



ROBUST AND SECURE COMMUNICATIONS

Energy & Utilitie Use Cases

Electricity Distribution Network Intelligent FTU Networking Solution

Demands & Pain Points

- Reliable wireless connectivity is critical for power companies to gather real-time data from intelligent feeder terminal units (FTUs) and regulate and monitor electricity distribution operations.
- Industrial-grade networking devices are necessary for distribution network facilities to perform consistently under harsh weather conditions like extreme temperature and humidity, etc.
- To improve maintenance efficiency and reduce power outages, gateways must provide real-time fault alarm reports to quickly identify and correct faults in the large number of FTUs located across dispersed locations. Traditional fault identification methods are inefficient.

Solution

Robustel IIoT Gateway connects to the distribution network's intelligent feeder terminal unit (FTU) through the RS-485 serial port. The gateway collects FTU operating data and uploads it to the operation center through 4G LTE network. This solution effectively improves the efficiency of FTU management by the power company and ensures the stable operation of the power grid.

Stable Connection

Robustel IIoT Gateway provides cellular network wireless networking, uninterrupted data transmission for various networking scenarios.

High Reliability

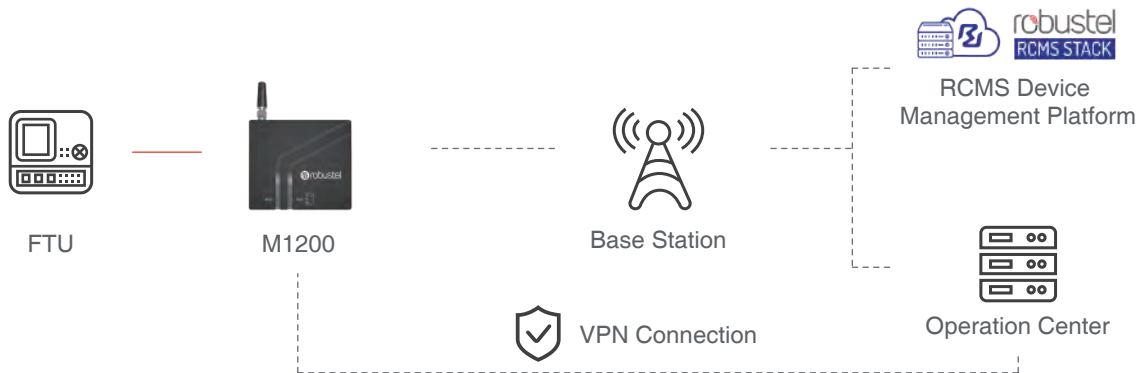
The device has passed rigorous tests to ensure it can withstand harsh environmental impacts and ensure stable data transmission.

Remote Operation and Maintenance

Robustel's RCMS device management platform provides remote, real-time monitoring and diagnosis, allowing maintenance staff to work off-site.

Topology

----- Wireless Connection ——— Wired Connection



Advantages



Robust Industrial Design

Robustel's quality products have industrial housing for reliability in any conditions, and protect against humidity, dust, vibration and EMC.



Dual SIM Card Design

Dual SIM backup enhances network resilience - 2 networks are better than 1!



Serial Ports Onboard

RS232/485 support for Modbus RTU interface, connecting thousands of sensors/instruments for maximum flexibility.



Customer-hosted Router Management Platform

RCMS router management platform can create a private "walled garden" when installed on customer's data center or cloud infrastructure for excellent router management.

Recommended Product



M1200

Urban Water Supply Pipeline Monitoring Solution

Demands & Pain Points

- Urban water supply pipelines pose challenges due to their extensive distribution, complex environment, and multiple nodes. Maintenance personnel encounters difficulty when locating fault points, leading to prolonged water outage upon water supply failures.
- Regular monitoring of water pressure and flow data is vital to ensure the optimal operation of urban water supply pipelines. Water companies must make dynamic adjustments based on monitoring data to maintain the optimal water supply system.

Solution

The controller (RTU) of the pipeline monitoring end is connected to water pressure, flow sensor, and solenoid valve through the line. The RTU is connected to the Robustel industrial IoT gateway through the RS-485 serial port. The gateway collects information such as water pressure, flow rate, and solenoid valve status sent by the RTU and transmits it to the monitoring center through a 4G LTE cellular network, providing timely and reliable data basis for effective management of urban water supply pipelines.

Stable Connection

Robustel IIoT Gateway provides cellular network wireless networking, uninterrupted data transmission for various networking scenarios.

Flexible Configuration

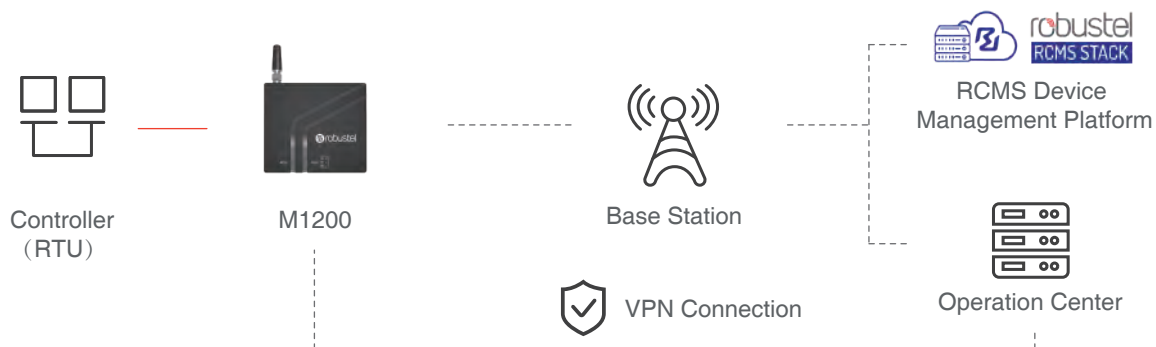
RobustOS offers diversified device management methods, supporting configuration through SMS, Web, CLI, cloud platform, and more even in complex scenarios.

Remote Operation and Maintenance

Robustel's RCMS device management platform provides remote, real-time monitoring and diagnosis, allowing maintenance staff to work off-site.

Topology

----- Wireless Connection ——— Wired Connection



Advantages



Cost-effective Hardware

Robustel hardware: Industrial grade, durable, wide voltage/temperature range, cost-effective for high volume Industrial/IoT rollouts.



Cellular Connection Keepalive

Robustel's cellular keepalive monitors and recovers from connectivity loss between routers and mobile networks.



Serial Ports Onboard

RS232/485 support for Modbus RTU interface, connecting thousands of sensors/instruments for maximum flexibility.



Customer-hosted Router Management Platform

RCMS router management platform can create a private "walled garden" when installed on customer's data center or cloud infrastructure for excellent router management.

Recommended Product



M1200

Wind Turbine Preventive Maintenance Solution

Demands & Pain Points

- Wind turbines are located in challenging areas, making their installation and maintenance complex and costly. However, using sensors for preventive maintenance can help reduce costs.
- Wireless cellular communication products must meet global certification requirements and meet stringent product quality and environmental requirements for preventive maintenance solutions for wind power plants.

Solution

Robustel provides R1520-4L Global, the Global Single SKU product, to customers:

Single SKU for Global Frequency Bands

Supports global frequency bands and offers a single SKU, simplifying device selection, stocking, and logistics while reducing operating costs for global deployments.

Global Certifications

Achieved market certifications in most countries, including Europe (CE), US (FCC/PT-CRB/AT&T/VERIZON), Canada (IC), Brazil (ANATEL), Japan (JATE/TELEC), and Australia (RCM), lowering compliance risks for customers.

Remote Device Management

RCMS device management platform provides fast real-time monitoring, remote diagnosis, enabling equipment maintenance work to be completed without visiting the site.

Security and Reliability

Nettitude, a well-known global cybersecurity lab, tested and approved RobustOS as a gateway operating system for IoT applications.

Topology

----- Wireless Connection ——— Wired Connection



Advantages



Robust Industrial Design

Robustel's quality products have industrial housing for reliability in any conditions, and protect against humidity, dust, vibration and EMC.



Extensive International Certifications

Robustel heavily invests in global certifications for Robustel's Global IoT Router, making it one of the most certified worldwide.



Serial Ports & Digital IO & Analog Input Onboard

Support for legacy serial devices with RS-232/RS-485 interfaces provides maximum flexibility when used as a Modbus RTU interface, with IO and analog inputs.



Free Router Management Platform

RCMS router management platform manages SIMs and routers at scale. Free basic version, advanced features on PAYG - compelling commercially.

Recommended Product



R1520 Global

Smart Grid Solar Power Station Monitoring Solution

Demands & Pain Points

- Solar power stations are typically situated in secluded, sun-drenched regions with arid climates, and must withstand harsh conditions like extreme temperature fluctuations and sand and dust exposure. To guarantee uninterrupted power supply and optimize solar energy harvest, solar power stations require robust, industrial-grade equipment.
- These stations are typically fitted with numerous photovoltaic panels, which collect vast amounts of data that necessitates preprocessing for effective data extraction. This is crucial for efficient reporting to the management platform.

Solution

The photovoltaic power generation panel is connected to the Robustel edge computing gateway through LoRa, and the gateway provides a data transmission channel between the photovoltaic power station and the management platform through the wireless cellular network.

Administrators can complete the monitoring and management of photovoltaic power plants through the management platform.

High Reliability

The device has passed rigorous tests to ensure it can withstand harsh environmental impacts like high/low temperature, and ensure stable data transmission with automated operation and maintenance supported.

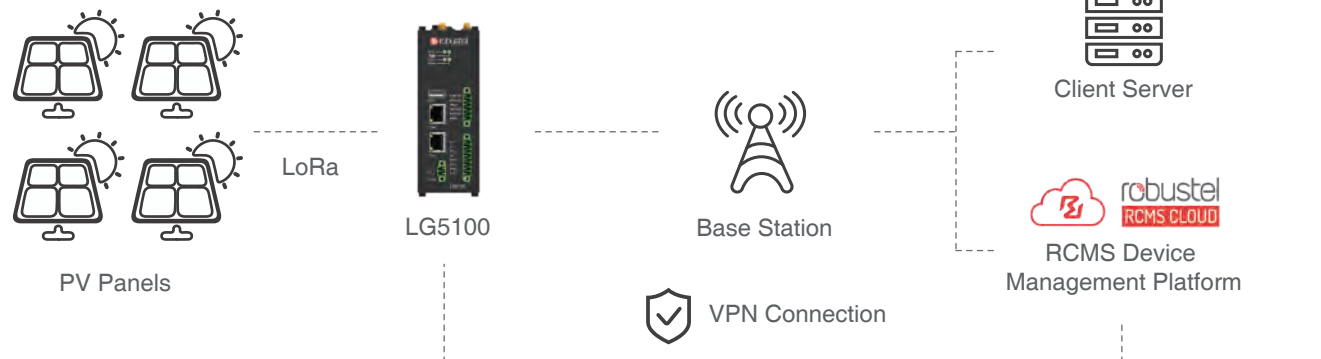
Edge Computing

Robustel Edge Computing Gateway features a high-performance CPU, improving computing power for optimized, real-time, and intelligent analysis of on-site equipment data.

Remote Operation and Maintenance

RCMS device management platform provides fast real-time monitoring, remote diagnosis, enabling equipment maintenance work to be completed without visiting the site.

Topology



Advantages



Built-in Web Server

Feature a built-in web server, eliminating the need for costly cloud server operations.



Supports Docker

Robustel's Docker containerisation allows easily porting of software to EG5000 series Gateways from other platforms.



Serial Ports & Digital IO Onboard

Support for legacy serial devices with RS-232/RS-485 interfaces provides maximum flexibility when used as a Modbus RTU interface, with IO for status indication and control.



Free Router Management Platform

RCMS router management platform manages SIMs and routers at scale. Free basic version, advanced features on PAYG - compelling commercially.

Recommended Product



LG5100

EV Charging Pile Networking Solution

Demands & Pain Points

- The deployment of car charging piles is increasing due to the popularity of new energy vehicles. To better manage charging piles and improve service quality, it is necessary to have them networked.
- Charging piles are exposed to the outdoor environment and some facilities have complex on-site environments, which require industrial-grade networking equipment to withstand the effects of harsh conditions.
- Mobile payment methods have been added to charging piles, requiring secure and reliable internet connectivity.
- Most parking lots deploy multiple charging piles, which require a reliable monitoring and management platform.

Solution

The charging pile communicates with the Robustel IIoT Gateway through the Ethernet port, and the router establishes a seamless connection with the monitoring cloud platform through a stable and reliable 4G LTE cellular wireless network. Combined with routing strategies, VPN tunnels and other functions, it provides safe network access and real-time services for the charging pile.

Stable Connection

Robustel IIoT Gateway provides cellular network wireless networking, uninterrupted data transmission for various networking scenarios.

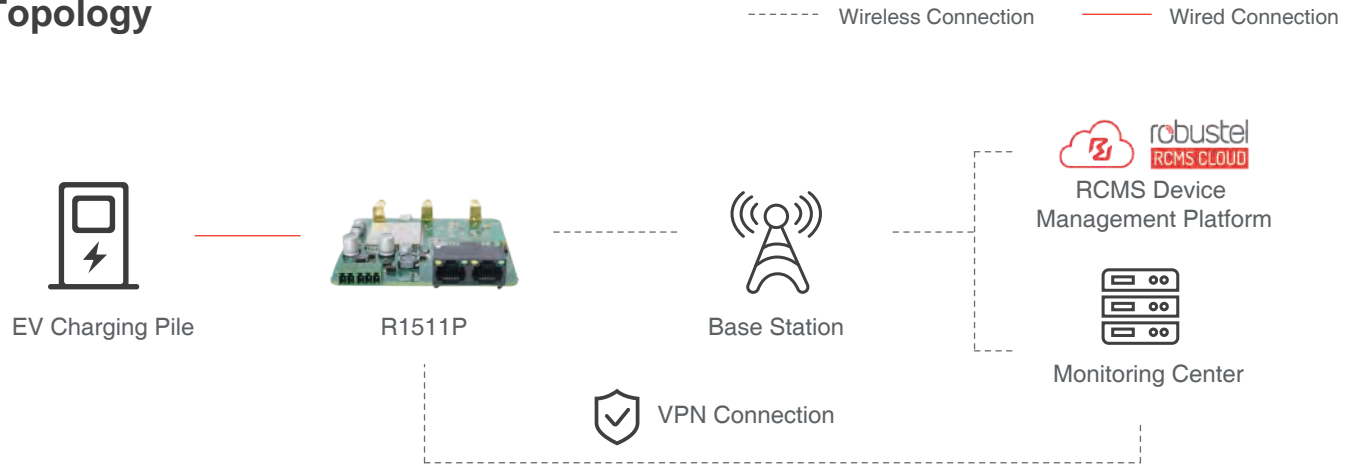
Security and Reliability

Nettitude, a well-known global cybersecurity lab, tested and approved RobustOS as a gateway operating system for IoT applications.


Integrated Management

Robustel's RCMS platform enables simultaneous management of multiple devices, reducing the time spent managing them.


Topology




Advantages

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Cost-effective Hardware

Robustel hardware: Industrial grade, durable, wide voltage/temperature range, cost-effective for high volume Industrial/IoT rollouts.
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Designed for Embedded Applications

An ideal solution for embedded applications to customers who need to purchase in large quantities while minimizing procurement costs.
- 

Serial Ports Onboard

RS232/485 support for Modbus RTU interface, connecting thousands of sensors/instruments for maximum flexibility.
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Free Router Management Platform

RCMS router management platform manages SIMs and routers at scale. Free basic version, advanced features on PAYG - compelling commercially.

Recommended Product



R1511P



Company Overview

Company Introduction

Robustel is a cellular router & Gateway manufacturer specialising in 5G, 4G/LTE & LPWAN devices. Our products are used in smart cities, transportation, utilities, energy, Industrial IoT and many other applications to deliver robust and reliable connectivity.

Data Highlights

2 Million +

Connected
Terminals

100 +

Countries

10,000 +

Enterprise
Customers

11 +

Global Offices

Brand Philosophy

"Robustel" is composed of "Robust" and "Tel". "Robust" represents robustness in automation systems, which refers to the high reliability and robustness of the system, while "Tel" represents communication. Together, it means that Robustel provides highly reliable and robust communication products and systems in the industrial internet of things (IIoT). At a macro level, the people at Robustel are highly reliable and trustworthy, and the products and services they design must also be highly reliable.

Why Choose Robustel?



Combination of
Hardware & Software

High-reliability industrial grade cellular routers & gateways at a very competitive price point.



Free Device
Platform

Free MS-Azure based device management platform with all products. Unique and powerful management features in advanced version.



Customization

In-house router OS development allows for fast customization and OEM branding.



Guaranteed
Security

Excellent Cybersecurity practices including independent penetration testing on all software components.



Globalization

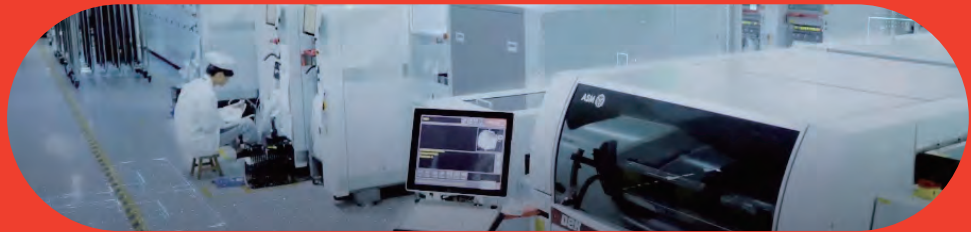
Supplying 100+ countries, with over 50 distribution partners to provide high quality localized service.

Turnkey Manufacturing Facilities

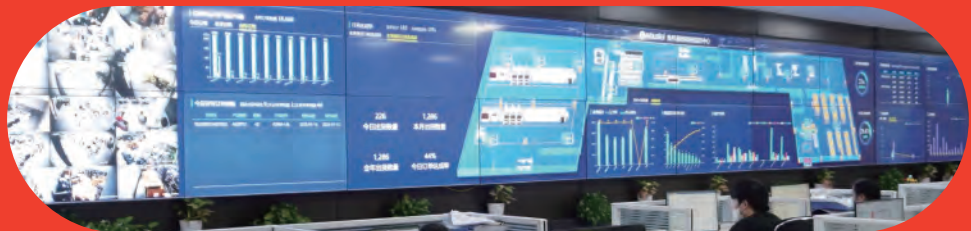
Robustel's "Smart Factory" was developed from the ground-up in 2018 with full software and hardware design capabilities. Robustel developed MES systems based on "lean production" idea, which created an intelligent infrastructure for a data-driven, green and flexible supply-chain. Also, multiple SMT lines give Robustel complete control over production scheduling and QA of the manufactured products. These facilities are regularly used to deliver fully or semi-bespoke OEM products along with simple EMS capabilities.

1

Intelligent
Automated
Production Line

**2**

Digital Twin
Screen

**3**

Digital
Process



Robustel Industrial IoT Product

Main Product

Industrial Wireless Communication Device

Edge Computing Gateway

Agriculture, Enterprise IT, Industrial IoT, Transport & Logistics, Smart Cities, Healthcare, Oil, Gas & Mining, Retail & Payments, Energy & Utilities, Environmental IoT

Make Things Connected

Typical Applications

Energy & Utilities

Managing the reading, collection and distribution of traditional and renewable resources for consumer and business use.



Smart Cities

Empowering councils and governments with connectivity for infrastructure, buildings, public spaces and traffic management.



Enterprise IT

Primary internet access or fixed line failover connectivity for distributed office, retail or branch environments.



Retail & Payments

Wireless Monitoring and Communications for ATMs, Vending Machines, Kiosks, Digital Signage and Point of Sale systems.



Transport & Logistics

In-Vehicle internet access for fleet management, logistics, public Wi-Fi, security and telematic data.



Industrial IoT

Monitoring & managing assets, equipment and infrastructure in manufacturing, warehousing and construction.



Oil, Gas & Mining

Employing remote control and management to improve safety and efficiency around the extraction of primary resources.



Agriculture

Using sensing & wireless technology to improve irrigation, fertilization, yield and more in agriculture and farming.



Environmental IoT

Environmental protection solutions for local conditions to realize intelligent environmental monitoring, disaster prevention and environmental compliance.



Healthcare

Powering remote diagnostics, telemedicine solutions through wireless communications.





Scan to Visit Robustel Website for
More Product Information

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www.robustel.com



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