



Product Specification

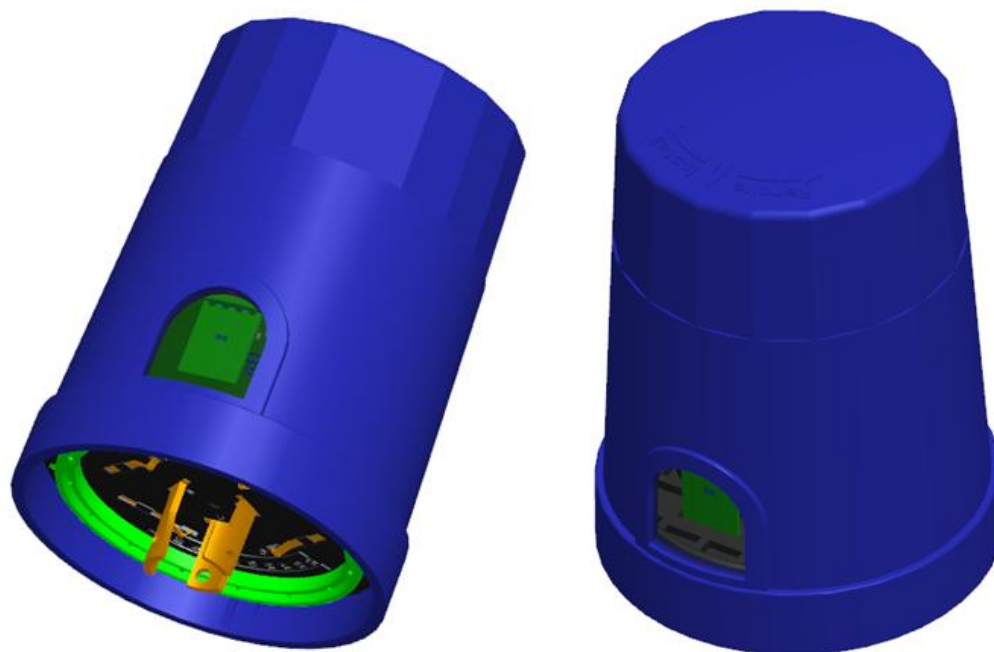
Supplier Authorized Signature				
Status: ☐ Draft ☒ Released	Product name	Wireless Node Controller with NEMA Interface(HPA)(1CH 0-10V)(BLUE)		
	Model	MSDK6139		
	Project	A5517-05		
	Version	A0		
	Prepared		Date	
	Marketing		Date	
	Quality		Date	
	Approved		Date	

Customer Authorized Signature			
Quality		Approved	

SHANGHAI MOONS' AUTOMATION CONTROL CO.,LTD.

1 DESCRIPTIONS

The MSDK6XXX series wireless node controllers are designed for roadway and area lighting. It can turn on / off , dimming and monitor lights; and can locate own position by GPS; and can detect ambient light.



1.1 FEATURES

- Input voltage 100 ~ 277VAC 50/60Hz
- Surge: 10KV, 5KA.
- Operating temperature: -40 to 70°C.
- Power consumption <2W.
- Radio frequency: 2.4GHz ISM Band.
- Meet IEEE802.15.4 standard.
- Security: AES128 encryption.
- It can switch up to 1000W LED drivers.(220Vac,5A)
- 1 Channel 0~10V dimming interface (Analog).
- Monitor the lamps' voltage, current, power, power factor, temperature.
- Energy consumption statistics and working time statistics.
- Communication fault protection mechanisms, run according to the time and illuminance.
- Failure mode: Fail-on.
- GPS: Accuracy $\pm 6m$ (clear open sky).
- Photocell: Complies with ANSI C136.10.(Only offline mode)
- Schedule & Photocell combination dimming.
- Complies with FCC Part 15.
- Complies with UL773.

- Complies with ANSI C136.41-2013.
- Warranty: 5 years standard.

2 CHARACTERISTICS

2.1 ABSOLUTE MAXIMUM RATINGS

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input voltage rating		90	/	305	VAC
Max output current	Peak@100mS	/	/	100	A
Max dimming current	RMS	/	/	10	mA

2.2 ELECTRICAL CHARACTERISTICS

At 220VAC input, 20 °C, 50% RH, 100Kpa conditions./

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
AC input voltage		100	/	277	VAC
AC input current	220VAC	0.02	/	5.05	A
AC output current	220VAC,RMS	0	/	5	A
Power Dissipation		0.4	/	2	W
Dimming voltage		0	/	11	V
Dimming current	10Voutput	0	1	5	mA
Dimming accuracy		-1	/	+1	%
Metering voltage range		0	/	300	VAC
Metering current range		0	/	5	A
Metering voltage accuracy		-2	/	+2	%
Metering current accuracy		-2	/	+2	%
RF transmission distance	3dBi antenna	500	/	/	m
RF transmission rate	Good signal	/	250	/	Kbps
RF band		2400	/	2483	MHz
RF receiver sensitivity		-98.8	/	/	dBm
RF transmitter power		/	/	20	dBm
Spectral range of sensitivity	Photocell	350	/	970	nm
GPS Sensitivity	Tracking	/	-160	/	dBm

2.3 OPERATING CONDITIONS

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating temperature		-40	/	70	℃
Storage temperature	Indoor dry, well-ventilated place	-40	/	85	℃
Relative humidity	No frost	10	/	95	%
Vibration		/	/	10	G
Warranty			5		Years
Ingress protection	Not Installed	/	IP53	/	
Packaging Impact	Drop	/	1	/	m
Flammability		UL94-V0			

2.4 SAFETY

TYPE	Test level	
Isolation Voltage	AC to Dimming	3kVac,10mA,1min
Certification	UL773/EN61010-1/EN61347	

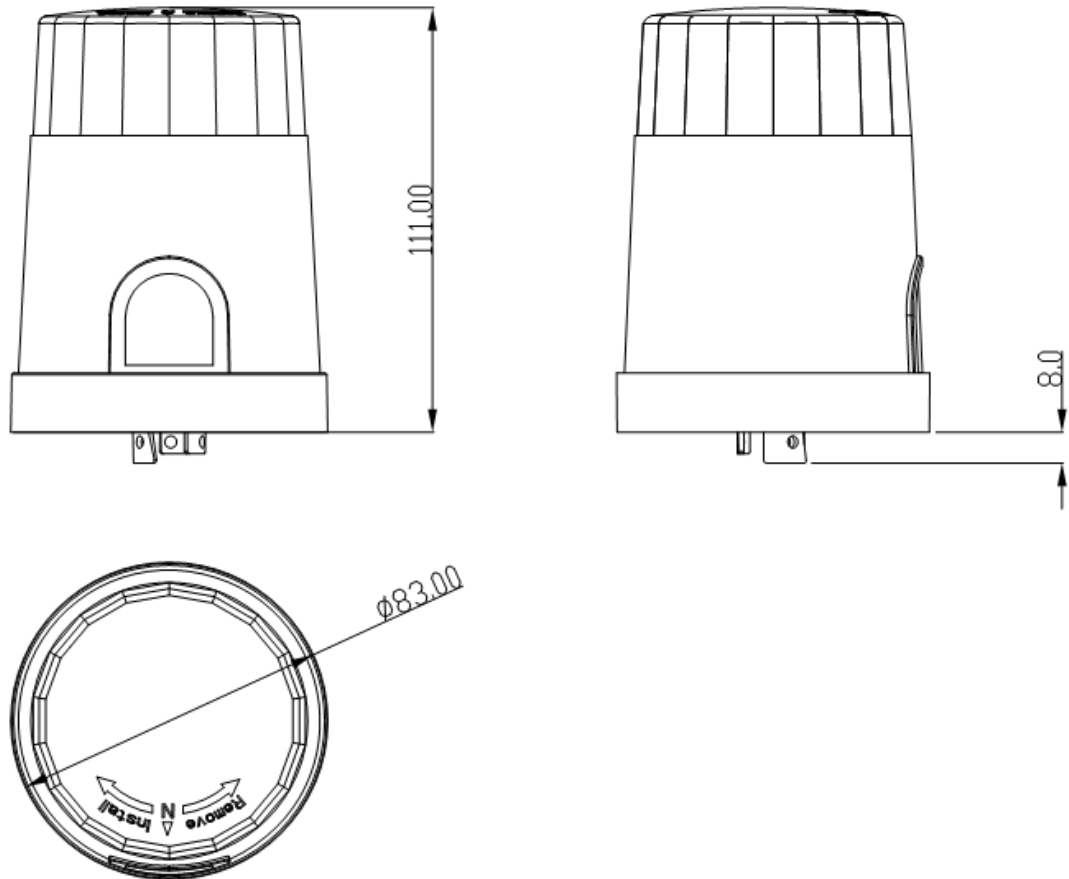
2.5 EMC

TYPE	Standard	Test level
Electrostatic discharge immunity	IEC61000-4-2	Level 4
RFEMS	IEC61000-4-3	Level 2
Electrical fast transient burst immunity	IEC61000-4-4	Level 4
Surge Immunity	IEC61000-4-5	Level X 10KV,5KA
Conducted disturbances induced by RF field immunity	IEC61000-4-6	Level 2
Power frequency magnetic field immunity	IEC61000-4-8	Level 3
Electromagnetic disturbance characteristics	FCC PART15 Class B / EN55015	
Electromagnetic compatibility and Radio spectrum Matters (ERM)	EN300328/EN301489-1/EN301489-17/EN300440-2/ EN62479/EN61326-2-1	

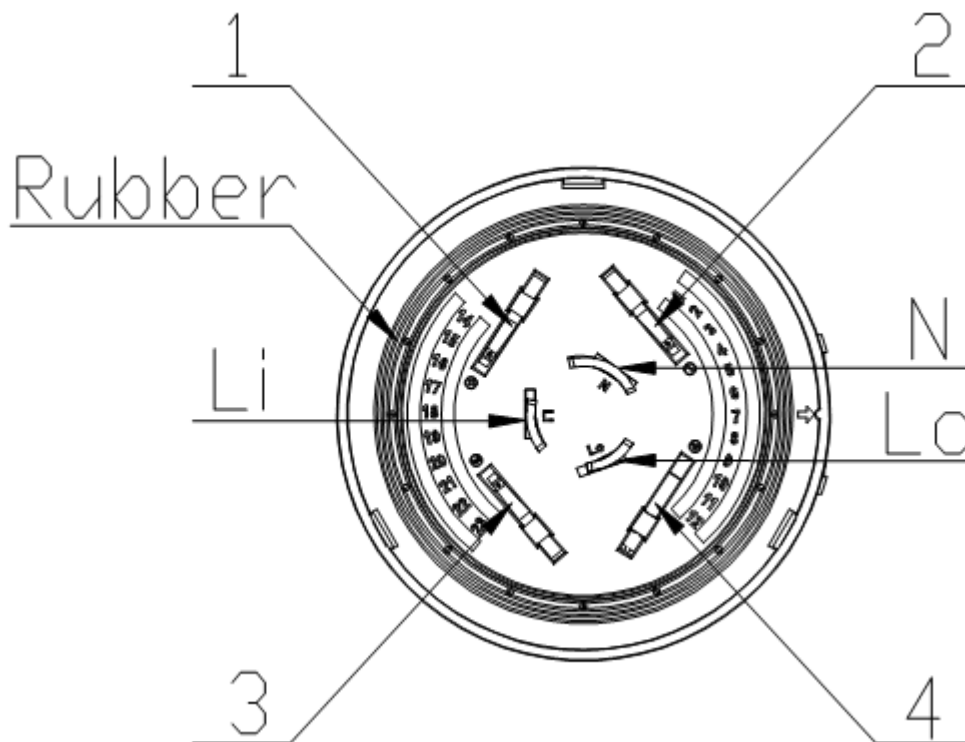
3 MECHANICAL DATA

NET WEIGHT: 230g(with box)

3.1 DIMENSIONS



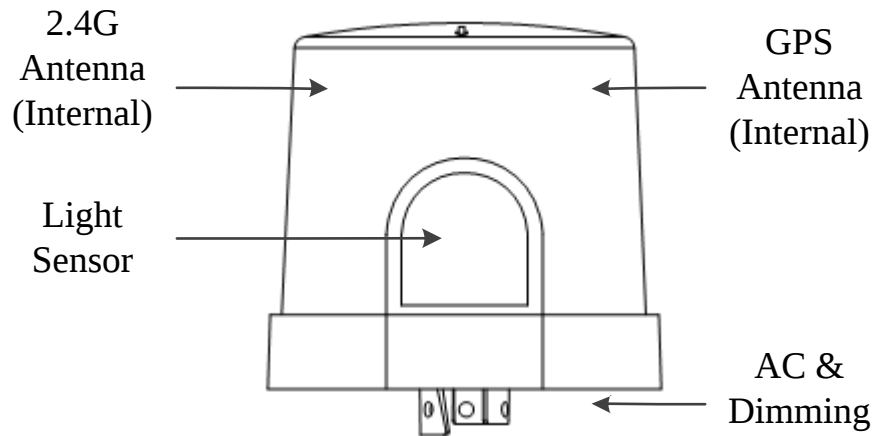
3.2 INTERFACE



BOTTOM VIEW

- PIN Li: Live line input;
- PIN Lo: Live line output;
- PIN N: Neutral line input;
- PIN 1: CH1 Dim+;
- PIN 2: CH1 Dim-;
- The Rubber Ring makes installation ingress protection can reach IP65;
- Complies with ANSI C136.41-2013.

4 PARTS DESCRIPTION



FRONT VIEW

4.1 2.4G WIRELESS MODULE

Communicate with the Gateway. Transfer various instructions, such as: light switch command, dimming command, upload power metering data, upload location information, upload illumination information and so on.

The 2.4G antenna is a monopole antenna.

4.2 GPS MODULE

Automatically obtain its own location and UTC time after boot.

The time is the basis of the scheduled time dimming.

4.3 LIGHT SENSOR

The light sensor is a Silicon NPN Phototransistor. It's spectral range of sensitivity: (typical) 350~970nm (adapted to human eye sensitivity).

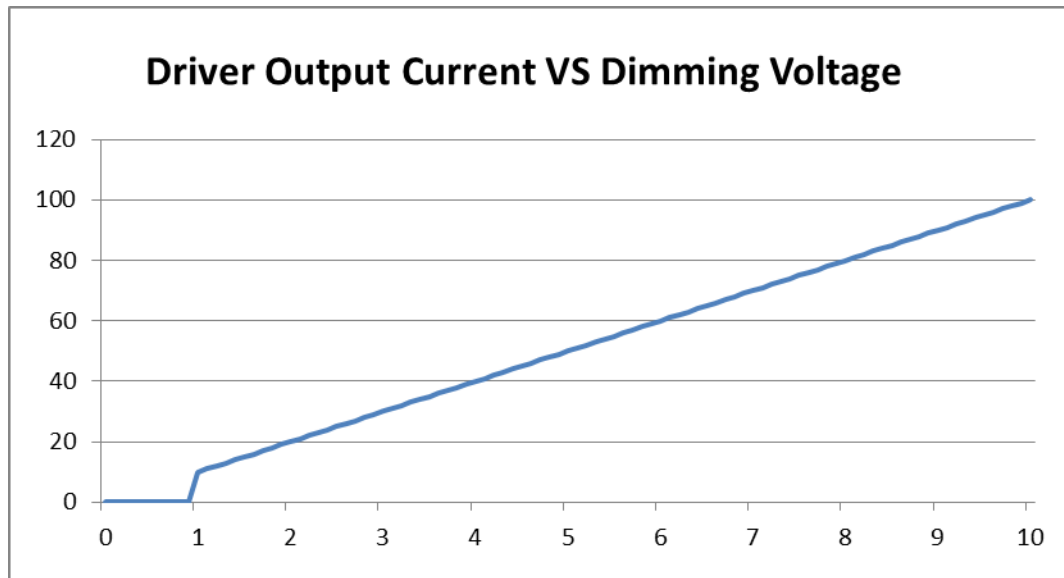
When MSDK6139 works with 2.4G net, it can upload illumination information to the Gateway.

When MSDK6139 works without network, it will turn on the LED driver at 16 ± 6 lux and turn off at 50 ± 6 lux(default).

4.4 DIMMING

There is 1 channel of 0-10V ANALOG DIMMING interface.

In order to better adapt to a variety LED Drivers, the *DEFAULT DIMMING CURVE* as shown below.

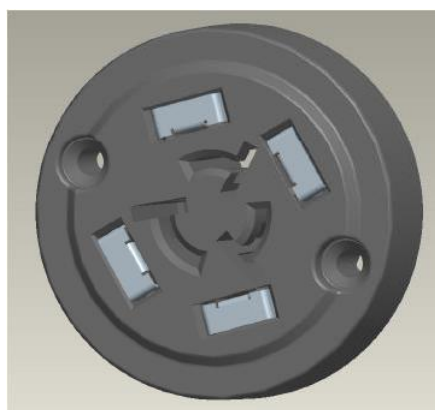


DEFAULT DIMMING CURVE

5 APPLICATIONS

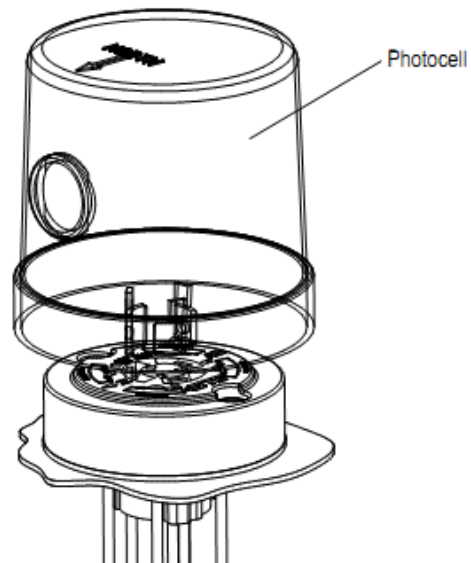
5.1 RECEPTACLE

Use with TWIST-LOCK PHOTOCONTROL RECEPTACLE. (Conforms ANSI C136.41)



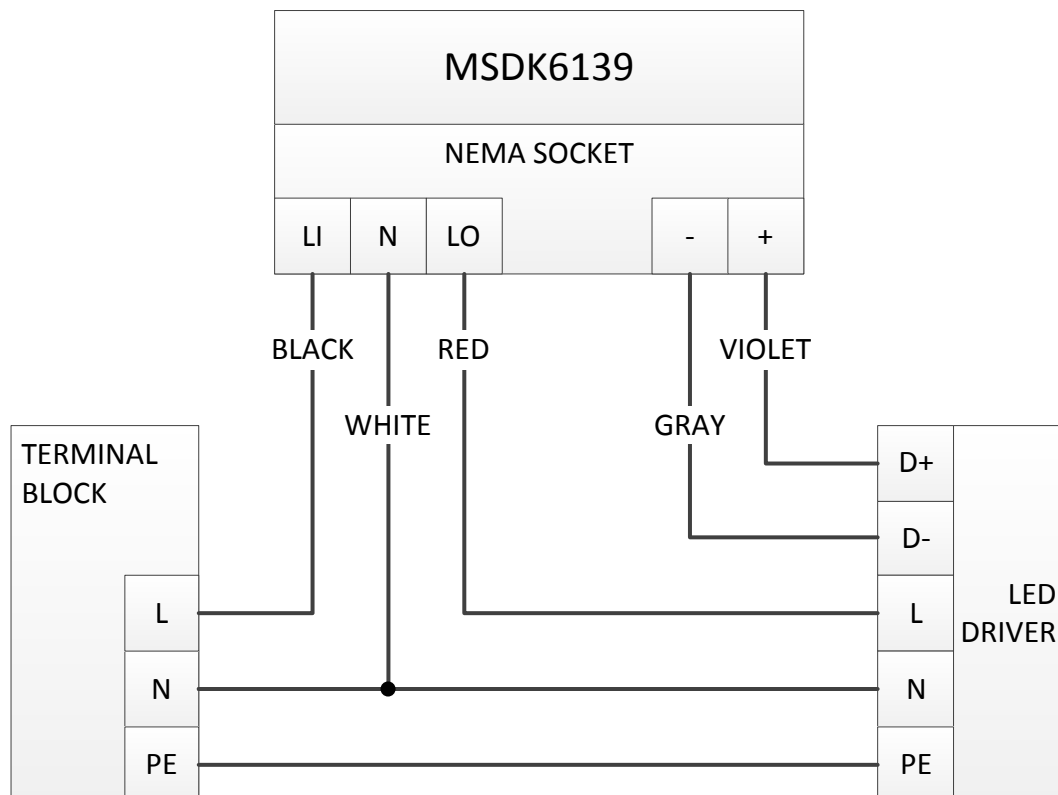
EXAMPLE RECEPTACLE ILLUSTRATIONS

1. Push Downward
2. Twist Clockwise to Lock

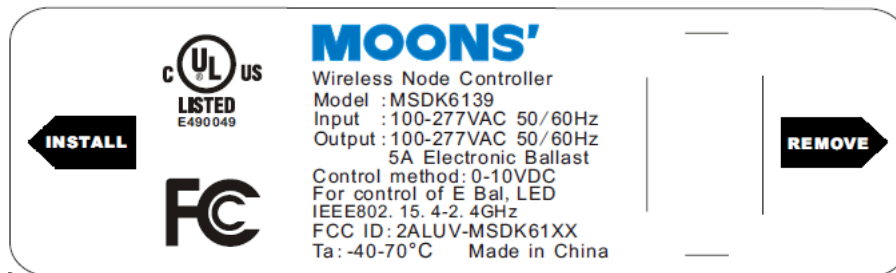


Install on the receptacles

5.2 TYPICAL APPLICATIONS



6 LABEL



NI = Product code

YY = Year code

WW = Week code

XXXXXXXX = Serial code & PHY address

7 ORDERING

DESCRIPTION	ORDERING CODE
MSDK6139;	4696350004678
RECEPTACLE	From LONGJOIN
JL-240XA1412R7P-N1 (Optional)	4718405007127
ROTATABLE RECEPTACLE	From LONGJOIN
JL-240TL-XA-1412R7P (Optional)	4718405007917