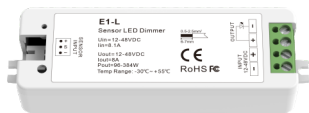# SKYDANCE
MADE FOR PROFESSIONALS

Sensor LED Dimmer

Model No.: E1-L + ER, E1-L + EC, E1-L + ED, E1-L + ED(C), E1-L + EB, E1-L + EB(C), E1-L + EM1, E1-L + EM2, E1-L + EM3

9 sensor detector/1 Channel Constant Voltage/8A output

FC C CE RoHS emc RED

Features

- Input connect with 9 kinds of sensor detector optional, output connected directly to the low voltage LED strip.
- Max 8A output current, max output power 384W@48V.
- PIR motion sensor: when people or objects enter the sensitive field, the light turn on; when these exit the sensitive field, the light turn off after 30 seconds.
- Touch sensor: short touch to turn on or turn off light; long touch to dimming up or down.
- 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.
- Hand sweep sensor: when hand sweep, the light turn on gradually; when hand sweep again, the light turn off gradually.
- 3 kinds of microwave motion detector: turn on the light upon detection of motion, and turn off after a pre-selected hold time when there is no movement, without dimming, with dimming and two-step dimming function respectively.
- All microwave motion detector, built-in daylight sensor, detection area, time delay and daylight threshold can be set via knob potentiometer for each specific application.
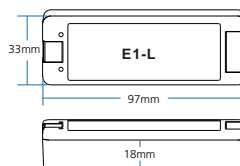
Technical Parameters

Input and Output

Input and Output	
Input voltage	12-48VDC
Input current	8.1A
Output voltage	12-48VDC
Output current	8A
Output power	96W/192W/288W/384W (12V/24V/36V/48V)
Output type	Constant voltage

Warranty and Protection

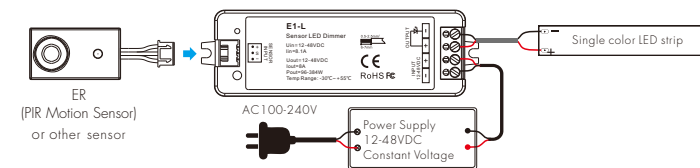| Warranty and Protection	
Warranty	5 years

Safety and EMC

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
Certification	CE,EMC,LVD

Environment

Environment	
Operation temperature	Ta: -30°C ~ +55°C
Case temperature (Max.)	Tc: +85°C
IP rating	IP20

### Mechanical Structures and Installations

- Sensor input
- Installation rack
- LED output -
- LED output +
- Power input +
- Power input -
- Installation rack

E1-L

33mm / 97mm / 18mm

Wiring Diagram

ER (PIR Motion Sensor) or other sensor

AC100-240V

Power Supply 12-48VDC Constant Voltage

Single color LED strip

ER: PIR Motion Sensor

Wire length: 1 meter

33.5 mm / 19.0 mm / 16.0 mm
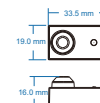
Sensor data	
Sensitive field	≤3m
Sensitivity angle	120

When people enter the sensitive field, the light turn on. When people exit the sensitive field, the light turn off after 30 seconds.
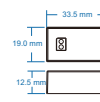
EC: Touch Sensor

Wire length: 1 meter

33.5 mm / 19.0 mm / 14.0 mm
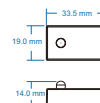
Sensor data	
Dimming range	0 -100%
PWM Frequency	128Hz

Short touch the LED, turn on or turn off light.
Long touch the LED, dimming up or down.

ED / ED(C): Door Sensor

ED — Wire length: 1 meter

33.5 mm / 19.0 mm / 12.5 mm

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

ED(C) — Wire length: 1 meter

32.30 mm / 31.50 mm / 13.00 mm

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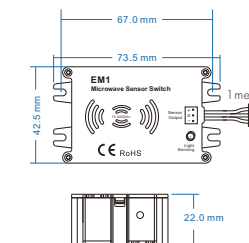When the door close, or obstacle ahead, the light turn off gradually.

EB / EB(C): Hand Sweep Sensor

EB — Wire length: 1 meter

33.5 mm / 19.0 mm / 12.5 mm
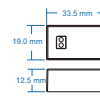
Sensor data	
Detective distance	≤8cm
Detevtive angle	15-30

EB(C) — Wire length: 1 meter

32.30 mm / 31.50 mm / 13.00 mm

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

EM1: Microwave Sensor Switch

EM1 Microwave Sensor Switch

67.0 mm / 73.5 mm / 42.5 mm / 1 meter / 22.0 mm

Sensor data	
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
Daylight threshold	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)

This sensor is a motion switch without dimming function, 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.

SENS

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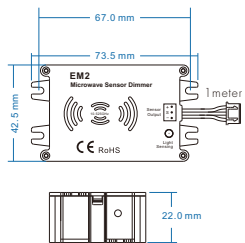
TIME

Hold time:
Refers to the time period remains light on state after no motion detected.

LUX

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

EM2: Microwave Sensor Dimmer

EM2
Microwave Sensor Dimmer

67.0 mm
73.5 mm
42.5 mm
22.0 mm
1 meter

CE RoHS

Sensor data	
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
Daylight sensor	50lux/100lux/150lux/200lux/250lux/300lux/400lux
Mounting height	15m Max.
Motion detection	0.5-3m/s
Detection angle	150° (wall installation), 360° (ceilling installation)

This sensor is a motion switch with dimming function, which turn on the light and dim up to expected brightness level upon detection of motion, and turn off after a pre-selected hold time when there is no movement.

1. The sensor turn on the light and dim up to expected brightness level when motion is detected.
2. After hold time, the light turn 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.
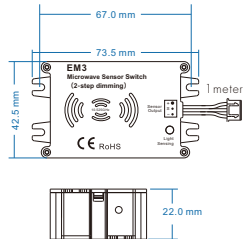
Hold time:
Refers to the time period remains light on state after no motion detected.

Daylight sensor:
The sensor can be set to allow the lamp to illuminate to expected brightness level.
If the detected brightness is less than the expected brightness, the output will dim up to full brightness(100%).
If the detected brightness is larger than the expected brightness, the output will dim down to min brightness(1%).
Note that daylight sensor is active only when lamp switches on,
and the ambient lux level refers to internal light reaching the sensor.

Setting on this demonstration:
Detection area: 50%   Hold time: 90S   Daylight sensor: 150lux

EM3: Microwave Sensor Switch (2-step dimming)

EM3
Microwave Sensor Switch
(2-step dimming)

67.0 mm
73.5 mm
42.5 mm
22.0 mm
1 meter

CE RoHS

Sensor data	
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)

This sensor is a motion switch with two-step dimming function, which turn on the light upon detection of motion, after a pre-selected hold time, dim to 20% brightness, and turn off after a pre-selected stand-by time when there is no movement.

1. With sufficient ambient light, the sensor does not turn on the ight.
2. With insufficient ambient light, the sensor turn 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.
4. After elapse of stand-by time, the sensor turns off the light 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 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

Microwave Sensor Detection Pattern
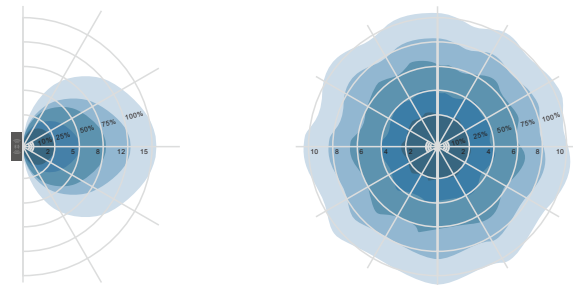
Wall mounting pattern(Unit:m)
Suggested installation height: 1-1.8m

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

Microwave Sensor User recommended settings

Settings / Scenarios	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

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.