



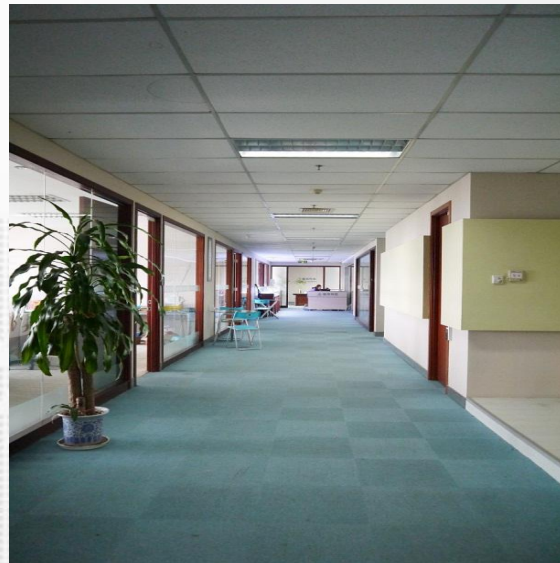
Intelligent Lighting ZigBee Solution

Shanghai Shuncom Smart Technology Co.,Ltd

Enterprise introduction

Shuncom is Zigbee Alliance Member and governing unit of both China Smart Home Industry Alliance (CSHIA) and Zigbee Members Group of China (ZMGC).

Focused on the development, promotion and application of wireless communication technology more than ten years, Shuncom is one of the few domestic professional manufacturers which possess full range of wireless modules covering Zigbee, Wi-Fi and GPRS. We're the core partner of well-known brands at home and abroad.



Cooperative partner

豪迈照明

PHILIPS



中国航天科工集团公司
CHINA AEROSPACE SCIENCE & INDUSTRY CORP.



Haier



江苏省交通规划设计院
JIANGSU PROVINCIAL
COMMUNICATION PLANNING AND
DESIGN INSTITUTE CO., LTD.

FLSMART
飞乐智能



晶和照明
LATTICELIGHTING



阳光照明



济南三星灯饰有限公司
Jinan Sanxing Lighting Co., Ltd

Advantage



Provide customers reliable ZigBee wireless Smart lighting control solutions

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Technical Features of ZigBee

2

Intelligent Lighting Solution Introduction

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Intelligent Lighting Platform Introduction

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Intelligent lighting product certification and quality control

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Intelligent Lighting Case Study

Technical Features of ZigBee



ZigBee®

1 Ad-hoc network

MESH network structure, each central node can manage several sub-routing nodes, each routing node can manage a number of sub-routing nodes or sub-terminal nodes, theoretically the largest network will consist of 65,000 nodes.

2 Reliable

Ultra-low power consumption, self-healing, no interference from the power grid, transmission without delay.

3 Convenience

Installation and debugging is more convenient compared to wired solution

4 Security

Three-level security model, including wireless parameter settings, communication link AES encryption and application layer access control list.

Advantages of ZigBee smart lighting control system



1

Easy installation and debugging

No wiring, no pre-survey. No professional measurement tools, Ready-to-use, short debugging time. For example, it costs at most 1 day for installation and debugging around 2000 tunnel lights.

2

Reliable and stable system

Mesh network, self-healing, no interference from the power grid.

3

Overall cost optimization

No wire costs, installation time-consuming short, saving labor costs.

Advantages of ZigBee Solution



- 1** Using industrial-grade chips, proven products through a large number of industrial market, mature and reliable;
- 2** Using private protocols which solves the connection number and stability problem of single-lamp: A centralized manager maximum connects 1600 single lamps, network is stable and reliable.
- 3** Use encryption technology to solve the problem of radio interference; ;
- 4** More than 10 years application time of acquisition equipment and multi-interface transmission equipment.

ZigBee is an emerging short-range, low-power, low-data-rate, low-cost and low-complexity wireless network technology. At present, more and more enterprises use ZigBee as intelligent single lamp control technology, However, the market products vary greatly, The key to testing ZigBee technology is : 1) the number of connections and stability; 2) product reliability and maturity 3) anti-interference ability.

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Intelligent lighting features

Wireless intelligent lighting control system is mainly to provide users with remote control, real-time management and energy conservation of the street lights.



Traditional street lighting



Huge power consumption

Traditional street lights consume huge amounts of energy
Poor management results in energy waste.

High maintenance costs Security risk

Hard to locate fault,
high maintenance labor cost.

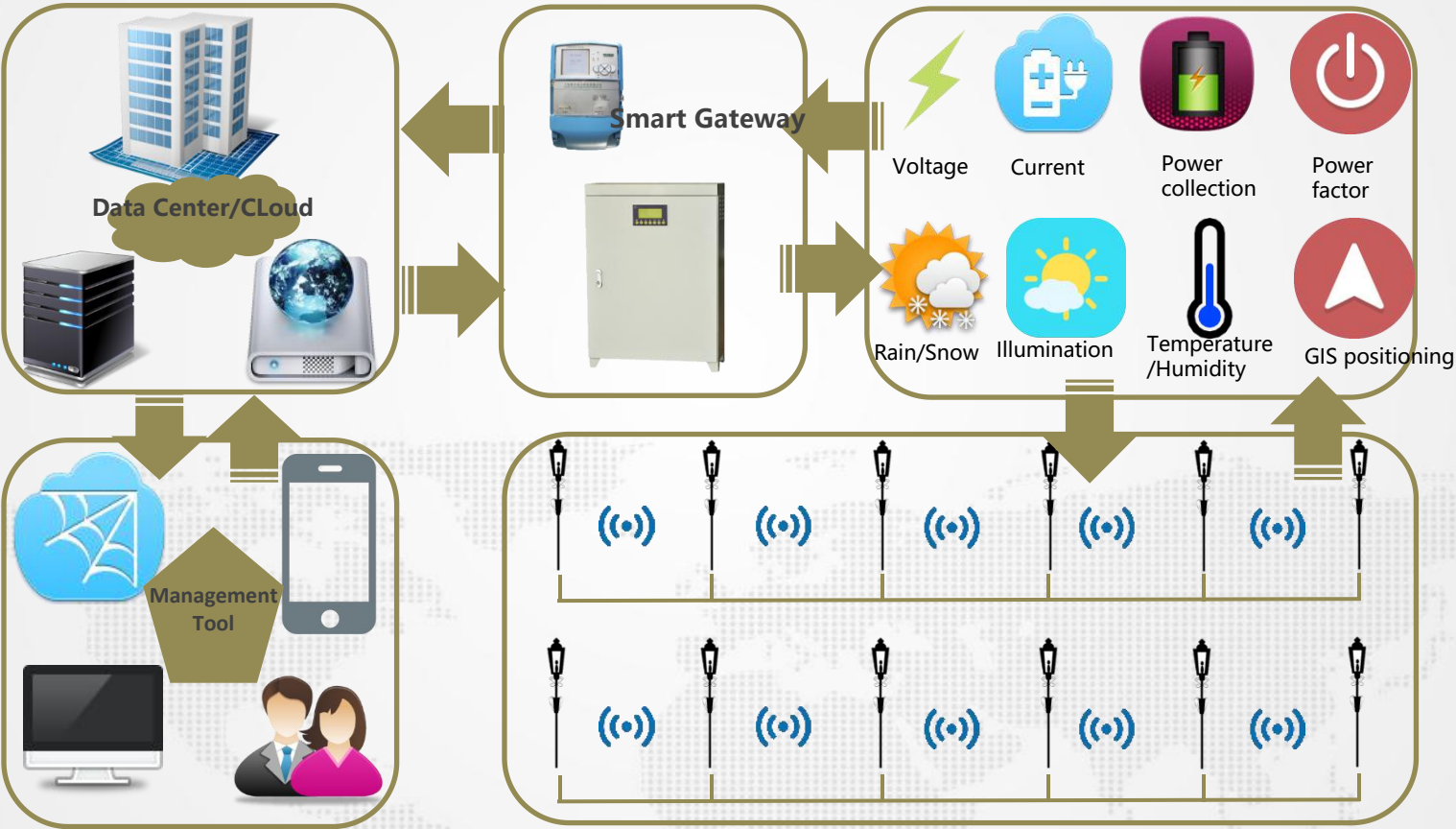
Unable to turn on the lights timely
in bad weather, causing security
risks and public complaints

Intelligent street lighting features

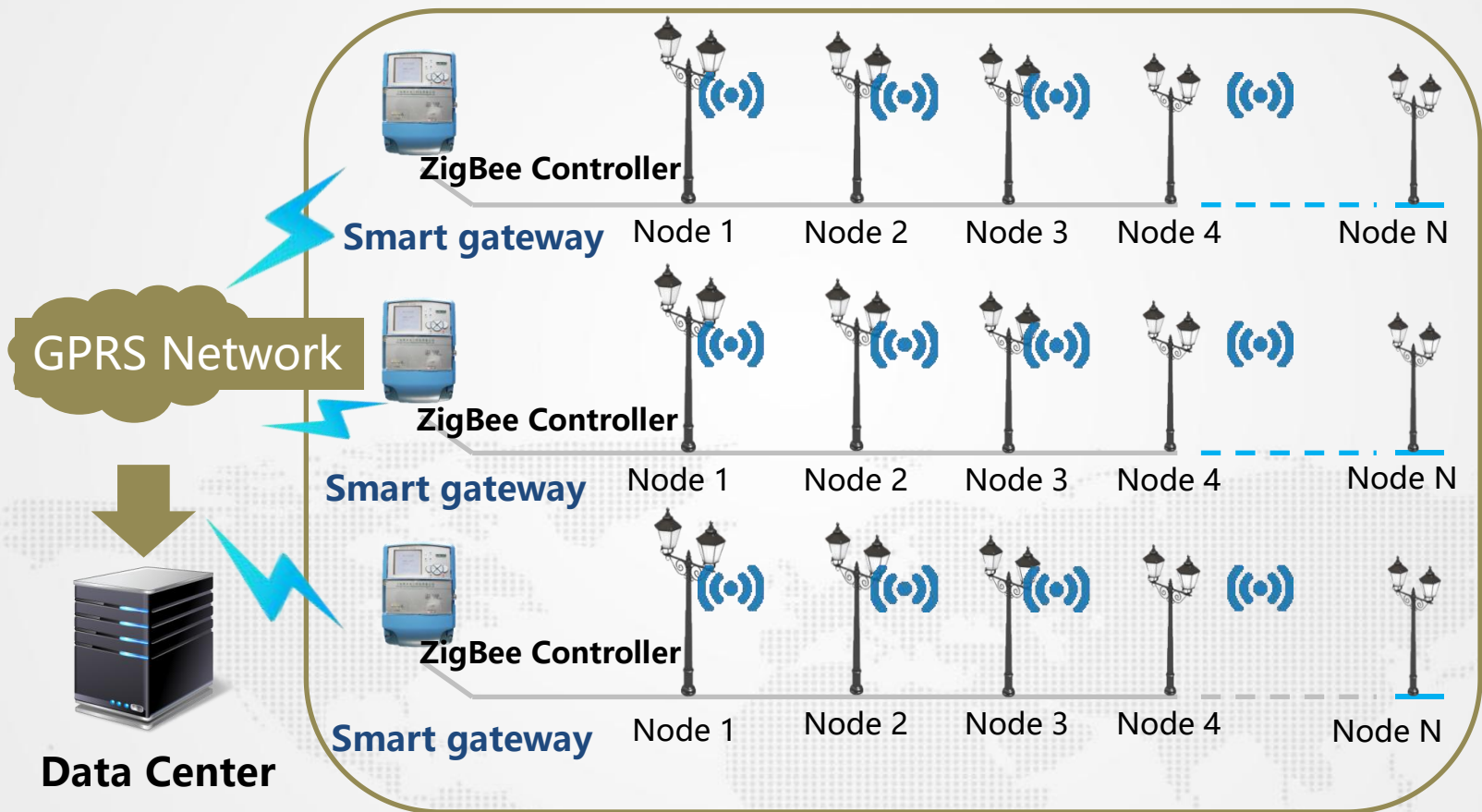


- **On-demand lighting**
every road dimming according to traffic flow and turn on/off by time period.
- **Easy maintenance**
Online inspection, reduce labor and maintenance costs;
- **Energy saving and emission reduction**
On-demand lighting to reduce energy waste, improve economic and social benefits.
- **Management efficiency**
Internet plus Lighting.

Intelligent street lighting solution



Intelligent street lighting solution



Intelligent street lighting---Single lamp solution



Solution	Power supply	Framework	Application
Solution 1	AC	Single lamp controller R1A + Gateway + Monitoring platform	LED HPS
Solution 2	DC	Single lamp controller R1D + Gateway + Monitoring platform	Solar street light

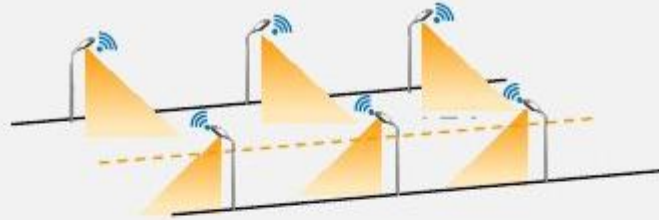
Intelligent street lighting---Loop soluiton



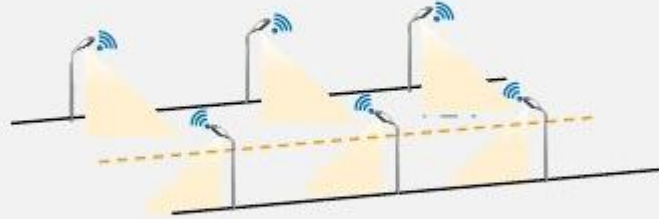
Solution	Network coverage	Framework	Application
Solution 1	GPRS network coverage	Distribution Cabinet Loop control + Gateway GPRS Mode + Monitoring platform software	Municipal roads highway
Solution 2	Ethernet access	Distribution Cabinet Loop control + Gateway NET access mode + Monitoring platform software	Campus, park, scenic area

Scene 1 : Switch/Dimming control

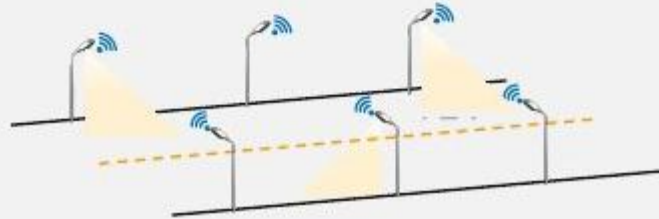
More people/car traffic aft
sunset : **100%** brightness



Less people/car traffic
at night : **50%** brightness



Barely people/car traffic
at midnight: **50%** brightness
**With Lighting I
nterval control**



Scene description

According to the setting of the lighting control plan.

Gateway can adjust the switch and brightness of every lamp automatically

Besides, gateway calculate time of sunrise and sunset according to the latitude and longitude algorithm, So to achieve the maximum degree of energy saving.

Scene 2: Special date and place



Scene description

Through special lighting control strategy , different lighting plans can be implemented during special holidays or area where has a large stream of people , In addition , lighting brightness in the accident Black Spot will enhanced to prevent danger.

Scene 3: automatic brightness adjustment in bad weather



Traditional control method
Has problem !



Street lamp
smart solution

Scene description

Traditional street lamp: Through
Manual 、 timer、 fixed way to control

When bad weather comes, tradition way
Unable to provide flexible、 promptly
lighting plan , which cause road safety
risk

Shuncom smart lamp control solution
add wireless brightness sensor, opens
the street lamp when the brightness
threshold is lower than set value ,
Reduce risk and improving public
satisfaction

Scene 4: Street lamp malfunction alarm



**Street lamp malfunction detection
(Abnormal voltage and current)**



**Alarm message send
automatically**



**Arrange the maintenance plan and
Inform the staff**



Site inspection



Street lamp restoration work

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Smart control system management platform

Smart lighting make system more intuitive,
and also improve efficiency to reduce the labor intensity



※Single light control



※Grouping control

※Broadcast control



※timed task run execute locally



※ monitoring lamp status in real time

※ monitoring power supply
unit in real time



Smart lighting management system



Energy Saving

- Support remote manual real-time control, reading
- Flexible energy consumption strategy
- Calculate the sunrise and sunset time by latitude and longitude algorithm



Subtilized metering



Platform

Operation and maintenance
More easily



- Real time alarm
- Inform staff by SMS or email
- Equipment status and life cycle management
- Accurate voltage / current / power / energy consumption per lamp
Parameter statistics
- Switch / Dimmer status statistics

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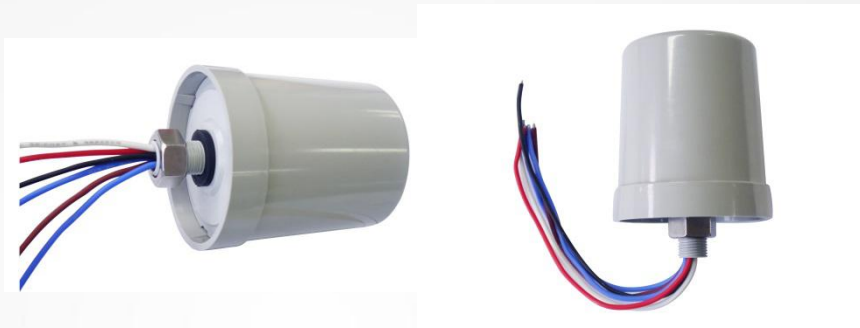
Intelligent lighting product certification and quality control

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Intelligent Lighting Case Study

SHUNCOM lighting controller :

SZ10-R1A-S



SZ10-TA



SHUNCOM lighting controller :

Gateway



SZ10-R1A



SHUNCOM lighting controller :

NEMA



NEMA lighting controller :

Using international standard interface, install easily, convenient maintenance

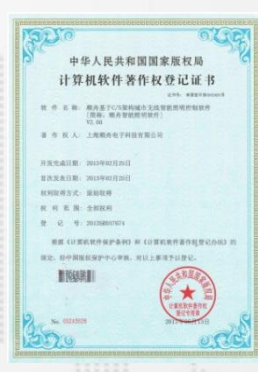


NEMA



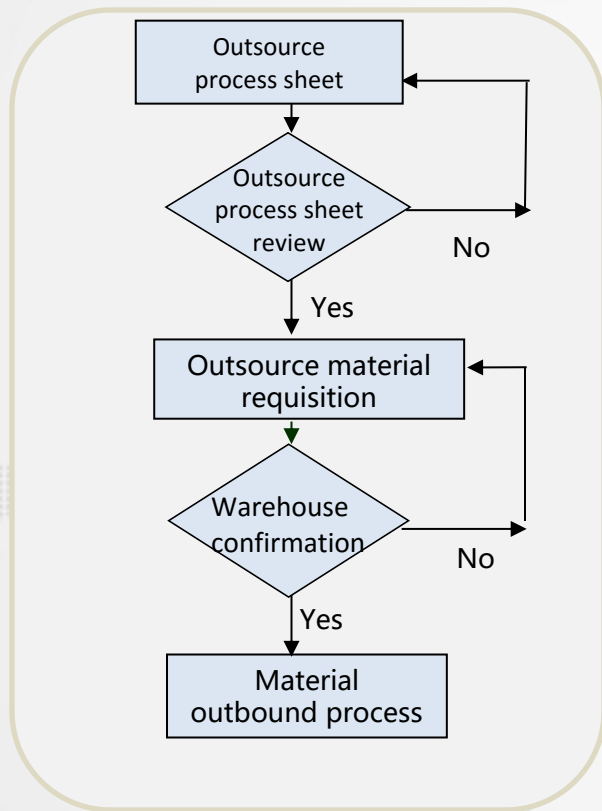
Advantage of Products

- 1 Industry chips
- 2 -40°--80°
- 3 Waterproof : IP65
- 4 Lightning protection : 6KV

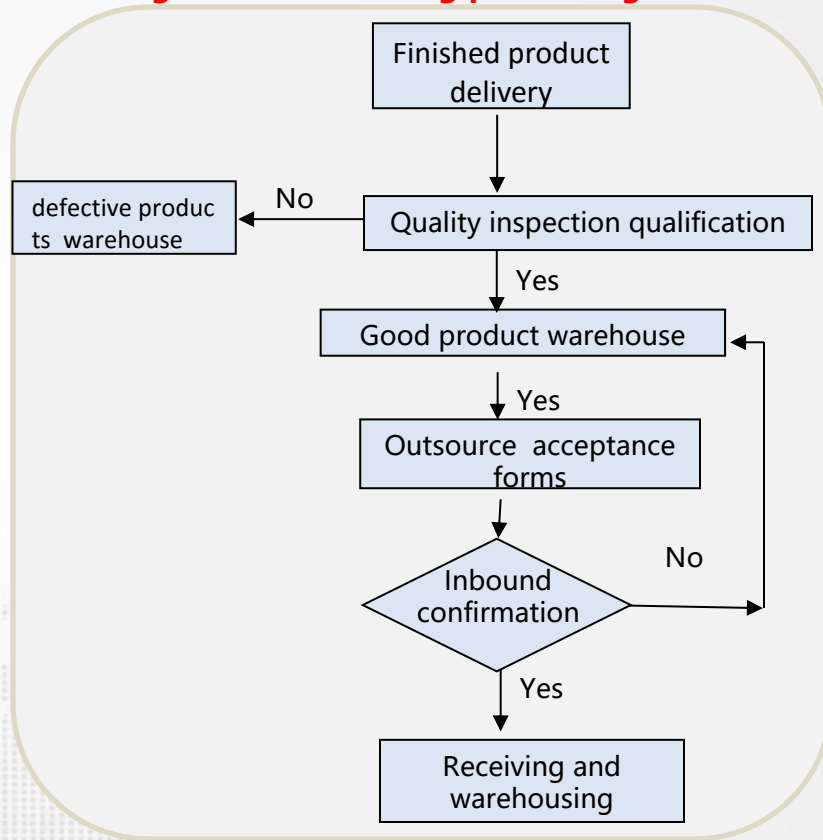


Intelligent product quality control

Outsourcing processing flow chart



Receiving and warehousing processing flow chart



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Smart lighting project cases



High speed street lighting form project in xx city. Guangdong City



Smart lighting project in an area of Guangdong City



Energy saving reform project in a District of Shandong City



Tunnel LED lighting project in an area of Shanghai City



Tunnel LED lighting project in an area of Anhui City



Tunnel LED lighting project in an area of Zhejiang City

Smart lighting project cases



Smart lighting project in an area of
Hubei City



Smart lighting project in an area of
Shaanxi City



Tunnel LED lighting project in
an area of Fujian City



Street lighting project in an area of
Xian City



Street lighting project in an area of
Chongqing City



Street lighting project in
Zhengzhou University



Shuncom Official Accounts