

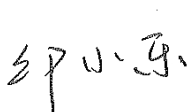
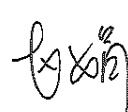
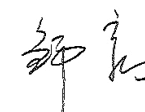

# SPECIFICATION

Product Name: Sensor DIM LED Driver

Model No.: MLC18C-PRF R

Issue Date: April 27, 2020

CUSTOMER APPROVED

PRODUCT DIRECTOR APPROVED	SALES CHECKED	R&D CHECKED	PREPARED
			

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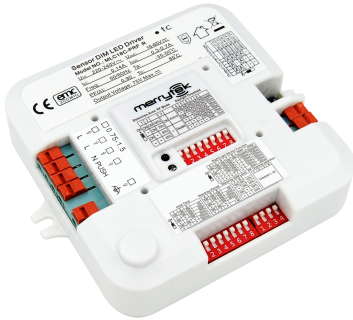
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Tel: +86 (0)755-2305 7253

Fax: +86 (0)755-2786 3012

Website: www.merrytek.com

## 1. Features



- Combined with 868MHz RF technology , realize wireless group networking function!
- Adopt Narrow frequency technology to solve the Co-Channel Interference
- Built in Flicker-free dimmable LED driver
- Adopt Merrytek Low impedance antenna ,strong anti-interference by other wireless device
- With daylight priority function, the light is automatically turned off with high sufficient light .
- Multi-current selection for flexible use
- Long RF transmitting distance up to 30m indoor
- 5 years warranty

## 2. Parameter

<b>Input</b>	Operating Voltage Range	198-264V AC 50Hz/60Hz
	Rated Voltage	220-240V AC 50Hz/60Hz
	Input surge current	12A(Measured at 50% I <sub>peak</sub> ,twidth=50us @230Vac Cold start )
	load Power	≥0.9 (230V AC 18W)
	Stand-by Power	≤2.0W
	Lightning surge	Between L N 1kv
<b>Output</b>	Working Mode	Constant current
	Type of Load	LED
	Load power	22W Max.
	Ripple level	Flicker-free(Ripple level ≤2%: )
	Non-load output voltage	82V DC Max.
	Load output current	300mA - (16-65.0V) 350mA - (16-60.0V) 450mA - (16-47.5V) 600mA - (16-34.5V) 700mA - (16-30.0V)
	Output voltage	82vDC Max.
	Working efficiency	84% Max ( @350mA 230v full load )
	Constant current accuracy	±5%
<b>L-Push Dimming</b>	Dimming range	50%-100% ( With memory )
	Cable length	20m Max .
<b>Sensor Parameters</b>	Operating Frequency	5.8 GHz ±75 MHz,ISM Band.
	Transmitting power	<0.2mW
	Hold time	5s/30s/90s/3min/20min/30min

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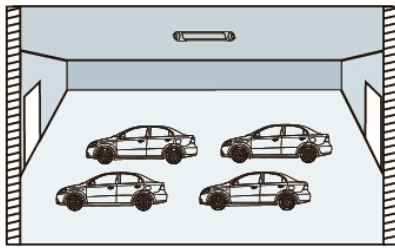
	Stand-by dim Level	10%/20%/30%/50%
	Stand-by Period	0S/5min/10min/30min/1h/+∞
	Detection Area	25%/50%/75%/100%
	Daylight Sensor	2Lux/10Lux/35Lux/50Lux/100Lux/Disable
	Detecting Radius	4-7m (mounting height 6m) (see note 2)
	Mounting Height	6m Max
	Detecting Angle	150° (Wall mounted), 360° (Ceiling mounted)
<b>Wireless Module</b>	Operating Frequency	820-880MHz (FSK)
	Transmitting power	-5dBm-20dBm
	Transmitting distance	≤100m (open space) ≤30m (Indoor with wall)
<b>Operating Environment</b>	Operating Temperature	-25℃...+50℃
	Surface Temperature of body	85℃
	Storage Temperature	-40℃...+80℃ (Humidity: 85% Non-condensing)
<b>Certificate Standards</b>	Insulation withstand voltage	Input-Output:3750Vac 5mA 60S Input-Earth: 1500Vac 5mA 60S Output-Earth: 500Vac 5mA 60S
	Safety standards	EN61347-1 EN61347-2-13
	EMC standards	EN55015 EN61547 EN61000-3-2 EN61000-3-3
	Environmental Requirement	Compliant with RoHS
	Certificate	CE
<b>Other</b>	Input-Output(Terminal/lead)	Push-on terminal block Wire diameter : 0.75-1.5mm <sup>2</sup>
	IP Rating	IP20
	Protection Class	Class I
	Installation	Built-in installation
	Dimension	95*95*26mm
	Package	Bubble bag+Clapboard + Carton(K=A)
	Net Weight	142.7g
	Lifetime	5 years warranty @Ta 230V full load

#### Note

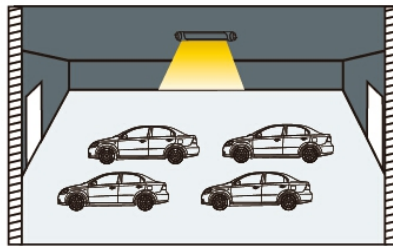
1. "N/A" means not available.
2. Detection area is effected on volume of motion object and motion speed. The detection area is tested by a 170cm height person and walking speed is 0.3m/s.

### 3.Function

#### 1.On/OFF Function(Stand-by period set at '0S')



- ① With sufficient ambient light, the light will not be switched on even if with motion signal.

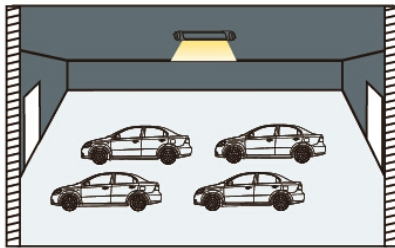


- ② With insufficient ambient light, the sensor switches on the light when motion is detected.

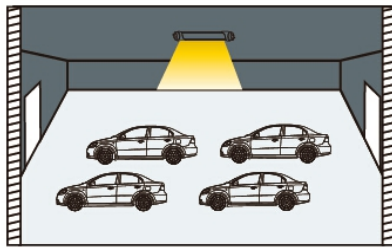


- ③ After elapse of hold time, the sensor switches off the light when no motion is detected.

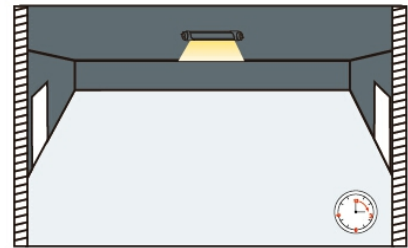
#### 2.2-step dimming function(stand-by period set at '+∞')



- ① If there is no motion detected, the light will be remained at a low light level all the time.

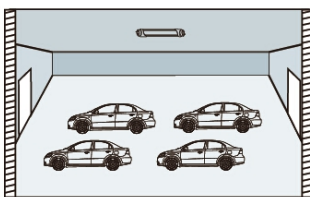


- ② When motion is detected, the sensor will switch on the light to 100% brightness

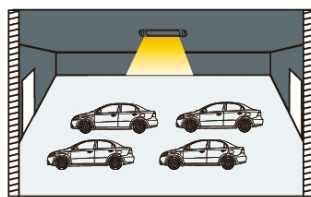


- ③ After elapse of hold time, the sensor dims the light at the present low light level if no motion is detected.

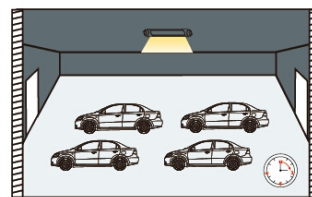
#### 3.3-step dimming function(Stand-by period set at '30S/10min')



- ① With sufficient ambient light, the light will not be switched on even if with motion signal.



- ② With insufficient ambient light, the sensor switches on the light when motion is detected.



- ③ After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

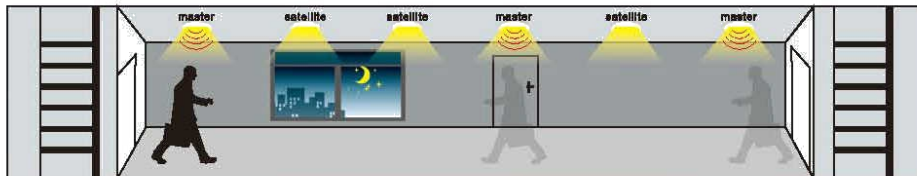


- ④ After elapse of standby period, the sensor switches off the light if no motion is detected in the detection zone.

#### 4. Net-working



① If no motion is detected, all lamps will be switched off.



② If any movement is detected from any direction, all lamps will be synchronously switched on.

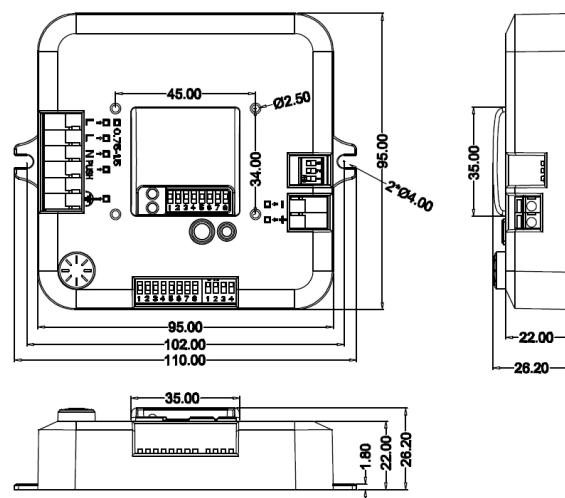


③ If no motion is detected in the detection zone, all lamps will be synchronously dimmed to a low light level after hold time.



④ After stand-by period, the lamps will be switched off if no movement is detected in the detection zone.

#### 4. Dimension (mm)



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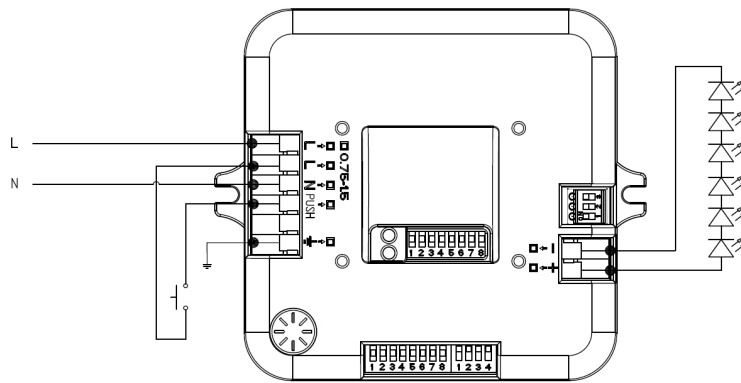
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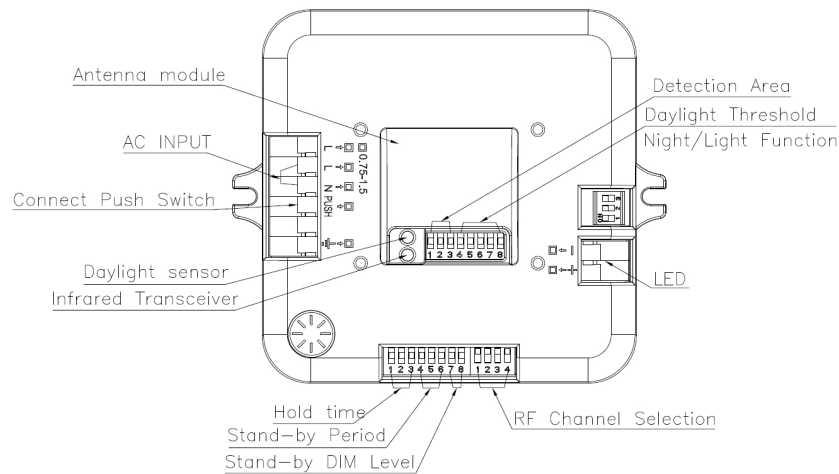
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## 5. Wiring



\*The sensor is designed for connect one load only. Connect more than one loads may damage the sensor.

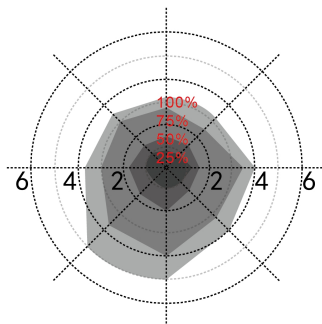
## 6. Structure



## 7. Radiation Pattern

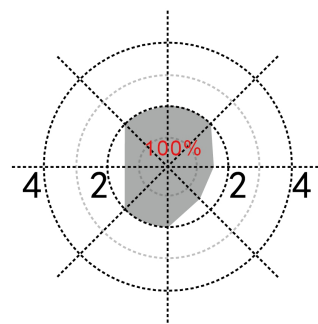
Ceiling mounting

Ceiling mounted height: 3m  
Sensitivity: 100%/75%/50%/25%10%

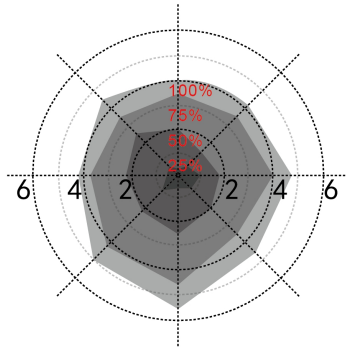


Normal moving (Speed:1m/s)

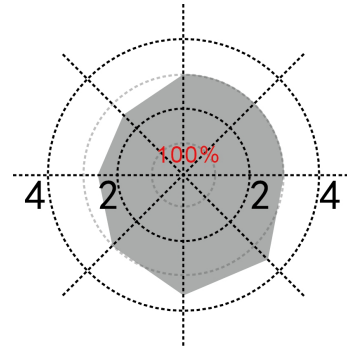
Ceiling mounted height: 6m  
Sensitivity:100%



Normal moving (Speed:1m/s)



Slow moving (Speed: 0.3m/s)



Slow moving (Speed: 0.3m/s)

## 8. DIP Switch Setting

- Detection Area

	1	2	
I	ON	ON	100%
II	-	ON	75%
III	ON	-	50%
IV	-	-	25%

- RF Mode

	3	
I	ON	Active
II	-	Disable

When set " Active "mode, the sensor can receive and transmit RF signal

When set "Disable"mode , the sensor only receive RF signal ,can not transmit , used as a slave

● Daylight Threshold

	4	5	6	7	8	
I	ON	ON	ON	ON	ON	Disable*
II	-	ON	ON	ON	ON	100lux
III	ON	-	ON	ON	ON	50lux
IV	-	-	ON	ON	ON	35lux
V	-	-	-	ON	ON	10lux
VI	-	-	-	-	ON	2lux

\*Disable means the daylight sensor does not work. The sensor will turn on light once motion is detected regardless of ambient light level.

● Night/Light Sensor Function

	4	5	6	7	8	Open	Close
I	ON	ON	ON	ON	ON	Disable*	Disable*
II	-	ON	ON	ON	-	100Lux	250Lux
III	ON	-	ON	ON	-	50Lux	150Lux
IV	-	-	ON	ON	-	35Lux	100Lux
V	-	-	-	ON	-	10Lux	50Lux
VI	-	-	-	-	-	2Lux	30Lux

\*This function is only used under Stand-by period on  $+\infty$  model ,the sensor works as 2 step dimming .

● Hold Time

	1	2	3	
I	ON	ON	ON	5s
II	-	ON	ON	30s
III	ON	-	ON	90s
IV	-	-	ON	3min
V	ON	ON	-	20min
VI	-	-	-	30min

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● Stand-by Period

	4	5	6	
I	ON	ON	ON	0s
II	-	ON	ON	5min
III	ON	-	ON	10min
IV	-	-	ON	30min
V	ON	ON	-	1H
VI	-	-	-	$+\infty$

● Stand-by DIM Level

	7	8	
I	ON	ON	10%
II	-	ON	20%
III	ON	-	30%
IV	-	-	50%

● RF channel selection: 1 channel—16channel

	1	2	3	4	channel
1	-	-	-	-	1 channel
2	-	-	-	ON	2 channel
3	-	-	ON	-	3 channel
4	-	-	ON	ON	4 channel
5	-	ON	-	-	5 channel
6	-	ON	-	ON	6 channel
7	-	ON	ON	-	7 channel
8	-	ON	ON	ON	8 channel
9	ON	-	-	-	9 channel
10	ON	-	-	ON	10 channel
11	ON	-	ON	-	11 channel
12	ON	-	ON	ON	12 channel
13	ON	ON	-	-	13 channel
14	ON	ON	-	ON	14 channel
15	ON	ON	ON	-	15channel
16	ON	ON	ON	ON	16 channel

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## Output Current/Voltage

	1	2	3		
I	ON	ON	ON	700mA	16-30.0V
II	ON	-	ON	600mA	16-34.5V
III	-	ON	ON	450mA	16-47.5V
IV	-	-	ON	350mA	16-60.0V
V	-	-	-	300mA	16-65.0V

## 9. Initialization

1) On/Off function /3-step dimming function:

After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it turns off the light. During the initialization, the sensor is not able to detect movement.

2) 2-step dimming function:

After power on, the sensor automatically turns on light at 100% brightness. After 10sec, it dims the light to a low light level (set by stand-by dim level). During the initialization, the sensor is not able to detect movement.

## 10. Factory Setting

Detection Area: 100%; RF Mode: Active ; Hold Time: 5S, Daylight Sensor: Disable, Stand-by DIM Level: 10%, Stand-by Period: 0S

## 11. PUSH Switch

- 1) Short push off, sensor can not receive RF signal, but can be triggered by sensor and transmit RF signal
- 2) PUSH function work for single lamp only.
- 3) PUSH dimming with memory, dimming range 50%-100%

## 12. Application Notice

- 1) Be sure to power off before adjusting DIP switch setting.
- 2) 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-day and season.
- 3) The parameters of the sensor may need to be reconfigured in different installation environments.
- 4) This sensor is for indoor use only. It will affect the waterproof effect for outdoor use. Wind, rain, and moving objects around will cause false triggering.
- 5) The distance between any sensors recommend to be more than 3m.
- 6) You are advised to test 5 samples in a new lighting project.
- 7) Due to continuous improvement, the contents of this instruction could be changed without prior notice.

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