SPECIFICATION

Product Name: Sensor DIM LED Driver

Model No.: MLC18C-NDP2；MLC28C-NDP2

Issue Date: June 29 ,2023

CUSTOMER APPROVED

Shenzhen Merrytek Technology Co.,Ltd
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1. Features

1. Conform to ERP standard, micro-power consumption
2. 5.8GHz ISM brand, can be batch RED,FCC certification
3. Non-isolated, Flicker-free, Driver+sensor 2 in 1
4. With corridor function , light priority function, suitable for all kinds of use scenes
5. Compact size, easy to install inside the lamps and lanterns
6. All parameters can be adjusted via DIP switch

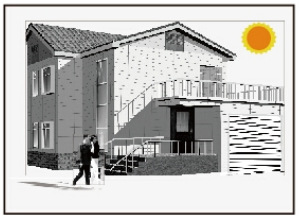
2. Parameter

Models		MLC18C-NDP2	MLC28C-NDP2
Input	Voltage rage	198-264VAC 50Hz /60Hz	
	Rated voltage	220-240VAC 50Hz/60Hz≤0.12A（@230VAC full load）	
	Input current	≤0.11A @ 230VAC	≤0.17A @ 230VAC
	Inrush current	<15A (100us half-current)@230VAC	
	Power factor	≥0.90 (230V Max load)	
	Stand-by power	<0.1W@230VAC	
	Working efficiency	86%，230VAC / Max Load	86%，230VAC / Max Load
	Lightning surge	LN: 1KV	
Output	Working model	CC	
	Type of load	LED	
	Full load power	19W Max	25W Max
	Flicker ripple	≤5%	
	No-load output voltage	60VDC Max	60VDC Max
	Load current	Single current : 300mA /350mA	Single current : 450mA/500mA/550mA/700mA
	Load output voltage range	24-53VDC 300mA / 350mA	24-42VDC 450mA/500mA/550mA 24-36VDC 700mA
	Constant current accuracy	±5% @230VAC	
Parameters	Operating frequency	5.8GHz ±75MHz，ISM band	
	Transmitting power	1mW	
	Detection Area	25%/50%/75%/100%	
	Hold Time	5S/1min/5min/10min	
	Stand-by Period	0s/1min/10min/+∞	
	Daylight control	Daylight threshold	5Lux/25Lux/50Lux/Disable
	Daylight control	Daylight priority open/close	Open:5Lux/25Lux/50Lux
			close50Lux/100Lux/150Lux

Parameters	Stand-by DIM Level	20%	
	Detecting radius (sensitivity: 100%)	Ceiling mounting 3m：0.3m/s ≥4m，1m/s ≥2.5m Wall mounting 2m：0.3m/s ≥10m，1m/s ≥5m	
	Mounting Height	3m Typical Value (6m Max)	
	3db field angle	90°@Xz flat	
		95°@Yz flat	
Abnormality Protection Requirements	Input over voltage protection	Yes, self-recovery	
	Input no-load protection	Yes, self-recovery	
	Short-circuit protection	Yes, self-recovery	
	Withstand voltage	3750VAC 5mA 60s (input “L N” to output SEC+ SEC-)	
	Operating temperature	-25~+45℃	
	Maximum temperature(Tc)	85℃	
	Storage temperature/humidity	-40℃~+80℃ Humidity：85%	
Certificate Standards	Safety standards（LVD)	EN61347-1，EN61347-2-13	
	EMC standards	EN55015，EN61547，EN61000-3-2，EN61000-3-3	
	Environmental requirement	Compliant to RoHS	
	Certificate	CE RED FCC	
	Protection class	Class II	
	IP Rating	IP20	
Others	Wiring method	Press terminal, wire diameter：0.5-0.75mm^2	
	Installation	Built-in	
	Installation size	Φ66mm，H26mm	Φ80mm，H26mm
	Package	PE bag clapboard, carton（K=A）	
	Lifetime	3 years warranty@Ta 230V full load	
Note:The given values of detecting parameter is typical measured by 165cm high testers in an indoor open environment.			

3. Function

1) On/OFF function (Setting “stand-by period” to “0s”), Setting other parameters according to practical applications.

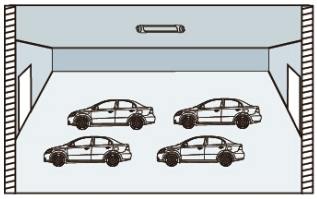


1 With sufficient ambient light, the light will not be switched on even if with motion signal.

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 (Setting stand-by period to “1min/10min”), Setting other parameters according to practical applications.



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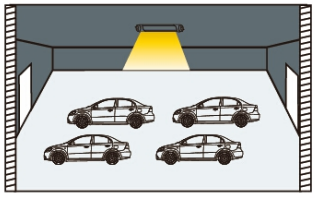
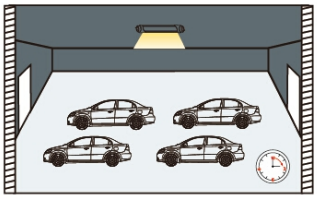


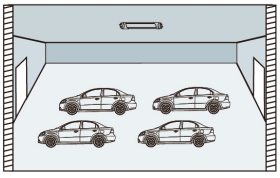
2 With insufficient ambient light, the sensor switches on the light when motion is detected.



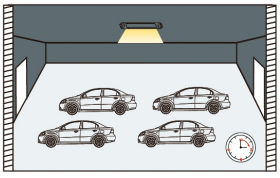
3 After elapse of hold time, the sensor dims the light at a low light level if no new motion is detected.

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

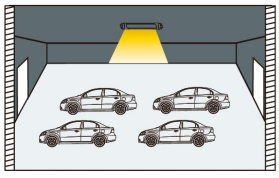
3) Daylight priority function (Setting stand-by period to “+∞”), Setting other parameters according to practical applications.



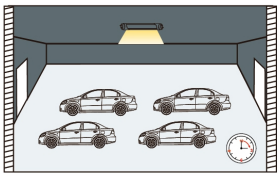
1 With sufficient ambient light, the light will not be switched on even if with motion signal.



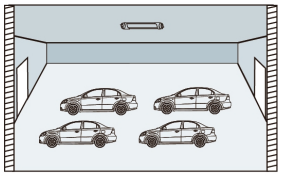
2 When the ambient light is insufficient, the lamp will turn on and enter the low light state (standby level).



3 With insufficient ambient light, the lamp goes on full light when a mobile signal is detected.

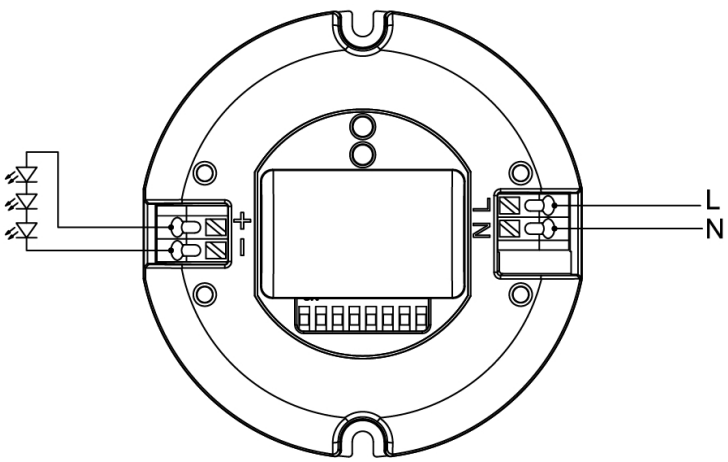


4 After hold time, if no moving is detected in the detection area, the lamp will automatically turn to standby brightness.



5 After standby time, if no moving object is detected in the detction area and the ambient light is sufficient, the lamp will turn off automatically.

4. Wiring



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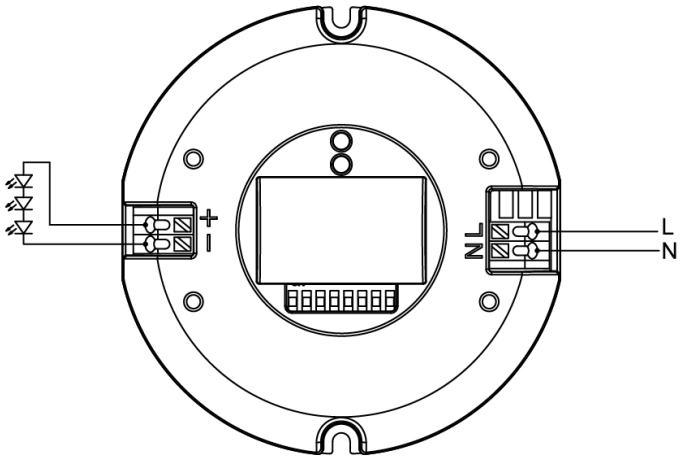
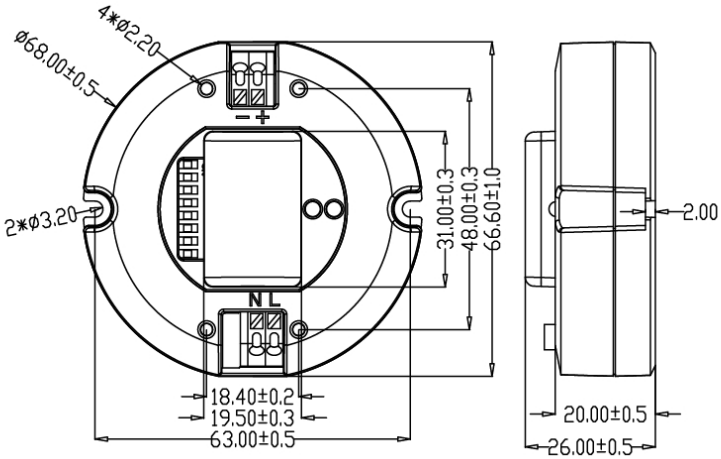


MLC28C-NDP2

Note: The product can be connected to only one load. Connecting more than one load will damage product.

5. Dimension (mm)



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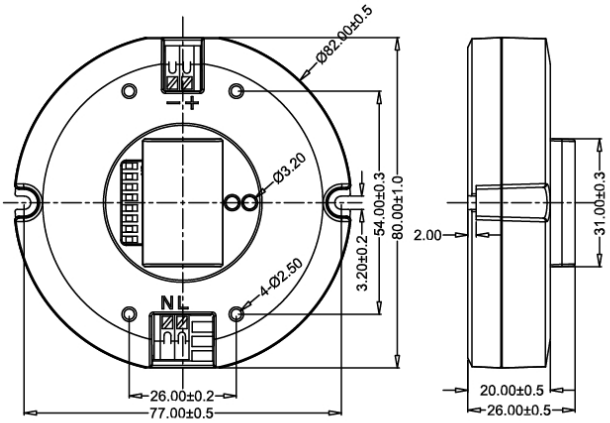

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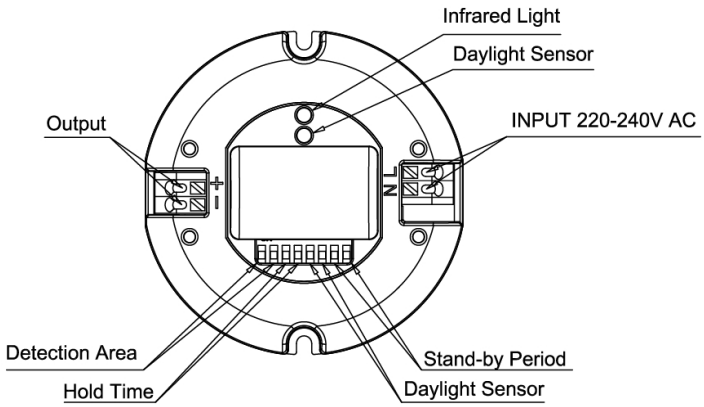
6. Function



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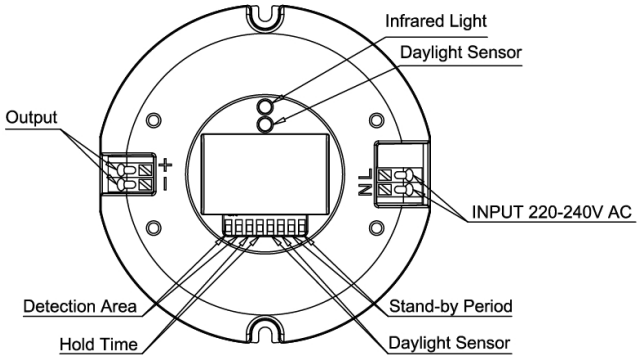
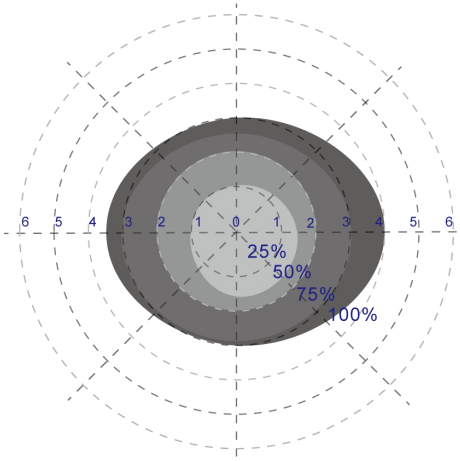


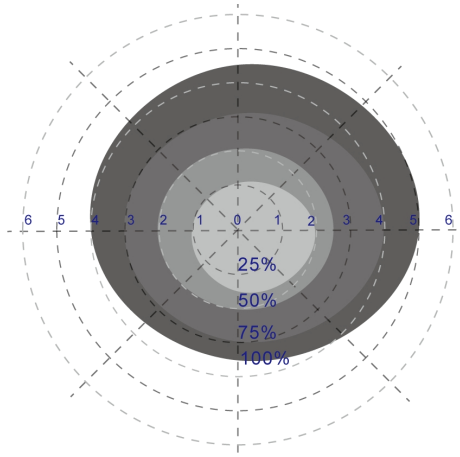
MLC28C-NDP2

7. Radiation Pattern

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

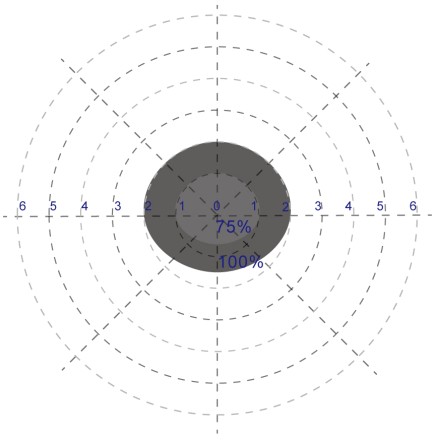


Normal moving (Speed:1m/s)

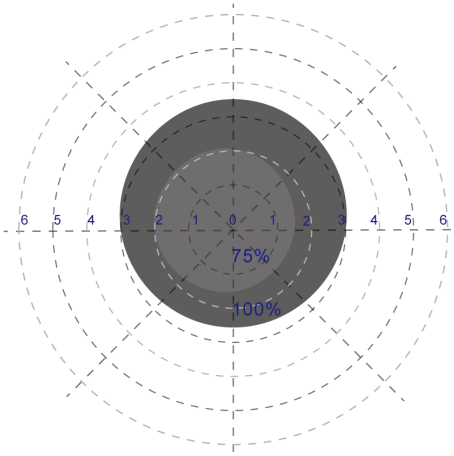


Slow moving (Speed 0.3m/s)

Ceiling mounted height: 5m
Sensitivity: 100%/75%

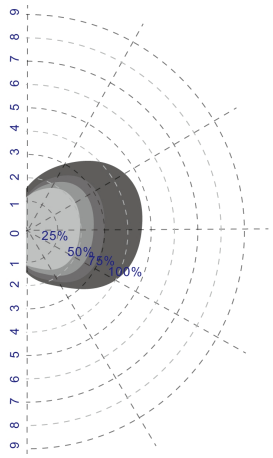


Normal moving (Speed:1m/s)

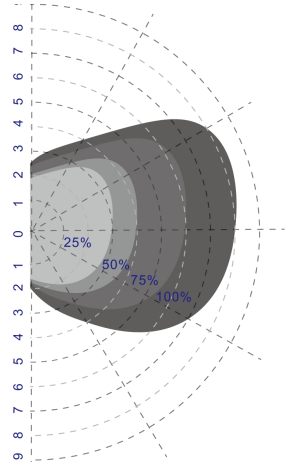


Slow moving (Speed 0.3m/s)

Wall mounted height: 2m
Sensitivity: 100%/75%/50%/25%



Normal moving (Speed:1m/s)



Slow moving (Speed 0.3m/s)

Note: There is no detection data at 50%/25% sensitivity

8. DIP Switch Setting

1) Detection Area

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

2) Hold Time

	3	4	
Ⅰ	ON	ON	5s
Ⅱ	ON	-	1min
Ⅲ	-	ON	5min
Ⅳ	-	-	10min

3) Daylight Sensor

	5	6	Daylight threshold	Open/Close
Ⅰ	ON	ON	5Lux	5Lux/50Lux
Ⅱ	ON	-	25Lux	25Lux/100Lux
Ⅲ	-	ON	50Lux	50Lux/150Lux
Ⅳ	-	-	Disable	Disable

Note: Realizing daylight priority function when setting “stand-by period” to “+∞”

4) Stand-by period

	7	8	
Ⅰ	ON	ON	0s
Ⅱ	ON	-	1min
Ⅲ	-	ON	10min
Ⅳ	-	-	+∞

9. 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.

10. Factory Setting

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

11. 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. The microwave sensor has good penetration ability to plastic and wooden objects, but the front and near the microwave antenna can not be equipped with metal accessories, metal shell and glass shell, otherwise it will affect the transmission and reception of the microwave antenna.

3. It is recommended that microwave sensors be installed at a distance of more than 2m, and that they be installed at a distance of more than 2m away from switches, routers and other wireless devices to avoid radio interference, for 5G WIFI is greater than 2 m.
The antenna surface of the microwave sensor is 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. This product is suitable for indoor installation, when semi-outdoor or outdoor installation, wind, rain may be regarded as moving signal trigger induction; When the sensor is installed in metal lamps, metal reflective surface or narrow closed environment, the microwave will be reflected many times and trigger by mistake. Please reduce the sensitivity of the sensor 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. Sensitivity area is related to moving speed of objects, size of moving objects, mounting height, mounting angle, working environment, reflecting materials and etc.

9. 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 different in different environment, at different times, in different seasons, and in different climates.