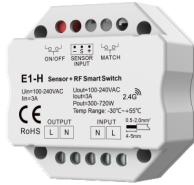


Sensor + RF Smart Switch

Model No.: E1-H + ER, E1-H + EC, E1-H + ED, E1-H + ED(C), E1-H + EB, E1-H + EB(C), E1-H + EM1

7 sensor detector/RF AC Switch/Relay output/Max 3A/Wall junction box mounting



FC CE RoHS RED

Features

- Sensor + RF smart switch with relay output, without dimming function.
- Input connect with 7 kinds of sensor detector optional, output connected directly to single color LED lamps, traditional incandescent, halogen lights or other electrical equipment.
- Match with RF 2.4G dimming remote control optional, except PIR motion sensor input.
- Each smart switch can also work as Sensor - RF signal converter, control one or more other RF LED controller synchronously.
- PIR motion sensor: when people or objects enter the sensitive field, turn on the switch; when these exit the sensitive field, turn off the switch after 30 seconds.
- Touch sensor: short touch to turn on or turn off the switch.
- Door sensor: when the door open, or no obstacle ahead, turn on the switch; when the door close, or obstacle ahead, turn off the switch.
- Hand sweep sensor: when hand sweep, turn on the switch; when hand sweep again, turn off the switch.
- Microwave motion detector: turn on the switch upon detection of motion, and turn off after a pre-selected hold time when there is no movement.
- Microwave motion detector, built-in daylight sensor, detection area, time delay and daylight threshold can be set via knob potentiometer for each specific application.
- Easy to be placed in standard wall junction box.

Technical Parameters

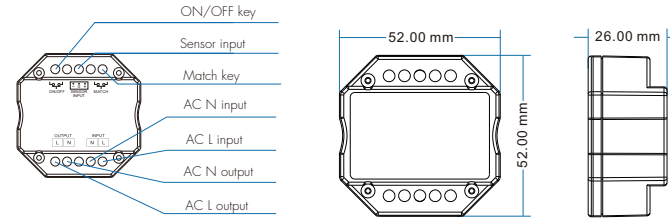
Input and Output	
Input voltage	AC100-240V
Output voltage	AC100-240V
Output current	Max 3A
Output power	300-720W
Input signal	Sensor + RF 2.4GHz
RF Control distance	30m[Barrier-free space]

Warranty	
Warranty	5 years

Safety and EMC	
EMC standard [EMC]	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4
Safety standard [LVD]	EN 62368-1:2020+A11:2020
Radio Equipment [RED]	ETSI EN 300 328 V2.2.2
Certification	CE, EMC, LVD, RED

Environment	
Operation temperature	Ta: -30°C ~ +55°C
Case temperature (Max.)	Tc: +65°C
IP rating	IP20

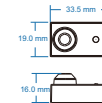
Mechanical Structures and Installations



ER: PIR Motion Sensor



When people enter the sensitive field, the switch turn on. When people exit the sensitive field, the switch turn off after 30 seconds.

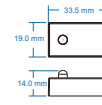


Sensor data	
Sensitive field	≤3m
Sensitivity angle	120

EC: Touch Sensor

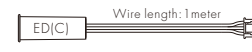


Short touch the LED, turn on or turn off the switch.

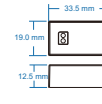


Sensor data	
Dimming range	0-100%
PWM Frequency	128Hz

ED / ED(C): Door Sensor



When the door open, or no obstacle ahead, the light turn on gradually. When the door close, or obstacle ahead, the light turn off gradually.

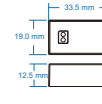


Sensor data	
Detective distance	≤10cm
Detective angle	15-30

EB / EB(C): Hand Sweep Sensor



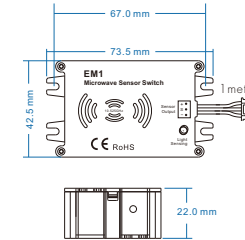
When hand sweep, the light turn on gradually. When hand sweep again, the light turn off gradually.



Sensor data	
Detective distance	≤8cm
Detective angle	15-30

EM1: Microwave Sensor Switch

E1-H Sensor + RF Smart Switch



Sensor data	
HF system	10.525GHz
Power consumption	< 0.5W(Standby) , < 1W(Operation)
Detection zone	Max.(DxH) 20 x 1.5m
Detection sensitivity	10%/25%/50%/75%/100%
Hold time	10s/30s/90s/3min/10min/20min/30min
Daylight threshold	10lux/30lux/50lux/100lux/150lux/200lux/Disable
Mounting height	1.5m Max.
Motion detection	0.5-3m/s
Detection angle	150° (wall installation), 360° (ceiling installation)

This sensor is a motion switch, which turn on the light upon detection of motion, and turn 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 turn on the light when motion is detected.
3. After hold time, the light turns off if no motion detected.

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 state after no motion detected.

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.

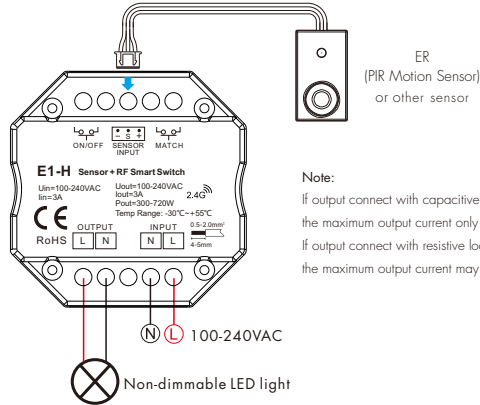
- 50lux: twilight operation.
- 30 lux: evening operation.
- 10 lux: darkness operation.

Note that daylight sensor is active only when lamp totally switches off, and the ambient lux level refers to internal light reaching the sensor.

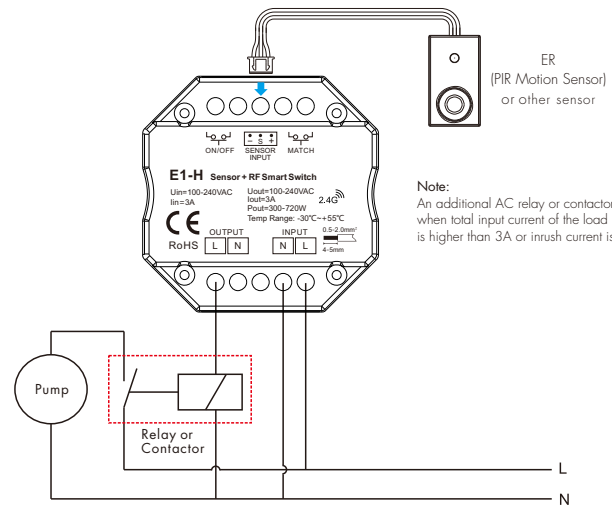
Setting on this demonstration:
Detection area: 50% Hold time: 90S Daylight sensor: 50Lux

Wiring diagram

1. Load current < 3A



2. Load current > 3A



Match Remote Control (Optional)

The smart switch can match with RF 2.4G dimming remote control optional, except PIR motion sensor input. For PIR motion sensor input, please long press the MATCH key 10s to disable the RF remote match function. For other sensor input, please long press the Match key 5s to enable the RF remote match function. End user can choose the suitable match/delete ways. Two options are offered for selection:

Use the MATCH key

Match:
 Short press MATCH key, immediately press on/off key (single zone remote) or zone key (multiple zone remote) of the remote.

Delete:
 Press and hold MATCH key for 5s to delete all match. The light blinks 5 times means all matched remotes were deleted.

Use Power Restart

Match:
 Switch off the power, then switch on power, repeat again. Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 3 times on the remote.

Delete:
 Switch off the power, then switch on power, repeat again. Immediately short press on/off key (single zone remote) or zone key (multiple zone remote) 5 times on the remote.

Work as Sensor-RF signal converter to match other RF LED controller (Optional)

The smart switch can also work as Sensor - RF signal converter, control one or more other RF LED controller synchronously. When short press the ON/Off key on the smart switch, the relay output turn on or turn off, also send out RF on/off signal. End user can choose the suitable match/delete ways. Two options are offered for selection. When the match is done, the sensor signal will also control the matched RF LED controller.

Use the controller's Match key

Match:
 Short press match key of the controller, immediately press ON/Off key on the smart switch. The LED indicator fast flash a few times means match is successful.

Delete:
 Press and hold match key of the controller for 5s. The LED indicator fast flash a few times means match was deleted.

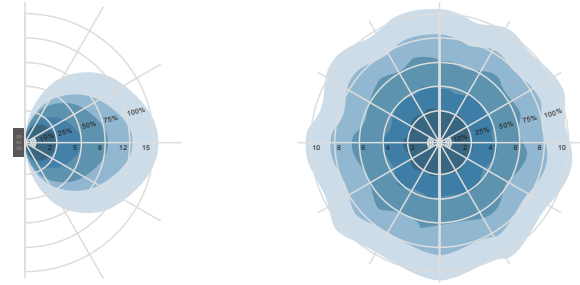
Use Power Restart

Match:
 Switch off the power of the controller, then switch on power, repeat again. Immediately short press ON/Off key 3 times on the smart switch. The light blinks 3 times means match is successful.

Delete:
 Switch off the power of the controller, then switch on power, repeat again. Immediately short press ON/Off key 5 times on the smart switch. The light blinks 5 times means match was deleted.

Microwave Sensor Detection Pattern

E1-H Sensor + RF Smart Switch



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

Ceiling mounting pattern(Unit:m)
 Suggested installation height: 2.5-1.5m

Microwave Sensor 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)

Microwave Application Notice

- 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.
- The sensor should be installed by a professional electrician. please turn off the power before installing, wiring and changing setting of the knob.
- The distance between any two sensors should be at least 3m to avoid interference each other.
- 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.
- 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.
 For every 3mm increase in thickness, the sensitivity will reduced by 20%.
- 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.
- Make sure there are no fans, DC motor, or other vibrating objects in installation area. The movement will trigger sensor as well.