





SPECIFICATION

Product Name: Sensor DIM LED Driver

Model No.: MLC20C-PS1

Issue Date: Nov 28, 2022

CUSTOMER APPROVED

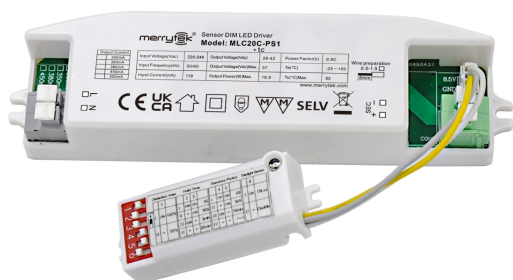
PRODUCT DIRECTOR APPROVED	P&M CHECKED	R&D CHECKED	PREPARED
			

Shenzhen Merrytek Technology Co.,Ltd

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Version	Product name/ Model No.	Updating Reason	Stage	Date
A0	Sensor DIM LED Driver/ MLC20C-PS1	First version	Trail production	2022-02-14
A1	Sensor DIM LED Driver/	Update the function description	Mass production	2022-09-13
A2	MLC20C-PS1	Update the DIP description	Mass production	2022-11-28

1.Features



- 1、 Isolated & flick-free & motion sensor functionLED driver.
- 2、 3 step-dimming function and daylight sensing function.
- 3、 User can adjust parameters via DIPs.
- 4、 ISM 5.8GHz, meet CE & RED & ERP.

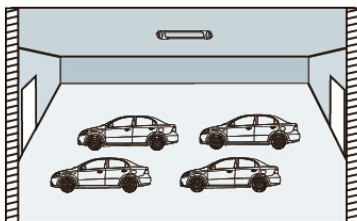
2.Parameter

Input	Rated voltage	220-240V AC 50Hz /60Hz	
	Input current	≤0.11A (@230VAC full load)	
	Surge current	<15A (100us half current) @230V AC	
	Power factor	≥0.9 (230V Max load)	
	Stand-by power	<0.5W	
	Working efficiency	≥83% (230V Max load)	
Output	Working model	CC	
	Type of load	LED	
	Full load power	18.9W Max	
	Strobe frequency requirement	≤5%	
	No-load output voltage	57VDC Max	
	Full load power	Sigle output: 300mA/350mA/380mA/450mA	
	Load output voltage range	28-42VDC	
	Constant voltage accuracy/ Constant current accuracy	Constant current accuracy ±5%	
Parameters	Operating frequency	5.8GHz ±75MHz, ISM	
	Transmitting power	1mW Max	
	Detection Area	50%/100%	
	Hold Time	5S / 90S / 3min / 10min	
	Stand-by Period	0S / 30S / 10min / +∞	
	Daylight Sensor	normal	15Lux/Disable
	Stand-by DIM Level	20%	
	Detecting radius (100% sensitivity)	Ceiling mounted 3m height: 0.3m/S ≥3m, 1m/S ≥2m	
	Mounting height	3m (4m Max)	
	3db field angle	90 degree@Xz plane	
		95 degree@Yz plane	

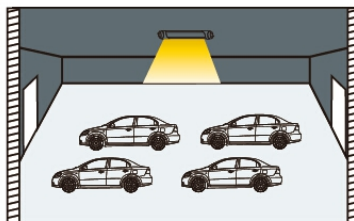
Abnormality Protection Requirements	output overvoltage protection	Yes, self-recovery
	output no-load protection	Yes, self-recovery
	output short-circuit protection	Yes, self-recovery
	Operating temperature/humidity	-25~+50℃
	Maximum shell temperature	85℃
	Storage temperature/humidity	-40℃~+80℃ Humidity: ≤85% (Non-condensing)
Certificate Standards	Safety standards (LVD)	EN61347-1, EN61347-2-13
	Withstand voltage	3750Vac 5mA 60S (input “L N”to output SEC+ SEC-)
	Surge	LN: 1KV
	EMC standards	EN55015, EN61547, EN61000-3-2, EN61000-3-3
	Environmental requirements	RoHS
	Certificate	CE、RED
	IP Rating	IP20
	Protection class	Class II
Others	Wiring method	Press terminal, wire diameter: 0.5-1.5mm ²
	Installation	Built-in
	Installation size	See dimension
	Package	PE bag clapboard, carton (K=A)
	Net weight	83.5±3g
	Lifetime	Three years warranty @Ta 230V full load

3. Function

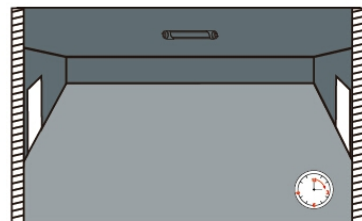
1) On/OFF Function (Setting “Stand-by Period” to “0s”). Setting other parameters according to practical applications.



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

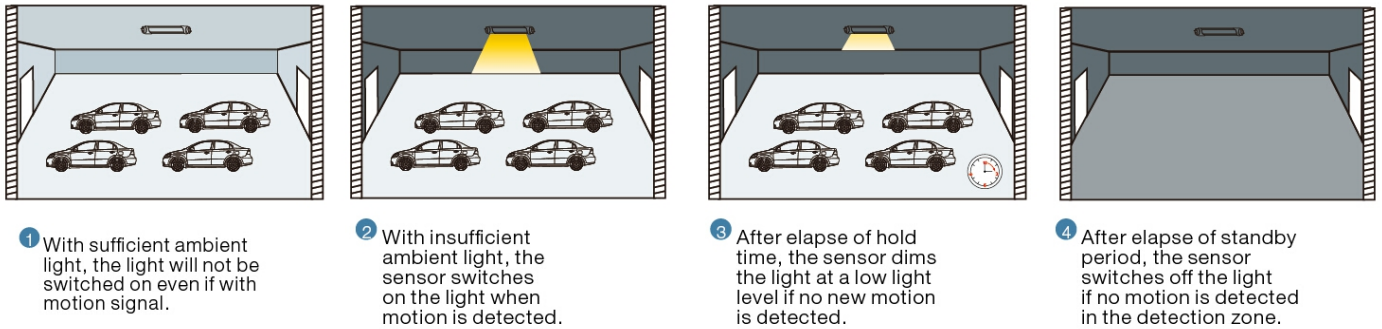


② With insufficient ambient light, the sensor switches on the light when motion is detected.

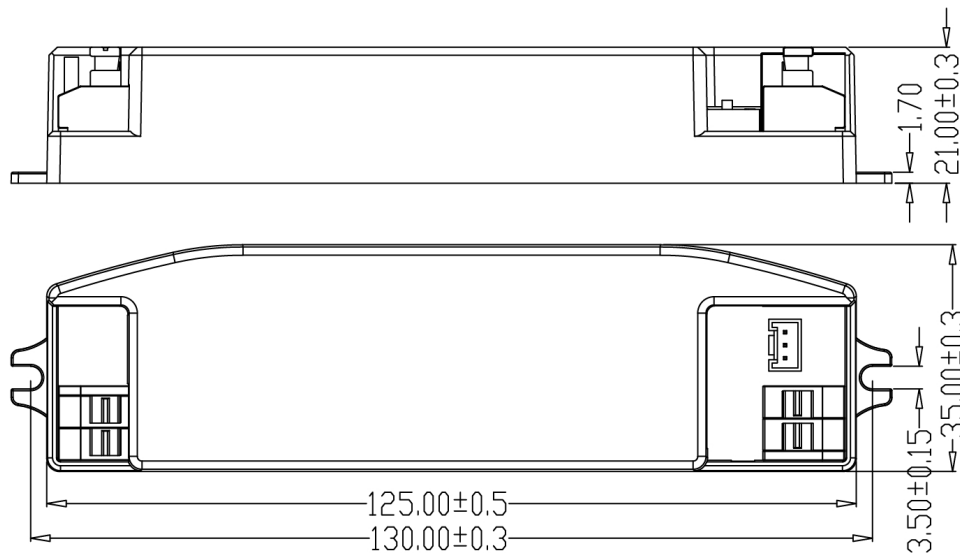


③ After elapse of hold time, the sensor switches off the light when no motion is detected.

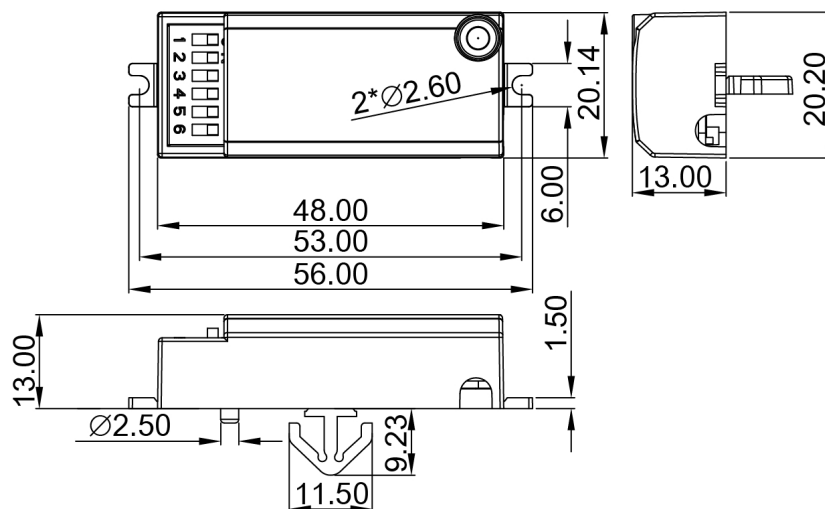
2) 3-step dimming function



4. Dimension (mm)



5. Sensor head size (mm)



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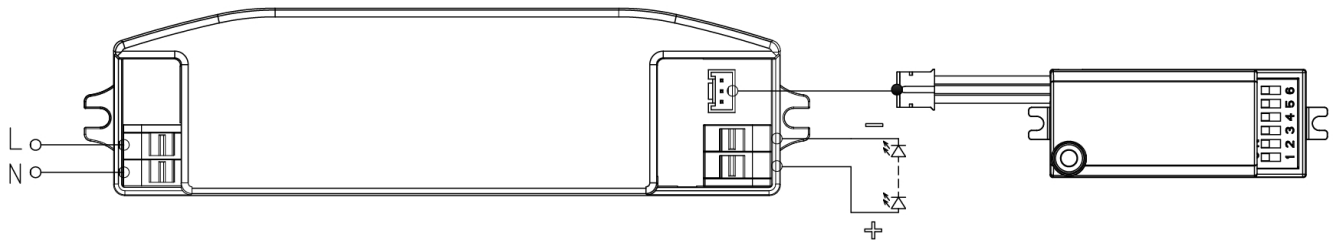
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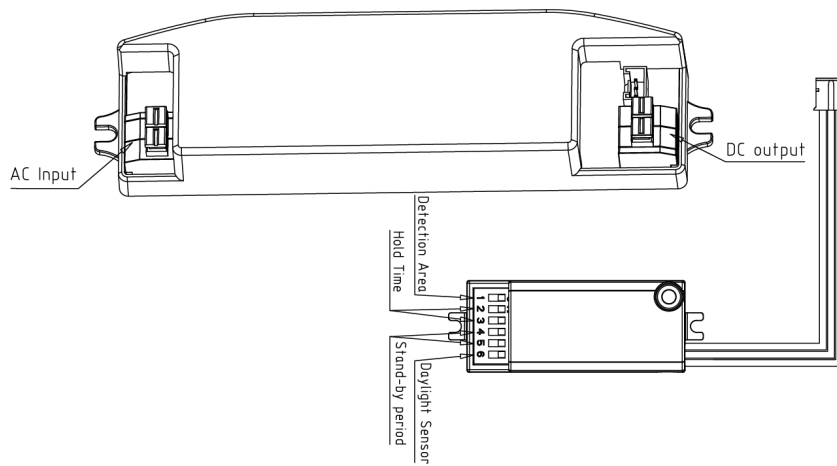
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6. wiring



7. Structure



8. DIP Switch Setting

1) Detection Area

	1	
I	ON	100%
II	-	50%

2) Hold Time

	2	3	
I	ON	ON	5S
II	-	ON	90S
III	ON	-	3min
IV	-	-	10min

3) Stand-by period

	4	5	
I	ON	ON	0S
II	-	ON	30S
III	ON	-	10min
IV	-	-	+∞

4) Daylight Sensor

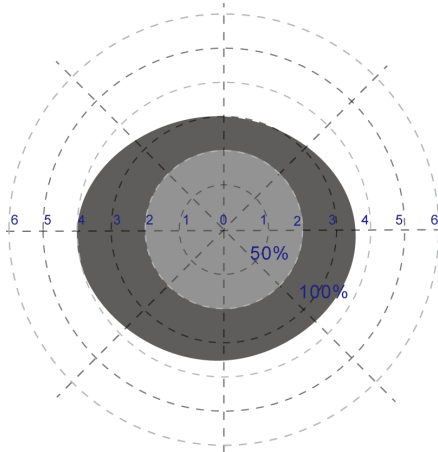
	6	
I	ON	15Lux
II	-	disable

5) Stand-by Dim Level: 20%

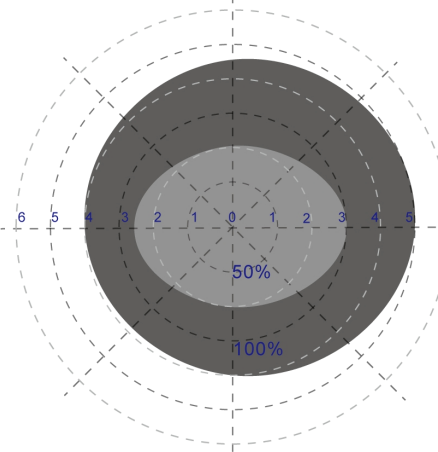
9. Radiation Pattern

Ceiling mounted heigh: 3m

Sensitivity: 100%/50%



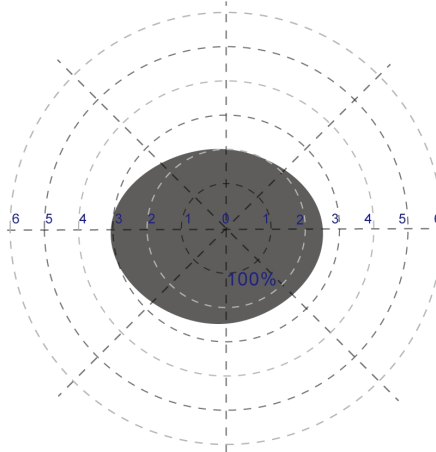
Normal moving (Speed:1m/s)



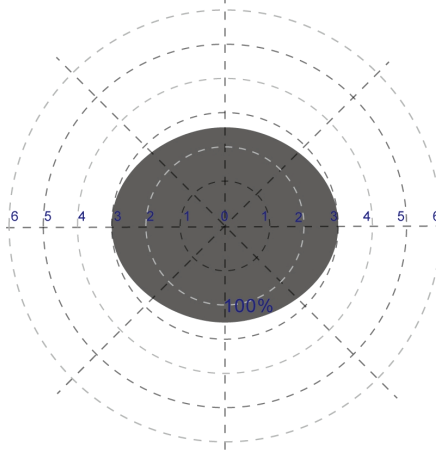
Slow moving (Speed 0.3m/s)

Ceiling mounted heigh: 6m

Sensitivity: 100%/50%



Normal moving (Speed:1m/s)

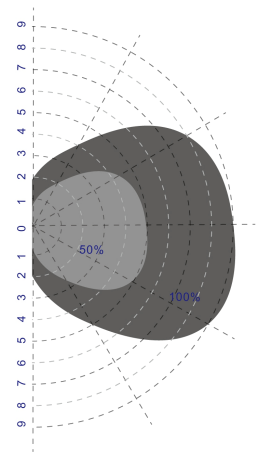


Slow moving (Speed 0.3m/s)

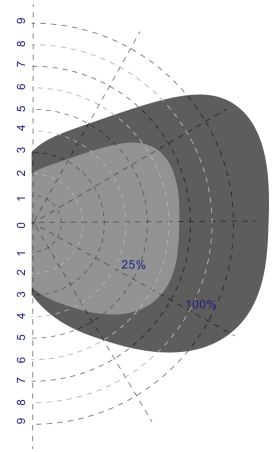
Note: When 6m mounted height,
50% sensitivity can not detect
movements.

Wall mounted heigh: 2m

Sensitivity: 100%/50%



Normal moving (Speed:1m/s)



Slow moving (Speed 0.3m/s)

10. Initialization

When power on, the product automatically turns on light at 100% brightness. After 10sec, it turns off the light.

During the initialization, the product is not able to detect moving signals.

11. Factory Setting

Sensitivity: 100%; Hold Time: 5S; Stand-by period: 0S; Daylight Sensor: Disable

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12. Application Notice

- 1) The product should be installed by a professional electrician. Please turn off the power before installing, wiring, changing the setting of the DIP switches.
- 2) Microwaves cannot penetrate metal. Do not place the product in a closed metal lamp or a half-closed metal lamp and no metal or glass cover above the product. If the antenna has to pass through the metal plate, ensure that the top of the sensor is close to the metal plate, and the plane of the microwave antenna should be higher than the nearby plane (such as aluminum substrate, glass fiber plate) to achieve the best detection effect
- 3) It is recommended that microwave sensors be installed at a distance of more than 3m, and that they be installed at a distance of more than 3m away from switches, routers and other wireless devices to avoid radio interference. The antenna surface of the microwave sensor must be far away from the input AC and output DC to avoid low/high frequency signals interfering with the normal operation of the microwave antenna.
- 4) Should avoid long-term vibration equipment or moving objects around the microwave sensor, the vibration signal generated will be regarded as mobile signal trigger induction, so the installation position should be far away from large metal equipment, ventilation pipes, air conditioning outlets, exhaust vents, smoke exhaust machine and other scenes; If a pet passes through the detection area, the sensor may be triggered.
- 5) The product is for indoor use only. It will affect the waterproof effect for outdoor use. Wind, rain, and moving objects around will cause false triggering. When the product is installed in a metal lamp, metal surface, or a narrow closed environment, the microwave will be reflected repeatedly and cause false triggering. Please reduce the sensitivity or contact the manufacturer for technical support.
- 6) If wall mounting, the detection distance of microwave sensor will be greatly increased, please reduce the sensitivity or contact the manufacturer for technical support.
- 7) Due to continuous improvement, the contents of this instruction could be changed without prior notice.
- 8) The Value of daylight sensor is in a sunny environment with no shadows and ambient light diffuse reflection conditions. The illuminance values detected by the product may difference in different environment, at different times, in different seasons, and in different climates.
- 9) Sensitivity area is related to moving speed of objects, size of moving objects, mounting height, mounting angle, working environment, reflecting materials and etc.
- 10) Given the values of detecting area is typical that was measured by 165cm high testers in an indoor open environment.