OL-Z1D603D1-NBGTF-1

Zhaga Light Controller

User Manual

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Legal Notice

TRADEMARKS

CONTACT INFORMATION

ORing Industrial Networking Corp.
3F., NO.542-2, Jhongjheng Rd., Sindian District, New Taipei City 231, Taiwan, R.O.C.
Tel: + 886 2 2218 1066 // Fax: + 886 2 2218 1014
Website: www.oringnet.com

Technical Support: support@oringnet.com

Sales Contact: sales@oringnet.com (Headquarters) / sales@oring-networking.com.cn (China) / sales_us@oringnet.com (USA) / sales_eu@oringnet.com (EU)

Table of Content

1 OVERVIEW

1.1 Information on this Manual

This manual describes the procedure for operating of the following Zhaga Windows Utility tool

1.2 Product Description

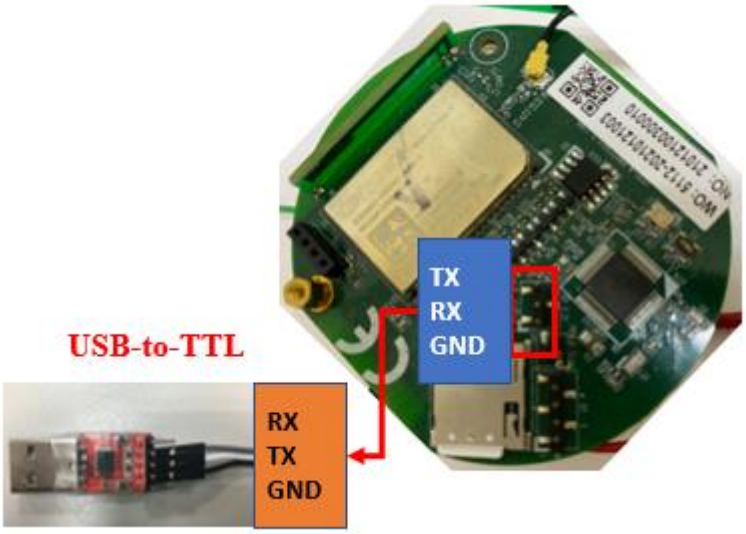
OL-Z-NB series is smart lighting series managed wireless controllers are designed for Smart Streetlight applications. Thanks to cellular-based, licensed-band LPWA communication technologies, they can use the advantages to operate securely and stable in large group being at the same time economic and energy saving.

It compliant with the Zhaga Book 18 guidelines. It incorporates the multifunctional control unit which implements the DALI2 protocol to communicate with the smart driver. It can read the electrical parameters from the street lamp.

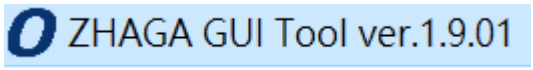
2 OPERATION

2.1 How to Start

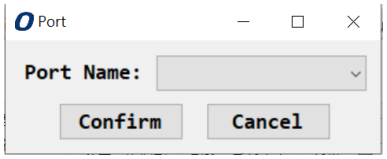
i. Plug in the USB-to-TTL Console to turn the device.



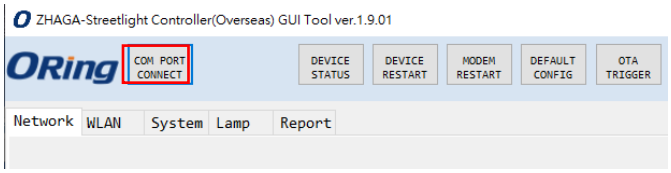
ii. Connect to your PC and use GUI tool to set up



iii. Choose COM Port

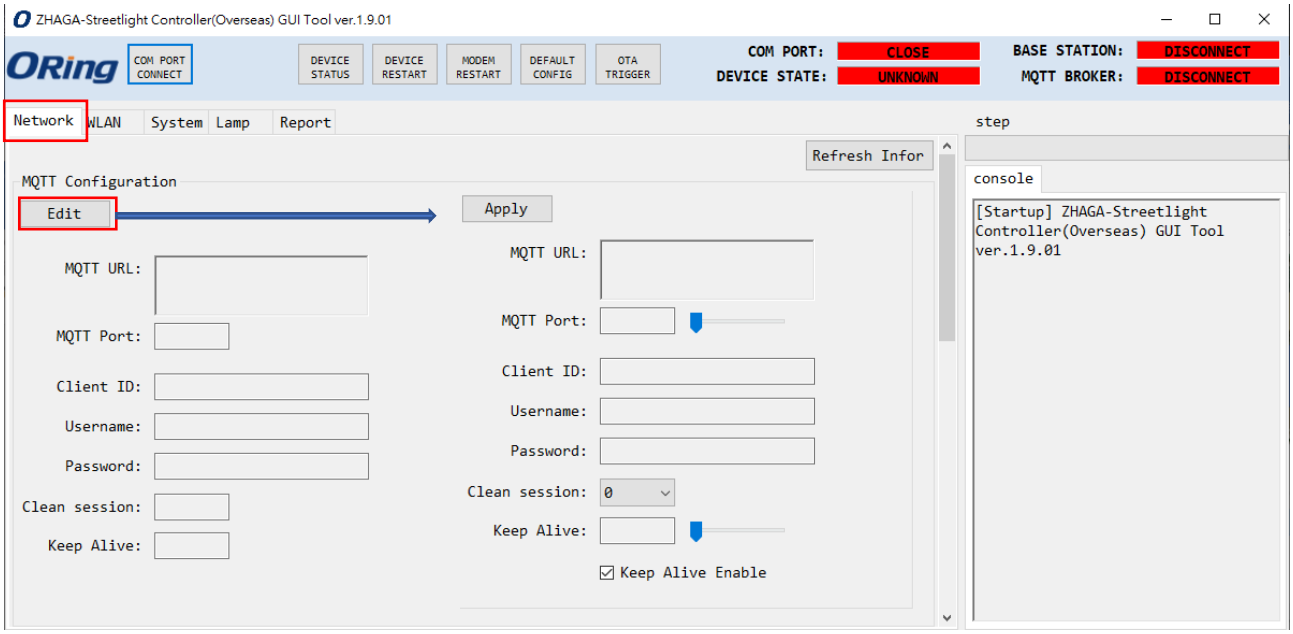


iv. Click the COM PORT CONNENT to connecting



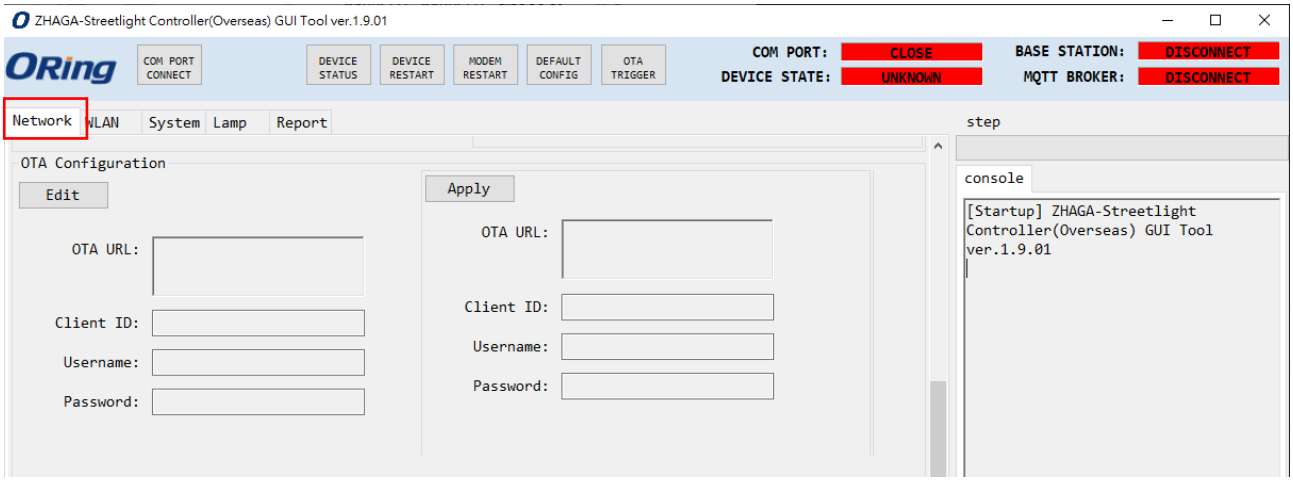
2.2 Network setting

i. MQTT Configuration setup.



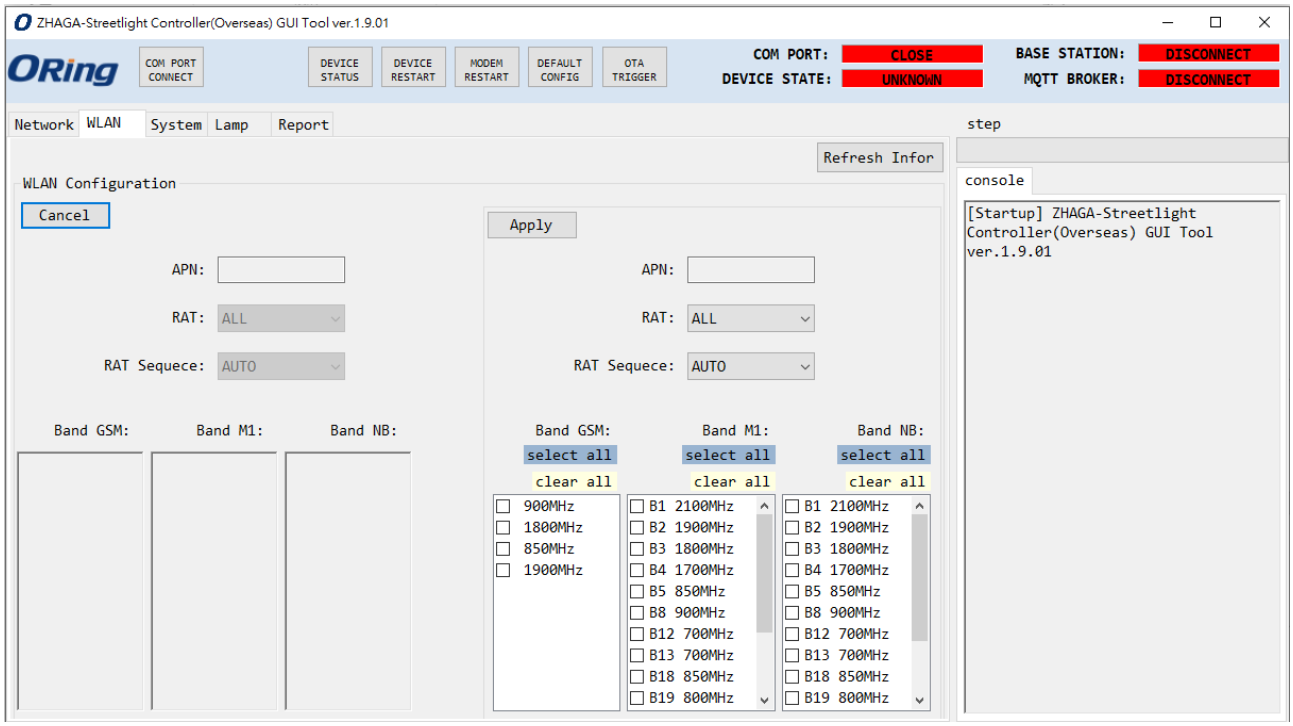
Setting	Description
MQTT URL	Enter the MQTT Server IP address for receiving the message.
MQTT Port	Enter the MQTT Server port number for receiving the message.
Client ID	Enter the Client ID.
Username	Enter the username for connecting MQTT Server.
Password	Enter the password for connecting MQTT Server.
Clean session	Continuous MQTT session (Follow the ORing streetlight controller MQTT API document)
Keep Alive	When MQTT Server does not receive the message from the specified time, it will be identified as disconnected. Note: When running simulation, the message may be delayed, but the delay will not exceed the [Keep alive].
Apply	Apply MQTT information into device

ii. OTA Configuration setup.



Setting	Description
OTA URL	Enter the OTA Server IP address for Firmware Over-The-Air
Client ID	Enter the Client ID.
Username	Enter the username for Firmware Over-The-Air
Password	Enter the password for Firmware Over-The-Air
Apply	Apply OTA information into device

2.3 WLAN setting

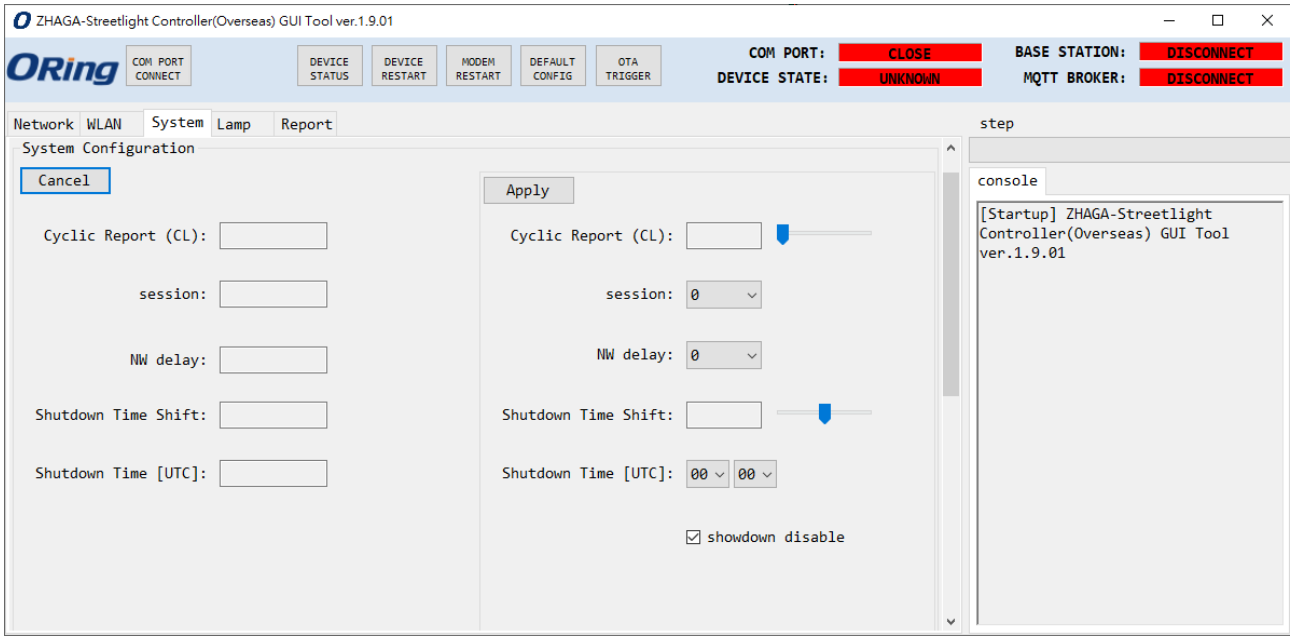


Setting	Description
APN	Enter APN
RAT	Select radio access technologies
RAT Sequence	Setup radio access technologies priority
Band GSM	Select the GSM Band
Band M1	Select the M1 Band
Band NB	Select the NB Band
Apply	Apply WLAN information into device

2.4 System setting

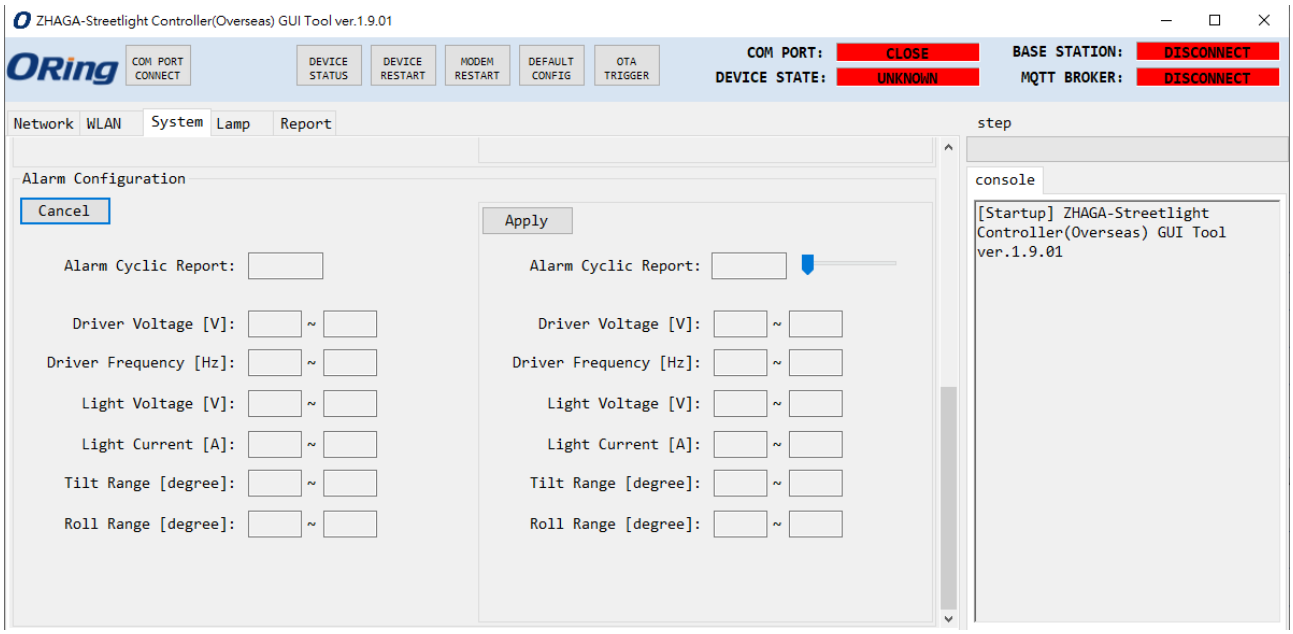
Follow the ORing streetlight controller MQTT API document

i. System configuration



Setting	Description
Cyclic Report(CL)	Setup device report time. Default 60 minutes
Session	Select session
NW delay	Use IMEI last number multiply nwdelay configuration to avoid lot of concurrent MQTT and SIM card log-in.
Shutdown Time shift	Time offset from sunrise at the specified location and date to perform software shutdown.
Shutdown Time[UTC]	Select Shutdown Time
Apply	Apply System information into device

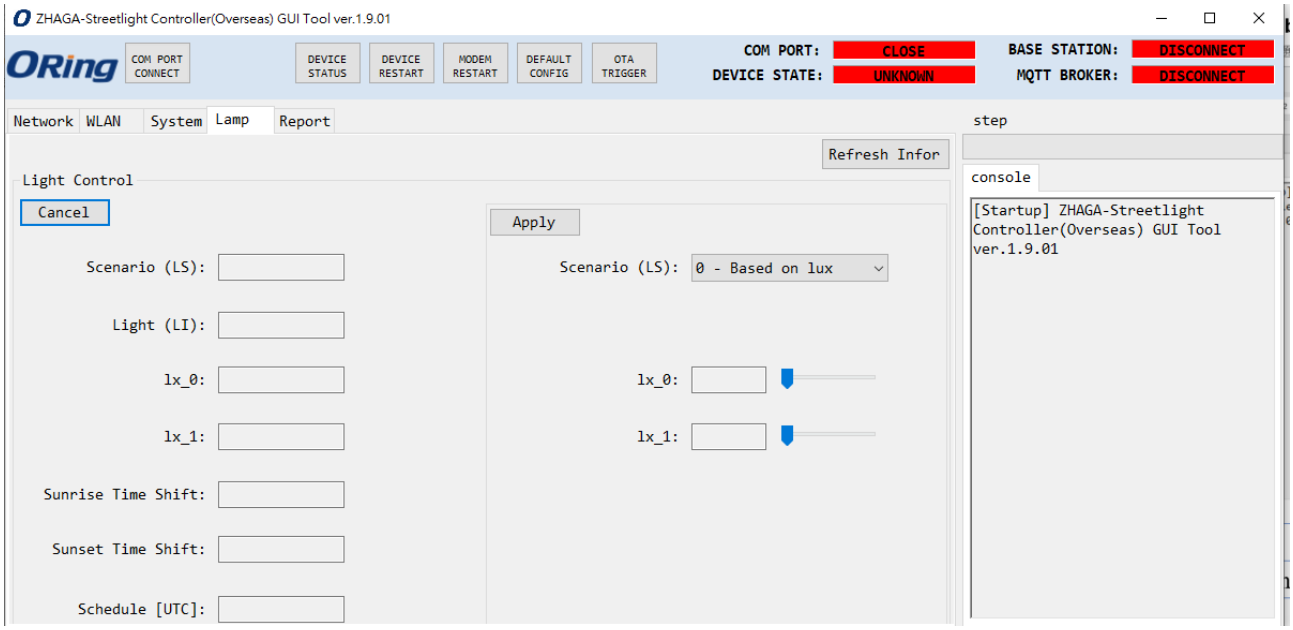
ii. Alarm configuration



Setting	Description
Alarm cyclic report	Setup cyclic report time for alarms. Default 60 minutes
Driver Voltage[V]	Setup the alarms range for driver voltage
Driver Frequency[HZ]	Setup the alarms range for driver frequency
Light Voltage[V]	Setup the alarms range for Light Voltage
Light Current[A]	Setup the alarms range for Light Current
Tilt Range [degree]	Setup the alarms for accelerometer tilt angle
Roll Range [degree]	Setup the alarms for accelerometer roll angle

2.5 Lamp setting

Follow the ORing streetlight controller MQTT API document



Setting	Description
Scenario (LS)	Select Lamp scenario 0- based on the sensor lux 1- Manually control 2- time of sunrise / sunset 3- Time of UTC
Light (LI)	Setup lighting percentage for scenario 1
Lx_0 **Lx_1**	Setup external light level at which the lamp turns on and off for scenario 0. x – 1(on) or 0 (off). lx_0 must bigger than lx_1.
Sunrise Time Shift **Sunset Time Shift**	Timers are valid for scenario 2. Time shift in minutes. The value can be negative or positive
Schedule [UTC]	Setup device light off time everyday for scenario 3

Technical Specifications

ORing Lighting Model	OL-Z SERIES
Connection Socket	
Type and Pin Define	Zhaga (Book 18)
Control Interface	
ON/OFF/Dimming	DALI2 (IEC 62386) compliant
Measured Parameters	V, A, W, Wh, Hz, PF
Network Interface	
Working Mode	NB-IoT / CAT M1 / 2G fallback (optional)
SIM Card Type	Nano SIM Card or Chip eSIM
Network Parameters	
NB-IoT	Frequency Band: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/B28/B66/B71/B85 max. Data Rate DL / UL: Cat.NB1 : 27 kbps / 63 kbps Cat.NB2 : 124 kbps / 158 kbps
Cat.M1	Frequency Band: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/B28/B66/B71/B85 max. Data Rate DL / UL: 300 kbps/ 1.1 Mbps
2G (optional)	Quad-band 850/900/1800/1900 MHz
Electrical Specification	
Input Voltage	24Vdc⎓0.6A
Power consumption	Maximum 9.3W/24V@GSM, 2.2W/24V@CatM1, 1W/24V@NB
Physical Characteristic	
Dimensions	Φ80 x 70mm
Weight(g)	100g
IP Ratings	IP66
IK Ratings	IK08
Protection / Certification	
EMC (Electromagnetic Compatibility)	EN 301 489-1,EN 301 489-52 EN 61000-3-2,EN 61000-3-3 EN55032/35
ESD (Electro Static Discharge)	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
RF (radio frequency)	EN 301 511 2G EN 301 908-1 (NB IOT, Cat M1)

	EN 303 413
SAR (Specific Absorption Rating)	EN 62311
SFT	EN 62368-1, EN 61347-1, EN 61347-2-11 EN 60950-22
Environmental	
Storage Temperature	-40℃ to +80℃
Operating Temperature	-30℃ to +70℃
Operating Humidity	0 to 95%
Additional Sensor Support Feature	
Accelerometer	Static g-force measurement for tilt/roll angle
Light Sensor	Detection Range: 0.001 lx to 100k lx
Warranty	5 Years*