



Product Specification

Supplier Authorized Signature				
Status: [<input checked="" type="checkbox"/>] Draft [<input type="checkbox"/>] Released	Product name	Wireless Node Controller with NEMA Interface		
	Model	MSDK6149		
	Project	A5517		
	Version	A0		
	Prepared		Date	
	Marketing		Date	
	Quality		Date	
	Approved		Date	

Customer Authorized Signature			
Quality		Approved	

History Version

Version	Prepared	EC No.	Start Date	Notes
A0	Alex.gu		2016-01-01	

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

- Wide input voltage design, can work at 100 ~ 277VAC voltage.
- Surge: 10KV, 5KA.
- Operating temperature: -40 to 70°C.
- Power consumption <2W.
- Light off power consumption: <0.4W(120V); <0.5W(230V)
- Radio frequency: 2.4GHz ISM Band.
- Meet IEEE802.15.4 standard.
- Security: AES128 encryption.
- It can switch up to 1100W LED drivers.(220Vac)
- 2 Channels 0~10V dimming interface (Analog).
- Monitor the lamps' voltage, current, power, power factor, temperature.
- Count energy and working time.
- Communication fault protection mechanisms, run according to the time and illuminance.
- Failure mode: Fail-off.
- 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
Min input voltage		90	/	/	VAC
Max input voltage		/	/	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	°C
Storage temperature	Indoor dry, well-ventilated place	-40	/	85	°C
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

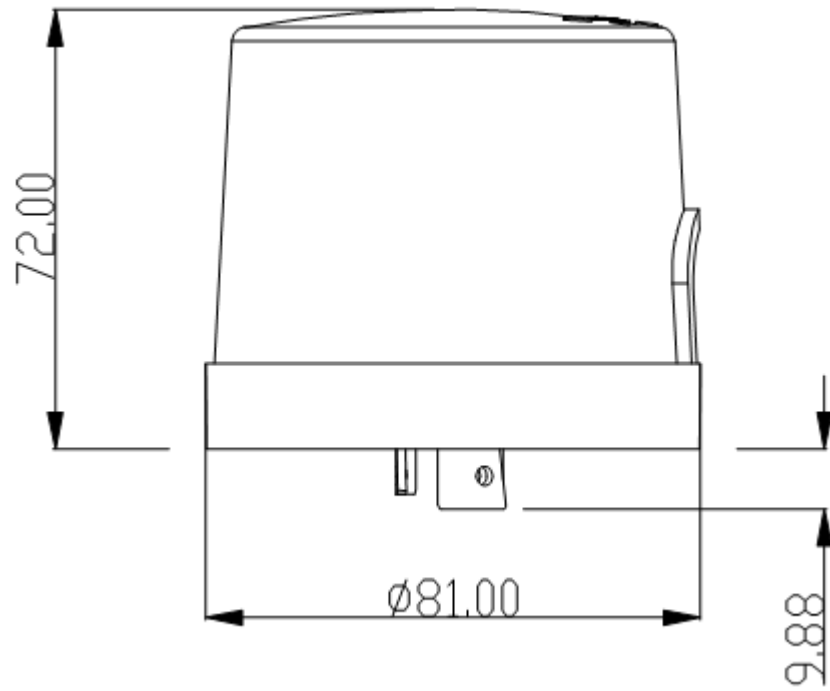
TYPE	Test level	
Isolation Voltage	AC to Dimming	3kVac,10mA,1min
Certification	UL773/EN61010-1/EN61347	

2.5 EMC

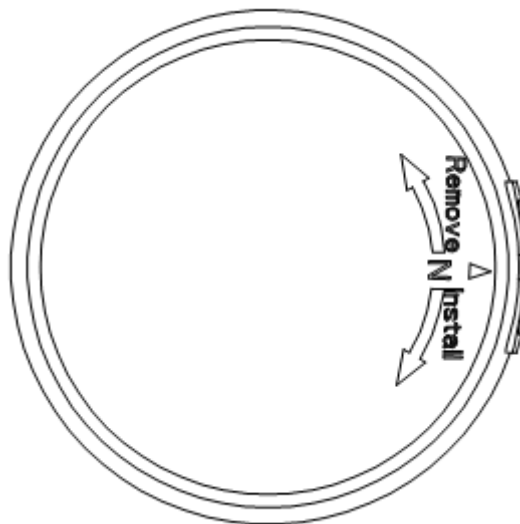
TYPE	Standard	Test level
Electrostatic discharge immunity	IEC61000-4-2	Level 4
RFEMS	IEC61000-4-3	Level 2
Electrical fast transient burst immunity	IEC61000-4-4	Level 4
Surge Immunity	IEC61000-4-5	Level X 10KV,5KA
Conducted disturbances induced by RF field immunity	IEC61000-4-6	Level 2
Power frequency 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

3.1 DIMENSIONS

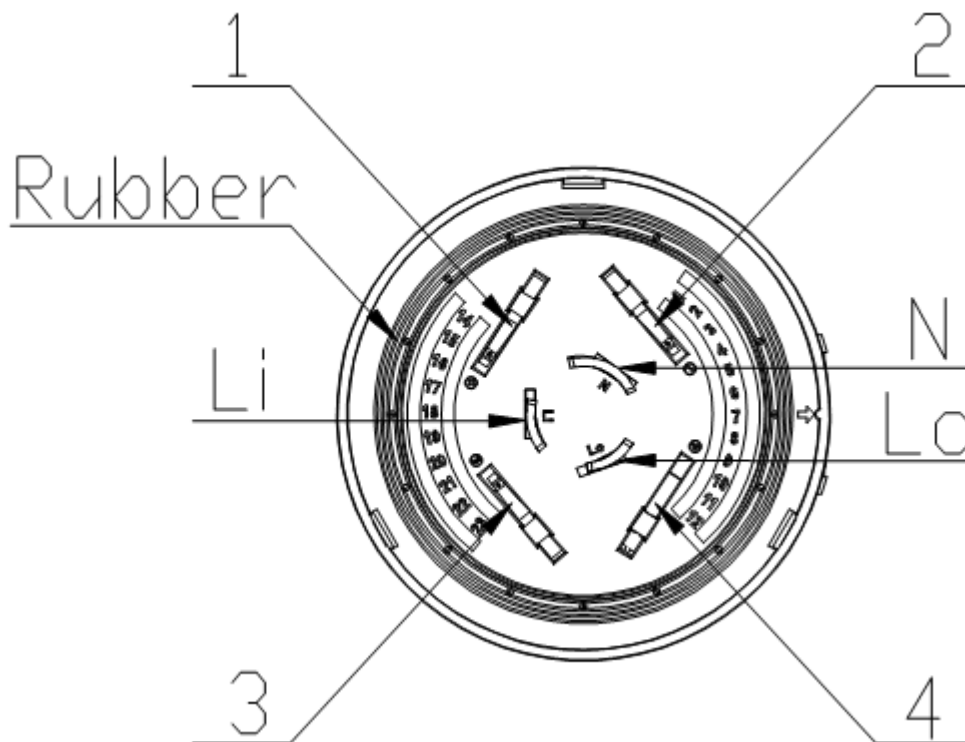


SIDE VIEW



TOP VIEW

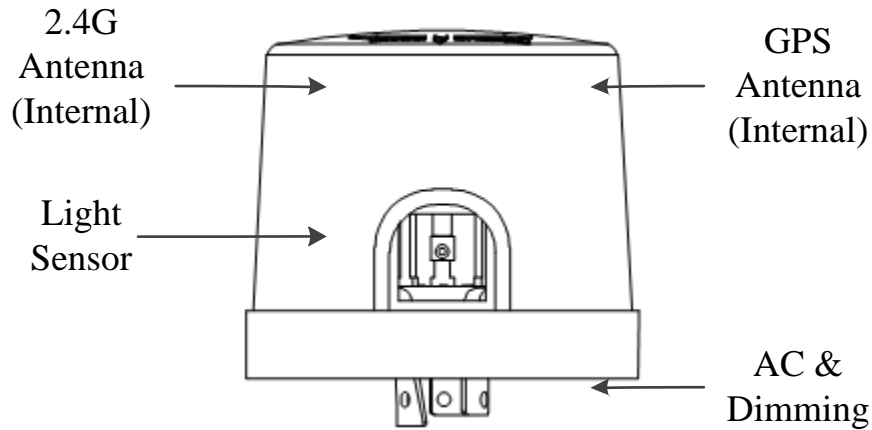
3.2 INTERFACE



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-;
- PIN 3: CH2 Dim+;
- PIN 4: CH2 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 consumption data, upload location information, upload illumination information and so on.

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).

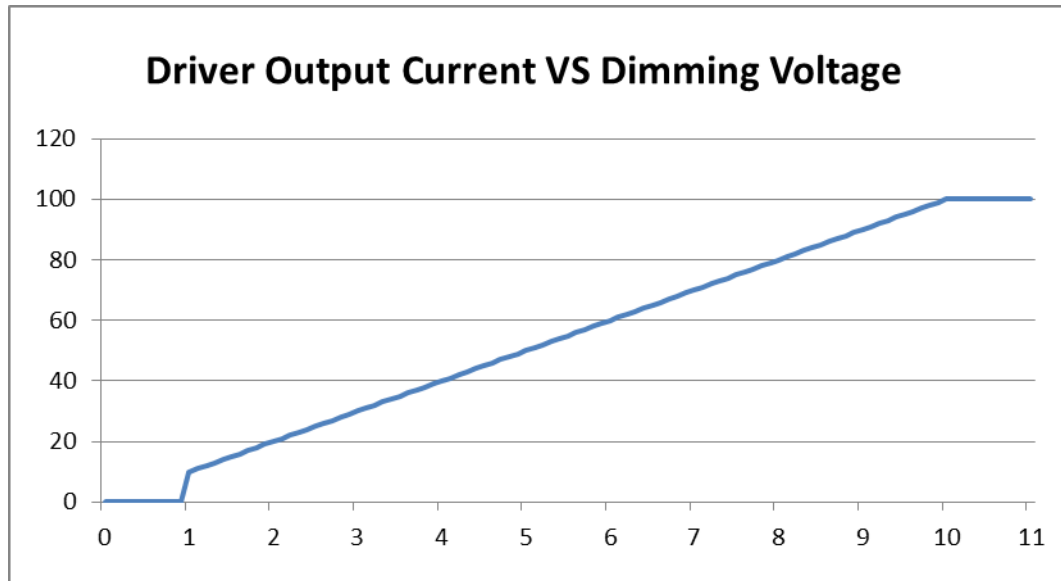
When MSDK6149 works without network, it will turn on the LED driver at 16 ± 6 lux and turn off at 50 ± 6 lux(default).

When MSDK6149 works with 2.4G net, it will upload illumination information to the Gateway.

4.4 DIMMING

There are two channels of *0-10V ANALOG DIMMING* interface.

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

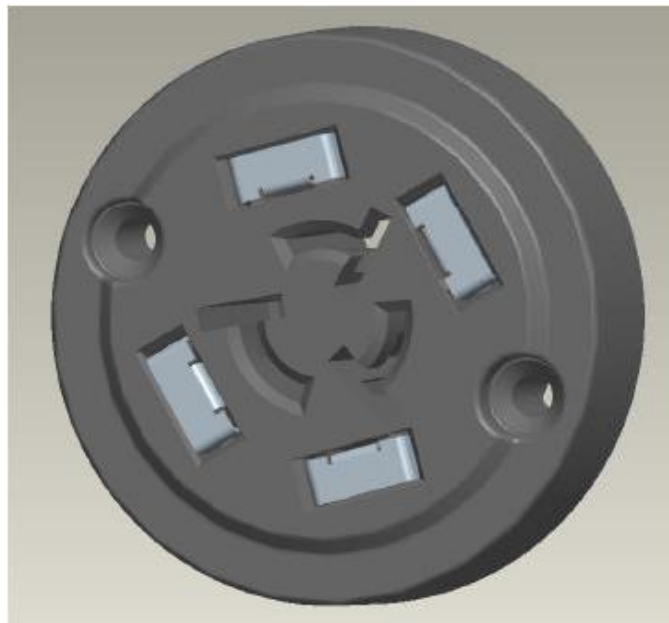


DEFAULT DIMMING CURVE

5 APPLICATIONS

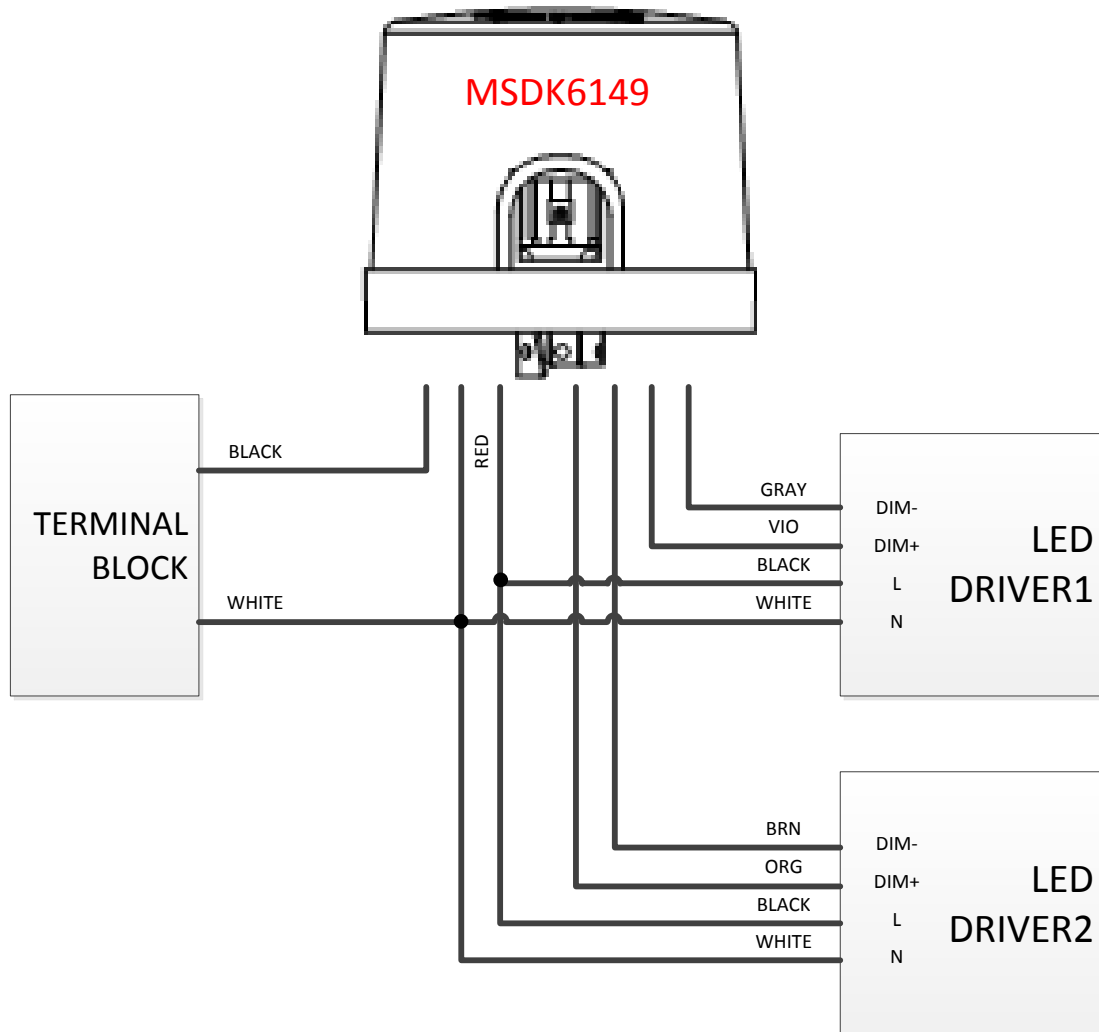
5.1 RECEPTACLE

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



EXAMPLE RECEPTACLE ILLUSTRATIONS

5.2 TYPICAL APPLICATIONS



6 ORDERING

DESCRIPTION	ORDERING CODE
MSDK6149;	4696350002984
RECEPTACLE JL-240T-XA-1412R7P (Optional)	From LONGJOIN MADE IN CHINA
RECEPTACLE 2213362-2 (Optional)	From TE MADE IN USA