sensorswitch™

LOW VOLTAGE HIGH MOUNT SENSOR

TECHNICAL DATA

TYPICAL APPLICATIONS

- High Bay Aisle Way
- HID Bi-Level
- T-5 & T-8 Fluorescent

SENSOR HIGHLIGHTS

- Patented High Bay Sensor
- Up to 45 Foot Mounting
- Coverage of 110 Linear Feet
- Optional Isolated SPDT Relay

FEATURES

- Time Delay: 75 sec. to 20 minutes
- Optional Start-to-High Timer:
  0 to 20 minutes
- Green LED Indicator

SPECIFICATIONS

- Size:Rectangular, 4.96" x 3.1" x 1.6"
- Sensor Weight: 7 Ounces
- Sensor Color: White
- Mounting Height: Up to 45 Feet
- 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

HM-10 SERIES

HM-10
Fluorescent

HM-10-SH
HID Bi-Level

High Bay Aisle Way control is easily accomplished by the *HM-10.* HID Bi-Level *(HM-10-SH)*, or Fluorescent systems *(HM-10)* are switched through remote power packs. Typically, the *HM-10* is mounted at both ends of the aisle, or additional sensors are added in the center for proper coverage.The CM-6 High Bay sensor may also be wired into the system. For HID Line Voltage applications, consider the HMR-10 and CMR-6 products. When controlling full circuits of Fluorescent, the low voltage system is the best choice. For freezer applications, use the *HM-10-LT or HM-10-SH-LT* for cold temperature and corrosion resistant characteristics.

SENSOR OPERATIONS

The *HM-10* typically operates with a PP-20 or MP-20 Power Pack. However, this unique sensor accepts 12 to 24 volts AC or DC (Red & Black wires), and outputs the DC component (White wire). When occupancy is detected, the output goes high and can drive up to a 200 mA of connected load. When used with the Power Packs, complete 20 amp circuits can be controlled. The *HM-10* detects changes in the Infrared energy given off by occupants as they move within the sensors field-of-view. An internal timer in the sensor, typically set at 10 minutes, keeps the lights "On" during periods of no activity. This state-of-the-art design allows the sensor to adapt to it's enviroment, eliminating the need for manual field adjustments.

HID BI-LEVEL FIXTURES (HM-10-SH)

The HID Bi-Level fixture must provide it's own interposing relay for switching the capacitor in the ballast from "High" to "Low". The "Start to High" timer must be used. This is a warm-up period for HID lighting loads. It is adjustable from zero to 20 minutes. This sensor also offers override switches on the front of the unit. With the right switch in the down position, the sensor is in the ON mode. This is used for the initial burn time on the HID lamps. With the left switch in the down position; the sensor is in the OFF mode. With both switches in the up position the sensor is in the AUTO mode. With both switches in the down position, the sensor remains in the OFF mode because OFF overrides ON.

FLUORESCENT FIXTURES

The *HM-10* sensor does not include the Start to High timer, or both override switches since these features are used for HID only.

PASSIVE INFRARED DETECTION TECHNOLOGY

The *HM-10* has 4 pairs of PIR collector beams evenly spaced. Motions are detected as occupants cross into or out of these beams. PIR detects motions across the beams much better than motions directly into the beams. Because of this, care must be taken to make sure the sensor is not viewing out the end of the aisles where traffic provides strong detection signals as opposed to occupants entering directly at the sensor. ***Providing sensors at both ends and ensuring the opposite sensors do not view out will provide proper performance.*** For aisles longer than 200 feet, multiple sensors must be located at appropriate distances in the center area. For example, a 270 foot aisle, locate one *HM-10* at each end, and one HM-50 in the center.

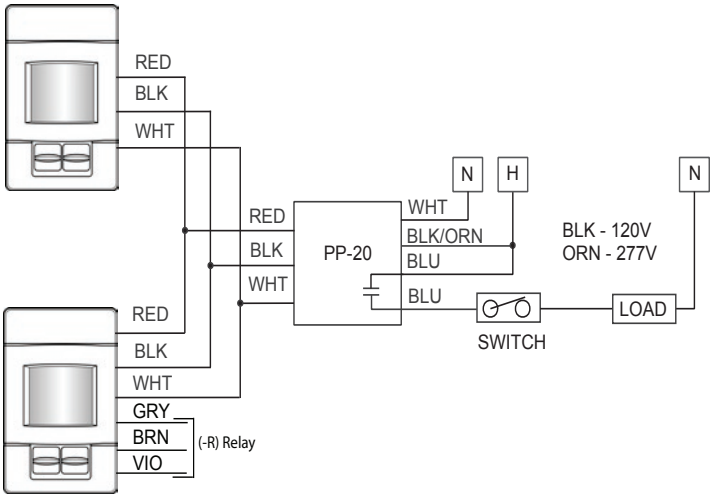
CATALOG INFORMATION

MODEL #	DESCRIPTION	TEMPERATURE	OP. VOLTAGE	CURRENT
HM-10	Passive Infrared High Mount Sensor	14° to 160° F	12 to 24 VAC/VDC	3 mA
Add suffix				
-R	SPDT Relay, 1 amp		12 to 24 VAC/VDC	13 mA
-SH	Start to High Timer & Override Switches			
-LT	Low Temp/High Humidity	-40° to 160° F		

INPUT/OUTPUT

Wire lead connections are Class II, 18 to 22 AWG. The *HM-10* uses 3 leads (Red, Black, and White); the Relay Option adds 3 leads (Brown, Gray, and Violet). The wire colors are as follows:

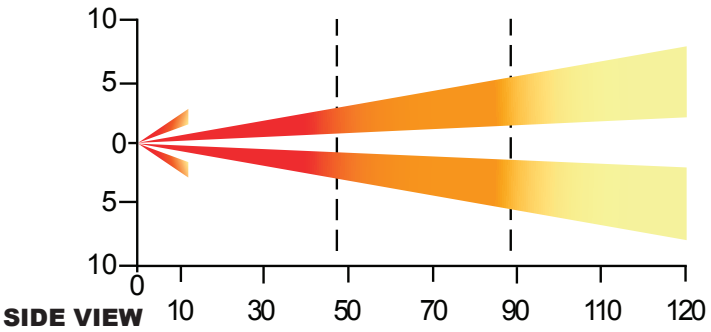
TYPICAL WIRING DIAGRAM - DO NOT WIRE HOT



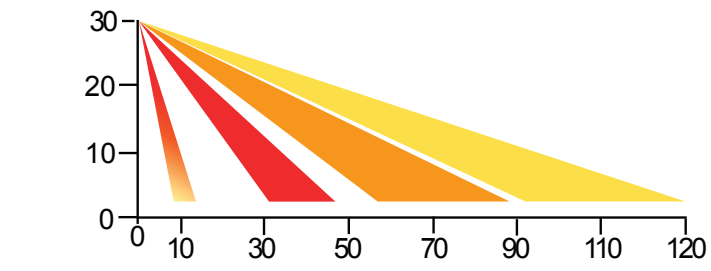
MOUNTING CONSIDERATIONS

The *HM-10* Sensor mounted at a 30 foot height and back out of the aisle way 10 feet, will cover approximately 110 linear feet. The sensor must be mounted in such a way as to be tilted forward approximately 43 degrees at 30 feet to achieve maximum coverage. At lower heights, or shorter desired coverage, the sensor tilt angle should be increased. A common method of allowing for this adjustment is to bend a piece of conduit at a 90 degree angle and mount a single gang handy box to the end of the conduit so that the handy box may be tilted forward.

TOP VIEW



SIDE VIEW



STANDARD HM-10

RED-12 to 24 VAC/VDC
BLACK-Common
WHITE-Output (HI DC for Occupancy)

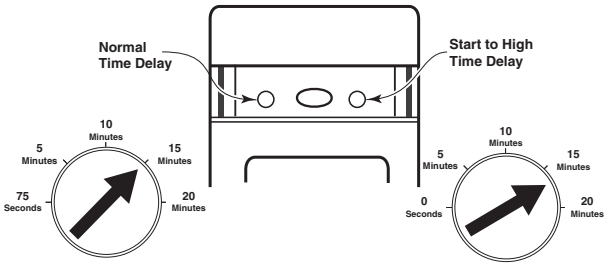
RELAY OPTION HM-10-R

BROWN-Center tap of relay(SPDT)
GRAY-During Occupancy Contacts Closed
VIOLET-During Occupancy Contacts Open

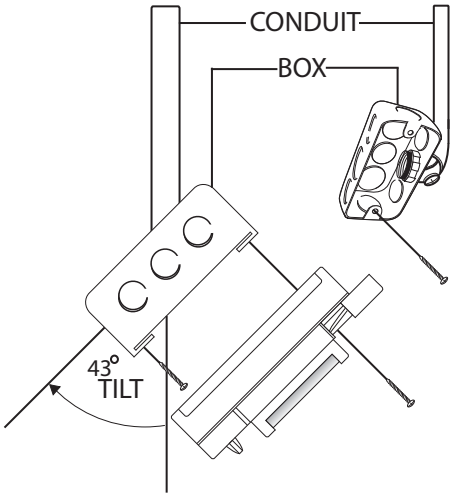
INTERNAL LOW VOLTAGE RELAY OPTION

Dry Contact Closure (-R) is provided through a SPDT, 1 amp, 40 volt relay. Relay coil is energized changing state when ALL sensors connected register "Unoccupied". Only one sensor per zone (if multiple sensors) needs to have this relay. Sensor must be powered from either a Power Pack, or Class 2 transformer.

TIME DELAY ADJUSTMENTS



MOUNTING DIAGRAM



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 a replacement 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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