Manuals+ — User Manuals Simplified.

NEMA GPRS Wireless Single Light Controller User Manual

**Specification of GPRS wireless
single light controller**
Version NEMA interface **wireless single light controller specification_V1.2**
Date 2021-1

Contents

Introduction

The NEMA interface wireless single light controller is designed for road and area lighting in smart cities. It has the functions of switching, dimming, and monitoring lamps; GPS positioning function; environmental illumination detection, whether the street lamp is tilted, etc.

1.1 Safety Instructions
The following safety principles are followed to ensure personal safety and to help protect the product and work

environment from potential damage.

✈	When in an airport or other places, it is necessary to prevent the terminal from causing interference to to flight safety issues and even violations of the law.
⊕	When in a hospital or health care place, users need to pay attention to whether there are restrictions medical device to malfunction, so it may be necessary to turn off the terminal device.
SOS	The terminal device does not guarantee an effective connection under any circumstances, and it is ne th sufficient signal strength.
♥	Terminal device will receive and transmit RF signals when it is turned on. Radio frequency interferenc
🔥	Keep the device away from flammable gases. Do not put it near gas stations, oil depots, chemical pla electronic equipment in any potentially explosive atmosphere.

Features

2.1 Main Features

Features	Description
Supply power	Wide voltage input design: can work at 100-264VAC Surge protection: 4KV, 4K A
Save power	Working power consumption: <2W Power off consumption: <0.4W (120V); <0. 5W (230V)
Working temperature	-40~70℃
GPRS module	Working in 850/900/1800/1900MHz quad-band ISM frequency band; Comply with IEEE802.15.4 standard; AES128 encryption

GPRS data characteristics	In Single Tone mode: Data downlink transmission: 85.6kbps Data uplink transmission: 85.6kbps In Multi Tone mode: Data downlink transmission: 85.6kbps Data uplink transmission: 85.6bps Support IPv4, IPv6, UDP, CoAP, PPP, SMTP, DTLS, TCP, and other protocol stacks
Driving power	Supports up to 1000W LED driver
Dimming interface	Equipped with 1 channel 0~10V dimming interface (analog), one channel PWM
Self-information monitoring	Monitor the lamp input voltage, current, power, power factor, and Temperature. Statistical energy consumption and working hours
location	GPS accuracy ±6M (without obstruction to the air)
Light control	Meets ANSI C136.10 standard (only in offline mode, Optional)
Dimming	Strategic dimming Group dimming The lamps still work according to the set dimming schedule and illuminance even when communication fails
protection	Overvoltage, over current, short circuit protection
Warranty	5 years

Specification

3.1 Absolute Maximum Range

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Min input voltage		100	/	/	VAC
Max input voltage		/	/	264	VAC
Max output current	Peak@100mS	/	/	5	A
Max dimming current	RMS	/	/	10	mA

3.2 Electrical Specification

At 220VAC input, 20°C, 50% humidity, 100Kpa atmospheric pressure.

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
AC input voltage		100	/	264	VAC
AC input current	220VAC	0.02	/	5	A

AC output current	220VAC,RMS				
		0	/	5	A
Power Dissipation					
		0.4	/	2	W
Dimming voltage					
		0	/	10	V
Dimming current	10Voutput	0	1	10	mA
Dimming accuracy					
		-1	/	+1	%

Metering voltage range					
		0	/	300	VAC
Metering current range				5	

		0	/	20	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		850	/	1900	MHz
RF receiver sensitivity		-98.8	/	/	dBm

RF transmitter power			/	26±2	dBm
Spectral range of sensitivity	Photocell	/	/	/	nm
GPS Sensitivity	Tracking	/	-160	/	dBm

3.3 Operating Condition

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating temperature		-40	/	70	°C
Storage temperature	Indoor dry, well-ventilated place	-40	/	80	°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			

3.4 Safety

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

3.5 Electromagnetic Compatibility		
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		Level X
	IEC61000-4-5	
		4KV,4KA
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	

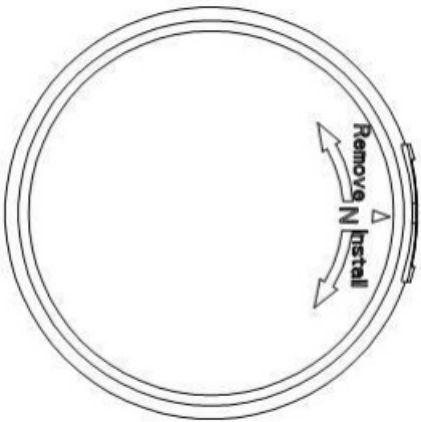## Structural Data

4.1 Size
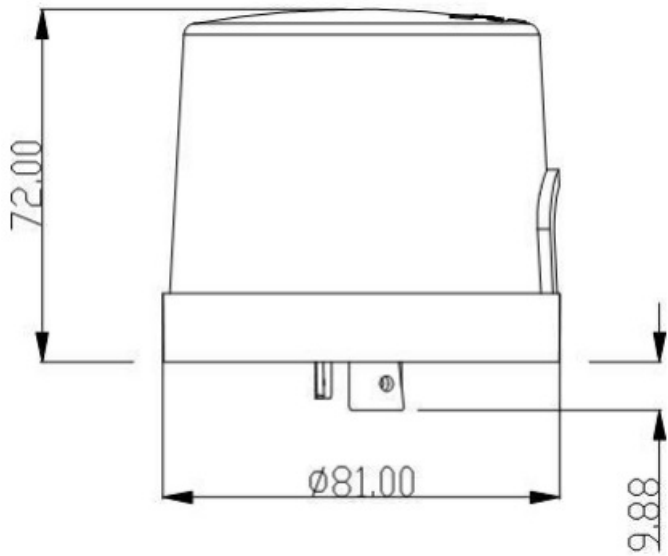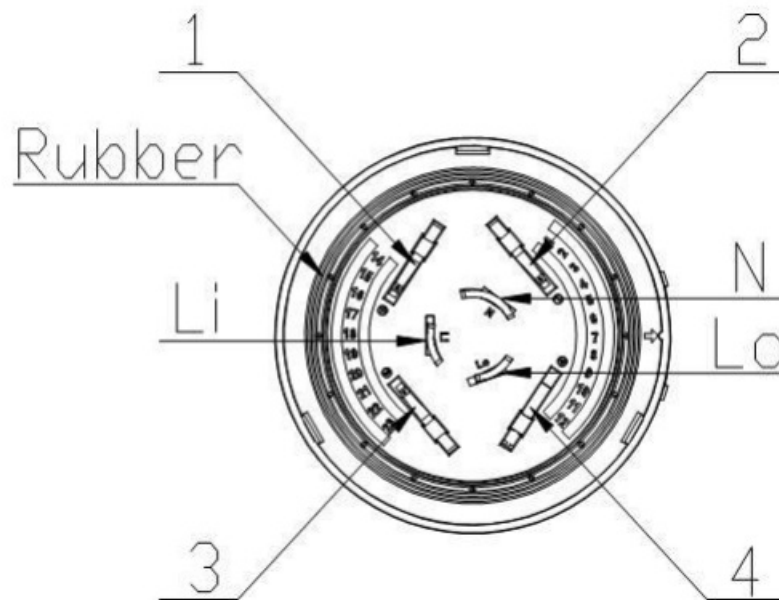

Figure 1: Module side view

4.2 Interface

Figure 3: 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.
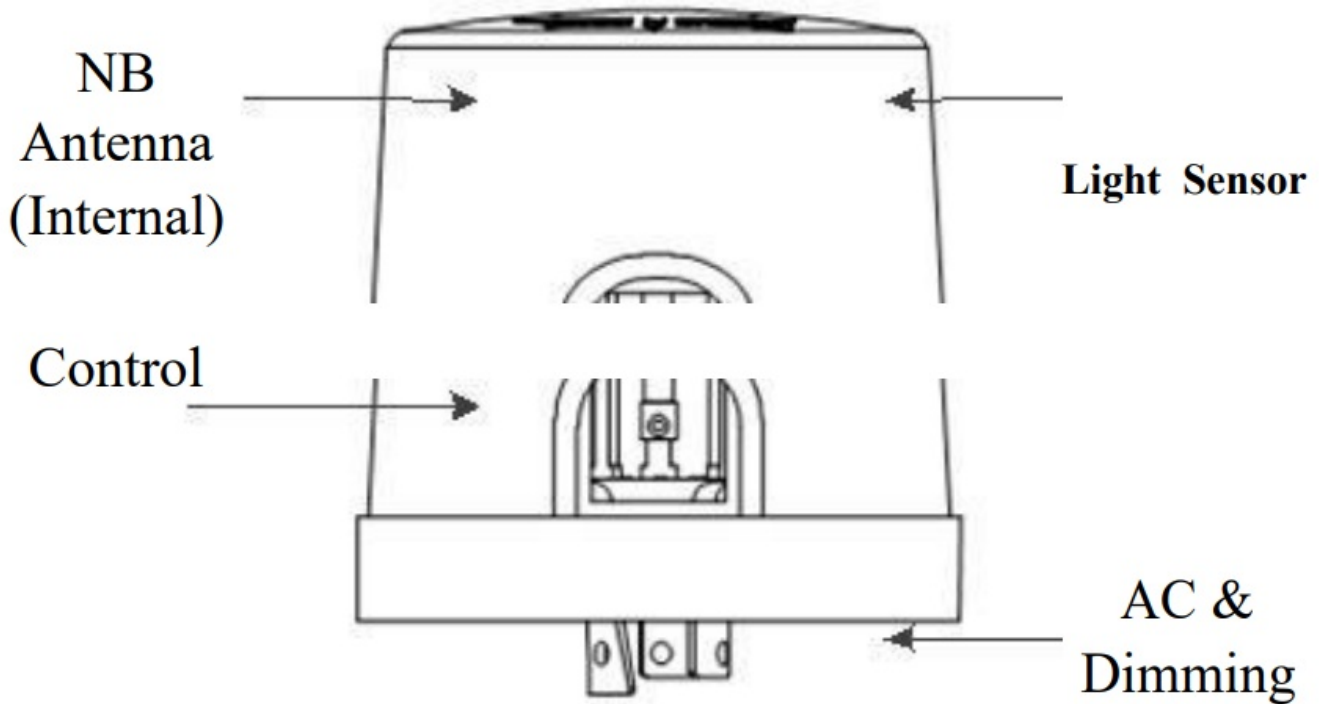 ANSI C136.41-2013

Part Description

Figure 4: Front view

5.1 GPRS Wireless Module

GPRS module can be used to communicate with the base stations and help to transfer a variety of instructions, such as: switching ON/OFF, dimming commands, uploading power consumption data, uploading illuminance information, etc.

5.2 Control Module

After booting, the module automatically obtains the command sent by the system to start the dimming strategy. If not set, the module will dim according to the factory default strategy.

5.3 Light sensor (optional)

The light sensor uses a digital light sensor. Its sensing range is adapted to the recognition range of the human eye. After the module joins the NB network, it will upload the illuminance data to the gateway. When the module works offline, it will turn on the lights at 16±6 lux and turn off the lights at 50±6 lux (default setting).

5.4 Dimming

The product has 1 channel 0-10V analog dimming interface and one channel PWM interface. To better accommodate the needs of multiple LED drivers, the default dimming curve is shown in Figure 5.
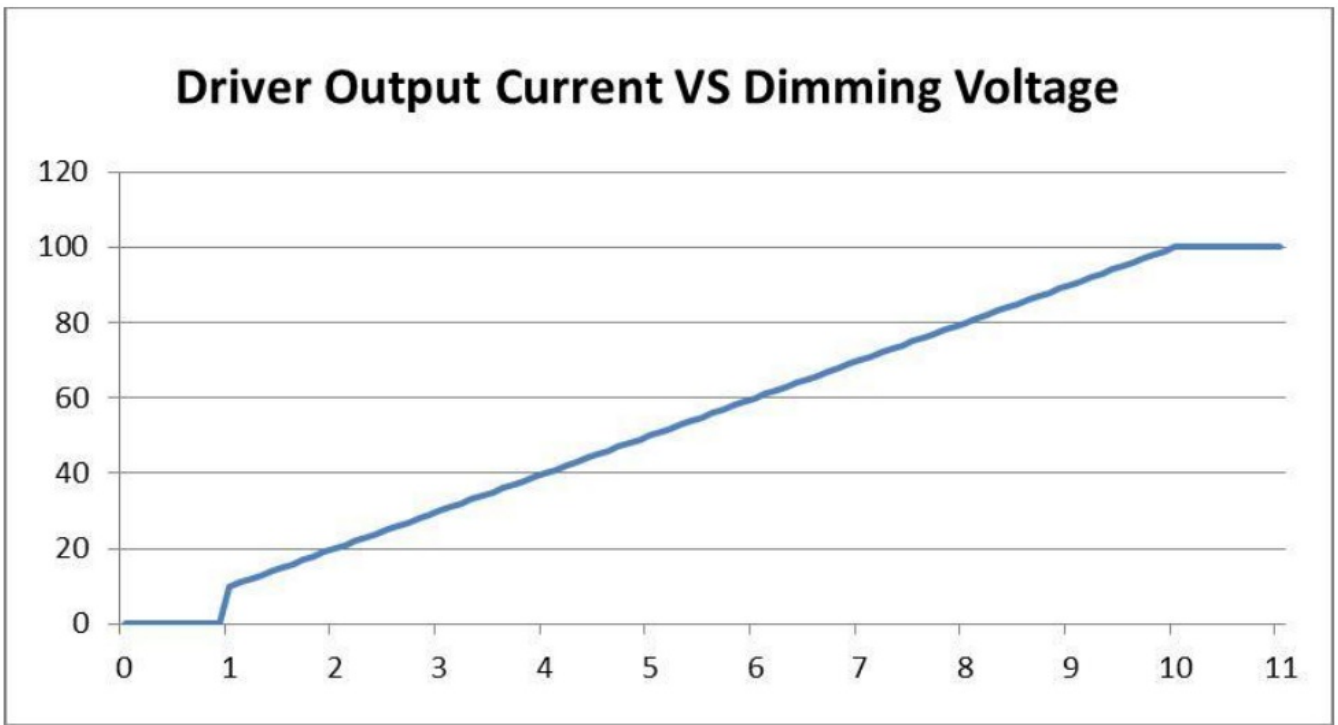
Figure 5: Default dimming curve

Application

6.1 Sockets and modules

The module needs to be used with the twist lock light control socket. (According to ANSI C136.41 requirements), the socket is shown in Figure 6.
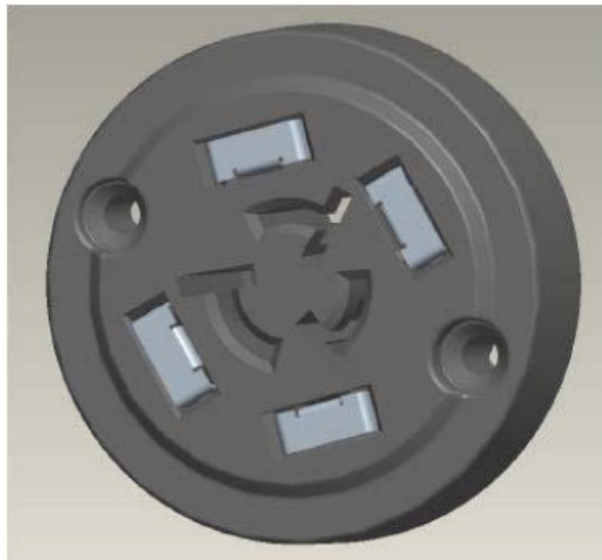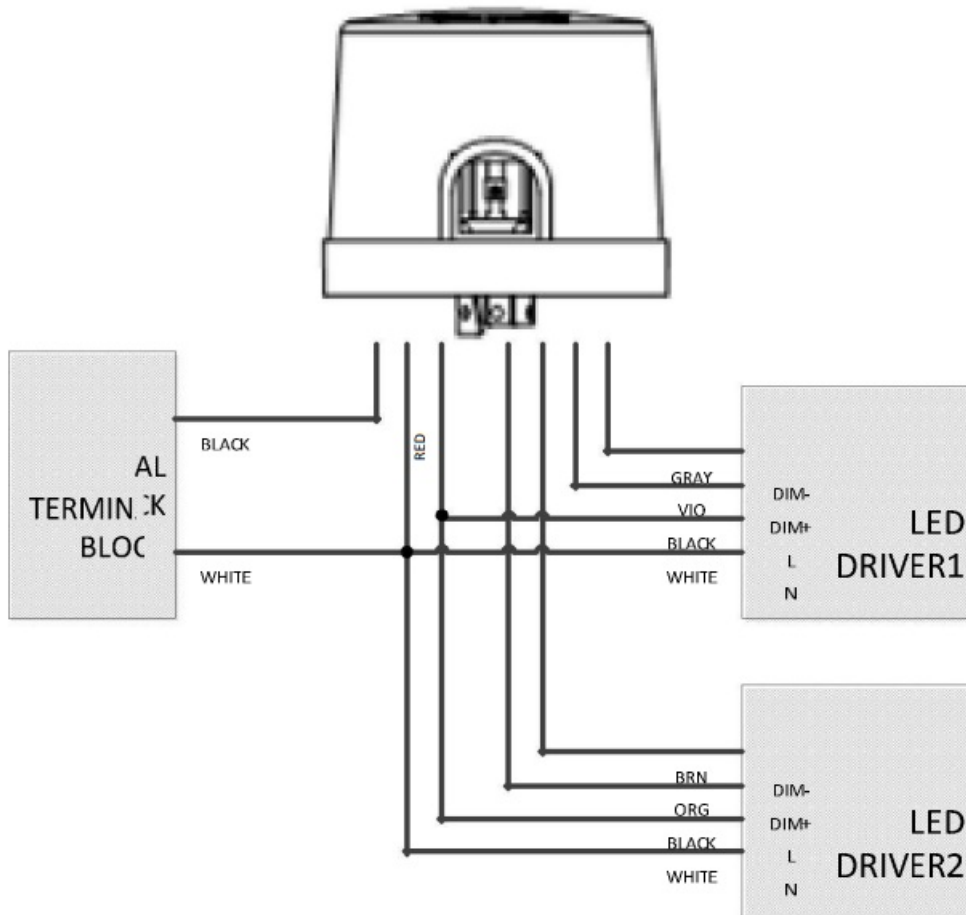

Figure 6: Example of the socket

Figure 7: Top view

Figure 8: front view

6.2 Typical Application

FCC Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following age 25 measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TVtechnician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

SAR Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment's normal use should be installed and operated with a minimum distance of 20cm between the radiator & your body.

Documents / Resources

**Specification of GPRS wireless
single light controller**

Version: XXXX wireless wireless single light controller specification_112
Edit: 2023-1

[NEMA GPRS Wireless Single Light Controller](#) [pdf] User Manual
WEMA10, 2AZNC-WEMA10, 2AZNCWEMA10, GPRS Wireless Single Light Controller

Manuals+,