Microwave Sensor 2-step dimming RF Switch

Model No.: ER3

Motion detector/2-step dimming/RF 2.4G remote/Wireless remote 30m distance

CE RoHS emc LVD RED

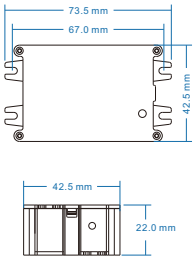
Features

- Active microwave motion detectors with HF system 10.525GHz, motion can be detected through plastic, glass and thin non-metal materials.
- Built-in motion sensor and daylight sensor.
- Powered by low voltage 9-24VDC, output RF 2.4G signal.
- Matched with RF LED controller or RF dimmable LED driver use.
- Detection area, hold time or stand-by time delay, and daylight threshold can be set via knob potentiometer.
- Wide detection area, range up to 20m in diameter.
- Support higher mounting height 15m Max.

Technical Parameters

Working voltage	9-24VDC
Output signal	RF 2.4GHz
HF system	10.525GHz
Power consumption	< 0.5W(Standby) , <1W(Operation)
Detection zone	Max.(DxH) 20 x 15m
Detection sensitivity	10%/25%/50%/75%/100%
Hold time	10s/30s/90s/3min/10min/20min/30min
Stand-by time	10s/30s/90s/3min/10min/20min/30min
Daylight sensor	10lux/30lux/50lux/100lux/150lux/200lux/Disable
Mounting height	15m Max.
Motion detection	0.5-3m/s
Detection angle	150° (wall installation), 360° (ceilling installation)
Operation temperature	Ta: -30°C ~ +55°C
IP rating	IP20
Warranty	5 years

Dimension



Functions

This sensor is a motion RF switch, which turns on the light upon detection of motion, and turns off after a pre-selected hold time when there is no movement.

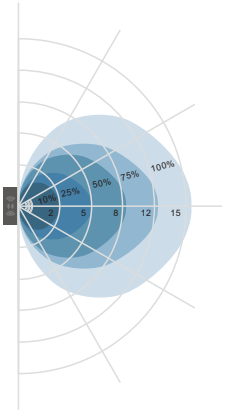
1. With sufficient ambient light, the sensor does not turn on the light.

2. With insufficient ambient light, the sensor turns on the light and dim to 100% brightness when motion is detected.

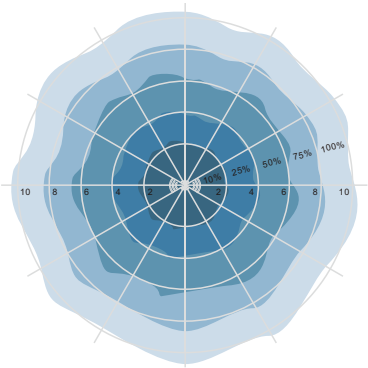
3. After elapse of hold time, the sensor dim to 20% brightness if no new motion detected.

3. After elapse of stand-by time, the sensor turns off the light if no motion detected.

Detection Pattern



Wall mounting pattern(Unit:m)
Suggested installation height: 1-1.8m



Ceilling mounting pattern(Unit:m)
Suggested installation height: 2.5-15m

Sensor Setting

By selecting the combination on knob potentiometer, sensor data can be precisely set for each specific application.

Detection area:
Detection area can be reduced by rotate knob to fit precisely each application.

Hold time:
Refers to the time period remains light on and 100% brightness state after no motion is detected.
Stand-by time:
Refers to the time period remains light on and dim to 20% brightness state after elapse of hold time if no new motion is detected.
The stand-by time is same as the hold time.

Daylight sensor:
The sensor can be set to only allow the lamp to illuminate when below a defined ambient brightness threshold.
When set to off(Disable) mode, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.
50lux: twilight operation.
30 lux: evening operation.
10 lux: darkness operation.
Note that daylight sensor is active only when lamp totally switches off,
and the ambient lux level refers to internal light reaching the sensor.

Setting on this demonstration:
Detection area: 50% Hold time & Stand-by time: 90S Daylight sensor: 50lux

User recommended settings

Scenarios \ Settings	Detection distance	Hold time	Daylight sensor
Passage, staircase	4-6m	10s	Twilight(50lux) / Darkness(10lux)
Balcony, corridor	4-6m	10s	Twilight(50lux) / Darkness(10lux)
Cloakroom, storeroom	2-3m	90s	Evening(30lux)
Garage	2-3m	90s	Evening(30lux)
Kitchen	3-4m	90s	Evening(30lux)
Dinning room	3-4m	3min	Evening(30lux) / Twilight(50lux)
Toilet	2-3m	3min	Daytime(>50lux) / Evening(30lux)
Meeting room	2-3m	10min	Evening(30lux)
Indoor public access	4-6m	10min	Daytime(>50lux)
Underground public access	4-6m	10min	Daytime(>50lux)

Match Remote Control (two match ways)

The microwave motion sensor RF switch must be matched with one or multiple RF LED controller or RF dimmable LED driver, including single color, dual color, RGB, RGBW, RGB+CCT or switch light type, turn on or turn off light by motion detection. End user can choose the suitable match/delete ways. Two options are offered for selection:

Use the controller's Match key

Match:
Short press match key on the controller firstly,
immediately press match key on the sensor.
The LED indicator on th controller fast flash
a few times means match is successful.

Delete:
Press and hold match key on the controller for 5s
to delete all match,
The LED indicator fast flash a few times
means match were deleted.

Use Power Restart

Match:
Switch off the power of the RF controller or LED driver,
then switch on power again,
immediately short press the match key on the sensor.
The light blinks 3 times means match is successful.

Delete:
Switch off the power of the RF controller or LED driver,
then switch on power again,
immediately long press the match key on the sensor 2s.
The light blinks 5 times means match is deleted.

Application notice

1. The sensor is designed for indoor use only.
   The raining or wind blowing may trigger the microwave sensor even if without human motion when outdoor use.
2. The sensor should be installed by a professional electrician. please turn off the power before installing, wiring and changing setting of the knob.
3. The distance between any two sensors should be at least 3m to avoid interference each other.
4. When the microwave sensor is installed in a metal lighting fixture or space with large reflector, for example a warehouse with metal roof, the microwave signal will be reflected and cause the lights permanent illuminated even if without motion signal. Please reduce the detection area to solve the problems.
5. Make sure the sensor not close to or be blocked by high density materials, such as metal, glass, concrete walls etc. The materials will reduce or block microwave signal and cause false trigger.
6. The sensor which installed in the plastic and glass lampshade will reduce th sensitivity.
   For every 3mm increase in thickness, the sensitivity will reduced by 20%.
7. The light sensitivity threshold is in a sunny environment, no shadow and ambient light diffuse reflection.
   Ambient lux level could be different in different environment, weather, climate, time-of-delay and season.
8. Make sure there are no fans, DC motor, or other vibrating objects in installation area. The movement will trigger sensor as well.