

START YOUR SMART CITY WITH FONDACITY.

SMART LIGHTING SMART CITY



GLOBAL PROFESSIONAL SMART LIGHTING SOLUTION PROVIDER

FONDA TECHNOLOGY CO ., LTD

☎ Phone: +86 571 87353084

✉ E-mail: sales@fondalighting.com 🌐 www.fondalighting.com

📍 No.98, Wenyi West Road, HangZhou, Zhejiang Province, China



**GLOBAL
RANKING TOP 5**





SMART CITY STARTS WITH SMART STREET LIGHTING.

A smart city integrates digital intelligence and information communication technologies (ICT) into the urban environment, to solve public issues and improve quality of life for residents.

Connected devices and sensors provide real-time, transparent information to government officials and citizens, enabling better decision-making. These intelligent tools can save lives, prevent crime, reduce the disease burden, save time, cut down on waste, and even enhance social connectedness.

Many smart city applications face challenges in achieving self-sustaining revenue streams and identifying profitable economic models. However, retrofitting legacy lighting fixtures with LEDs and smart lighting control systems can serve as a cost-effective and sustainable starting point for smart city projects.





ABOUT US

Founded by Carnegie Mellon PhD Team in Colorado, USA.

Founded in 2011, Fonda is a professional solution provider of smart outdoor lighting control systems and smart city infrastructures. Fonda has implemented cutting-edge smart solutions in more than 100 countries and over 300 cities and regions worldwide in the past 16 years. With smart lighting control solutions, cities not only reduce energy consumption and operating costs but also prepare for smart city digitalization. The FondaCity platform integrates wireless remote control for street lighting, facade lighting, tunnel lighting, and solar lighting, serving as the bridge to a smart city. It can also be scaled for various smart city applications, including smart parking, smart waste management, and smart traffic.

- National high-tech R&D Center committed to the innovative R&D in the field of IoT and cloud computing.
- Certified by ISO9001:2015 Quality Management System.
- And comprehensive solution provider for IoT technology such as LTE-CAT.1, RF, LoRaWAN, Power Cabinet Control, Solar, Tunnel, PLC, etc.



Founded in 2011

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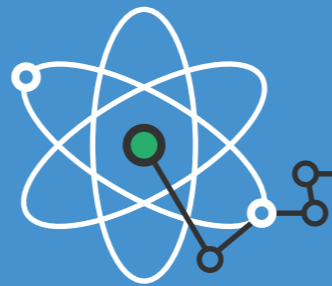
2Mil+

Smart controllers deployed globally



150+

Patents holding, owner of core technology



16

Excellent and comprehensive IoT solutions



Global Ranking Top 5



TALQ / ZHAGA / DALI member



Average energy saving 75%

According to the experience of other cities, it can achieve 60% energy saving from LED replacement and further 10-20% from dimming.



Significant O&M saving

Operation and maintenance savings exceeded energy savings in many cases, due to the longer lamp lifetime and reduced truck rolls.

Environmental benefits



Less carbon emissions and light pollutions lead to better environment for citizens and wildlife.



Benefits of Smart Street Lighting



Smart city ready

Connected streetlights provide foundation for future smart city applications and reduce the cost of re-installation.



Pedestrian and traffic safety

On-demand lighting means better lighting quality, lower crime rate and fewer traffic accidents.





FondaCity

Smart city platform

FondaCity is a smart city platform based on streetlight and scalable to other public infrastructures, which has a wide coverage overall the city.

Data Collecting

The data collected from smart devices attached in existing and new infrastructures transmits to central platform via wired and wireless communications such as LoRaWAN, RF, GSM and LTE. The real-time data will be visualized and displayed in a central command center to provide valuable information for decision making, quick response on events, and prevention for potential risks.

Remote Control

Smart devices can be remotely controlled in real-time or operated on a preset schedule. Tasks based on time, calendar, and sensor data can be executed for individual devices or in groups. In addition to street light control, the system also supports audio, video and text tasks for LED displays and broadcasting speakers.

City Infrastructure

The complete profile of each infrastructure asset, from manufacture to retirement, is recorded in the database. This includes basic product information, installation and maintenance history, current status, and alarm history. By connecting previously isolated devices into one centralized management system, all information can be tracked and analyzed to make cities smarter, more efficient and sustainable.

Easy Integration

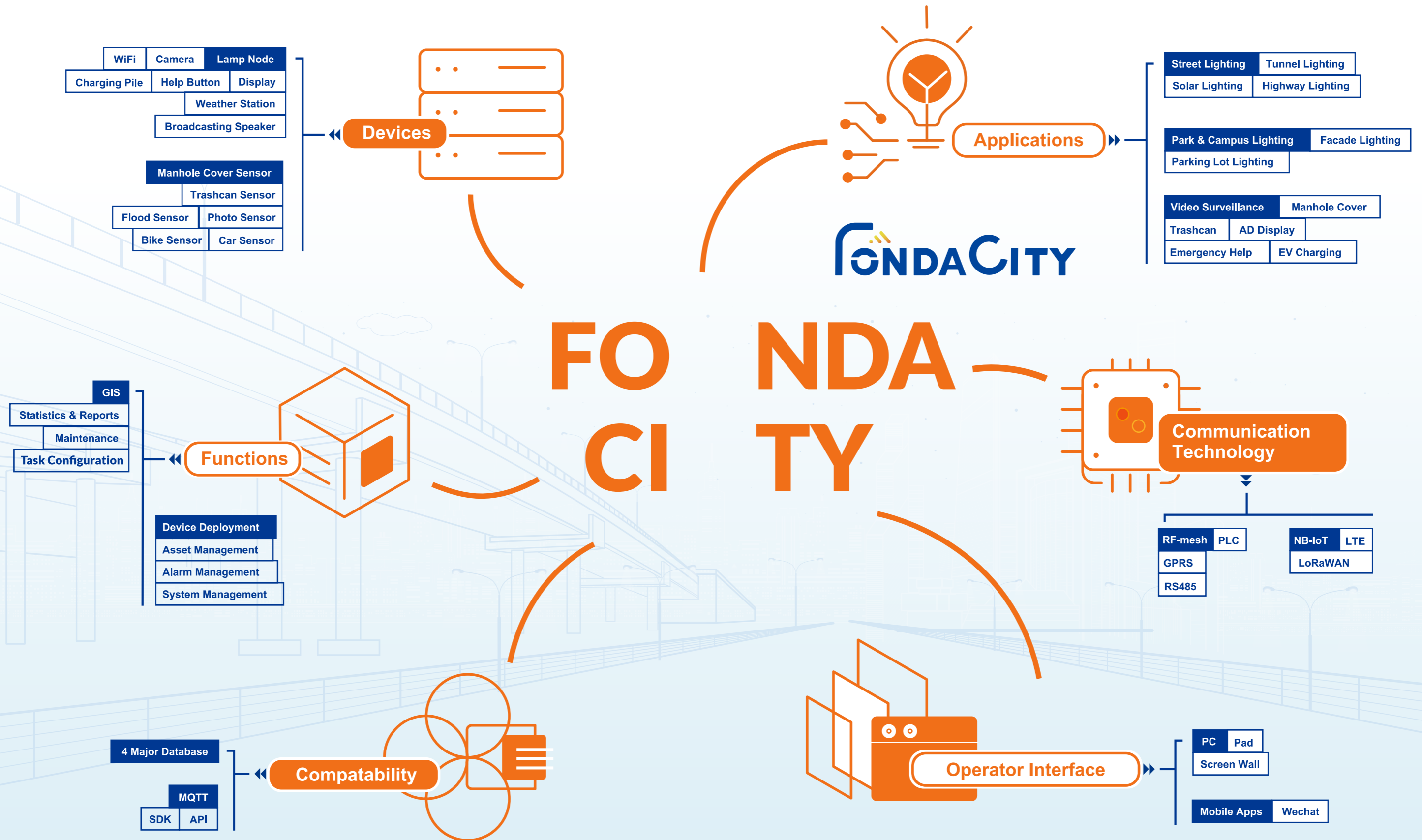
Smart city encompasses various divisions including smart security, energy, healthcare, mobility, water management, waste management, and more. This means a city has many distinct subsystems. The key to becoming a truly smart city is integrating data from these siloed systems. With open API and MQTT protocols, the FondaCity Platform can be integrated into third-party software and smart city dashboards. Likewise, data from third-party systems can be made available for integration into the FondaCity Platform.

Proactive Maintenance

Alarms on city infrastructure like power abnormalities, device malfunctions, communication lost, and theft can be sent as notifications and alerts to computers and mobile devices. This enables decision-makers and city workers to pre-plan inspections and address failures proactively. With ticket handling, prioritized management, optimized routes for inspection and maintenance vehicles, labor and truck roll costs can be reduced while improving efficiency.

System Security

FondaCity platform implements several measures to ensure stable long-term operation, including event recording, password protection, multi-level user management, and remote backup. This provides strong fault tolerance and recovery capabilities. A variety of network security protections have been designed to guard against malicious attacks, ensuring a high degree of security and confidentiality. Strict access authentication is performed on all equipment and users accessing the system to guarantee secure and stable connections.





SMART LIGHTING SOLUTION

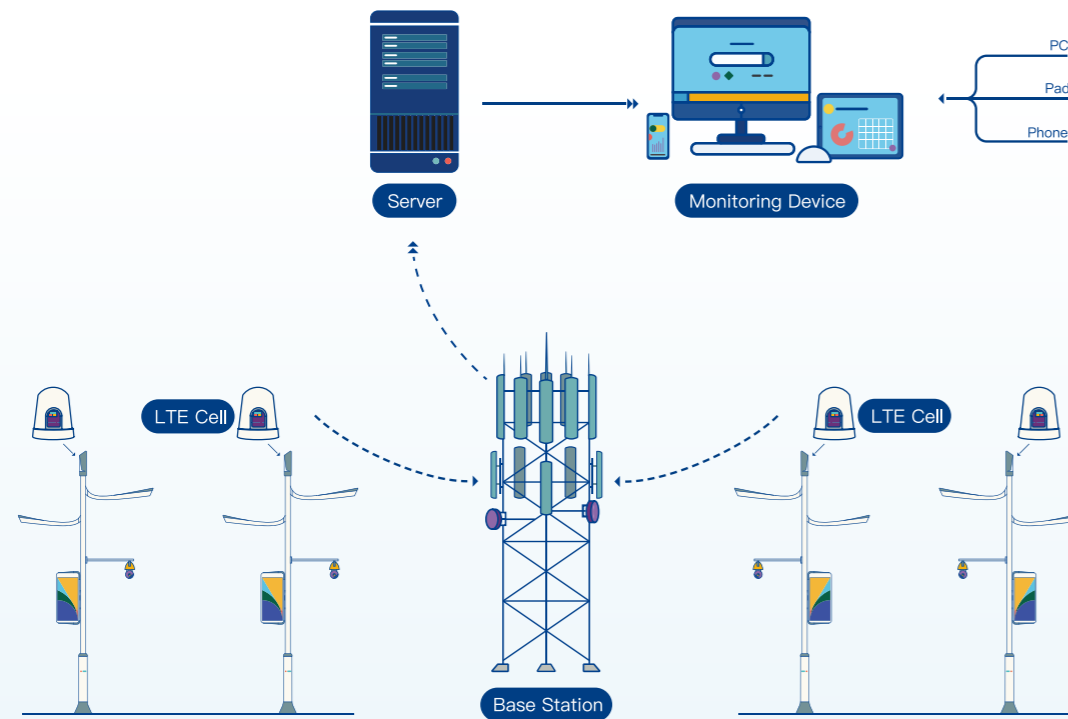
Excellent and comprehensive solution provider for IoT street light such as **LTE-CAT.1, LoRaWAN, Power Cabinet Control, Solar, Tunnel, PLC, RF, etc.**

FONDA
TECHNOLOGY

LTE SOLUTION

Application

Any place that can receive LTE(Cat.1/Cat.4) signal.



FONDA-LCU16LTE



FONDA-LCU71LTE

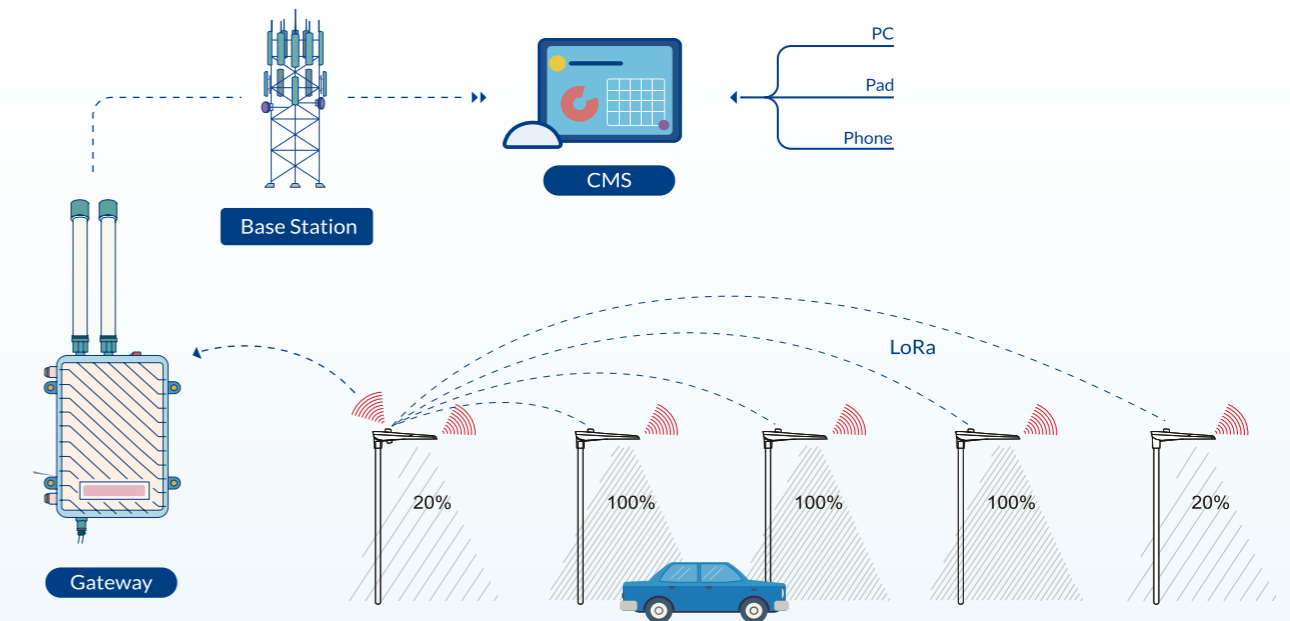
Main Features

- LTE(Cat.1/Cat.4) wireless communication.
- No limit on the number of lamp controllers and transmission distance.
- Supports two dimming modes: 0-10V and DALI.
- It uses base station provided by local network operator, no need to install gateways.
- Remote real time control and scheduled lighting by group or individual lamp.
- Alarm on the lamp failure.
- Pole tilt, GPS options

MOTION SENSOR SOLUTION

Application

Energy-efficient lighting across diverse applications such as streets, pathways, parking areas, campuses, and industrial facilities.



FONDA-RTU500LD



FONDA-LCU16LD



FONDA-LCU71LD



FONDA-LD10G

How It Works

1. LD10G radar detects vehicle presence in real-time
2. Sends immediate wireless commands to nearby LCUs (up to 30 units)
3. LCUs execute lighting adjustments within 500ms
4. Vehicle status data transmitted to gateway and server

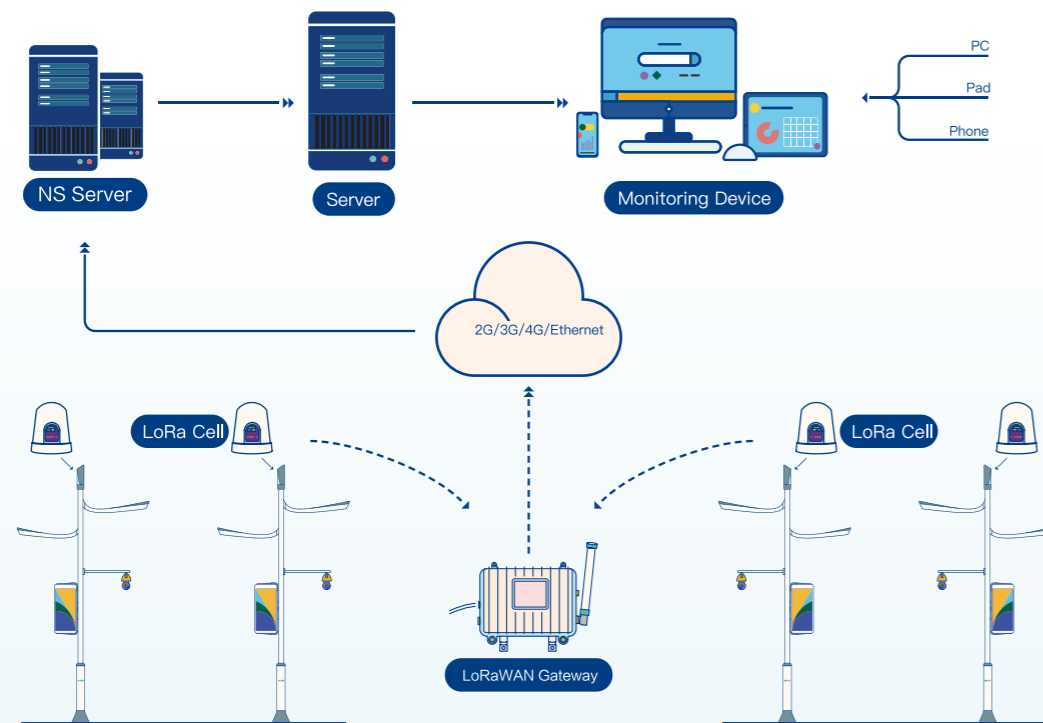
Technical Highlights

1. Unidirectional broadcast (no feedback needed)
2. Configurable heartbeat interval (default: 2 mins)
3. Adaptive transmission frequencies
4. Perfect for rapid deployment scenarios requiring minimal infrastructure

LoRaWAN SOLUTION

Application

Remote lighting control of street lights, parking lot, gas station, park, island and etc.



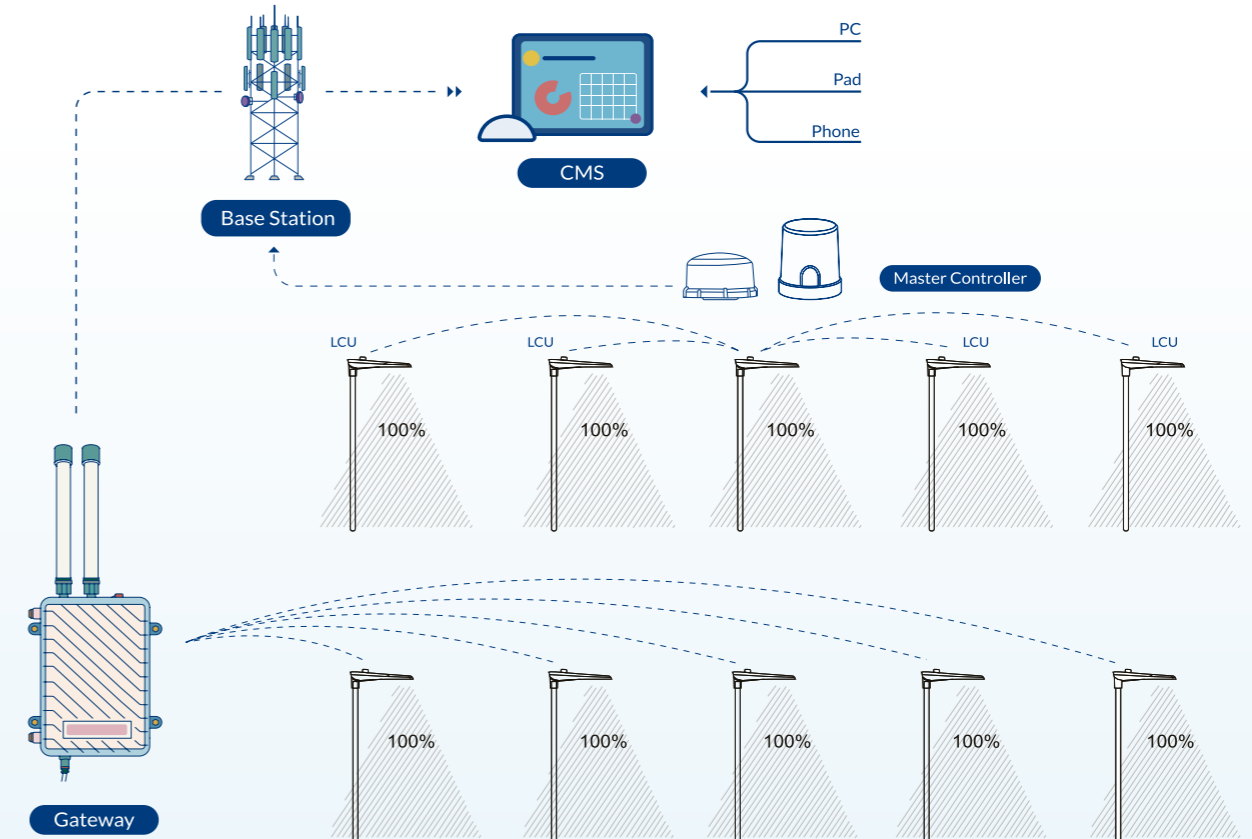
Main Features

- Long range low power radio frequency communication, supports standard LoRaWAN specification.
- Up to 2,000 lamp controllers can be managed by a gateway with maximum transmission distance of 1500m.
- Supports two dimming modes: 0-10V and DALI.
- LoRaWAN Gateway and network server for device management are needed.
- Remote scheduled lighting by group or individual lamp and data collecting.
- Alarm on the lamp failure.
- Pole tilt, GPS options.

RF SOLUTION

Application

Remote lighting control of street lights, parking lot, gas station, park, island and etc.



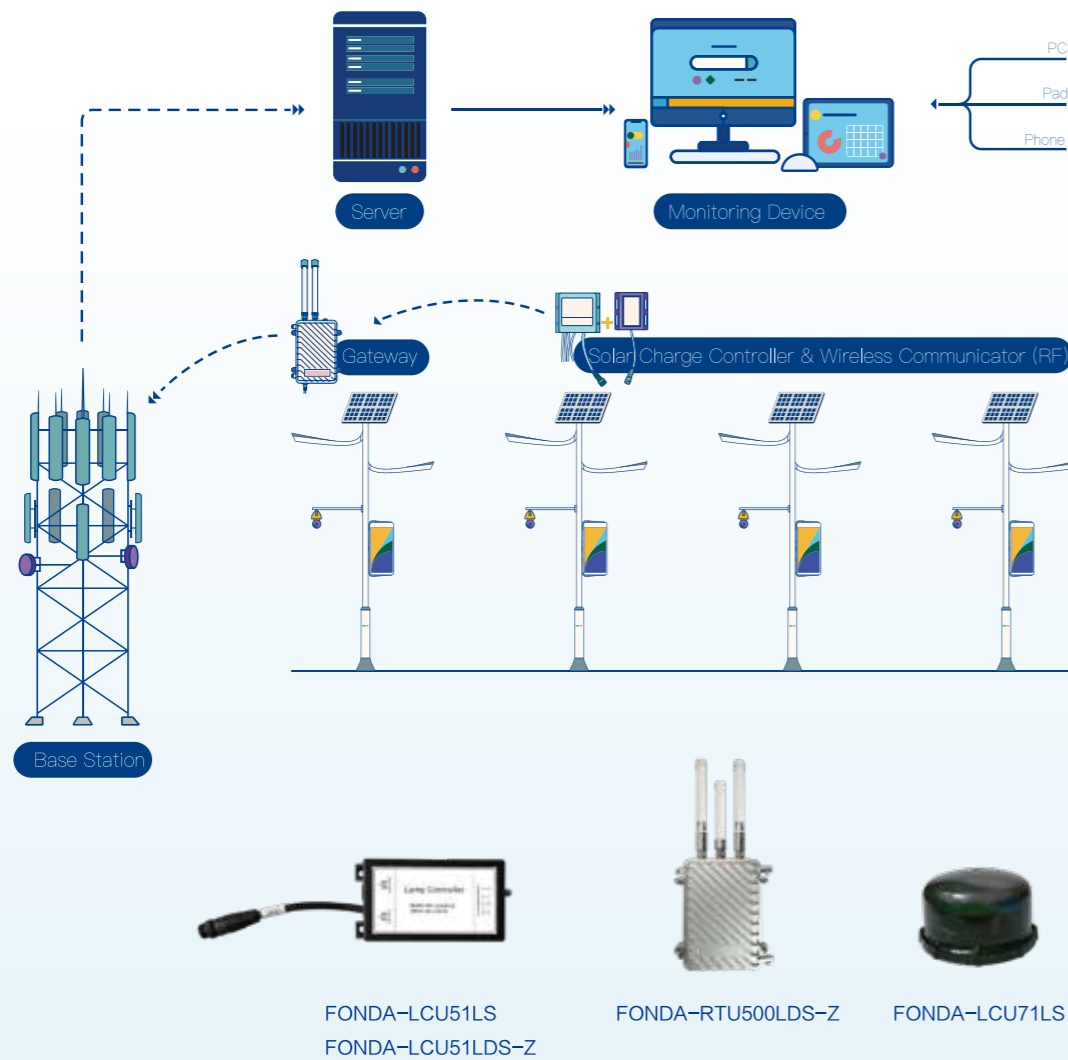
Main Features

- Multi-Gateway Redundancy: Data broadcasts to multiple gateways simultaneously, minimizes packet loss in complex urban environments (e.g., dense buildings).
- Dual-Frequency Anti-Interference: Optimized LoRa with uplink/downlink frequency separation. Cuts communication interference in dense areas.

SOLAR SOLUTION

Application

Remote lighting control of Solar lights, remote areas with unstable network and power supply.



Main Features

- RF and LTE communication available.
- The IoT communicator works with solar charging controller to control the solar lamps and monitor on the status of solar battery, panel and lamp.
- Lighting time and dimming plan from central management platform
- Alarm on the lamp, battery and panel failure.

TUNNEL SOLUTION

Application

Remote lighting control of tunnel, sports stadium and indoor lighting.



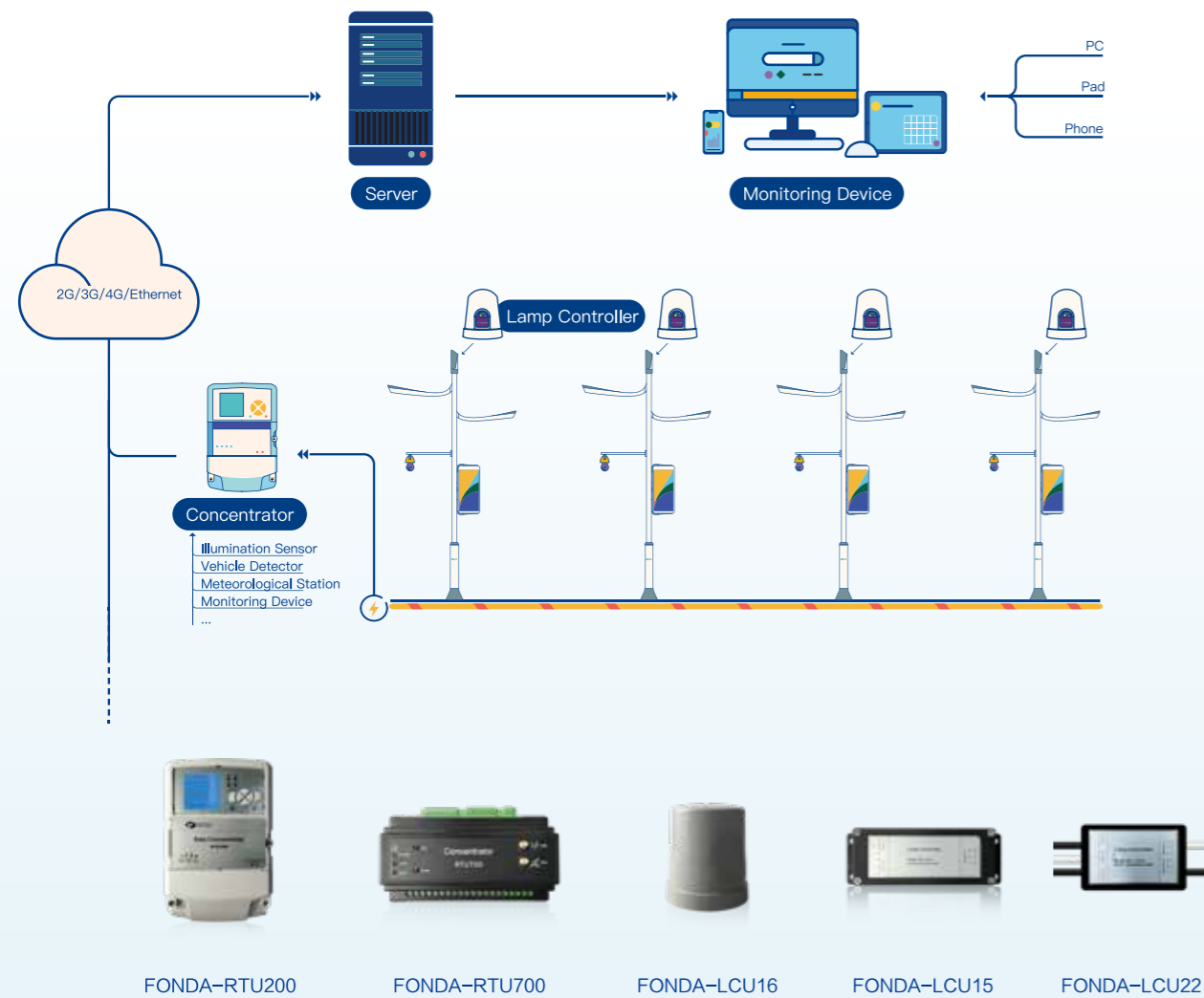
Main Features

- High Performance: 256Kbps data rate; ideal for high-interference environments (e.g., tunnels).
- Transmission: Extends up to 3km via signal controllers.
- High Capacity: Scalable up to 5,000 lamp controllers per concentrator.
- Compatibility: Supports LED and HPS lamps (up to 400W).
- Control: PWM & 0-10V dimming. Precise real-time/scheduled control with full alarm monitoring.

PLC SOLUTION

Application

Remote lighting control of street lights, façade lighting, tunnel, parking lot with power cabinet.



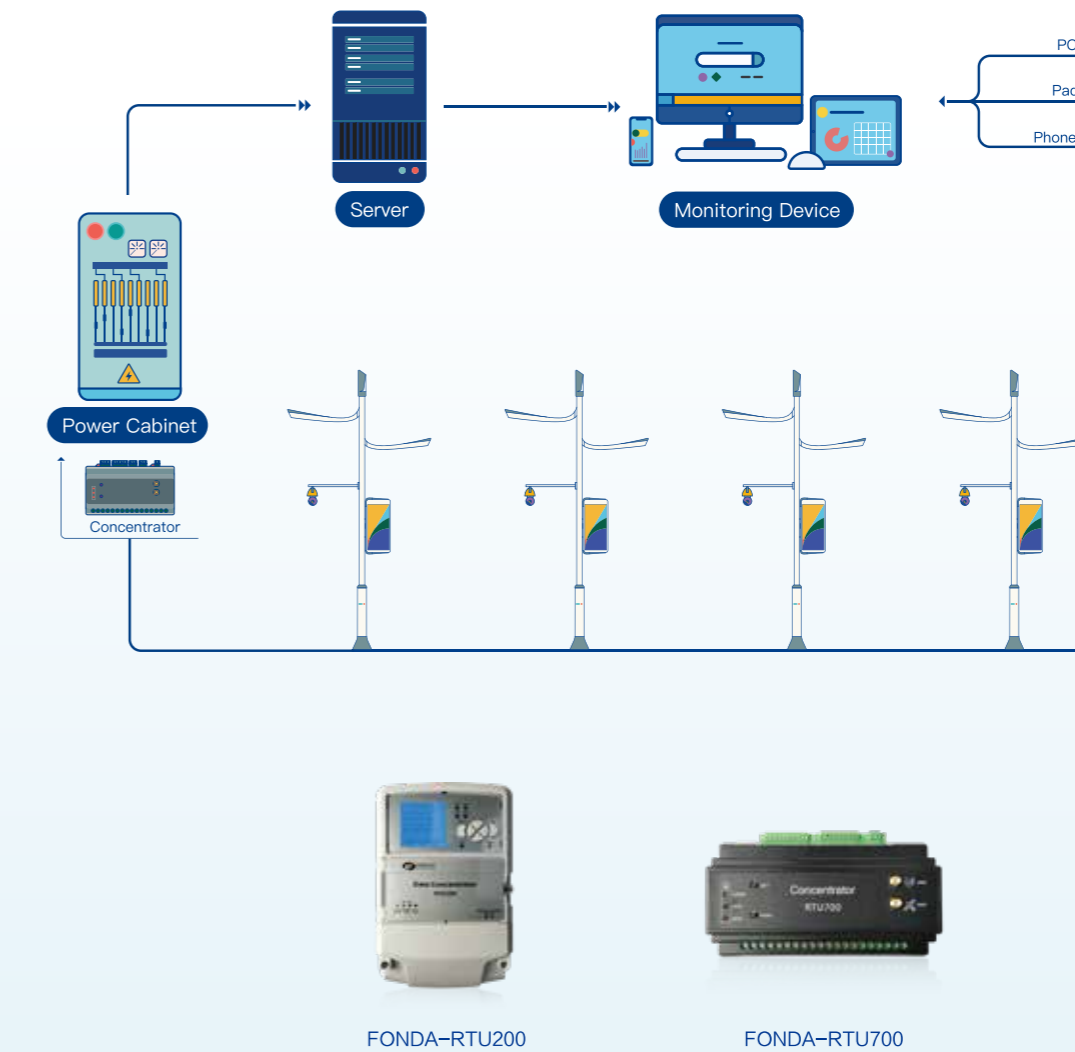
Main Features

- Easy Installation: Uses existing power lines for signal transmission; no new cabling needed.
- Transmission: 500m point-to-point; extends up to 2km via automatic relay.
- Capacity: Single concentrator manages up to 500 lamp controllers.
- Compatibility: Supports LED, Sodium, and Ceramic Metal Halide lamps (up to 400W).
- Control: PWM & 0-10V dimming (configurable reverse mode). Remote real-time/scheduled control with full alarm monitoring.

POWER CABINET CONTROL

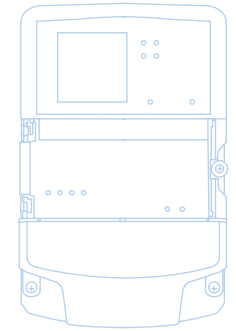
Application

Remote lighting control of street, tunnel, parking lot and tech park with cabinet.



Main Features

- Remote real time control and scheduled lighting on the circuit based on time and sunrise/sunset.
- Alarm on the power supply status of the cabinet and automatic notification.
- Energy monitoring and billing report on cabinet level.



HARDWARE

FondaTech offers a full range of smart lighting hardware, including controllers, gateways, and terminals supporting LTE CAT.1, RF, LoRaWAN, and PLC technologies. Powered by the FondaCity® AIoT Platform, these solutions enable intelligent, efficient lighting control across roads, tunnels, parks, and buildings — advancing the development of AIoT smart cities.

CONCENTRATOR

Product description

Work with web-based software enables remote configuration, monitoring, control, reporting, alarms, data reading, update, and self-running based on astronomical calendars.



Product description

Work with web-based software enables remote configuration, monitoring, control, reporting, alarms, data reading, update, and self-running based on astronomical calendars.



Data Concentrator

FONDA RTU200

UPLINK COMMUNICATION GPRS / 3G / 4G / Ethernet

DOWNLINK COMMUNICATION PLC / RF / RS485

METERING Voltage, current, active / inactive power, power factor, power leakage, energy consumption and etc.

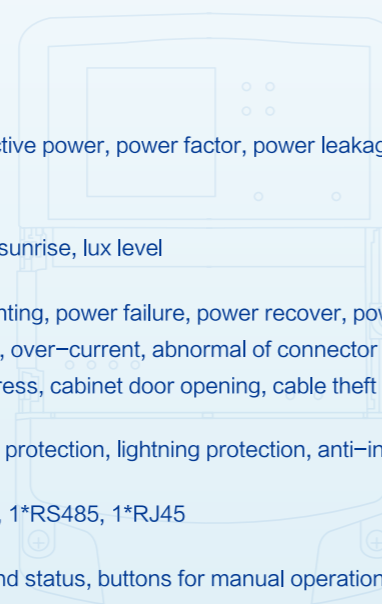
LIGHTING SCHEDULE Based on calendar, sunset / sunrise, lux level

ALARM Day burning or accidental lighting, power failure, power recover, power leakage, over-voltage, under-voltage, over-current, abnormal of connector / circuit breaker, cabinet tilt, cabinet water ingress, cabinet door opening, cable theft

PROTECTION Overcurrent and overvoltage protection, lightning protection, anti-interference, IP54

PORT 4*DO, 6*DI, 2*AC DI, 1*USB, 1*RS485, 1*RJ45

OTHER LCD display for parameter and status, buttons for manual operation.



Data Concentrator

FONDA RTU700

UPLINK COMMUNICATION GPRS / 3G / 4G / Ethernet

DOWNLINK COMMUNICATION PLC / RS485

METERING Voltage, current, active power, power factor, power leakage, energy consumption and etc.

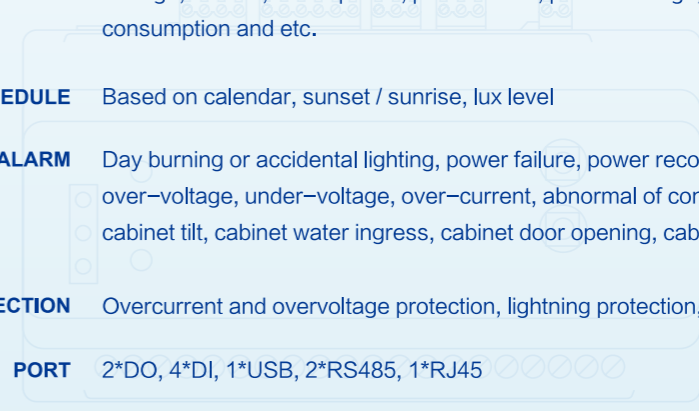
LIGHTING SCHEDULE Based on calendar, sunset / sunrise, lux level

ALARM Day burning or accidental lighting, power failure, power recover, power leakage, over-voltage, under-voltage, over-current, abnormal of connector / circuit breaker, cabinet tilt, cabinet water ingress, cabinet door opening, cable theft

PROTECTION Overcurrent and overvoltage protection, lightning protection, anti-interference

PORT 2*DO, 4*DI, 1*USB, 2*RS485, 1*RJ45

OTHER RTC and GPS





LAMP CONTROLLER

Product description

Work with web-based software enables remote configuration, monitoring, control, reporting, alarm and updating.

Optional functions

· RTC, GPS, Tilt-sensor, Photocell Sensor



Product description

Work with web-based software enables remote configuration, monitoring, control, reporting, alarm and updating.

Optional functions

· RTC, GPS, Tilt-sensor, Photocell Sensor



Lamp Controller

NEMA SERIES

COMMUNICATION MODULE PLC / LoRaWAN / RF / NB-IoT / LTE

METERING Voltage, current, power factor, power, energy consumption and etc.

LIGHTING SCHEDULE Based on calendar, sunset / sunrise, lux level

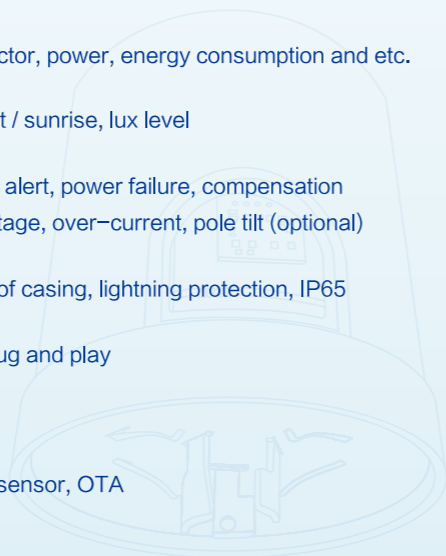
ALARM Lamp failure, lamp lifetime alert, power failure, compensation capacitor failure, over-voltage, over-current, pole tilt (optional)

PROTECTION Industrial-grade waterproof casing, lightning protection, IP65

INTERFACE NEMA 7-PIN interface, plug and play

DIMMING 0-10V, DALI

OPTIONS GPS, RTC, Photocell, Tilt sensor, OTA



Lamp Controller

ZHAGA SERIES

COMMUNICATION MODULE LTE / LoRaWAN / RF

METERING Voltage, current, power factor, power, energy consumption, etc.

LIGHTING SCHEDULE Based on calendar, sunset / sunrise, lux level

ALARM Lamp failure, lamp lifetime alert, power failure, compensation capacitor failure, over-voltage, over-current, pole tilt (optional)

PROTECTION Industrial-grade waterproof casing, lightning protection, IP66

INTERFACE Zhaga 4-pin interface, plug and play, optimized for Philips Xitanium SR LED driver

DIMMING Dali2.0, D4i

OPTIONS GPS, RTC, Photocell, Tilt sensor, OTA

MOTION SENSOR

Product description

Detects vehicle presence and absence, sends control commands to LCU, and reports vehicle detection status to CMS for dynamic lighting control.



Radar Motion Sensor Series

Radar LD 10G

MODEL LD10G (10.525GHz Microwave Radar)
Microwave Frequency Range: 10.525GHz
Detection Range: Diameter \leq 10 meters at mounting height of 12 meters
Measurement Speed: 10–60 Km/h

FEATURES Built-in RTC with remote configuration of radar application time range
High sensitivity and reliability; unaffected by light, dust, and temperature
Dynamic lighting control based on vehicle movement
Sub-GHz communication for long-distance wireless control
Standard ZHAGA interface for flexible installation
Waterproof rating: IP66

COMMUNICATION Sub-GHz (868M/923M), IEEE 802.15.4g, Transmit Power 5–20dBm, Receive Sensitivity -125 dBm

POWER SUPPLY 9–24VDC

GATEWAY

Product description

Work with web-based software enables remote control, monitoring, data reporting, device update.



FONDA-RTU71LL



FONDA-RTU16LL



FONDA-RTU500LD

Gateway Specifications

GATEWAY SERIES

UPLINK COMMUNICATION LTE-4G (TDD/FDD), TCP connection to server

DOWNLINK COMMUNICATION Sub-1G RF

COMMUNICATION MODE Dual-frequency communication, transmit and receive on independent frequencies without interference

COVERAGE Urban road coverage diameter up to 1.5KM

FEATURES Sub-1G license-free frequency band wireless communication
Built-in LTE-4G module, supports global LTE network
Built-in GPS module, supports global positioning
Network heartbeat maintenance, supports terminal device access
Remote OTA upgrade function
WiFi debugging function

POWER SUPPLY AC Input: 96–264V, Static Power: 2.0–5.0W
Port: Multiple interfaces for system integration

SOLAR COMMUNICATOR

Product description

Work with web-based software enables remote configuration, monitoring, control, reporting, alarm and updating.

Customizations

GNSS Customizable, support GPS



FONDA-LCU51LS
FONDA-LCU51LDS-Z



FONDA-LCU71LS

Lamp Controller

SOLAR SERIES

COMMUNICATION MODULE	LTE / RF
METERING	Array voltage, load current, load voltage, battery current, current voltage, etc.
LIGHTING SCHEDULE	Scheduled task
ALARM	Battery temperature alarm, LED load open circuit, reverse connection, PV input over voltage, etc.
PROTECTION	Industrial-grade waterproof casing, IP66
INTERFACE	Zhaga 4-pin interface, RS485 interface
OPTIONS	GPS

SMART POLE

Smart pole is a core IoT node in smart cities, integrating devices like 5G micro stations, sensors, cameras and displays. It collects and shares city data to improve coordinated management. Fonda Smart Pole runs on FondaCity, enabling unified monitoring and maintenance for higher efficiency.



MULTIFUNCTION LAMP POLE

Fonda smart pole is deployed in the FondaCity platform, enabling centralized management and operation through a central platform, making maintenance work easier and more efficient.



Motion Sensor

Detecting vehicle movement to achieve dynamic lighting control, maintaining a safe lighting environment and reducing energy waste.



Wireless AP

Provide WiFi hotspot for different distances.



Weather Station

Collect and send weather data to monitoring center, such as PM2.5(PM10), noise, wind direction, wind speed, temperature, humidity and pressure.



Broadcasting Speaker

Broadcast audio file uploaded from control center.



Smart Lighting

Remotely control(ON/OFF, dimming, data collecting, alarm etc.) in real-time by desktop, mobile phone, and Pad. CAT1, RF, LoRa, NB-IoT communication available.



Camera

Monitor traffic, public security, city lighting and public infrastructure.



LED Display

Display advertisements and public information in text, picture, or video on the LED screen. Uploading and publishing are done on the central platform remotely.



Emergency Call

Directly connected to the command center for public emergencies, the security team can respond quickly with GPS positioning live stream and online voice call.





PROJECT CASES

FondaTech's products and solutions have been deployed in over 300 cities across more than 100 countries worldwide. With large-scale projects in Saudi Arabia, Nigeria, Indonesia, Spain, Australia, Germany, Egypt, Switzerland, Dubai, and Hong Kong, the company has established itself among the world's Top 5 intelligent lighting control brands.

FONDA
TECHNOLOGY



Project Cases

Project in Hong Kong, China



99%+ Real-time Online Rate For 70,000+ Controllers

Fonda Tech has completed the New Territories West Smart Lighting Project in Hong Kong, deploying tens of thousands of smart streetlights using our FondaCity AIoT platform and CAT.1 communication. The system enables on-demand lighting, real-time cloud control, and AI fault detection, supported by a highly reliable dual-center architecture.

This landmark project sets a new smart-lighting benchmark and delivers a scalable “Hong Kong Model” for future smart cities.

Project in Saudi Arabia



Saudi Arabia 180,000 Smart Lighting Deployment Project

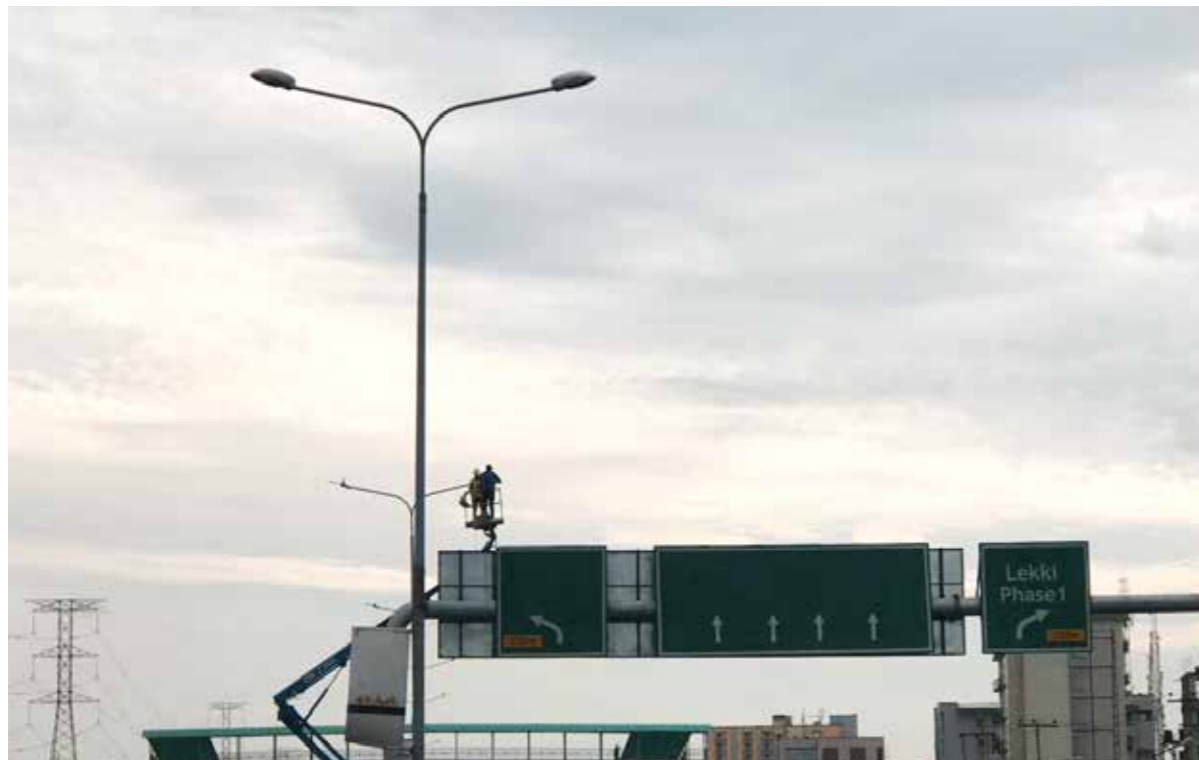
Fonda Tech has implemented a large-scale smart lighting initiative across Riyadh, Jeddah, and Dammam, and other locations, deploying a total of 180,000 intelligent lighting units. Through the FondaCity AIoT platform, the system enables centralized management, remote control, energy optimization, and intelligent operations across diverse urban environments.

Smart poles in the project integrate functions such as lighting, video surveillance, Wi-Fi, and environmental sensing, supporting Saudi Arabia’s broader smart-city vision. This deployment demonstrates a highly scalable lighting-IoT solution capable of supporting long-term urban digital transformation.



Project Cases

Project in Indonesia



On-demand Lighting Driven By Pedestrian And Vehicle Activity, Maximizing Energy Efficiency.

In Indonesia, Fonda Tech Has Delivered 150,000 Smart Lighting Control Units, Integrating Streetlight Control, Smart-city Devices, Engineering Management, And Maintenance Workflows Into One Platform. By Leveraging Intelligent Sensing And Energy-efficient Equipment, The System Adjusts Lighting Dynamically Based On Real-time Road Usage.

This Project Significantly Enhances Energy Efficiency And Injects Stronger Intelligence And Sustainability Into The City's Infrastructure—laying A Solid Foundation For Indonesia's Future Smart-city Growth.

Smart Pole Project in Spain



Smart Poles Combining Lighting, Sensing, And Connectivity Services.

In Spain, Fonda Tech has implemented a next-generation smart pole solution that combines LED lighting, environmental sensors, cameras, public Wi-Fi, EV charging, digital signage, and more into a unified IoT infrastructure. Through the FondaCity platform, all devices are centrally managed with real-time monitoring and data analytics. This deployment accelerates Spain's transition toward intelligent urban management and demonstrates how smart poles can become a key data hub for future smart cities.



PROJECT CASES



Location: Greece



Location: Thailand



Location: Australia



Location: Nigeria



Location: Switzerland



Location: Romania