

## SMART POLE

QP-SPY203-TA



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### QP-SPY203-TA

- SMART LIGHTING
- WEATHERSTATION
- EMERGENCY CALL
- BROADCASTING SPEAKER
- ADVERTISING SPOTLIGHT
- HD CAMERAS
- WIRELESS AP WIFI



## → FUNCTIONS OF QUANTUM POWER SMART POLE SYSTEM



**LED DISPLAY**



**HD CAMERAS**



**EMERGENCY CALL**



**WEATHERSTATION**



**SMART GARBAGE  
CLASSIFICATION**



**WIRELESS (AP/WIFI)**



**SMART LIGHTING**



**BROADCASTING  
SPEAKER**



**CHARGING STATION**



**SMART MANHOLE  
COVER**

Central Monitoring



## ➔ **FUNCTIONS OF QUANTUM POWER SMART POLE SYSTEM**

### **SMART POLE & SMART CITY**

- 1. SMART CITY CONTROL SYSTEM CLOUD-BASED STRUCTURE THAT SUPPORTS HIGH CONCURRENT DATA ACCESS .**
- 2. FAST AND SEAMLESS ACCESS TO THIRD-PARTY SYSTEMS, SUCH AS SCCS SMART CITY SYSTEM ACCESS .**
- 3. DISTRIBUTED DEPLOYMENT SYSTEM WHICH CAN EXPAND RTU CAPACITY EASILY .**
- 4. A VARIETY OF SYSTEM SECURITY PROTECTION STRATEGIES TO ENSURE THE SOFTWARE SECURITY AND STABLE OPERATION .**
- 5. BOOT SELF-RUNNING SERVICE SUPPORT .**
- 6. SUPPORT A VARIETY OF DATABASE CLUSTERS AND LARGE DATABASES, AUTOMATIC DATA BACKUP .**
- 7. CLOUD SERVICE TECHNICAL SUPPORT AND MAINTENANCE .**

## → SCCS STRUCTURE

Smart lighting cloud control system (SCCS) is a web-based solution with advanced communication and easy integration with existing installations, can monitor individual luminaires up to millions of points of light. It facilitates reduction in power consumption CO<sub>2</sub> emission and light pollution and moreover an optimized maintenance planning.

### • THE SYSTEM FEATURES

- Fault alarms
- Easy installation
- Lamp and line status
- Power quality metering
- Remote monitoring (turn on/off, dimming, data query, etc)

### • COST SAVINGS

#### ENERGY AND COST SAVINGS RESULT FROM:

- Dimming at off-peak traffic hours
- Reduced maintenance costs
- Burn hour optimization
- Accurate switch ON/OFF

### • CO<sub>2</sub> REDUCTIONS

#### REDUCING THE COSTS AND CO<sub>2</sub> EMISSIONS OF STREETLIGHTS IS A NECESSARY CHALLENGE FOR MOST UTILITIES AND DISTRIBUTION COMPANIES WHO FACE:

- Rapidly increased electricity costs
- CO<sub>2</sub> reduction requirements
- Growing electricity demands

### • FUNCTIONS

- Cloud-based structure that supports high concurrent data access
- Distributed deployment system which can expand RTU capacity easily
- Fast and seamless access to third-party systems, such as smart city system access
- A variety of system security protection strategies to ensure the software security and stable operation
- Support a variety of large databases and database clusters, automatic data backup
- 24/7 self-running service support
- Cloud service technical support and maintenance

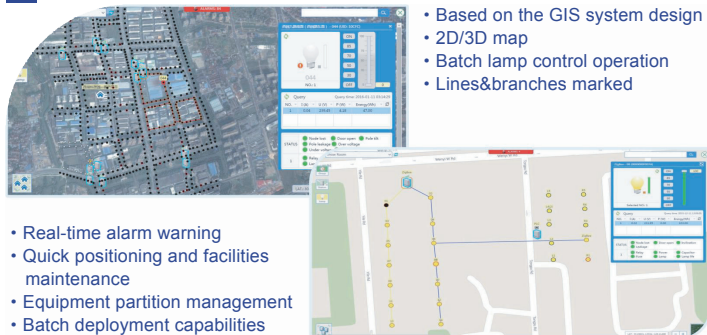
### → FUNCTIONS OF QUANTUM POWER SMART POLE SYSTEM

- ✓ Distributed deployment ,extendable RTU space
- ✓ Keep the entire street lighting system in view
- ✓ Easy to integrate with the third party system
- ✓ Support multiple communication protocols
- ✓ Convenient management entry
- ✓ Cloud based system
- ✓ Elegant design

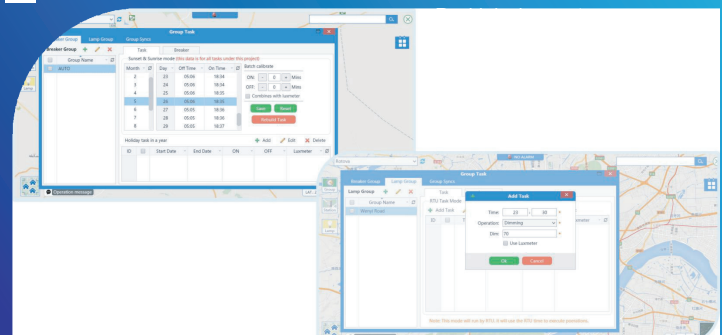
Login of Nassli lighting  
smart pole operating system

Data of smart pole

### GEOGRAPHIC INFORMATION SYSTEM



### Task Strategy





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www.quantum-power.at

# SMART POLE

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### ALARM SYSTEM

**Power Failure**

Level: **Medium**

☒ Show alarm status on map ☒ Send alarm message via SMS ☒ Send alarm message via email

**Alarm Note**

**Power failure alarm configurable options:**

- Automatically detect the power status by LCU, alarm when power failures happen.
- Please click "Add config" button to make the configuration.
- The SMS and email will be sent by using the mobile number and email address of user account.
- The icon on the map will be marked to red color after enable the "Show alarm status on map" option.

### ENERGY REPORT

- Real-time energy consumption monitoring
- Energy saving rate, light rate statistics
- Electricity cost reference

**THE USE OF ELECTRICITY**

153248.464kWh 32457.032kWh 1207.843kWh

DAYS OF THIS MONTH

STATISTICS OF THIS MONTH

- Date/Month/Year data statistics
- DataExport
- Equipment status statistics

- Data records saved for more than 30 years

### ASSETS MANAGEMENT

- Fast batch device information input
- Automatically UID data collection
- Lat. & Long. Data import by batch
- Compatibility with multiple surveillance devices
- Auto-equipments commissioning

**Easy deployment**

### The Concentrator Log

**STREET LIGHT**

Device parameters & logs

ID	Station	RTU	Status	Signalized	Light%	Sent	Received	Failure	Time
1	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
2	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
3	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
4	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
5	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
6	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00
7	10000000000000000000	10000000000000000000	ON	ON	100%	100%	100%	100%	2018-07-18 12:00:00



## → CORE EQUIPMENT

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### WEATHERSTATION

Collect and send data to monitoring center by concentrator, such as weather, temperature, humidity, lighting, PM2.5, noise, rainfall, wind speed, etc.

### SMART LIGHTING CONTROLLING SYSTEM

Remotely control (ON/OFF, dimming, data collecting, alarm etc.) in real time by computer, mobile phone, PC, PAD, support communication modes like NB-IoT, LoRa, Zigbee etc.

### BROADCASTING SPEAKER

Upload a radio audio file or post emergency information from the control center, so that people nearby can understand what happened

### HD CAMERAS

Monitor traffic, security lighting, public equipments through cameras & surveillance system on the pole.

### ADVERTISING SPOTLIGHT

Create your unique advertisement, enhance the image and attract more people. The investment area projected is larger, more prominent, more environmentally friendly and more saving.

### WIRELESS AP (WIFI)

Provide WiFi hotspot for different distances.



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### WEATHERSTATION

Shell material: ASA engineering plastics

Response time: less than 30 seconds

Storage conditions: -40~60°

Standard wiring length: 3 meters

The farthest lead length: RS485 1000 meters

Protection level: IP65

Stability: less than 1% during the sensor life cycle

Working environment: temperature -30°70°, working humidity: 0-100%

Warm-up time: 30 seconds (SO<sub>2</sub>\NO<sub>2</sub>\CO\O<sub>3</sub> 3 hours)

Working current: DC12V≤40mA(HCD6815)-DC12V≤125mA(HCD6820)

Power consumption: DC12V≤0.5W(HCD6815); DC12V≤1.5W(HCD6820)

Output: RS485, MODBUS communication protocol

Life: Except for SO<sub>2</sub>\NO<sub>2</sub>\CO\O<sub>3</sub>\P M2.5\PM10

(1 year in normal environment, high pollution environment is not guaranteed),  
the life span is not less than 3 years.

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## → TECHNICAL DATA

Measure item	Principle	Range	Resolution	Range
Atmospheric temperature	Energy gap method	-40-60 °C	0.01 °C	±0.3 °C (V=25 °C)
Atmospheric humidity	Capacitance method	0-100%RH	0.01%	±3%RH (10%-80%,No condensation)
Atmospheric pressure	Piezoresistive	500-1100hPa	±0.5hPa (0-30 °C) (950-1100hPa)	0.1hPa
Wind speed	Ultrasonic	0-60m/s	± (0.3+0.03V) M/S; V≤30M/S ± (0.3+0.05V) M/S; V≥30M/S	0.01m/s
Wind direction	Ultrasonic	0-359.9°	±3° (When wind speed = 10m/ S)	0.1°
PM2.5	Laser way	0-1000µg/m³	1µg/m³	±10% (<500µg)
PM10	Laser way	0-1000µg/m³	1µg/m³	±10% (<500µg)
Noise	Electret capacitance	30-130dB	0.1dB	±1.5dB
<b>Power consumption</b>	< 1W@12V			
<b>Ingress Protection</b>	IP65			
<b>Main materia</b>	ASA+engineering plastics			
<b>Mounting frame</b>	1.5m, 3m Pole, 1.8m tripod			

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## I. PRODUCT INTRODUCTION:

IP sound column system networking through Internet/WAN. Changing the traditional LAN networking mode, the audio import is convenient and fast, and the functions of high-definition video, two-way intercom, audio and video recording, electronic map display, and remote control of mobile phone APP for broadcasting are managed by different levels of authority. It is suitable for shopping malls, supermarkets, school classrooms, parks, outdoor homes, village broadcasts, companies and enterprises, unattended parking lots and other venues.

## II. PRODUCT FEATURES:

- Support LAN, Internet and 4G hybrid networking (optional)
- Real-time broadcast, scheduled broadcast and file broadcast.
- Text-to-speech broadcasting and recording broadcasting
- Time-sharing broadcast and alarm broadcast
- Support video linkage (optional)
- IO external contact broadcasting is supported
- Support linkage output
- High quality loudspeaker
- Spray-painted aluminum alloy shell, car paint process, no rust and more waterproof.
- IP network architecture, spanning network segments and routes
- Monitoring function (camera can be installed)
- Broadcast call function
- APP remote control, broadcasting

### III. TECHNICAL PARAMETERS:

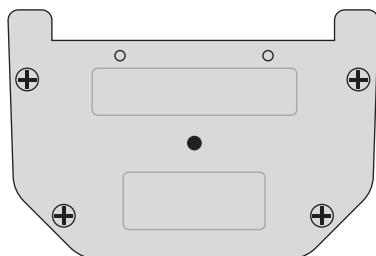
<b>Processor</b>	High performance embedded SOC processor
<b>operating system</b>	Embedded LINUX operating system
<b>rated power</b>	30W
<b>video compression</b>	H.264/30FPS
<b>audio input</b>	Built-in high sensitivity omnidirectional microphone
<b>audio output</b>	Built-in speaker+1×LINE OUT
<b>Compression standard</b>	G.711 G.713 GSM PCM
<b>Compression rate</b>	32KBPS/8KBPS/64KBPS
<b>acoustic fidelity</b>	Professional echo cancellation and noise suppression
<b>ethernet</b>	10M/100M adaptive
<b>network protocol</b>	TCP/IP
<b>Wangkou</b>	10/100M adaptive Ethernet port
<b>Linkage interface</b>	3. DNP
<b>Power Supply</b>	DC 12V 2A
<b>power consumption</b>	≤30W
<b>Appearance size</b>	380mm*110mm*100mm
<b>Working temperature</b>	30°C~70°C

### IV. DRAINAGE DESIGN:

#### Drainage tray design in the bottom

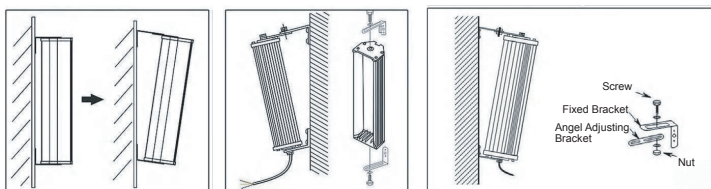
Avoid internal water accumulation,  
increase the service lifespan effectively

Drain hole



### V. INSTALLATION METHOD:

1. Install two  $\phi 8$ MM screws in an appropriate position, install the bracket and fix the sound column according to the figure below. Extend the upper bracket with the attached accessories if necessary, so as to adjust the depression Angle of the sound column;
2. Connect the audio cable;
3. Adjust the Angle of the sound column and check if the installation is firm and reliable.



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### HD CAMERAS

The highest resolution is 1920×1080@25fps At this resolution, real-time images can be output.

Support backlight compensation, strong light suppression,

3D digital noise reduction, digital wide dynamic, and adapt to different monitoring environments.

Support white light infrared double complementary light, with infrared light up to 30m and white light up to 30m.

Support TE-TDD/LTE-FDD4G wireless network transmission support fluorite platform access.

Comply with IP66 dustproof and waterproof design, with high reliability.

Support up to 256 GB Micro SD/Micro SD HC/Micro SDXC card local storage.

Support two-way voice intercom (only supported for - T model).

1 built-in microphone, HD pickup: 1 built-in speaker.



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### ADVERTISING SPOTLIGHT

Exquisite appearance design, the lamp body is made of aviation grade extruded aluminum profile, and the surface is anodized and sandblasted to ensure the stable and reliable product quality.

The lamp light source adopts imported OSRAM lamp beads, the quality of international brand products is more guaranteed, and the heat dissipation adopts honeycomb air cooling mode, which is more safe and reliable.

The rotating mechanism adopts Taiwan high-performance DC stepping motor and high-precision gear transmission mechanism, which makes the picture conversion more stable and smooth. it is easy to install, and the pattern can be rotated

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## → TECHNICAL PARAMETERS:

<b>Model</b>	35w,45w,55w,65w,85w, 100w
<b>luminous Flux`</b>	3500lm/4500lm/5500lm/8500lm/10000lm
<b>CCT</b>	8000k-8500k
<b>CRI</b>	85Ra
<b>Forward Voltage</b>	24-36V
<b>audio output</b>	Built-in speaker+1×LINE OUT
<b>Compression standard</b>	G.711 G.713 GSM PCM
<b>Operating Temp</b>	-40 ~ 60°C
<b>Lighting Resource</b>	High power LED
<b>Adjustable Angle</b>	0-180°
<b>Light source</b>	>30,000hurs
<b>Projection Distance</b>	1-8 metters
<b>Lens size</b>	37mm
<b>Power Supply</b>	AC to Dc Cunstant current
<b>Image Lens</b>	High defintion optical lens 4
<b>Cooling method</b>	Aviation cold prudteraluminum
<b>Weight</b>	1.6-2.6kg



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### PRODUCT DESCRIPTION:

The HX-CPE830 is a 300Mbps outdoor remote wireless AP/CPE that uses a high-performance operational-level Qualcomm chip Atheros9531 and a built-in 14dBi high-gain omnidirectional antenna to receive and transmit distances up to 2,000 meters.

This product supports bridging and required WAN functions, enabling long-distance wireless access, in addition, internet work access mode is PPPOE, dialing, static IP and DHCP functions, suitable for network working and wireless coverage.

HX-CPE830 uses dust-proof and waterproof shell, which can work in various outdoor environments, and also supports POE power supply and remote reset functions for convenient management.

HX-CPE830 uses dust-proof and waterproof shell, which can work in various outdoor environments, and also supports POE power supply and remote reset functions for convenient management.



Support 64 users access, 40 + users at the same time, meet the small and medium-sized squares / parks / scenic spots / villages, etc WiFi coverage

Designed for outdoor wireless transmission with a transmission distance > 2km

It can be managed remotely through the cloud platform to facilitate engineering maintenance and management, and reduce the cost of labor time and material resources

### Hardware process

<b>Model</b>	HX-CPE830
<b>The main chip</b>	Qualcomm QCA9531
<b>Memory</b>	64MB DDR2 RAM
<b>Flash</b>	16MB
<b>Device interface</b>	Double 10 / 100 Mbps adaptive wired network interfaces
	One reset button to restore the default Settings
	One DC power interface for 12V DC local power supply
<b>Antenna</b>	Antenna gain: 2 * 14 dBi omnidirectional antenna
<b>Power adapter</b>	24V POE DV 12V
<b>Power dissipation</b>	<10W
<b>LED lamp</b>	POWER light*1; WiFi light*1; WAN portal*1; LAN portal*1 Signal strength lights*1: DS1, DS2, DS3, DS4
<b>size</b>	257 * 87 * 38mm (long * wide * high)

### Radio frequency characteristics

<b>Transmission rate</b>	300Mbps		
<b>Modulation mode</b>	OFDM = BPSK, QPSK, 16-QAM, 64-QAM DSSS = DBPSK, DQPSK, CCK		
<b>Characteristics</b>	802.11b/g/n 2.412GHz-2.484GHz Korea, Japan, ETSI FCC communication channel is available		
<b>Receiving sensitivity</b>	802.11n(2.4GHz)	802.11g	802.11b
	-90dBm @ MCS0	- 90dBm @ 6Mbps	- 95dBm @ 1Mbps
	-72dBm @ MCS7	- 72dBm @ 54Mbps	- 90dBm @ 11Mbps
	-90dBm @ MCS8		
	-68dBm @ MCS15		
<b>Launch power</b>	802.11n(2.4GHz)(±1.5dBm)	802.11g(±1.5dBm)	802.11b(±1.5dBm)
	28dBm@MCS0~2/MCS8~10	28dBm @ 6~24Mbps	28dBm@1~11Mbps
	28dBm@MCS3/MCS11	27dBm @ 36Mbps	
	27dBm@MCS4/MCS12	27dBm @ 48Mbps	
	27dBm@MCS5/MCS13	26dBm @ 54Mbps	
	26dBm@MCS6/MCS14		
	26dBm@MCS7/MCS15		

### Software features

<b>Work pattern</b>	Client mode / AP mode
<b>Modulation mode</b>	IEEE 802.3(Ethernet)
	IEEE 8023u(Fast Ethernet)
	IEEE 802.11b/g/n(2.4G WLAN)
<b>Wireless setting</b>	Intelligent channel
	Distance control of 802.1 x ACK time output
	VAP (virtual AP), with up to 4 configurations
	BSSID
<b>Wireless safety</b>	WEP security mechanism supports 64/128/152 -bit WEP security password
	WPA / WPA 2 security mechanism (WPA-PSK using TKIP or AES)
	WPA / WPA 2 security mechanism (WPA-EAP using TKIP)
	Hide the SSID, the security mechanism
<b>System Settings</b>	WEB Configuration (HTTP / Remote Landing)
<b>Software upgrading</b>	The WEB Web page or the TFTP to upgrade the software
<b>User management</b>	Users and passwords can be configured
<b>System monitoring</b>	Device and network status statistics
<b>Daily record</b>	Provide local logs, host logs, and file transfer logs
<b>Restore Settings</b>	The production default settings can be restored
<b>Backup function</b>	Backup the system configuration to restore various user configurations when needed
<b>Service environment</b>	Work temperature: -40 ℃ ~+55 ℃
	Storage temperature: -40 ℃ ~+70 ℃
	Work humidity: 5%~ 95%RH does not condense
	Storage humidity: 5%~ 95%RH does not condense

## → EMERGENCY CALL SYSTEM



While clicking the Emergency Call, the RGB Status light will be started to play a effect of deterrent and guidance to the location of law enforcement personnel.[www.nassli-led.com.sa](http://www.nassli-led.com.sa)

### I. PRODUCT FEATURES:

- 1.High-definition camera, active real-time monitoring;
- 2.Full duplex voice intercom, no echo howling;
- 3.Built-in high sensitivity microphone, 5 meters long-distance intercom;
- 4.Adopting dynamic noise reduction algorithm, it can pick up sound clearly in high noise environment;
- 5.Advanced digital echo cancellation technology can completely eliminate the echo and prevent howling;
- 6.The design of the surrounding waterproof groove is integrated, and it is weatherproof outdoors;
- 7.Design of lightning protection and automatic power supply recovery device;
- 8.Waterproof metal button, the button is always on, it can be clearly seen outdoors and at night, and it has 100,000 service lives, which can resist impact and shock.



Quantum Power GmbH

[www.quantum-power.at](http://www.quantum-power.at)

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## II. PRODUCT PARAMETERS:

**Dimensions** : 207\*126\*39.5 mm

**Power supply** : 12v 2A

**Power consumption** : ≤ 8W

**Network interface** : standard RJ45

**Protocol supported** : TCP/IP DHCP

**Network communication rate** : 10/100Mbps

**Interface** : power input, 1 audio output, 3 short-circuit inputs,  
2 output interfaces, 1 RJ45.

**Audio format** : MP3/WAV

**Audio sampling rate** : 8k ~ 48 khz

**Audio code stream** : 22.050KHz~44.1KHz

**16bit. Code rate** : 16kbps-4000kbps

**Audio coding** : G.711, G.713 PCM

**Signal to noise ratio** : >70dB

**Built-in speaker** : 4 Euro 3W

**Built-in MIC** : -50dB

**Keys** : high-strength metal anti-damage key

**Camera** : 720P COMS digital camera

**Video resolution** : 720P

**Lighting compensation** : full-automatic night lamp compensation

**Button** : high-strength metal anti-damage button

**Video saving format** : MP4

**Working temperature** : -30℃~+70℃

**Protection grade** : IP65

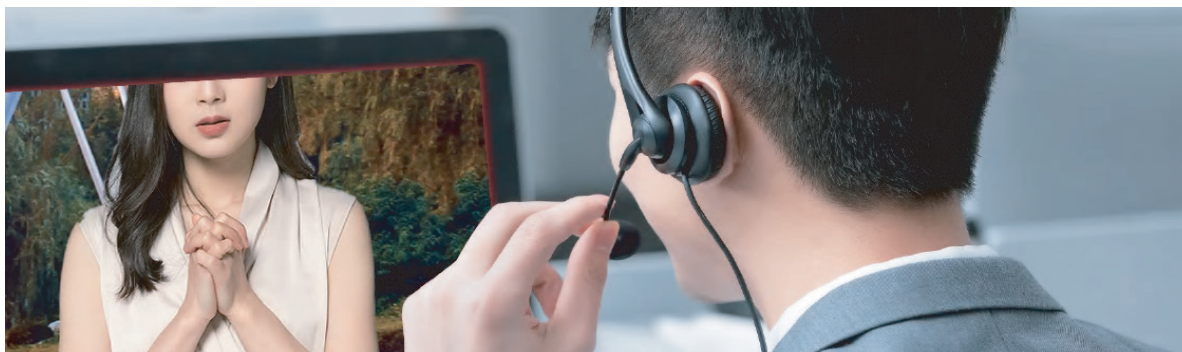
## III. SUPPORTED FUNCTIONS:

1. All-digital audio-video intercom, using TCP/IP network transmission technology, compresses audio-video signals and transmits them in LAN/WAN in the form of data packets to realize pure digital bidirectional audio transmission or single bidirectional audio-video transmission.
2. The integrated system scheme configuration consists of system server software, multi-screen software, telephone agent software and integrated IP network intercom terminal.
3. Multi-level management structure: The system has a multi-level management structure, which can unify the networking of multiple duty rooms at different levels; The system can be accessed by the other party with Ethernet, which supports cross-network segment and cross-routing, and can be connected to the Internet.
4. Support high-definition image resolution up to 1280\*720, and adapt to the network bit stream technology.
5. Support 1500 terminals;
6. Digital audio and video recording: The server software records and videos the call process, and can record the call and call time.
7. Unlocking function: The system supports two electric locks for each terminal.
8. Broadcasting function: The seating software can broadcast and shout to its intercom terminals in the whole area, and the monitoring center can remotely patrol all monitoring outlets in the city. When suspicious signs are found, it can remotely shout to criminals, and at the same time, it can remotely turn on auxiliary equipment such as police whistle to deter criminals;
9. Monitoring: It can monitor the field situation around the intercom terminal; When monitoring, the intercom terminal can be unaware.
10. Remote automatic upgrade: the firmware of the equipment can be automatically upgraded through the system software.
11. Linkage control: TCP instruction, UDP instruction, RS485 interface and switch interface are provided.
12. Support alarm map display; When calling any alarm help point, the local voice prompts and flashes on the map.
13. Support graded and divided authority management;



## → EMERGENCY CALL SYSTEM-VIDEO INTERCOM PAGING CONSOLE

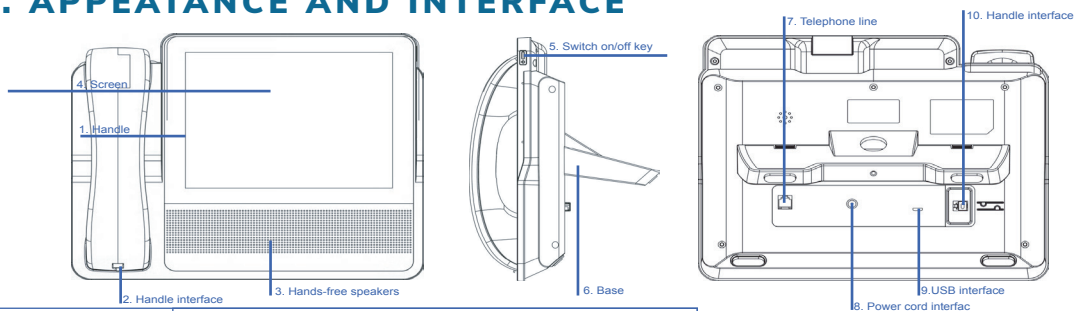
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### I. PRODUCT OVERVIEW

- Model name: DH-Z19G1/DH-P19G1
- Scope of application: This product is suitable for management center, residential property parking lot duty room, etc.
- Type and specification: eight-inch horizontal screen display.
- Use environment: put it indoors at normal temperature and humidity.
- Unpacking configuration: 1 power adapter, 1 base, 1 handle, 1 handle wire, manual and warranty card.

### II. APPEATANCE AND INTERFACE

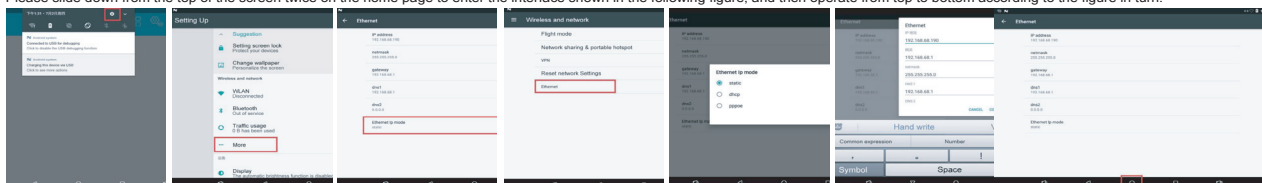


1. Handle	Off-hook and call
2. Handle interface	Call handle interface, please use the matching handle to ensure the call quality.
3. Hands-free speakers	Used in hands-free telephone conversation.
4. Screen	Dial telephone and other operating areas
5. Switch on/off key	Intelligent cloud seat management machine
6. Base	Support the phone to place the desktop.
7. Telephone line interface	RJ111 telephone line interfaces are used to connect PSTN telephone lines.
8. Power cord interface	12V power input. As the phone requires high power supply, please use the original power supply for charging, otherwise it will affect the normal telephone voice effect.
9. USB interface	Can be connected to computers and other devices.
10. Handle interface	Call handle interface, please use the matching handle to ensure the call quality.

Technical Specifications And Parameters	
Parameter	Characteristic Description
Monitor	8 inch 1024*768
Touch screen	G+G capacitive screen 5-point touch
WIFI	2.4G WIFI network
Usb interface	Micro usb OTG 2.0
Handle interface	RJ9 standard

### III. EQUIPMENT NETWORK CONFIGURATION

Please slide down from the top of the screen twice on the home page to enter the interface shown in the following figure, and then operate from top to bottom according to the figure in turn.



## → SMART GATEWAY

### I. PRODUCT BRIEF

BS-IoT-8QM-LC is the third-generation smart street light gateway independently developed and produced by Nassli. It is a new type of outdoor remote center specially developed and manufactured to meet the needs of smart end users for remote intelligent control of equipment. The control equipment is upgraded and improved on the basis of the previous generation smart gateway. The gateway has a built-in single-lamp controller with 4Gcat.1 communication, stable signal, 99.9% online rate, high integration, reserved multi-function interface, can be connected to More sensors and devices can use 2G/3G/4G network, Ethernet network and WIFI network to provide users with long-distance big data transmission function, connect to the cloud, control power supply output, strong edge computing capability, reserved interface, for two Secondary development, more powerful functions provide stable support. This product integrates a 2.4GHz IEEE802.11b/g/nWI-FI transceiver and is equipped with MediaTek MT7621AT's dual-core 880MHz CPU, 4GBEMMC flash memory, 4 high-speed Ethernet ports EthernetPHY), HNAT memory accelerator, and multiple general purpose I/O With Linux (Ubuntu14.04) as the software support platform, it also provides 1\*RS485 interface, 8, Ethernet LANs, 1 Ethernet WAN and 2 WIFI interfaces, 2 Gigabit fiber ports, 1 AC220V output, 2 DC12V/3A output, 1 channel DIM output, can be connected to a variety of Ethernet devices, serial devices, WIFI devices, etc. at the same time, to achieve transparent data transmission and routing functions. The design of BS-IoT-8QM-LC fully considers versatility and stability. Based on the technical architecture design of the Internet of Things, it can meet the data collection and intelligent control of smart terminal equipment, and at the same time has a certain degree of scalability, which is convenient for existing hardware. Implement new device access



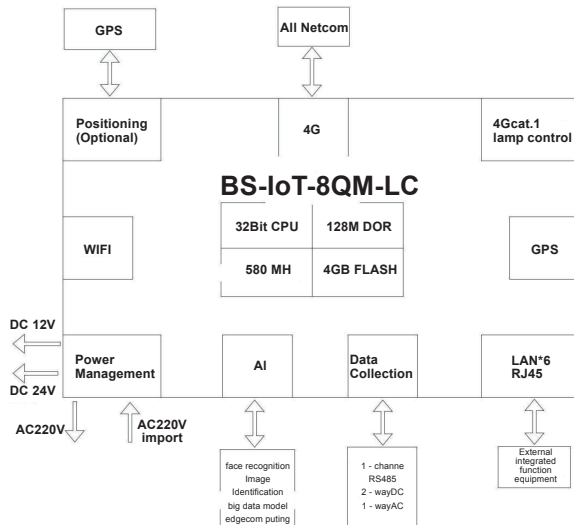
### → SMART GATEWAY

## II. PRODUCT FUNCTION

Built-in 4Gcat.1 single lamp controller, the equipment online rate is as high as 99.99%, with great stability and reliability

- Support WIFI, 4G, Gigabit Ethernet port, Gigabit fiber port to connect to Ethernet in various ways.
- Equipped with 2 optical fiber interfaces, with two-layer networking capability, suitable for ring and interactive chain networking scenarios. In the case of insufficient network ports, the number of network ports can be increased by adding switching communication components.
- Support three Netcoms, compatible with 2G/3G/4G networks of China Telecom, China Mobile and China Unicom.
- Support Microsim card, adopt anti-drop mechanism.
- Wired and wireless backup each other to ensure normal and stable data transmission, intelligently switch network backup, store data offline when the network is disconnected, and resume data transmission after the network is restored.
- Powerful WIFI function, support AP, STA, Repeater mode to switch freely.
- Rich protocols, easy to connect, transparent data transmission, MODBUS RTU to TCP/IP, MQTT. Support active polling of MODBUS devices in different address segments, making the operation easier.
- Using industrial-grade high-speed 4G wireless communication module, equipped with 32-bit high-performance processor, the information collected by the front end is more timely and accurate.
- Industrial design, aluminum alloy shell, in the face of various outdoor environments, industrial environments and strong interference, it can work stably 7X24 hours without interruption.

## III. PRODUCT ARCHITECTURE



Product parameters		
Specification	Parameters	Remark
Mode	BS-IoT-8QM-LC	Gateway (Smart Light Pole)
Single light controller	4Gcat.1	Built-in single light controller
Sensor	Temperature sensor, humidity sensor	Built-in
Network format	1 WAN port	10/100/1000 adaptive
	4G	4G/3G/2G full Netcom
	2-way fiber port	Support ring network
Power input	Scope	110~265V/30A
Waterproof level	IP65	IP65
Size	L×W×H(mm)	375mm*113mm*81mm
	Temperature	Storage temperature -40~85 Working temperature -25~70
4G	Working frequency	FDD LTE: B1/B3 TDD LTE: B38/B39/B40/B41 TDSCDMA: B34/B39 CDMA2000 1x/EVDO: BC0 GSM: 900/1800MHz
	Transmission rate	LTE-FDD: Max 100Mbps(DL) Max 50Mbps(UL) LTE-TDD: Max 61Mbps(DL) Max 18Mbps(UL) SCDMA-TD: Max 4.2Mbps(DL) Max 2.2Mbps(UL) CDMA: Max 5.4Mbps(DL) Max 14.7Mbps(UL) GPRS: Max 85.6Kbps(DL) Max 85.6Kbps(UL)
	Transmit power	FDD LTE: 23dbm±2db TDD LTE: 23dbm±2db TDSCDMA: 24dbm +1/-3db GSM 900Mhz: 33dbm±2dbm GSM 1800Mhz: 30dbm±2dbm
	Receive sensitivity	FDD B1: -97dBm(20M) FDD B3: -96dBm(20M) TDD B38: -94dBm(20M) TDD B39: -94dBm(20M) TDD B40: -94dBm(20M) TDD B41: -93.5dBm(20M) TDSCDMA B34: -110dbmTDSCDMAB39:-110dbm CDMAB39:-108dbmGSM900: -110dBmGSM1800:-109dBm
WIFI	Frequency band	Support IEEE802.11b/g/n
	Bandwidth	Up to 300Mbps
	Power	20dbm
System	CPU	Marvell88F3720
	RAM	1GB
	FLASH	4GB EMMC