



## Motion Sensor



## Introduction

- Automatic dimming when used in combination with 1-10V dimmable LED drivers or ballasts.
- Built-in adjustable daylight sensor.
- 1-10V interface can match up with Merrytek stand-alone daylight sensor MS01 and achieve daylight harvesting.
- 4-pole press-in terminal (L, N, N, L'), easy assembly.
- Compact size makes it suitable to fix within most luminaires.
- Detection area, time delay and daylight threshold can be precisely set via DIP switch.
- Wide detection area, range up to 16m in diameter.

The two type sensors are innovative and active motion detectors with HF system 5.8GHz. Motion can be detected through plastic, glass and thin non-metal materials. MC003V R basically has the same specification with MC003V, except the higher mounting height 12m Max.

The sensors allow energy saving without compromising comfort. When used in combination with 1-10V dimmable LED drivers or ballasts, they can achieve 3-step dimming function, which is perfect for use in some areas that requires a light change notice before totally switch off.

Also, the 1-10V interface in the sensors can match up with Merrytek stand-alone daylight sensor MS01, and implement daylight harvesting, means the lighting system has automated controls that either turn off or dim artificial light in response to the available daylight in the space.



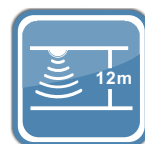
Max.8M



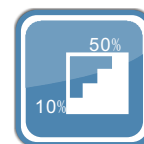
Light Sensor



Hold Time  
10s~30min



Mounting Height  
12m Max.(MC003V R)



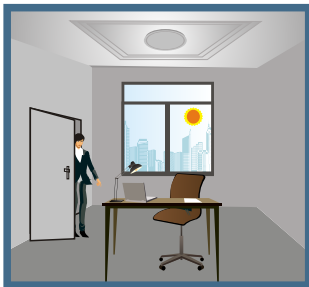
Automatic  
Dimming



## Dimming Function

### 3-step dimming function

When used in combination with 1-10V dimmable LED drivers and ballasts, the sensors can achieve 3-step dimming function, 100%---> low light--->off. And the sensors build in adjustable daylight sensors, very easy to install and cost-effective.



With sufficient ambient light, the sensor does not switch on the lamp.



With insufficient ambient light, the sensor switches on the lamp when motion is detected.



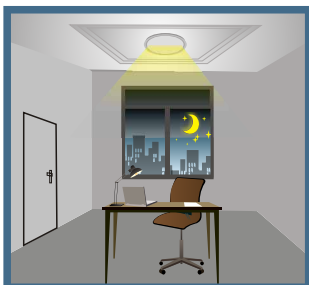
After hold time, the sensor dims the lamp at a low light level if no new motion trigger.



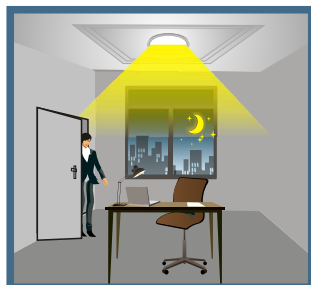
After stand-by period, the sensor switches off the lamp if no motion is detected in its detection zone.

### 2-step dimming function

Also, the sensors can provide 2-step dimming function, 100 %---> low light (Never turn off). They are particularly suitable for use in corridors, stairwells and underground passages where low light levels are maintained until motion is detected.



No motion detected, the lamp remains at a low light level all the time.

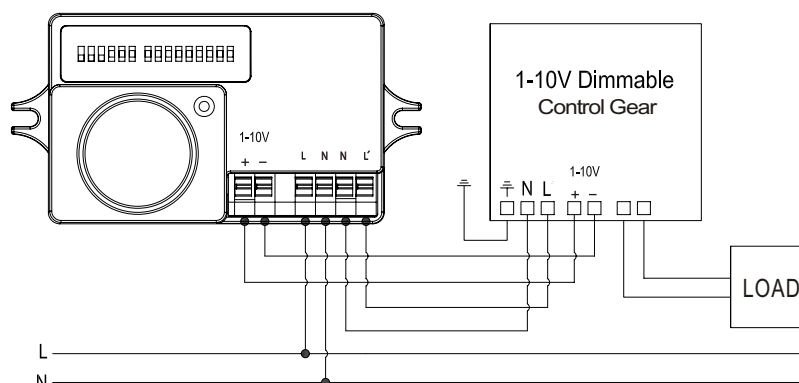


When motion is detected, the sensor brightens the lamp to 100% illumination.



After the hold time, the sensor dims the lamp at the preset low light level if no motion is detected.

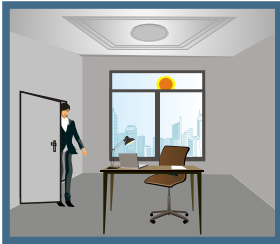
### Wiring scheme



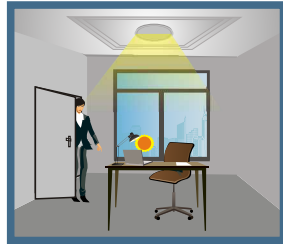


## Daylight Harvesting

When used in combination with Merrytek daylight sensor MS01, the system has automated controls that either turn off or dim artificial light in response to the available daylight in the space.



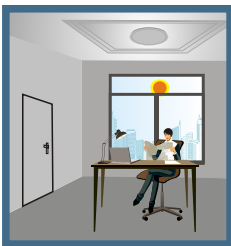
Ambient light larger than preset illumination level (Set by 1-10V daylight sensor), the lamp keeps off.



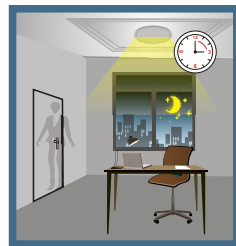
Ambient light below than preset illumination level, the lamp switches on when motion is detected.



The lamp lights on 100% illumination or dims to maintain the preset illumination level against the level of ambient light.



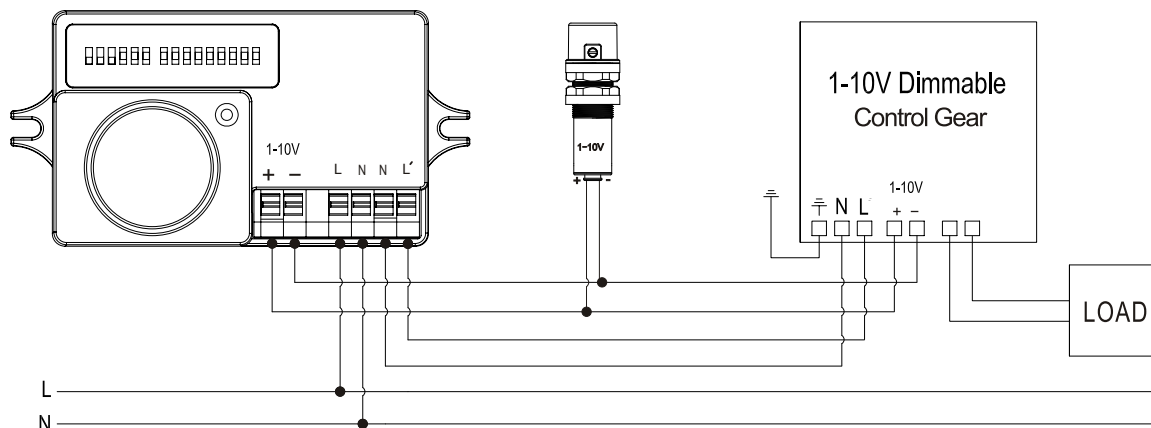
If with sufficient ambient light, the lamp turns off at once, even with motion trigger.



If with insufficient ambient light, the lamp dims to a stand-by dimming level (Set in the motion sensor) when no motion detected after hold time, and then switches off after stand-by period.

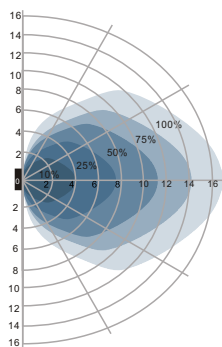


Wiring scheme

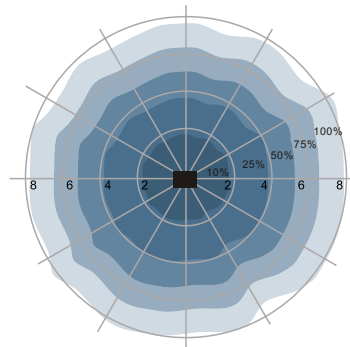




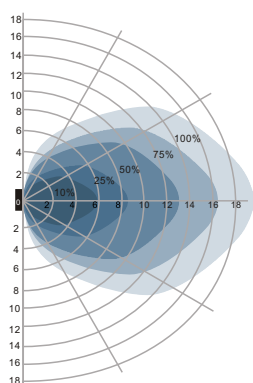
## Detection Pattern



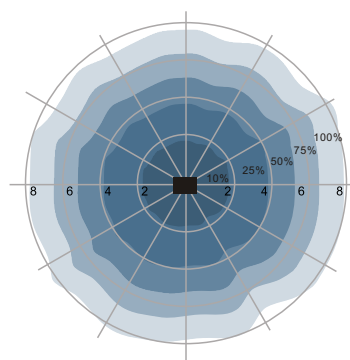
Wall mounting pattern (Unit: m)  
Suggested installation height: 1-1.8m



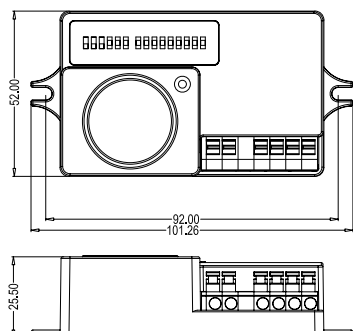
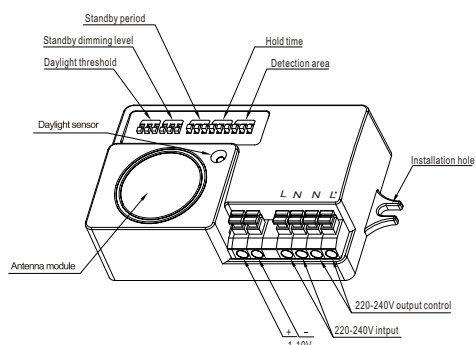
Ceiling mounting pattern (Unit: m)  
Suggested installation height: 2.5-8m



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



Ceiling mounting pattern (Unit: m)  
Suggested installation height: 2.5~12m



Operating voltage	220~240Vac, 50Hz/60Hz
Rated load	800W(inductive ), 1200W(resistive )
HF system	5.8GHz±75MHz, ISM wave band
Transmitting power	<0.5mW
Power consumption	≤0.5W(standby), <1W(operation)
Detection zone	Max.(D x H): 16m x 8m (MC003V) Max.(D x H): 16m x 12m (MC003V R)
Detection sensitivity	10% / 25% / 50% / 75% / 100%
Hold time	10s / 30s / 90s / 3min / 20min / 30min
Daylight sensor	5lux / 10lux / 30lux / 50lux / Disable
Stand-by period	5s / 5min / 10min / 30min / 1h / Disable
Stand-by dimming level	10% / 20% / 30% / 40% / 50%
Mounting height	8m Max. (MC003V), 12m Max. (MC003V R)
Motion detection	0.5~3m/s
Detection angle	150°(wall installation), 360°(ceiling installation)
Operating temperature	-35℃~70℃
IP rating	IP20



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

ON		1	2	3	
	I	●	●	●	100%
	II	○	●	●	75%
	III	●	○	●	50%
	IV	○	○	●	25%
	V	○	○	○	10%
OFF					

## Detection area

Detection area can be reduced by selecting the combination on the DIP switches to fit precisely each application .

ON		1	2	3	
	I	●	●	●	10s
	II	○	●	●	30s
	III	●	○	●	90s
	IV	○	○	●	3min
	V	●	●	○	20min
	VI	○	○	○	30min
OFF					

## Hold time

Refers to the time period the lamp remains at 100% illumination after no motion detected.

ON		1	2	3	
	I	●	●	●	Disable
	II	○	○	○	1h
	III	●	○	●	30min
	IV	○	○	●	10min
	V	●	●	○	5min
	VI	○	○	○	5s
OFF					

## Stand-by period

Refers to the time period the lamp remains at a low light level before it completely switches off in the long absence of people. When set to Disable mode, the low light is maintained until motion is detected.

ON		1	2	3	
	I	●	●	●	50%
	II	○	●	●	40%
	III	●	○	●	30%
	IV	○	○	●	20%
	V	○	○	○	10%
OFF					

## Stand-by dimming level

The low light level you would like to have after the hold time in the long absence of people.

ON		1	2	3	
	I	●	●	●	Disable
	II	○	●	●	50lux
	III	○	○	○	30lux
	IV	●	○	○	10lux
	V	○	○	○	5lux
OFF					

## Daylight sensor

The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold.

When set to Disable mode, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.

50lux, 30lux: twilight operation, 10lux, 5lux: darkness operation only.

Note that daylight sensor is active only when lamp totally switches off.