# HMW32 High Bay Microwave Motion Sensor Instruction Manual

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**HIGH BAY MICROWAVE MOTION SENSOR**
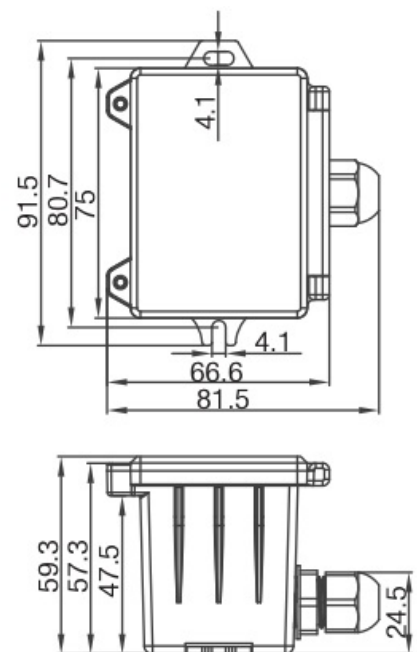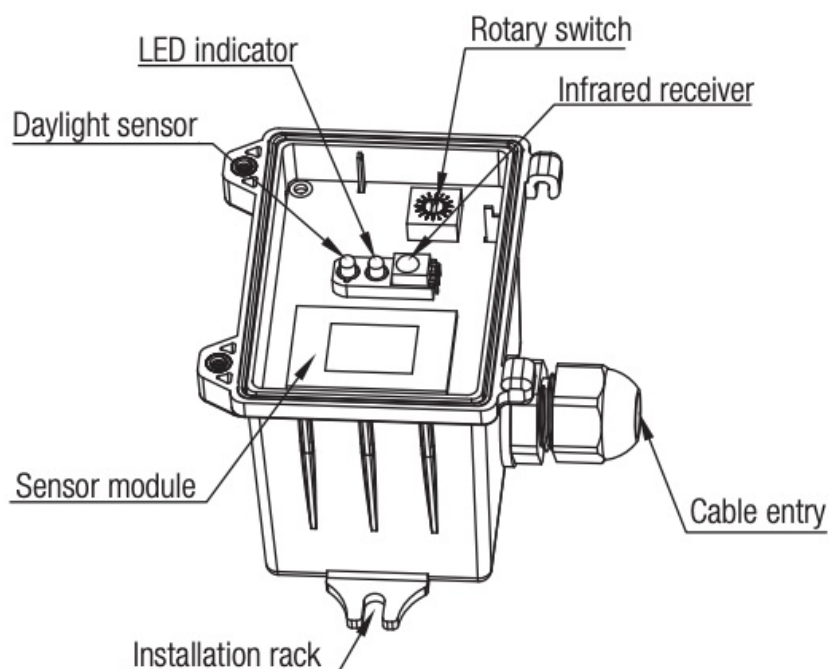
**HMW32**

**Technical Specifications**

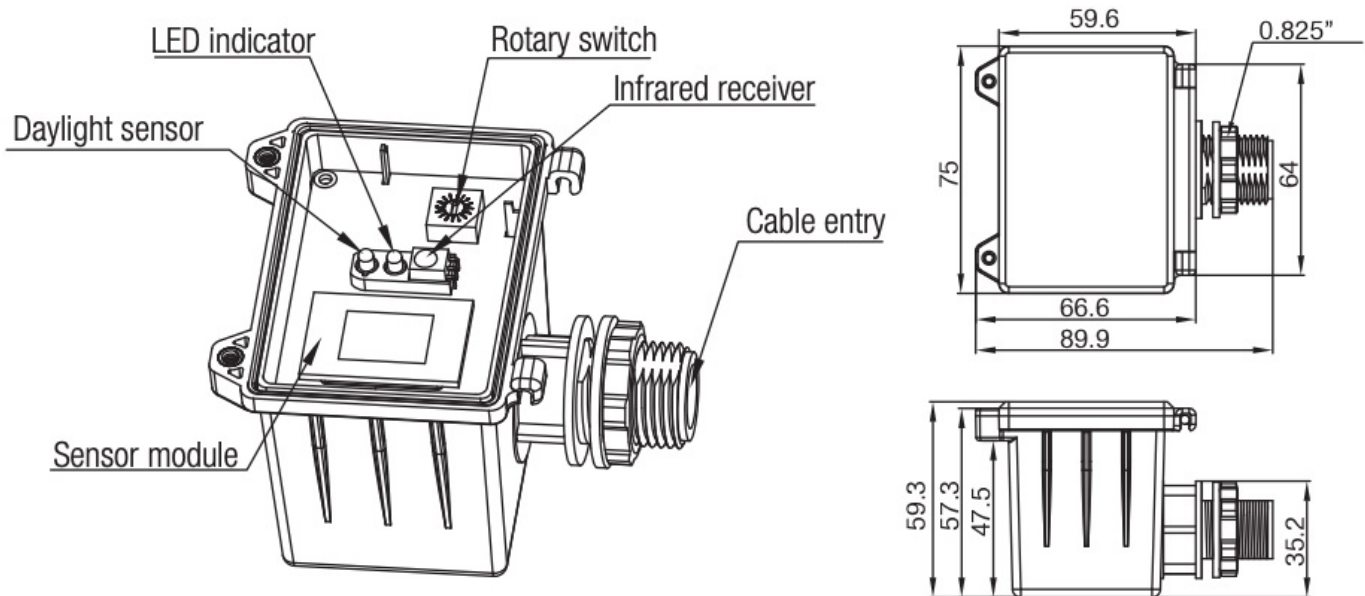| Product type | High bay microwave motion sensor (daylight harvest) |
|---|---|
| Operating voltage | 220~240VAC 50/60Hz |
| Rated load (max.) | Capacitive: 800VA |
| | Resistive: 1000W |
| Power consumption | < 0.5W |
| Detection angle | 360° |
| Detection area (max.) | Installation Height : 20m (forklift) 15m (person) |
| | Diameter (Ø) :20m |
| Detection range | 10% / 50% / 70% / 100% |
| Hold time | 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min |
| Stand-by time | 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞ |
| Stand-by dimming level | 10% / 20% / 30% / 50% |
| Daylight threshold | 50 ~ 500Lux, Disable |
| Warming up time | 20s |
| Operating temperature | -20°C ~ +50°C |
| IP rating | IP65 |

## Installation

⚠ **Warnings:**

1. Installation of the sensor involves connecting it to the mains supply. This work must be carried out by a specialist in accordance with electrotechnical regulations.
2. Disconnect supply before installing.

### A. Ceiling mount



### B. Screw to the Luminaire by conduit

LED indicator
Rotary switch
Infrared receiver
Daylight sensor
Cable entry
Sensor module

59.6
0.825"
75
64
66.6
89.9
59.3
57.3
47.5
35.2

## C. Attach to the shade by clamp



Rotary switch
LED indicator
Infrared receiver
Daylight sensor
Angle adjustment
Luminaire clamp
Sensor module

33.7
15
75
4.5
4.5
28.5
59.6
66.6
163.2
84.5
59.3
29
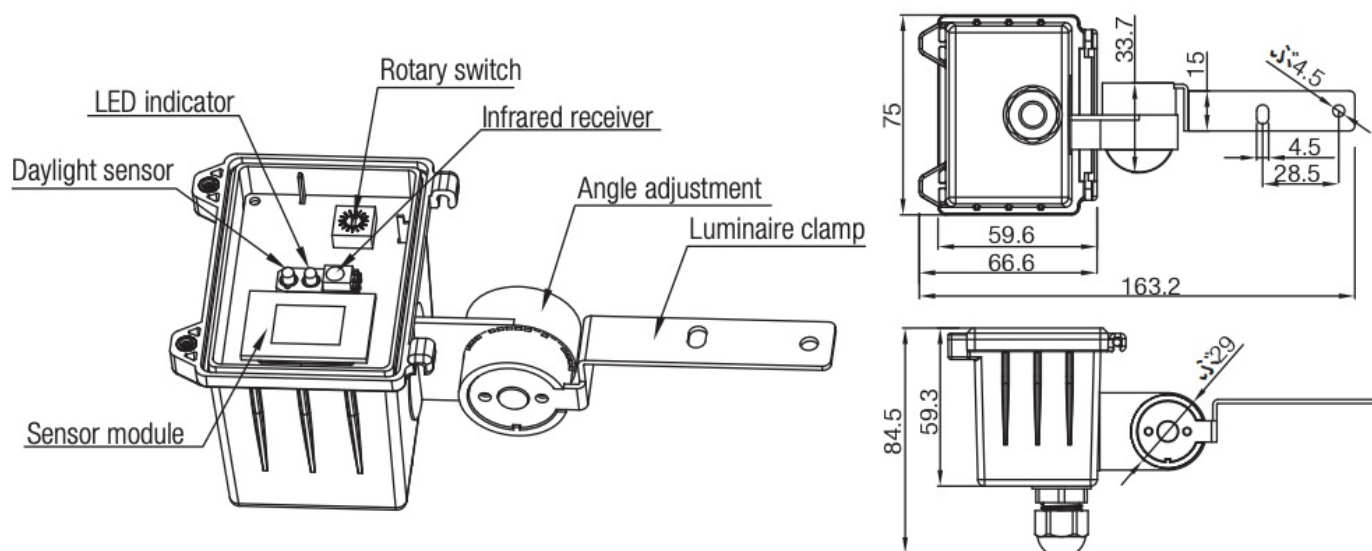
## Rotary Switch Settings

A rotary switch is built inside the sensor for scene selection / fast programming. Total 16 channels available :



Rotary switch preset (Please see the location in 2. Installation)

| Channel | Detection range | Hold time | Stand-by time | Stand-by dimming level | Daylight threshold |
|---------|-----------------|-----------|---------------|------------------------|--------------------|
| 0 | 100% | 5s | 10s | 10% | Disable |
| 1 | 100% | 1min | 5min | 10% | 50Lux |
| 2 | 100% | 5min | 10min | 10% | 50Lux |
| 3 | 100% | 5min | +∞ | 10% | 75Lux |
| 4 | 100% | 5min | +∞ | 10% | 100Lux |
| 5 | 100% | 5min | +∞ | 30% | 200Lux |
| 6 | 100% | 10min | 30min | 10% | 50Lux |
| 7 | 100% | 10min | +∞ | 10% | 75Lux |
| 8 | 100% | 10min | +∞ | 10% | 100Lux |
| 9 | 100% | 10min | +∞ | 30% | 200Lux |
| A | 100% | 20min | 1h | 10% | 100Lux |
| B | 100% | 20min | +∞ | 30% | 200Lux |
| C | 100% | 30min | +∞ | 10% | 100Lux |
| D | 100% | 30min | +∞ | 30% | 200Lux |
| E | 100% | 30min | +∞ | 50% | 400Lux |
| F | 100% | 5s | 10s | 10% | 100Lux |

Note: settings can also be changed by remote control HRC-11. The last action controls.

## Functions

**Daylight Harvest (Daylight Regulating)**

Daylight sensor measures the available surrounding natural light, calculates how much electrical light is needed to reach the total lux expected. The demand is given to the LED driver by 1-10V signal, so as to deliver the needed amount of electric light.
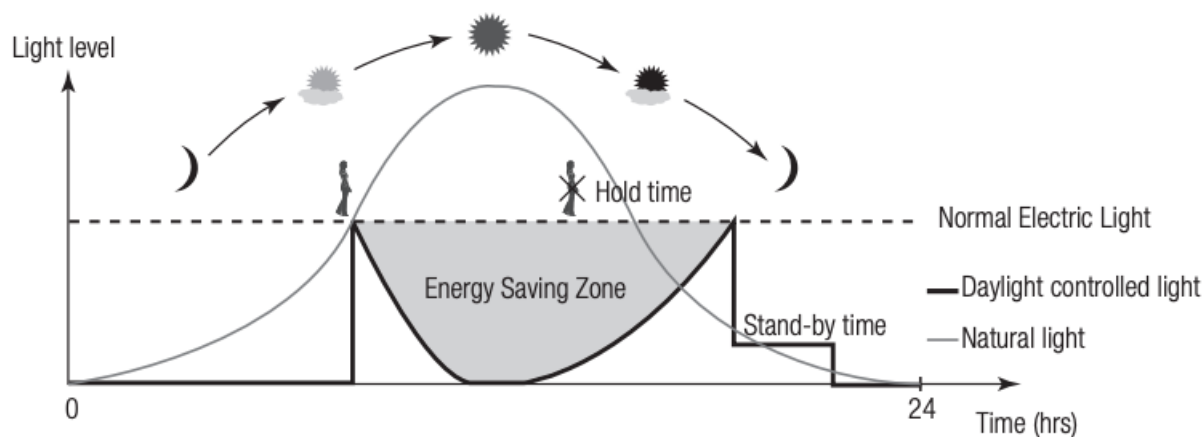


Note: by pressing the "Sensor off" button on the remote control, the sensor occupancy function is disabled. The target lux level for daylight harvest function can be adjusted by "Brightness +/-" buttons.

**Lux Off Function**

The built-in daylight sensor can read ambient natural light and switch off the fixture automatically whenever artificial light is unneeded (natural light lux level exceeds daylight threshold). Note: if the stand-by time is preset at

"+∞", the fixture never switches off even when natural light is sufficient.

**Ambient Daylight Threshold**

Switch the power supply to the sensor two times within 2 seconds, the ambient lux level is sampled and set as the new daylight threshold. Both the settings on rotary switch and the ambient lux level sampled can overwrite each other. This feature enables the daylight sensor to be commissioned to the environment in which it is installed. The last adjustment remains in memory.

**8H Manual ON Mode For LED Lamp**

Turn off/on the power supply three times within 3 seconds, the light will be turned on for 8 hours, even there is no motion detected, then go back to sensor mode automatically. Note: this 8H manual on mode can be cancelled by turning off/on the power supply one time within 1 second.

## Wiring Diagram
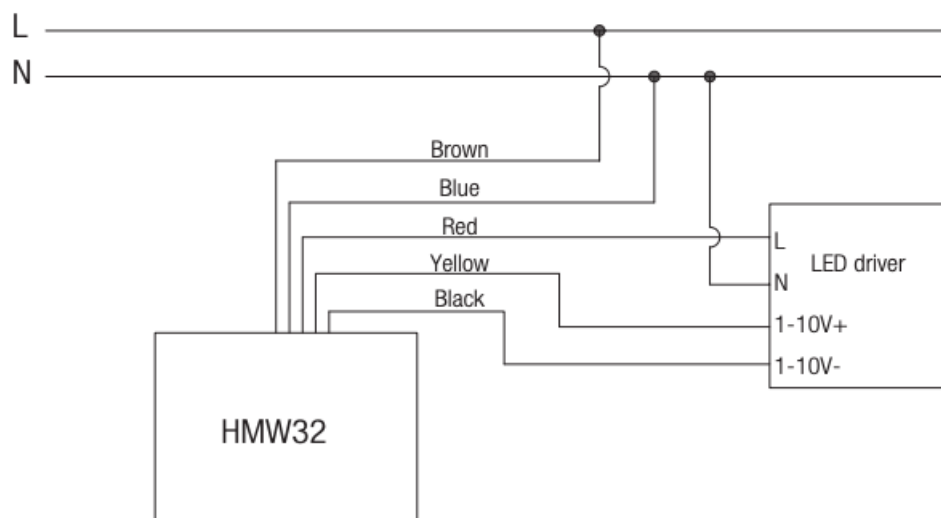


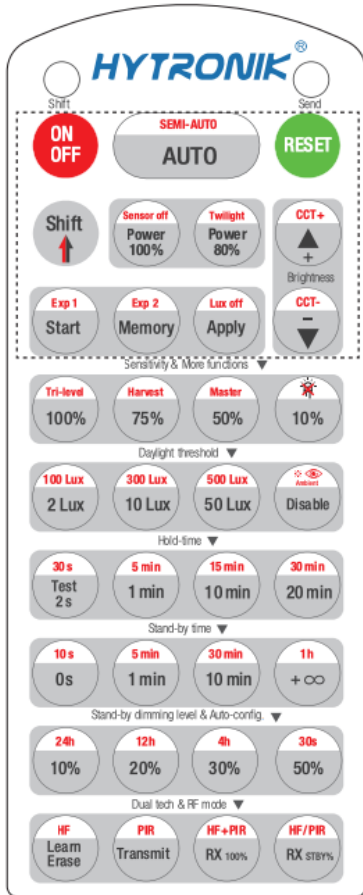————This product should be installed by a qualified electrician.

## Detection Pattern



Ceiling mounted detection pattern (m)
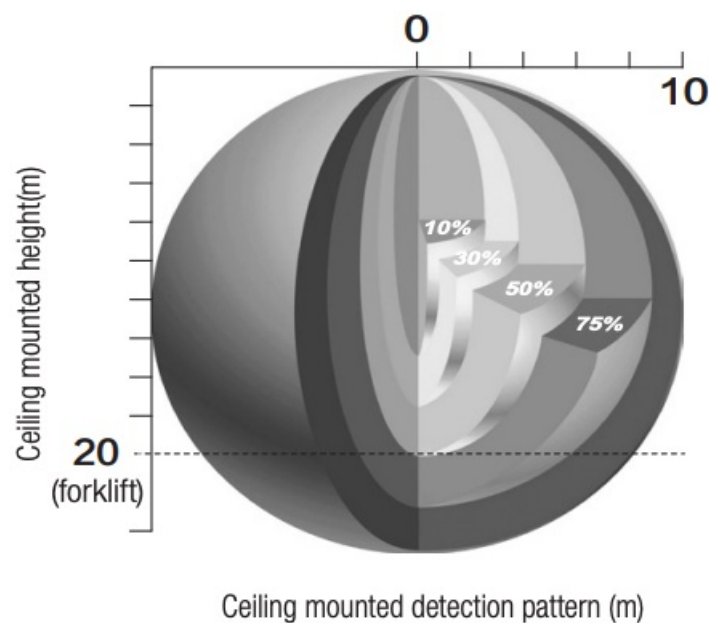
\* For single person walking across, the detection range is reduced by 1/3.

## Trouble Shooting

| MALFUNCTION CAUSE REMEDY | CAUSE | REMEDY |
|---|---|---|
| The fixture does not light up | Incorrect daylight threshold setting | Adjust daylight threshold setting |
| | Faulty fixture | Replace fixture |
| | No power supply | Check power to sensor |
| | Detection zone not targeted | Check detection area setting |
| The fixture is always on | Continued movement in the detection zone | Check detection area setting |
| The fixture is on when it should not | Sudden change in temperature due to weather (wind, rain, snow) or air expelled from fans, open windows | Adjust zone, change installation site |

## Description of the Button Functions (remote control HRC-11)

HRC-11

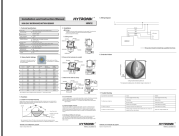| Button | Description |
|---|---|
| ON OFF | Press button "ON/OFF" to select permanent ON or permanent OFF mode.<br>* Press button "AUTO"/ "RESET" to exit this mode. |
| RESET | Press button "RESET", perform DIP Switch/Rotary Switch settings.<br>The default settings are: Auto mode; Detection range 100%; Hold-time 5min; Daylight sensor 100lux; Stand-by time +∞; Stand-by dimming level 10%; |
| Shift ↑ | Press button "Shift", the LED on the top left corner is on to indicate mode selection. All values / settings in RED are valid for 20 seconds. |
| AUTO | Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF; |
| SEMI-AUTO | This key is not appliable on this product. |
| Power 100% 80% | Press buttons in zone "Power out" to select the light output at 80% (at initial 10,000 hours) or 100%. |
| Sensor off<br><br>Twilight | 1. Press button "Shift", the red LED on.<br>2. Press button "Sensor off", the function of movement detection is disabled, the function of photocell is also disabled.<br><br>To exit from "Sensor off" mode, press button "AUTO"/"RESET".<br><br>*Note: the function of "Twilight" is disabled.* |
| ▲ ▼ | Press these two buttons to adjust the light output brightness and set a new target lux level. The daylight sensor can measure ambient daylight level and ignore the LED light, so as to calculate how much artificial light is needed to maintain the target lux level. |
| CCT+<br>CCT- | This key is not appliable on this product. |
| Start<br>Memory<br>Apply | 1. Press button "Start" to program.<br>2. Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", "Stand-by dimming level" to set all parameters.<br>3. Press button "Memory" to save all the settings programmed in the remote control.<br>4. Press button "Apply" to set the settings to each sensor unit(s).<br><br>*For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, stand-by dimming level 30%, the steps should be:*<br>*Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "30%", "Memory". By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).* |
| Lux off | This key is not appliable on this product. |
| Exp 1<br>Exp 2 | "Exp" refer to Expansion, these two buttons are reserved functions and pending future development. |
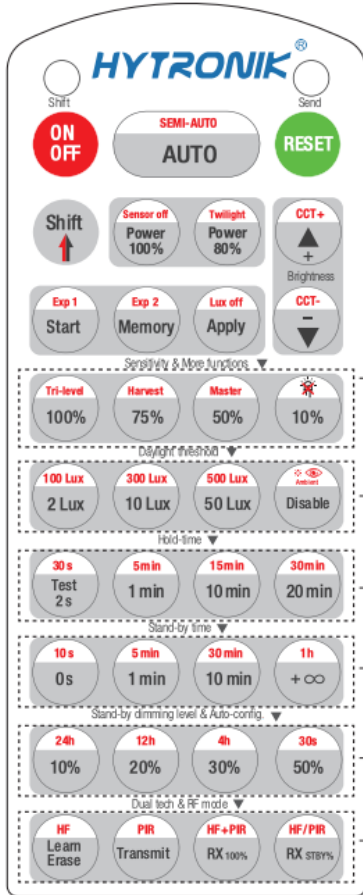
HRC-11

| Sensitivity & More functions | |
|---|---|
| 100% 75% 50% 10% | In AUTO modes, press buttons in zone "Detection range" to set detection range at 100%/75%/50%/10%. |
| **Tri-level Harvest** | 1.Press button "Shift", the red LED on.<br>2. Press buttons "Tri-level" or "Daylight harvest" to shift between Tri-level control mode and Daylight harvest mode. |
| **Master** | This key is not appliable on this product. |

| Daylight threshold | |
|---|---|
| 2 Lux **100 Lux**<br>10 Lux **300 Lux**<br>50 Lux **500 Lux**<br>Disable | Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux/ 10Lux / 50Lux / 100Lux / 300Lux/500Lux / Disable.<br>*Note: To set daylight sensor at 100Lux / 300Lux/500Lux , press "Shift" button first.* |
| ☀ 👁 Ambient | 1. Press button "Shift", the red LED on.<br>2. Press button "Ambient", the surrounding lux level is sampled and set as daylight threshold / target Lux level. |

| Hold-time mode | |
|---|---|
| Test<br>2s **30s**<br>1 min **5 min**<br>10min **15 min**<br>20min **30 min** | In AUTO modes, press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min.<br>*Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first.*<br>*2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode.*<br>*To exit from Test mode, press button "RESET" or any button in "Hold-time".* |

| Stand-by time mode | |
|---|---|
| 0s **10s**<br>1 min **5 min**<br>10 min **30 min**<br>+∞ **1h** | Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.<br>*Note: 1. To set stand-by-time at 10s/ 5min / 30min / 1h, press "Shift" button first.*<br>*2. "0s" means on/off control;*<br>*3. "+∞" means bi-level control, the fixture is 100% on when there is motion detected, and remains at the stand-by dimming level when no presence after motion hold-time. Only when the stand-by time is set in "+∞" and the ambient lux level is below the target lux level, the lux will auto-on.* |

| Stand-by dimming level & Auto-config. | |
|---|---|
| 10% 20%<br>30% 50% | Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%. |
| **24h**<br>**12h**<br>**4h**<br>**30s** | 1.Press button "Shift" ,the red LED on.<br>2.Select a time period and the sensor will do light level measurement and determine/save the lowest light level (commission line) with 100% light on, so as to set the target lux level automatically.<br>*Note: 1.Make sure the light level measurement covers the night time.*<br>*2.The fixture will go into sensor mode after the measurement, all sensor setting remain unchanged.* |

| Dual tech & RF mode | |
|---|---|
| Learn<br>Erase | This key is not appliable on this product. |
| Transmit | This key is not appliable on this product. |
| **HF**<br>**PIR**<br>**HF+PIR**<br>**HF/PIR** | This key is not appliable on this product. |

Subject to change without notice.

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## Documents / Resources



**HMW HMW32 High Bay Microwave Motion Sensor** [pdf] Instruction Manual
HMW32 High Bay Microwave Motion Sensor, HMW32, High Bay Microwave Motion Sensor, Microwave Motion Sensor, Motion Sensor, Sensor

## References

- **User Manual**