



IOS-PP24

# 12-24 Volt Power Pack

## MODEL: IOS-PP24 INSTALLATION AND CONFIGURATION INSTRUCTIONS

### Specifications:

- Input Voltage: 120/230/240/277 VAC 50/60 Hz
- Load Requirements
- Ballast - 20 A @ 120/240/277 VAC
- Electronic Ballast/LED: 500 W
- Tungsten/Incandescent: 15 A, 120 VAC 50/60 Hz, 5 A, 250 VAC 50/60 Hz
- Motor: 1 HP 120/240 VAC 50/60 Hz
- Output - 150mA @ 24 VDC Class 2 Power Supply (with relay connected)
- Low Voltage Input
- Control ON - 12-24 VDC
- Hold ON - 12-24 VDC
- Hold OFF - 12-24 VDC
- Manual ON (momentary switch required) - 12-24 VDC

### ⚠ WARNING Risk of Fire, Electrical Shock or Personal Injury

- Turn OFF power at circuit breaker or fuse and test that the power is OFF before wiring.
- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- If you are not sure about any part of these instructions, consult a qualified electrician.
- Use this device only with copper or copper clad wire.
- INDOOR USE ONLY

### DESCRIPTION:

The IOS-PP24 Power Pack supplies low voltage lighting control system. The power pack supplies low voltage power to occupancy sensors and other control devices, switching line voltage in response to signals from control devices.

### INSTALLATION GUIDELINES

Follow these guidelines before beginning installation of the power pack:

- Install power packs in accordance with state, local, and national electrical codes and requirements
- Power packs attach to existing or new electrical enclosures with ½ inch knockouts.
- Most applications require UL listed, 18-22 AWG, 3 conductor, Class 2 cable for low voltage wiring. For plenum return ceilings, use UL listed plenum approved cables
- The IOS-PP24 is a Class 2 Output Power Supply, suitable for parallel interconnection of up to 6 units maximum.
- The power pack is UL listed for interconnection of power sources in accordance with National Electrical Code

### MOUNTING THE POWER PACK

NOTE: After the wire connections are made, verify the wire installation was completed properly. Improper wiring can cause damage to the power pack, lighting system, occupancy sensor, and other control devices.

NOTE: A customer-supplied junction box is needed to complete this procedure.

1. Make sure power is turned off at the circuit breaker.
2. Punch loose a knockout on the customer-supplied junction box.
3. Insert the power pack nipple into the opening in the junction box knockout.
4. Connect the power pack input wires as shown in Figure 2.

NOTE: The occupancy sensor contains four +12 to 24 VDC input wires to control the load relay. The inputs may be used in combination or individually depending on the needs of the application. See the table below for a description of the inputs.

Input (wire)	Description
Control ON (Blue wire)	Occupancy sensor input. Applying 12 to 24 VDC closes the relay.
Hold ON (Orange)	Time or panel input. Applying 12 to 24 VDC closes the relay.
Hold Off (Brown)	Timer, panel, BAS, or load shed input. Applying 12-24 VEDIC opens the replay.
Manual ON/OFF (Gray)	Low voltage momentary switch, if applicable.

5. Refer to Figure 2 to verify the power pack is wired correctly.

### OPERATION

The occupancy sensor enables the load to be automatically turned ON/OFF with an occupancy sensor input, timer, panel, or BAS input. The load can also be manually turned off from an optional low voltage momentary switch.

### OVERRIDING THE POWER PACK WITH MOMENTARY SWITCH (OPTIONAL)

The Power Pack can be overridden from the connected momentary switch. The momentary switch can override the Power Pack when it is in the Control ON, Hold ON, and Hold OFF states.

### OVER CURRENT PROTECTION

The IOS-PP24 Power Pack contains built-in short circuit and thermal protection circuitry that shuts down the +24 VDC output (low voltage red wire) when the output exceeds 200MA to prevent permanent damage to the power pack. Removing the excess load from the output restores the occupancy sensor to proper operation.

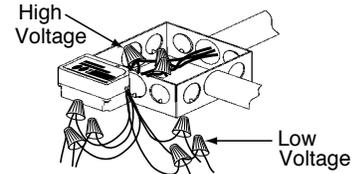


Figure 1

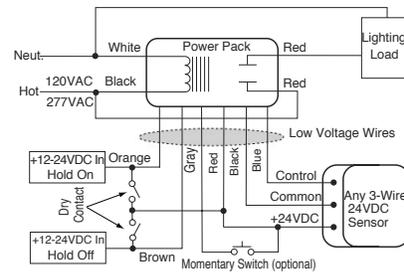


Figure 2

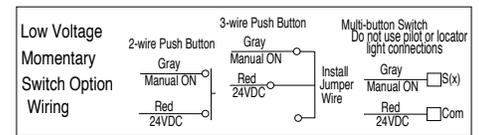


Figure 3

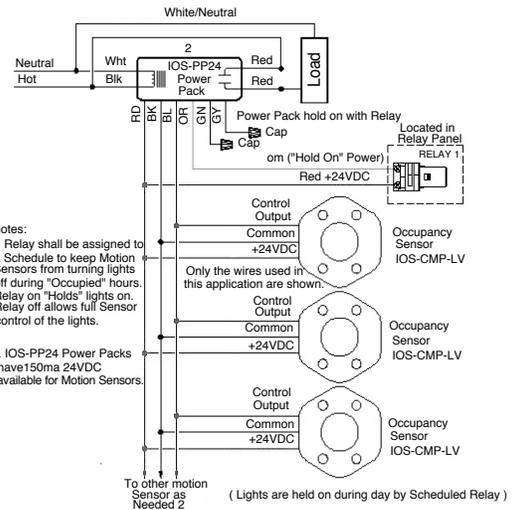


Figure 4

**ZERO-CROSSING ACTION FOR RELAY**

The Power Pack makes every motion of the relay in the vicinity of AC zero crossing and the deviation of +/- 20% in order to increase the reliability of movement and life of the relay. The DC does not have zero-crossing protection.

**DESCRIPTION OF THE POWER PACK LED INDICATORS**

The Power Pack LED, located on the side of the Power Pack, indicates the following conditions:

LED state	Indicates
In the OFF state (not illuminated)	There is no power to the sensor or the +24 VDC output is shorted
LED is flashing every two seconds and is off for 0.5 seconds	Relay is closed (load ON)
LED normally ON	The relay is open (load OFF)

**TROUBLESHOOTING**

The lights do not turn on automatically after they are turned off for a presentation	The occupancy sensor time delay is too long. Reduce the time delay. Increase occupancy sensor sensitivity
The load does not turn ON when occupancy is detected by the sensor.	The Hold OFF input is active. De-activate the Hold ON input.
The load does not turn OFF after the sensor time delay expires.	The Hold ON input is active. De-activate the Hold ON input.
The load does not respond when the momentary switch is pressed.	Check the wiring and the switch.

**LIMITED WARRANTY**

Warranty service is available by either (a) returning the product to the dealer from whom the unit was purchased or (b) completing a warranty claim online at [www.intermatic.com](http://www.intermatic.com). This warranty is made by: Intermatic Incorporated, 1950 Innovation Way, Suite 300, Libertyville, IL 60048. For additional product or warranty information go to: <http://www.intermatic.com> or call 815-675-7000.