

TYPICAL APPLICATIONS

- Used with Low Voltage Sensors
- Powers Multiple Sensors
- Switches 20A Load

POWER PACK HIGHLIGHTS

- Dual Voltage Transformer
- Self-Contained Relay
- Powers up to 14 sensors

SPECIFICATIONS

- Size: (1/2" chase nipple not included)
3.00" H x 2.25" W x 1.88" D
(7.62 cm x 5.72 cm x 4.78 cm)
- Mounting: 1/2" knockout
- Operating Voltage: 120 or 347 VAC
- Switching Load: 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: 14° to 160° F (-10° to 71° C)
- Storage Temp: -14° to 160° F (-26° to 71° C)
- UL and CUL Listed
- 5 Year Warranty
- Made in U.S.A.

LOW TEMP/HI HUMIDITY(-LT)

- Conformally coated Circuit Board is corrosion resistant from moisture
- Operates down to -40° F (-40° C)

PLENUM CONSIDERATIONS

Most local codes allow for small plastic controls in return air plenums; however *some do not!* To meet local code, the Power Pack can be mounted inside an adjacent (deep) junction box as shown below.



MP-20-3 MSP-20-3



Mini Power Packs are the heart of the low voltage sensor system. The *MP-20-3* transforms 120 or 347 VAC to 15 VDC (Class 2) to power remote sensors. The *MP-20-3* also switches a lighting load "On" and "Off". Although plenum rated, the elongated mounting nipple allows for the *MP-20-3* to be mounted either directly through a 1/2" 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 *MP-20-3*. Multi-circuit control can be handled by multiple *MP-20-3*'s or in combination with Mini Slave Packs (*MSP-20-3*). *MP-20-3*'s can be wired continuously hot (line side), or on the switch leg (load side) without nuisance delays upon turn on.

MINI POWER PACK OPERATION

The Mini Power Pack (*MP-20-3*) consists of a transformer and a relay. The transformer has a dual primary high voltage input, accepting 120 or 347 VAC. The secondary voltage provides power to Sensor Switch low voltage sensors. When a sensor detects motion, they signal the mini power pack to close its relay, causing the connected lights to turn on. The Mini Slave Pack (*MSP-20-3*) consists of only a relay and does not contain a transformer.

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 Mini Power Pack/Slave Pack being used.

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

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

Note 2: Only one sensor with an isolated relay (SPDT) is required in most cases. See Technical Datasheets for low voltage sensors and the Isolated Relay (-R) option.

SYSTEMS CONSIDERATIONS

The local override switch may be upstream or downstream of an *MP-20-3*. However, if an *MSP-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 *MP-20*'s, 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, *MP-20* must be wired before dimmer, or *MSP-20* may be wired after dimmer.

ORDERING INFORMATION

MODEL#	DESCRIPTION	OUTPUT VOLTAGE	CURRENT
MP-20 -3	Mini Power Pack with 20 Amp Relay	15 to 24 VDC	70 to 110 mA (output)
MSP-20-3	Mini Slave Pack with 20 Amp Relay	N/A	40 mA (required)

**Add suffix -LT for Low Temp/High Humidity option

T160-001

LOW VOLTAGE OPERATION AND TEST

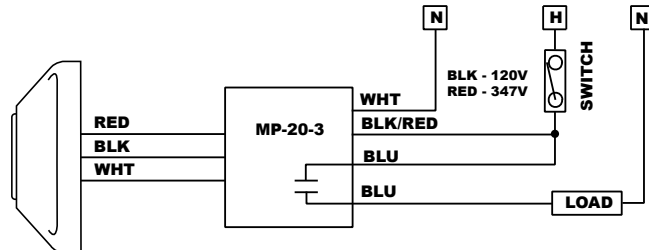
The low voltage wires are color coded Red (15 VDC), Black (Common), and White (Occupancy Signal). With no sensors connected, touch the Red wire to the White. The lights should turn on. Remove the connection and the lights should turn off. With the sensors connected, the Red and Black wires provide DC 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 they have stabilized and timed out.

TYPICAL WIRING DIAGRAMS -

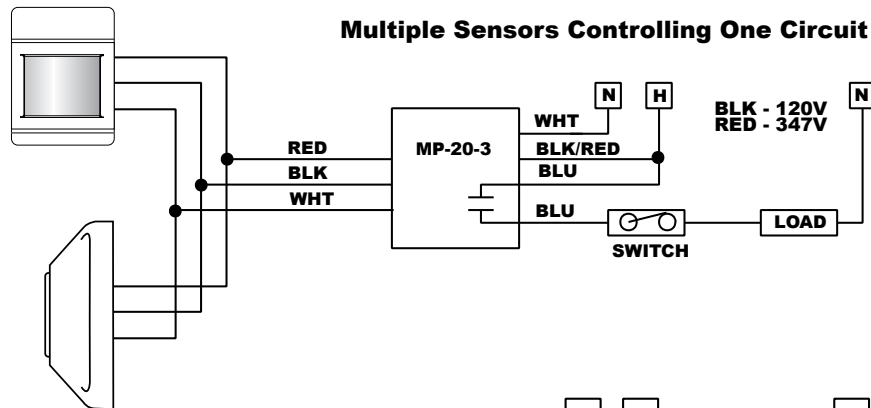
The Power Pack must be connected to a single phase Hot and Neutral system. For 120 VAC, connect the 18 AWG Black wire to Hot, the 18 AWG White wire to Neutral, and cap off the 18 AWG Red wire. For 347 VAC, connect the 18 AWG Red to Hot, the 18 AWG White to Neutral, and cap off the 18 AWG Black wire.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

DO NOT WIRE HOT

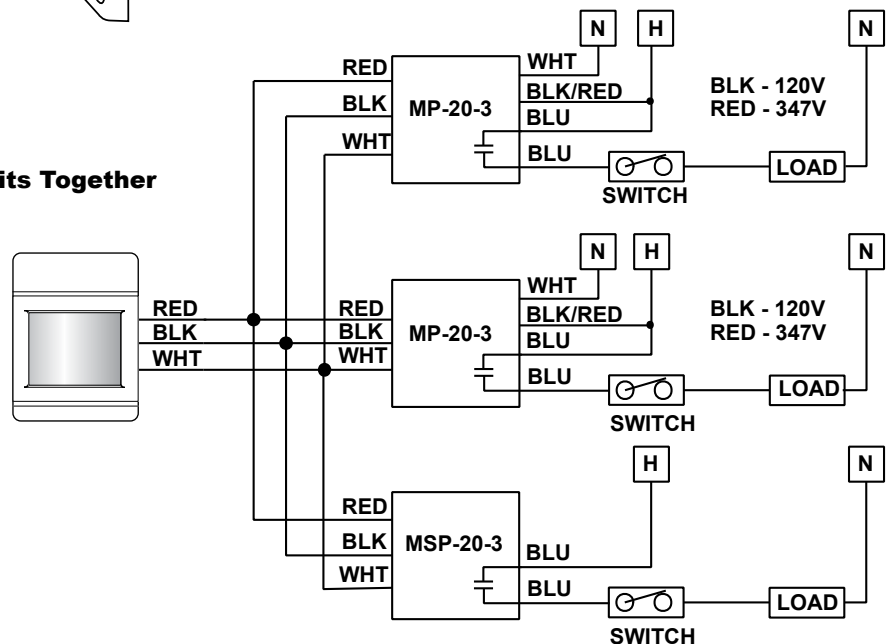
One Sensor Controlling One Circuit



Multiple Sensors Controlling One Circuit



Multiple Mini Power Pack Units Together



WARRANTY: Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of sixty months. Sensor Switch, Inc., upon prompt notice of such defect will, at its option, provide a Returned Material Authorization number and repair or replace returned product.

LIMITATIONS AND EXCLUSIONS: This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch, Inc. be liable for any incidental or consequential property damages or losses.



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