

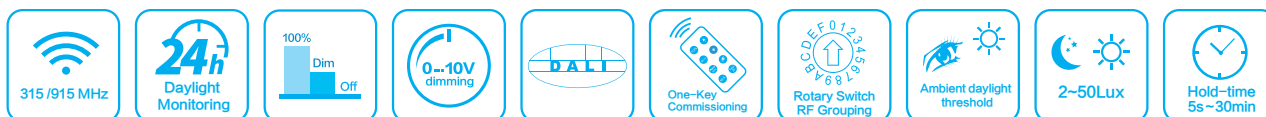
# IP65 High Bay HF Sensor with RF Wireless Transmission

Model: HMW438/RF (0-10V Version)  
HMW439/RF (DALI Version)



This is a combination of high bay motion sensor and RF radio wave wireless transmission, which is a perfect solution for retrofit or new projects. The motion detected by 1 sensor (the transmitter unit) can pass onto other pre-defined individuals (the receiver units) through RF transmission. The transmitter can trigger an unlimited number of receivers as long as they are within the transmission range (30 meters indoor and 100 meters in the open area).

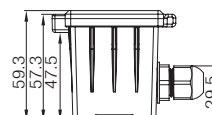
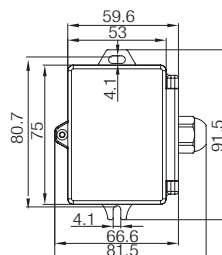
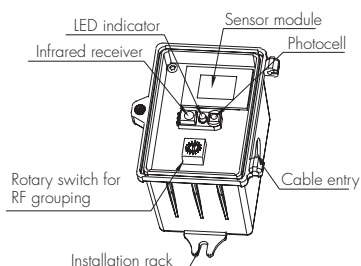
With fixed address code technology, it's easy to set up transmission groups. Unlimited groups may be made within the detection range, with a maximum of 30 devices paired to any individual unit. Optional transmission frequency of 315 MHz, thanks to FSK technology. Easy installation and free of wiring!



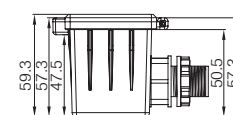
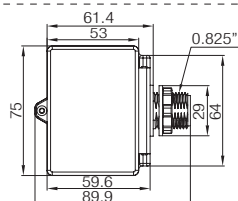
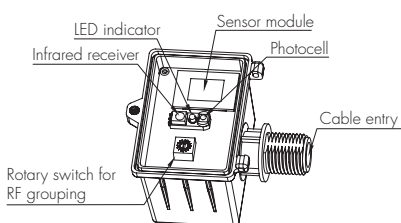
## RF Transceiver: HMW438/RF (0-10V) HMW439/RF (DALI)

(Both transmitter and receiver)

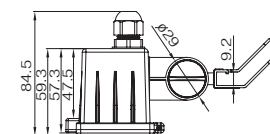
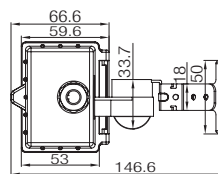
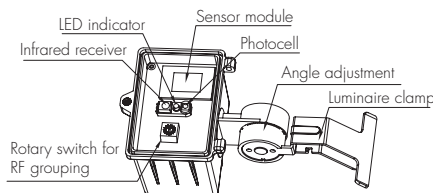
Surface Mounting



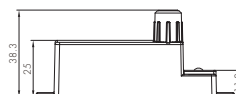
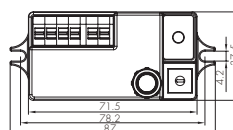
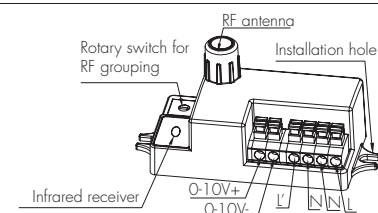
Conduit Fixing



Clamp Fixing



## RF Receiver HC434RF (Receiver only)



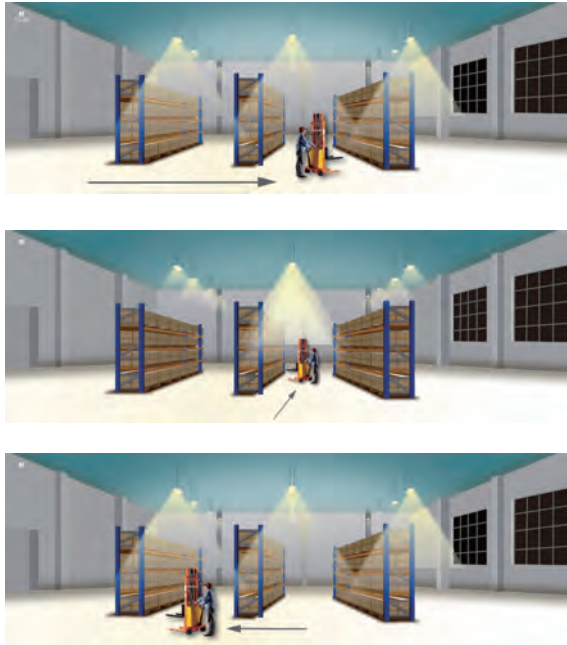
## Typical Applications

### 1 For warehouse (HMW438/RF or HMW439/RF as both transmitter and receiver)

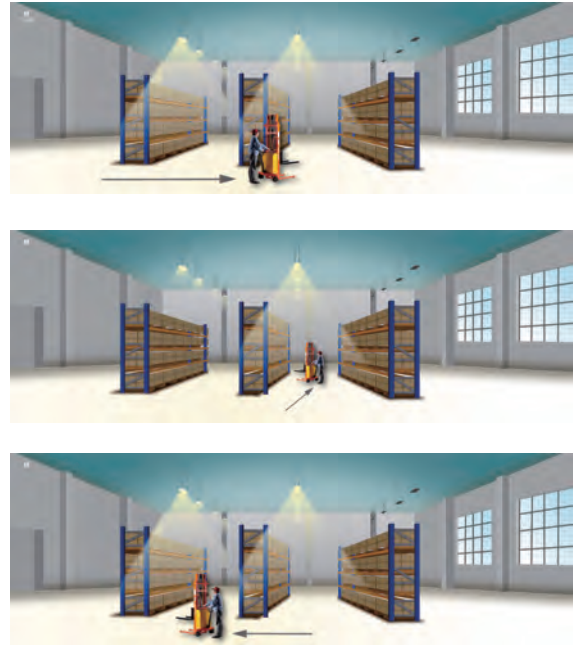
#### Settings on this demonstration:

Detection range: 100% Hold-time: 10min Daylight threshold: 100lux Stand-by dimming level: 30% Stand-by period: 10min RX: STBY%

#### Night



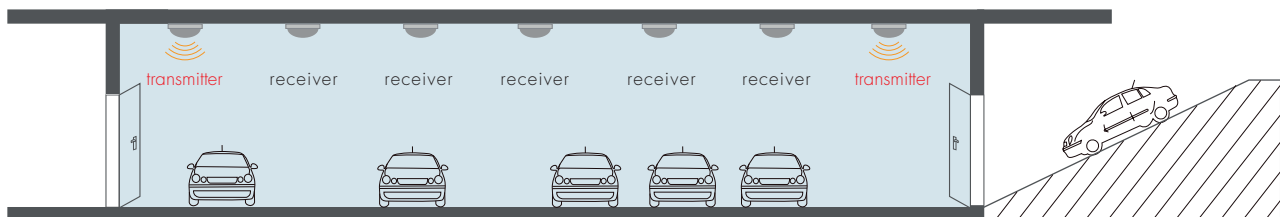
#### Daytime



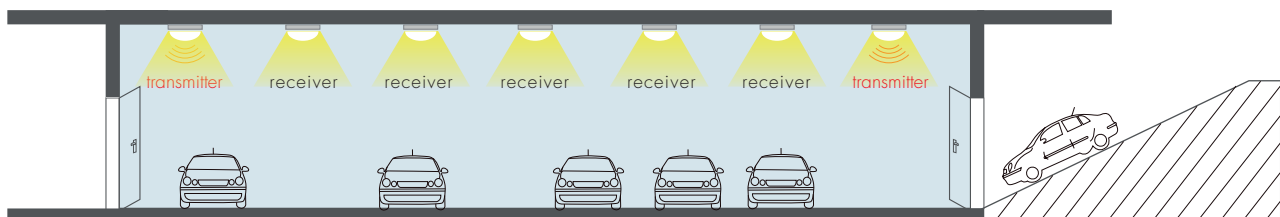
### 2 For carpark (HMW438/RF or HMW439/RF as transmitter, HC434RF as receiver)

#### Settings on this demonstration:

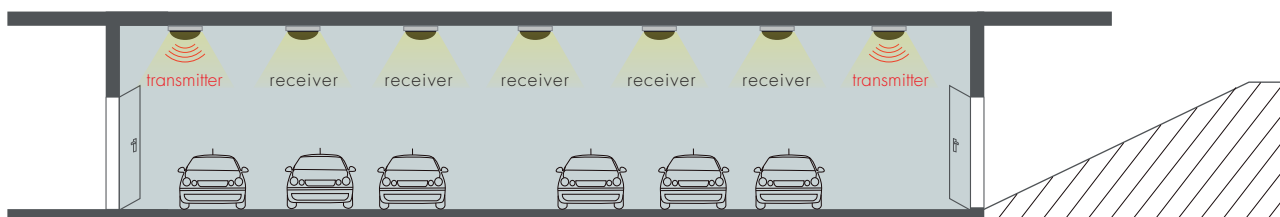
Detection range: 100% Hold-time: 10min Daylight threshold: 50lux Stand-by dimming level: 30% Stand-by period: 10min RX: 100%



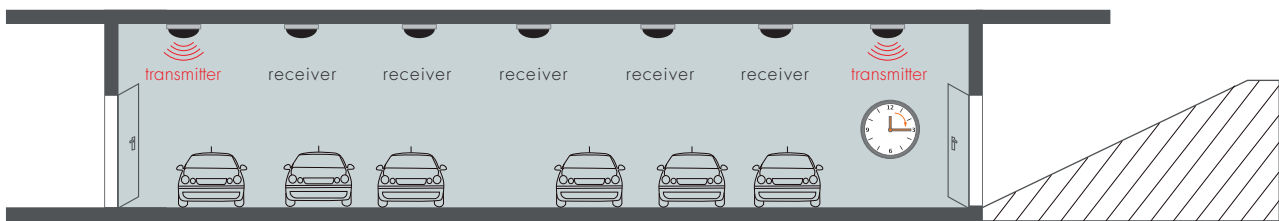
With sufficient natural light, the sensor is not triggered by motion.



With insufficient natural light, the sensor is triggered by motion, the transmitter switches on the light and send RF signal to all receivers.



After the hold-time, the whole group of lamps dim to pre-defined dimming level when no movement detected.



The whole group of lamps switch off automatically after the stand-by period.

## RF Grouping

### 1 HMW438/RF or HMW439/RF as transmitter and receiver

Unlimited groups, maximum 30 devices paired to a single unit

**Step1**

LED indicator flashes slowly

Receiver unit

Short press "Learn/Erase" button

Short press "Learn/Erase" button on RC to the receiver to activate pairing mode, the LED indicator on receiver unit will flash slowly.

Note: up to 30 units can be paired.

**Step2**

LED indicator flash 3 times

Transmitter unit

LED indicator flashes quickly then slowly when RF signal is received successfully

Receiver unit

Short press "Transmit" button

Short press "Transmit" button on RC to the transmitter unit, the LED indicator on transmitter unit will flash 3 times to send the transmission signal.

Upon receiving the transmission signal, the indicator on receiver unit will flash quickly then slowly to indicate the success of pairing. One more short press on "Learn/Erase" button to the receiver unit to complete the pairing process, the receiver unit will quit the pairing mode.

The sensor can serve as both transmitter and receiver, simply repeat above steps the other way around.

LED indicator flashes rapidly

Receiver unit

Short press "Learn/Erase" button

Erase:

Long press "Learn/Erase" button for 3s to the sensor unit, the indicator rapidly flashes 12 times, all commands it has received before will be erased.

### 2 HMW438/RF or HMW439/RF as transceiver, HC434RF as receiver

HC434RF can connect to 30 transmitter units maximum

**Step1**

Beeper is on for 3min

Receiver unit (HC434RF)

Short press "Learn/Erase" button

Short press "Learn/Erase" button on RC to the receiver to activate pairing mode, the receiver unit will beep once every second for 3min.

Note: up to 30 units can be paired.

## Step2

LED indicator flash 3 times

Beeper beeps rapidly 3 times in 1s when RF signal is received successfully

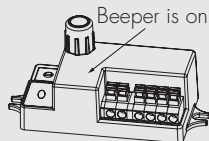
Transmitter unit  
(HMW438/RF  
or HMW439/RF)

Receiver unit (HC434RF)

Short press  
"Transmit" button

Short press "Transmit" button on RC to the transmitter, the red indicator on commander unit will flash 3 times to send the transmission signal.

Upon receiving the transmission signal, the receiver unit will rapidly beep 3 times in 1s to indicate the success of pairing. One more short press on "Learn/Erase" button to the receiver unit to complete the pairing process, the receiver unit will quit the pairing mode.



Receiver unit (HC434RF)



Short press "Learn  
/Erase" button

Erase:

Long press "Learn/Erase" button for 3s, the beeper on receiver unit rapidly beeps for 5s, all commands it has received before will be erased.

## Functions and Features

### 1 Tri-level Control (Corridor Function)

Hytronik builds this function inside the motion sensor to achieve tri-level control, for some areas require a light change notice before switch-off. It offers 3 levels of light: 100%→dimmed light→off; and 2 periods of selectable waiting time: motion hold-time and stand-by period; selectable daylight threshold and freedom of detection area.

### 2 Photocell Advance (Lux off Function)

The built-in smart daylight sensor can switch off the fixture automatically whenever artificial light is not required, even there is motion detected during hold-time.

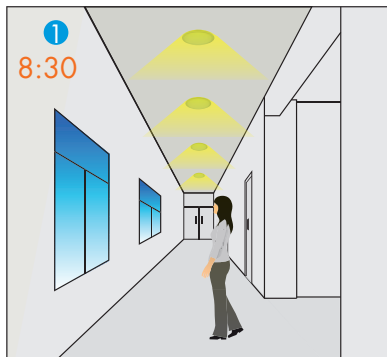
#### Settings on this demonstration:

Hold-time: 10min

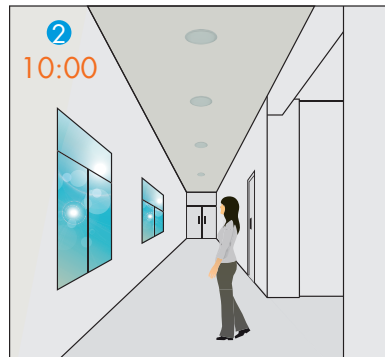
Daylight threshold: 50lux

Stand-by dimming level: 10%

Stand-by period: ±∞

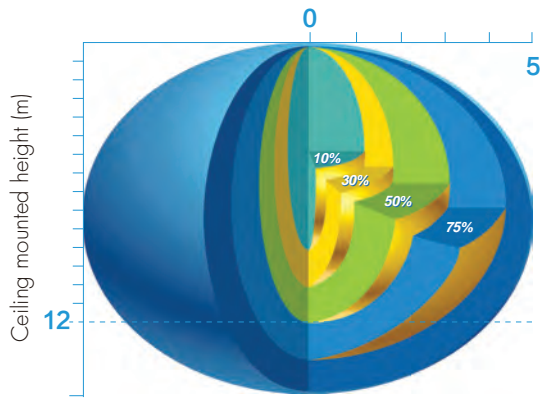


With insufficient natural light, the light switches on at 100% when there is motion detected.

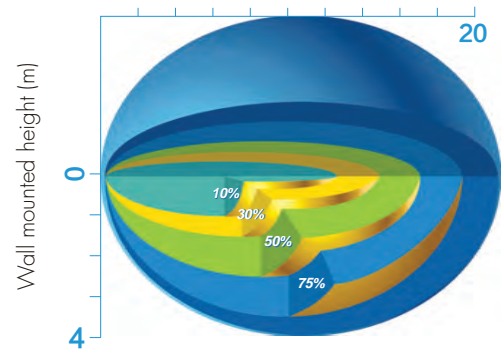


The light turns off completely whenever natural light reaches above pre-set daylight threshold, even with presence.

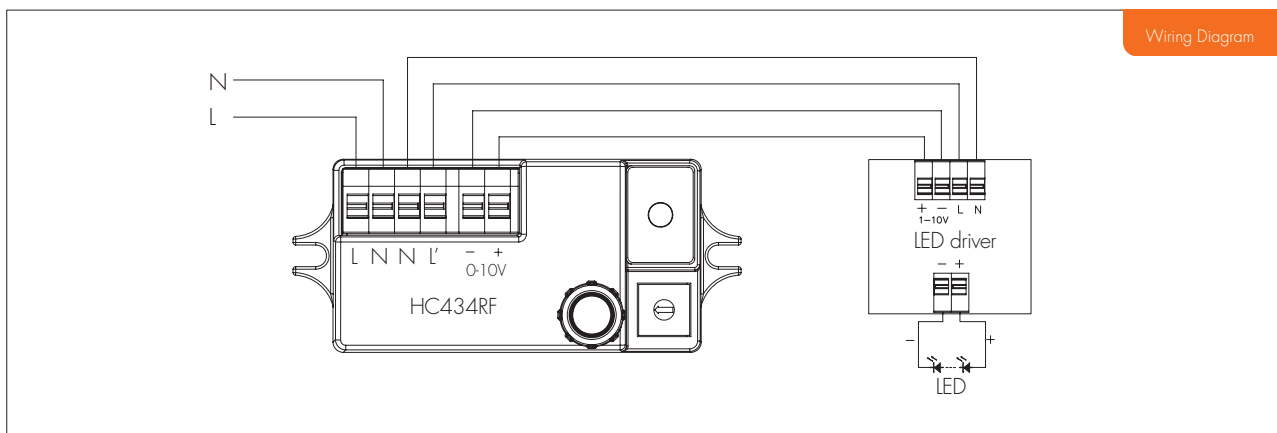
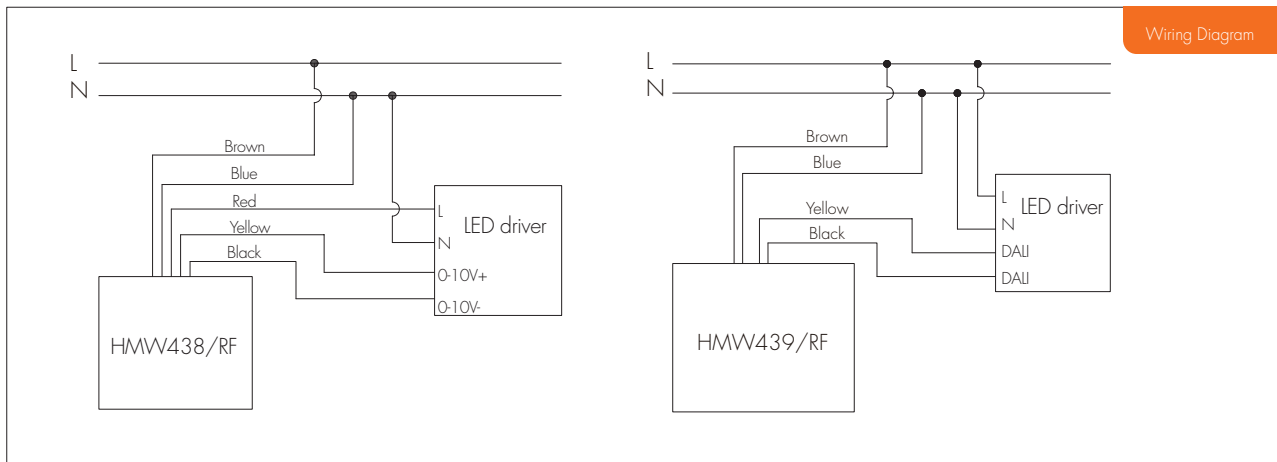
## Detection Pattern



Ceiling mounted detection pattern (m)



Wall mounted detection pattern (m)



## Rotary Switch for RF Grouping

15 channels are available for fast grouping via rotary switch, simply selecting the same channel on each unit, the grouping is automatically completed.

Note: Channel "0" is not for fast grouping, and sensors can only be grouped by remote control.



Rotary switch for RF grouping

## Settings (Remote Control HRC-11)



### Permanent ON/OFF function

Press button "ON/OFF" to select permanent ON or permanent OFF mode.

\* Press button "AUTO", "RESET" or "Ambient" to quit from this mode.



### AUTO/SEMI-AUTO mode

Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched ON/OFF.

Note: The function of SEMI-AUTO is disabled.



### Reset

Press button "RESET", all settings go back to the rotary switch settings.



### Shift

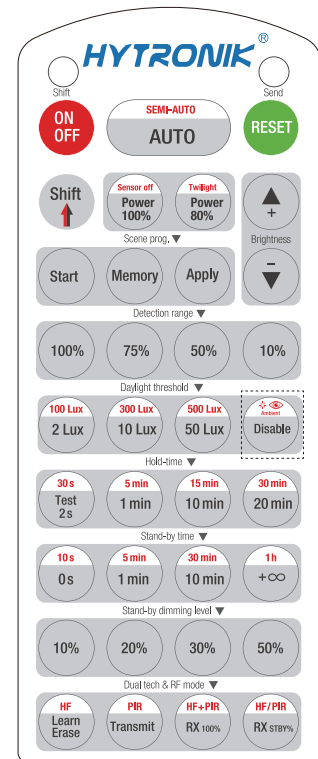
Press button "Shift", the LED on the top left corner will flash to indicate mode selection. All values / settings in RED are in valid for 20 seconds.



### Power output

Press the buttons to shift light output between 80% and 100%.

Note: the function of "Sensor off" and "Twilight" are disabled.



HRC-11

### Brightness +/-

Press the buttons to adjust light brightness between 10% ~ 100%.



### Scene program - 1-key commissioning

1. Press button "Start" to program.
2. Select the buttons in "Detection range", "Daylight threshold", "Hold time", "Stand-by time", "Stand-by dimming level" to set all parameters.
3. Press button "Memory" to save all the settings programmed in the remote control.
4. Press button "Apply" to set the settings to each sensor unit(s).

For example, to pre-set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, stand-by dimming level 30%, steps should be:

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).

### Detection range

Press buttons in zone "Detection range" to set detection range at 100% / 75% / 50% / 10%.

### Daylight threshold

Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux / 500Lux / Disable.

Note: To set daylight sensor at 100Lux / 300Lux / 500Lux, press "Shift" button first.

### Ambient daylight threshold

1. Press button "Shift", the red LED is on for indication.
2. Press button "Ambient", the surrounding lux level is sampled and set as the new daylight threshold.

### Hold-time

Press buttons in zone "hold-time" to set the hold time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min.

Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first.

2. 2s is for test purpose only, stand-by period and daylight sensor settings are disabled in this mode.

\*To exit from Test mode, press button "RESET" or any button in "Hold-time".

### Stand-by time (corridor function)

Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.

Note: "0s" means on/off control; "+∞" means bi-level control, 100% on when motion detected, and remains at the stand-by dimming level when no presence after hold-time.

### Stand-by dimming level

Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%.

### Dual tech & RF mode

1. HF, PIR, HF+PIR, HF/PIR are disabled.

2. Short press button "Learn/Erase" to activate pairing mode on all receiver (receiver) units to be paired.

Note: up to 30 units can be paired.

3. Short press button "Transmit" at the transmitter unit, the LED will flash 3 times to indicate the transmission signal has been sent.

The receiver units flashes slowly to indicate the success of pairing. Repeat this process for two way communications, a single sensor may act as both transmitter and receiver.

4. Long press "Learn/Erase" button for 3s, and the receiver unit clears all commands it has received before.

5. Press button RX100%, the light on receiver unit is 100% on upon receiving RF on signal; Press "RX STBY%" button, the light(s) goes to pre-set

## Technical Data

Operating voltage	120~277VAC 50/60Hz
Rated load (HMW438/RF)	Max. 400W @120VAC, 800W @ 220-277VAC (capacitive) Max. 800W @120VAC, 1600W @ 220-277VAC (resistive)
Rated load (HMW439/RF)	Maximum 20pcs DALI devices, Maximum 40mA
Power consumption	<1.5W
Warming up time	20s
Detection area	10% /50% /75% /100% on RC
Hold-time	TEST 2s /30s /1min /5min /10min /15min /20min/30min on RC
Stand-by time	0s/10s/1min/5min/10min/30min/1h/+ ∞
Stand-by dimming level	10% /20% /30% /50% on RC
Daylight threshold	2~500Lux, disable
RF transmission distance	maximum 100m meters in the open area
RF frequency	915MHz (FSK mode) 315MHz available upon request
Sensor principle	Microwave motion detector
Microwave frequency	5.8GHz+/-75MHz
Microwave power	<0.2mW
Detection range	Maximum (ØxH): 10m x 12m
Detection angle	360°
Operating temperature	-20°C ~ +50°C
Max. case temperature (Tc)	80°C
IP rating	IP65