTALLATION OF FIXTURE. SUPPLEMENTAL INSTRUCTIONS MAY BE LOCATED ON THE FIXTURE, IN ADDITION TO THIS INSTRUCTION SHEET, REGARDING ORIENTATION, OR MOUNTING RESTRICTIONS.

## SAVE THESE INSTRUCTIONS

## INSTALLATION INSTRUCTIONS

### CONTROLLER BOX INSTALLATION

1. Open housing using supplied key.
2. Determine which side(s) of housing control wires and lead wires will be entering and exiting. Remove knockout(s), install 1/2" NPT wet location conduit fitting(s), and seal threads using approved method.
3. Place housing at the intended mounting location. Locate and drill (4) pilot holes in mounting surface using housing as template or see figure 1 below. Using 1/4-20 fasteners and anchors appropriate to the mounting surface (supplied by others), mount housing to surface.

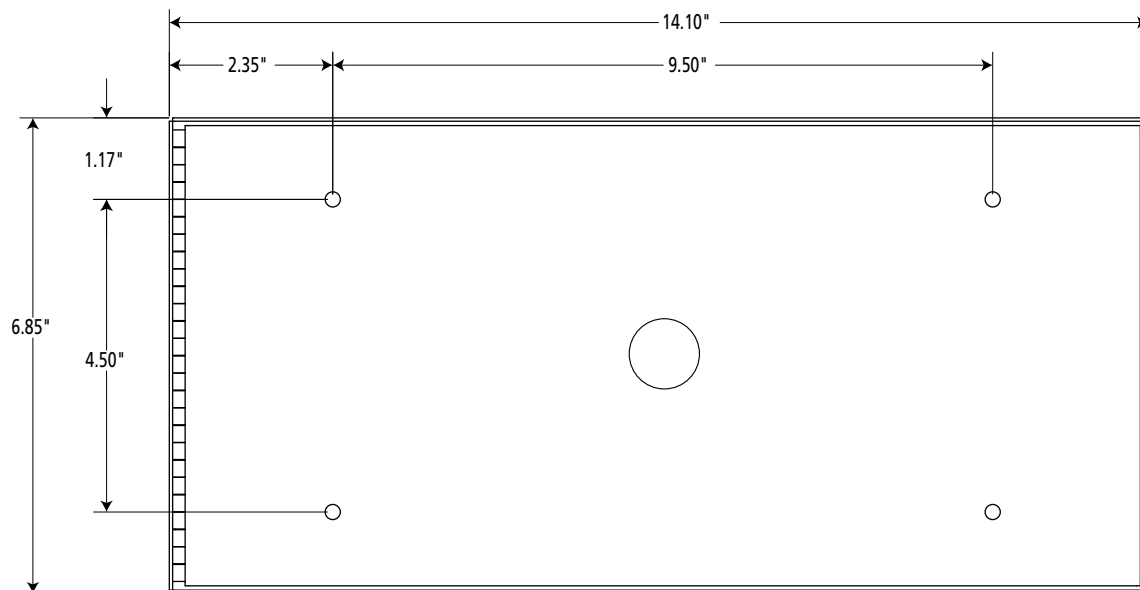


Figure 1

4. Input rating: 120VAC (Ø.45A) : 277VAC (Ø.25A); 50-60Hz  
Output rating: 12VDC, (Ø.167A)
5. To prevent damage to electrical components it may be necessary to employ internally sealed conduit fittings or to fill all conduit fitting throats to avoid water penetration of the unit. If sealant is used, a sealant compatible for use with solid-state electronics should be used.



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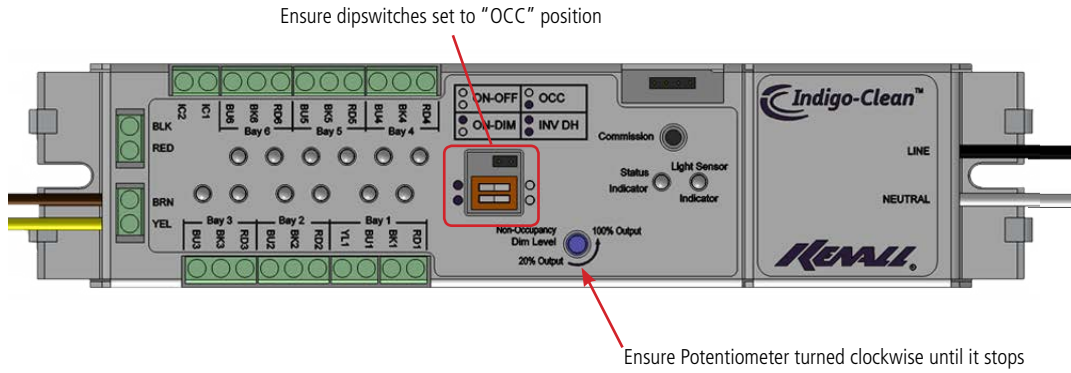
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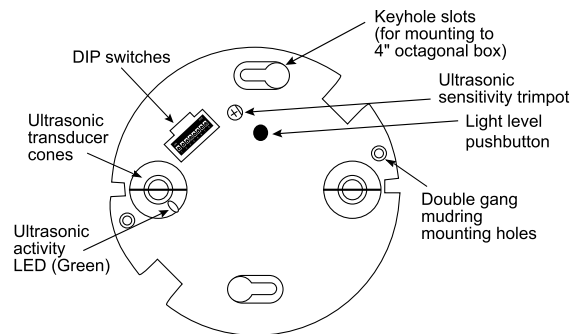
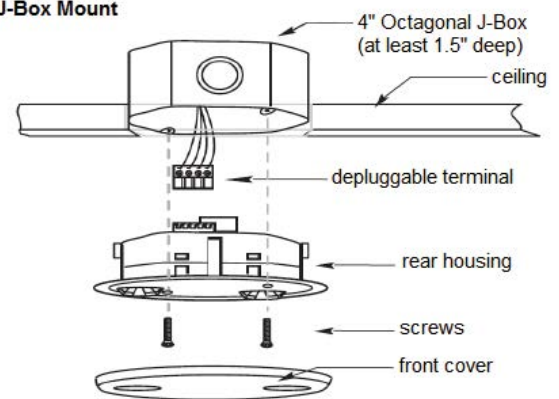


## ULTRASONIC SENSOR INSTALLATION

### Using a 4" Octagonal J-Box

1. Connect low voltage wires to the appropriate terminals on the depluggable terminal (red=24V+, black=24V-, blue=control).
2. Loosen the appliance mounting screws attached to the J-Box.
3. Align the sensor in the J-Box so that the mounting screws on the box match the key holes on the sensor's rear housing.
4. Push the sensor up into the J-Box and twist it so the mounting screws are seated in the key hole slots.
5. Tighten the two screws to secure the sensor to the J-Box.
6. Snap the front cover onto the sensor.

### J-Box Mount



**DIP SWITCH SETTING**

**Time Delay: Switches 1, 2, 3**

The sensor will hold the lights ON as long as occupancy is detected. The time delay countdown starts when no motion is detected. After no motion is detected for the length of the time delay, the sensor will turn the lights OFF.

**Walk-Through Switch 4**

Walk-Through mode turns the lights OFF three minutes after the area is initially occupied, if no motion is detected after the first 30 seconds. If motion continues beyond the first 30 seconds, the selected time delay applies.

**Service: Switch 5**

To override all sensor functions, set DIP Switch 5 to the ON position. The green LED will come on and stay on for the duration of the override. This bypasses the occupancy control functions of the sensor, but still allows the lights to be manually controlled with a light switch, if one is installed.

**On Mode: Switch 6**

The Manual ON function is facilitated by installing a momentary switch such as a Wattstopper LVS-1 Momentary Toggle Switch, or RS2-3 Low Voltage Momentary Switch. This switch connects to the sensor’s Manual (Man.) Switch and +24V terminals as shown in the wiring diagram. Each time the switch is pressed, the load changes state. The sensor’s operation as related to the manually operated switch is determined by the setting for DIP Switch 6.

**Manual On:** In this mode, the switch is required to turn ON the load. The sensor is then used to keep the load on, based on occupant activity. After the time delay ends, if there is no movement detected within the 30 second re-trigger period the manual switch must be used to turn ON the load.

**Automatic On:** This mode uses occupancy as well as switch activation to turn the load ON. A manual switch provides the following additional functionality:

- The load can be turned ON by manual switch activation and it stays on as long as occupancy is detected. The sensor time delay operates as programmed. When the load turns OFF due to lack of occupancy detection, the load can be turned ON again by occupancy detection or switch activation.

Activating the manual switch while the load is ON turns the load OFF. When the load is turned OFF manually, as long as the sensor continues to detect occupancy the load stays OFF. For the selected time delay, the lights stay OFF and the sensor reverts to the automatic-on mode.

When the load is turned OFF manually, pressing the switch again turns the load ON and the sensor reverts to the automatic-on mode.

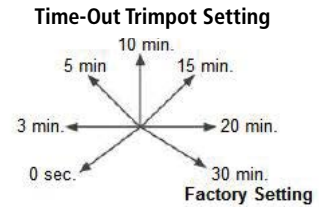
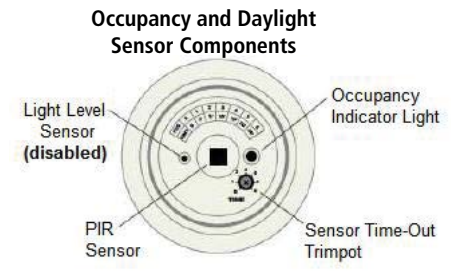
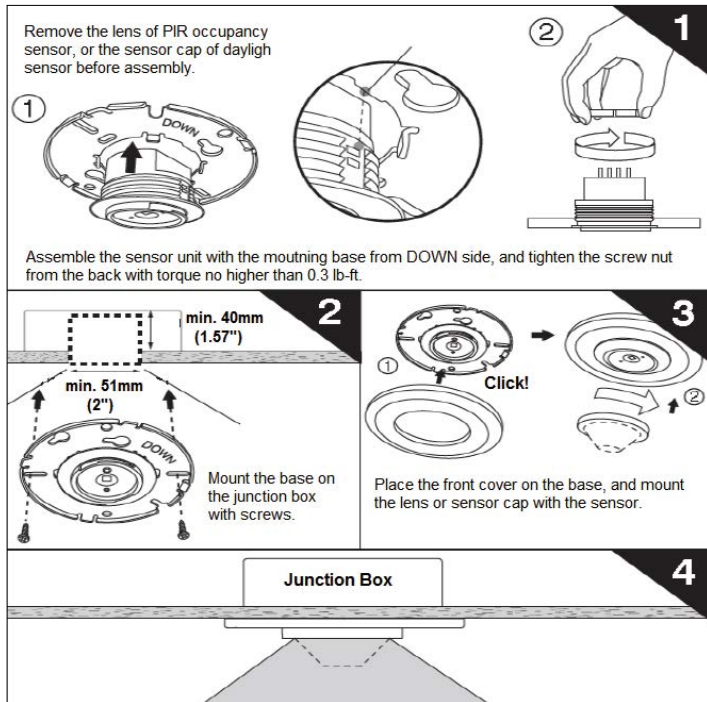
Once the sensor returns to automatic-on mode, either the switch or occupancy detection can turn the load ON.

	Switch#		
Time Delay	1	2	3
Test Mode/20 min	↓	↓	↓
30 seconds	↓	↓	↑
5 minutes	↓	↑	↓
10 minutes	↓	↑	↑
15 minutes	↑	↓	↓
20 minutes	↑	↓	↑
25 minutes	↑	↑	↓
30 minutes	↑	↑	↑
<b>Walk-Through</b>	<b>4</b>		
Enabled	↑		
Disabled	↓		
<b>Service</b>	<b>5</b>		
Service	↑		
Normal	↓		
<b>On Mode</b>	<b>6</b>		
Manual On	↑		
Auto On	↓		

- ◀ = Factory Setting
- ↑ = ON
- ↓ = OFF



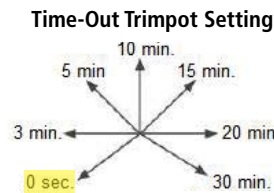
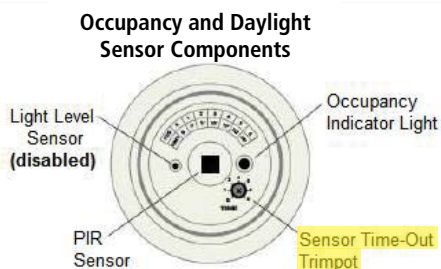
**PIR SENSOR INSTALLATION  
USING A 4" OCTAGONAL J-BOX**



**IC100 OPERATION VERIFICATION**

The sensors are factory preset to 30 minutes, which allows for quick installation. Verification of system performance can be done through the following procedures.

1. Removed the lens from each PIR sensor and turned Time-Out trimpot to 0 seconds:



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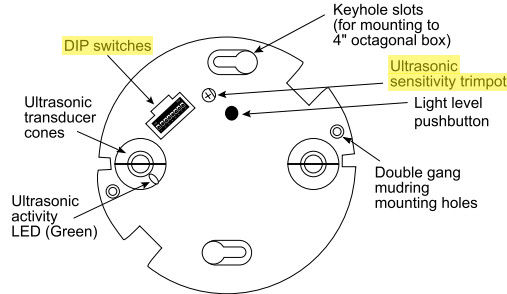
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**IC100 OPERATION VERIFICATION (CONTINUED)**

Note – Before making adjustments to the Ultrasonic Sensor, make sure the lighting circuits are turned 'ON' and the HVAC systems are in the overridden/on position. VAV systems should be set to their highest airflow.

- Open front cover of Ultrasonic sensor to access the dip switches and set the Time Delay to **30 Seconds**.
- Ensure the Ultrasonic Sensitivity trimpot is set to about 90% - clockwise.

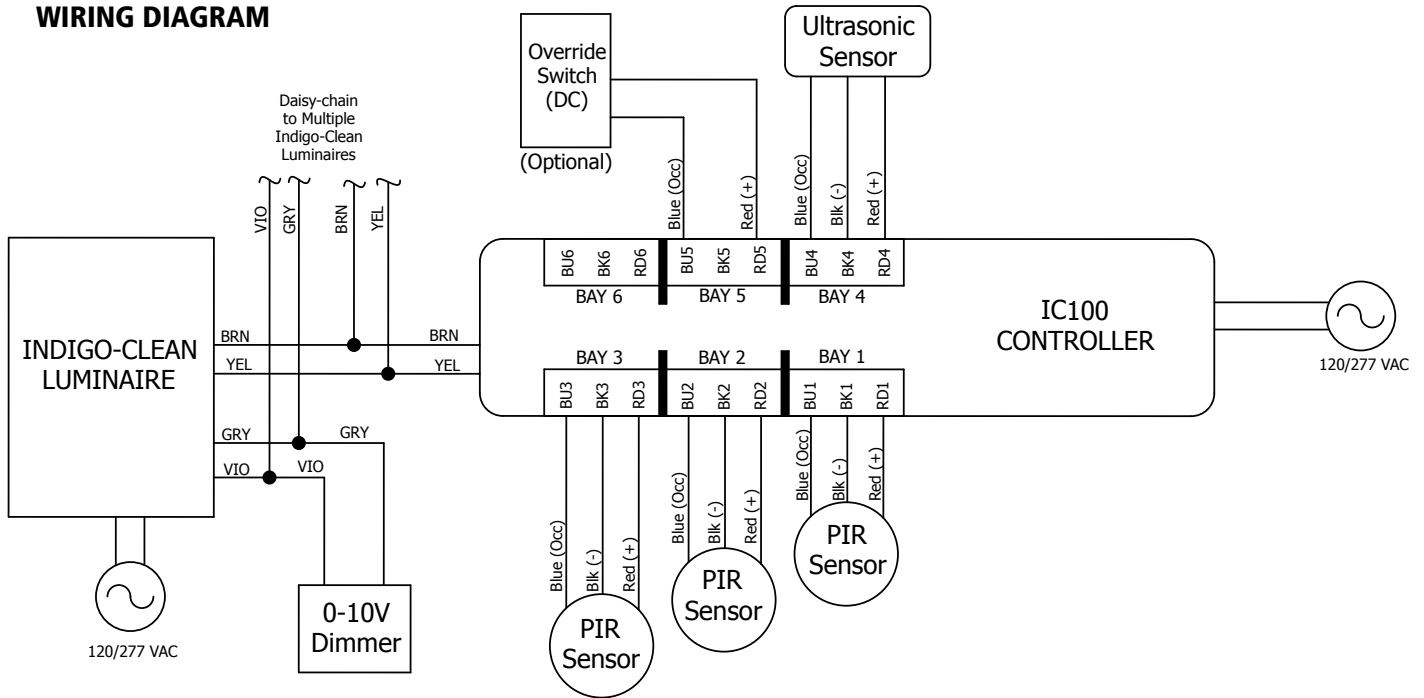
Time Delay	Switch#		
	1	2	3
Test Mode/20 min	↓	↓	↓
30 seconds	↓	↓	↑
5 minutes	↓	↑	↑
10 minutes	↓	↑	↑
15 minutes	↑	↓	↓
20 minutes	↑	↓	↑
25 minutes	↑	↑	↓
30 minutes	↑	↑	↑



- Remain still or exit the room. The Indigo-Clean luminaires should emit an indigo-colored light within 45 seconds of no movement in the room, indicating the system is in Indigo Disinfection mode.
- Move about the room and the Indigo-Clean luminaires should return to emitting a white light, indication the system is in White Disinfection mode.
- Reset the PIR and ultrasonic time-out settings to 30 minutes and replace the lenses and front cover on the sensor, respectively.

**Important Note** – If optional override switch (See IC100 wiring diagram) is installed and connected to the controller, ensure the switch is on the 'OFF' (i.e. open) position for verification test. If Optional override switch is in the 'ON' (i.e. short) position, then the Indigo-Clean luminaires will stay White Disinfection mode indefinitely.

**WIRING DIAGRAM**



**CUSTOMER SERVICE**

For technical assistance, call 1-800-4KENALL (1-800-453-6255).

**WARRANTY**

For warranty information visit [www.kenall.com/Resources/Certified-Performance-Warranties](http://www.kenall.com/Resources/Certified-Performance-Warranties)



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