sensorswitch

347 VOLT POWER PACK & SLAVE PACKS

TECHNICAL DATA

TYPICAL APPLICATIONS

- Used with Low Voltage Sensors
- Multiple Sensors
- Multiple Loads
- AC Switching Only

POWER PACK HIGHLIGHTS

- Dual Voltage Transformer
- Self-Contained Relay
- Patented Relay Circuit Protection (Tested to over 400,000 cycles)
- Powers up to 14 sensors

SPECIFICATIONS

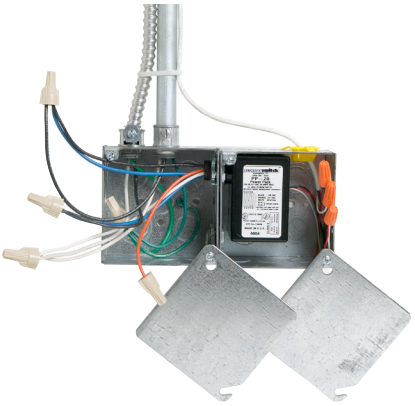
- Size:(1/2" inch chase nipple not inc.) PP-20-3 & SP-20-3: 3" x $2^{1}/_{4}$" x $1^{7}/_{8}$"
- Mounting: 1/2" inch chase nipple
- Operating Voltage: 120 or 347 VAC
- Each Relay: 20 Amps
- 1 HP Motor Load
- Output Voltage: 15 VDC, 150 mA
- Class II: 18 AWG, up to 2,000 ft.
- Plenum Rated
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14º to 160º F
- Storage Temp: -14º to 160º F
- UL and CUL Listed
- 5 Year Warranty
- Made in U.S.A.

LOW TEMP/HI HUMIDITY(-LT)

- Conformally Coated PCB
- Operates down to -40º F
- Corrosion resistant from moisture

PLENUM CONSIDERATIONS

Most local codes allow for small plastic controls in Return Air Plenums; *Some Do Not!* To meet local code, the Power Pack can be mounted inside an adjacent (Deep) junction box as shown below.



PP-20-3
SP-20-3

Plenum Rated

The 347 Volt Power Packs are the heart of the Low Voltage Sensor System. The *PP-20-3* transforms 120 or 347 Volts to class II 15 VDC to power the remote sensors. Utilizing Patented Relay Circuit Protection the *PP-20-3* also switches the lighting load "On" and "Off": Tested to over 400,000 cycles at rated load! Although Plenum Rated, the elongated mounting nipple allows for the *PP-20-3* to be mounted either directly thru a 1/2" inch knockout in a junction box, or to be located inside an adjacent box for specific local code requirements. Up to 14 sensors may be connected to one *PP-20-3*. Multi-circuit control can be handled by multiple *PP-20-3's* and Slave Packs (*SP-20-3*) may be configured. *PP-20-3's* can be wired continuously hot (line side), or on the switch leg (load side) without nuisance delays upon turn "On".

POWER PACK OPERATION

The Power Pack consists of a transformer and a relay. The tranformer has a primary high voltage input, accepting 120 or 347 VAC. The secondary voltage provides power to Sensor Switch low voltage heads. When the sensor head detects motion, they electronically signal the power pack to close the relay(s) connected to the lighting system.

LOW VOLTAGE OPERATION AND TEST

The Low Voltage Wires are color coded Red (15 VDC), Black (Common), and White (Occupancy Signal). With no sensors connected, touch the Red wire to the White. The lights should turn "On". Remove the connection and the lights should turn "Off". With the sensors connected, the Red and Black wires provide DC power to the remote sensors, and when there is occupancy detected, the White wire produces a 15 VDC signal from the sensor to the power pack initiating the lights to "On". Upon initial power up, the Sensors automatically send an "On" signal until the sensors have stabilized and "Timed Out".

SIZING OF THE SYSTEM - VARIOUS COMBINATIONS

Combining Power Packs provides for additional power to drive remote devices. Maximum numbers of remote sensors are shown below based on the Power Pack/ Slave Pack being used:

	Sensors	Sensors with Relay
1 PP-20-3	14	8
1 PP-20-3 w/SP-20-3	7	6
2 PP-20-3	28	16

Note 1: Only three relays may be controlled with one Power Pack. If more than three circuits are required, multiple Power Packs must be used.

Note 2: Only one "Sensor with Relay" is required in most cases. See Technical Data on Low Voltage Sensors and SPDT EMS Interface Option.

SYSTEMS CONSIDERATIONS

The local override switch may be upstream or downstream of a *PP-20-3*. However, if an *SP-20-3* Auxiliary Relay controller is being used, the switch(es) should be downstream on the load side of the relay. If power is disconnected to the Power Pack all subsequent relays will open, turning off all of the loads. If wiring the local switches before the Power Pack and Slave Pack, use multiple *PP-20'-3s*, one for each circuit. This will allow for one circuit to remain powered, keeping the system operational when the other is turned off. When controlling a dimming circuit, *PP-20-3* must be wired before dimmer, or *SP-20-3* may be wired after dimmer.

INTERFACING WITH ELECTRONIC CONTROL SYSTEMS

The Relay Switching System is designed to switch Alternating Currents Only. The relay will not switch DC signal inputs to EMS or Lighting Control Systems. Use Low Voltage Sensors with built-in signal relay to provide status to EMS.

CATALOG INFORMATION

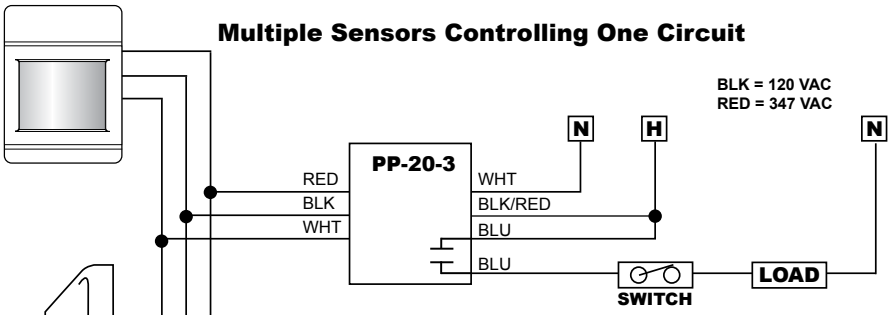
MODEL #	DESCRIPTION	OUTPUT VOLTAGE	OUTPUT CURRENT
PP-20-3	120/347 VAC Power Pack with 20 Amp Relay	15 to 24 VDC	70 to 110 mA
SP-20-3	120/347 VAC Power Pack with 20 Amp Relay	N/A	40 mA/consumption

**Add suffix -LT for Low Temp/Hi Humidity

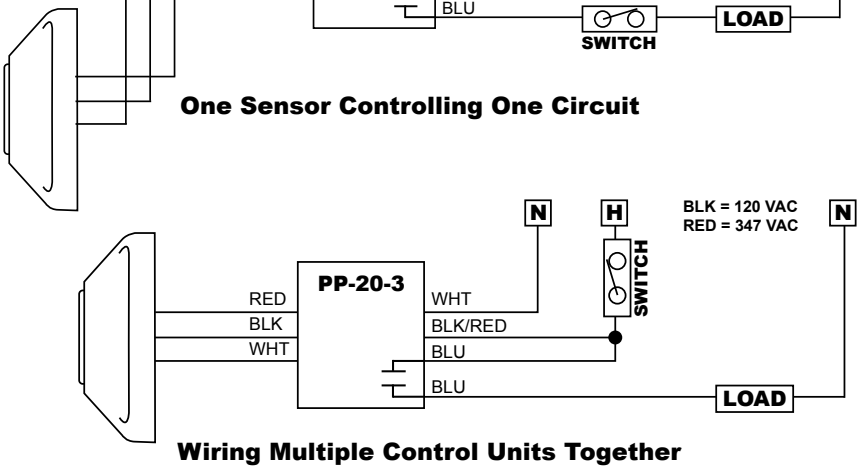
TYPICAL WIRING DIAGRAM- DO NOT WIRE HOT

NOTE: The Power Pack must be connected to a single phase Hot and Neutral System. For 120 VAC, connect the Black wire to Hot, White wire to Neutral, and Cap off the Red wire. For 347 VAC, connect the Red to Hot, White to Neutral, and Cap off the Black wire. *Never connect both the Black and Red wires!* Low Voltage wire can be 18 to 22 AWG; shielding is not necessary.

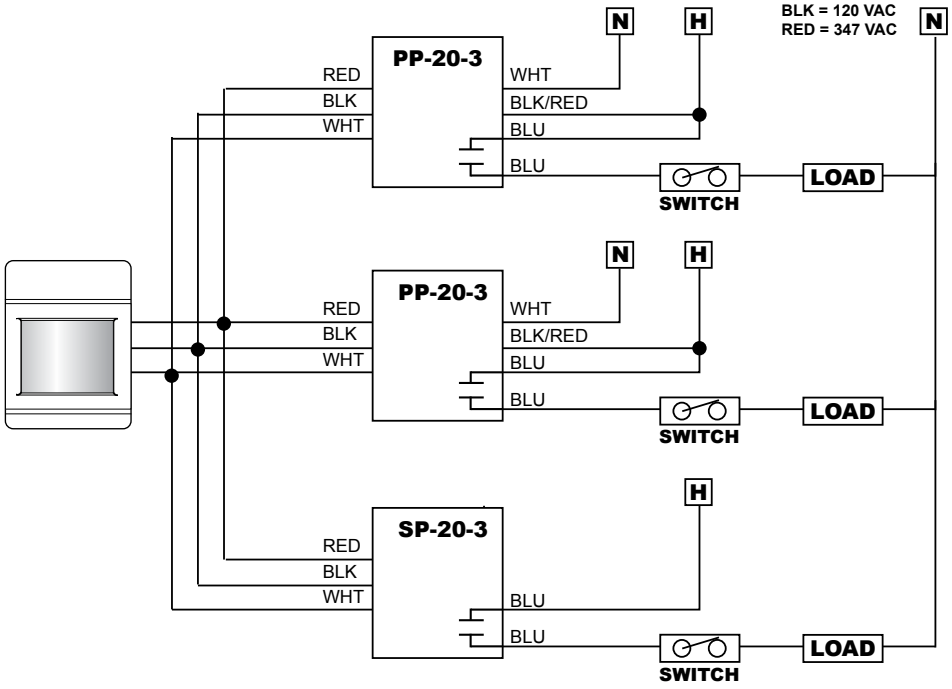
Multiple Sensors Controlling One Circuit



One Sensor Controlling One Circuit



Wiring Multiple Control Units Together



SENSOR SWITCH, INC.
900 Northrop Rd., Wallingford, CT 06492
(203) 265-2842 info@sensorswitch.com
www.sensorswitch.com

revised 9/26/2013