

**TECHNICAL DATA**

**TYPICAL APPLICATIONS**

- Hallway Sensing

**FEATURES**

- PIR Occupancy Detection
- Coverage up to 130 Feet
- Communicates with Other Sensors
- Programmable w/o removing cover
- Time Delay: 30 sec. to 20 minutes, selectable in 2.5 min. increments
- Green LED Activity Indicator
- 100 Hr. Burn-in Timer Mode

**AVAILABLE OPTIONS**

- Isolated Low Voltage Relay (-R)
- Photocell Daylight Override (-P)
- Low Temp/Hi Humidity (-LT)

**SPECIFICATIONS**

- Size: Rectangular, 3.0" x 3.6" x 1.75" (7.62 cm x 9.14 cm x 4.45 cm)
- Sensor Weight: 4 Ounces
- Sensor Color: White
- Mounting: 7 to 10 ft in Corner or Ceiling using bracket (WV-BR)
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14° to 160° F (-10° to 29° C)
- Storage Temp: -14° to 160° F (-26° to 71° C)
- Operating Voltage: 12 - 24 VAC/VDC
- 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)

**HW-13 SERIES**

*Programmable Edition!*



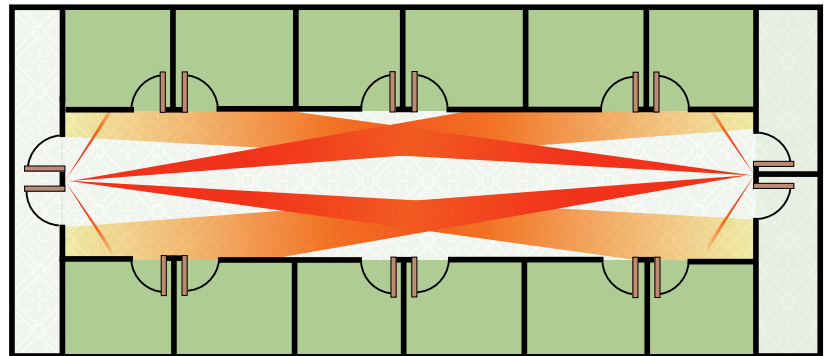
Long narrow Passive Infrared (PIR) detection is provided by the *HW-13* for control of Hallway lighting. Typically mounted at either end of a long corridor, the *HW-13* detects occupants entering the hallway up to 130 feet away. Detection at these distances is for entrances at right angles to the beam pattern. Wired in parallel, the *HW-13* may be used with other low voltage sensors. For example, a *CM-10* ceiling sensor may be in a vestibule at one end while the *HW-13* is at the other. The *HW-13* is best mounted at 7 feet.

**SENSOR OPERATIONS**

The sensor detects changes in the infrared energy given off by occupants as they move within the field-of-view. When occupancy is detected, a DC output goes high and can drive up to 200 mA of connected load. The sensor is powered with 12 to 24 VAC/VDC and typically operates with a PP-20 or MP-20 Power Pack; enabling complete 20 Amp circuits to be controlled. An internal timer, factory set at 10 minutes, keeps the lights "On" during brief periods of no activity. This timer is selectable at 2.5 minute increments from 30 seconds to 20 minutes, and is reset every time occupancy is re-detected. This state-of-the-art design requires no manual field adjustments.

**PASSIVE INFRARED DETECTION TECHNOLOGY**

The *HW-13* has one main PIR collector beam. Motions are detected as occupants cross into or out of this beam. PIR detects motions across the beam much better than motions directly into the beam; therefore care must be taken to make sure the sensor is not viewing out the end of the corridor where crossing traffic provides stronger detection signals than occupants entering directly at the sensor. Positioning sensors at both ends and ensuring that they do not view out of the corridor will provide proper performance.



**CATALOG INFORMATION**

MODEL #	DESCRIPTION	TEMPERATURE	OP. VOLTAGE	CURRENT
HW-13	Passive Infrared Hallway Sensor	14° to 160° F	12 to 24 VAC/VDC	4 mA
Add suffix				
-R	SPDT Relay, 1 Amp			16 mA
-P	Photocell - Daylight Override			4 mA
-RP	Relay & Photocell			16 mA
-LT	Low Temp/High Humidity	-40° to 160° F		
Accessory				
WV-BR	Ceiling Mount Bracket			

**PHOTOCELL DAYLIGHT HARVESTING OPTION (HW-13-P)**

This series offers a Photocell (-P) option for daylight harvesting in spaces with abundant natural light. This option is ideal for public spaces with windows like vestibules, corridors, or bathrooms. As the daylight levels change in the room, the -P option insures that an adequate light level is maintained according to a programmable threshold value called a set-point. The Photocell option provides two modes of operation; one simply inhibits the lights from turning on, while the other has full On/Off control of the lights. For more detailed information on the operation of Photocell control, see the CM-PC Technical Data Sheet.

**INTERNAL LOW VOLTAGE RELAY OPTION (HW-13-R)**

To enable a sensor to interface with a building management system, the -R option provides dry contact closure via a SPDT, 1 Amp, 40 Volt relay. The relay coil is energized and changes state when ALL connected sensors register "Unoccupied". When using multiple sensors, only one sensor per zone needs to have a relay.

**Note:** Sensor must have power at all times for the relay to function .

**WIRING INSTRUCTIONS**

Wire lead connections are Class II, 18 to 22 AWG.

**STANDARD HW-13**

RED - 12 to 24 VAC/VDC

BLACK - Common

WHITE - Output (HI DC for Occupancy)

**RELAY OPTION (-R)**

GRAY / BROWN - Connected during Occupied state  
VIOLET / BROWN - Connected during Unoccupied state.

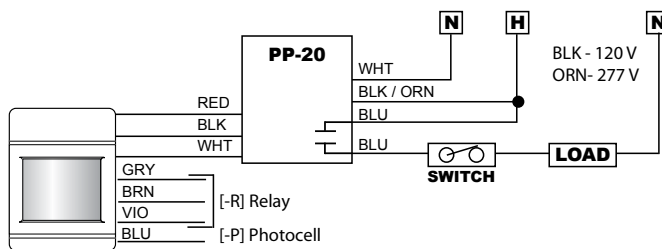
**Note:** Relay is energized during Unoccupied state

**PHOTOCELL OPTION (-P)**

BLUE - Photocell output (High: Occupied & Low Light)

Use Blue wire from sensor in place of White wire. For multi-level control, use 2 Power Packs and connect White to primary load and Blue to daylight load.

**TYPICAL WIRING DIAGRAM - DO NOT WIRE HOT**



**CEILING MOUNT BRACKET (WV-BR)**

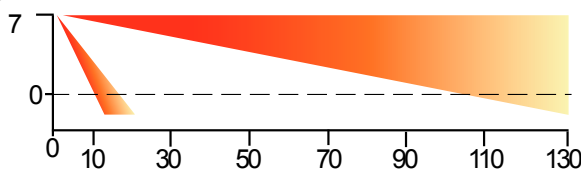
The WV-BR Ceiling Mount Bracket allows the HW-13 to be ceiling mounted for conditions where mounting to the wall is not possible. **Note:** View shown is when the sensor is installed fully vertically. Tilting will aim view pattern down.



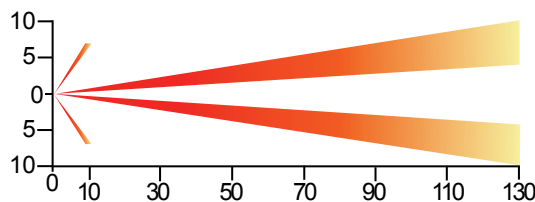
**FIELD OF VIEW vs. TILT ADJUSTMENT**

The HW-13 has three tilt adjustments. At 7 feet mounting, the sensor should be installed fully vertical. At higher mounting heights, the sensor may be tilted forward.

**SIDE VIEW**



**TOP VIEW**



**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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