

# Technical Specification for SG800 4G Edge Gateway

---



VERSION NUMBER: **V2.2**

---

XIAMEN KEY-IOT TECHNOLOGY CO., LTD  
[www.key-iot.com](http://www.key-iot.com)



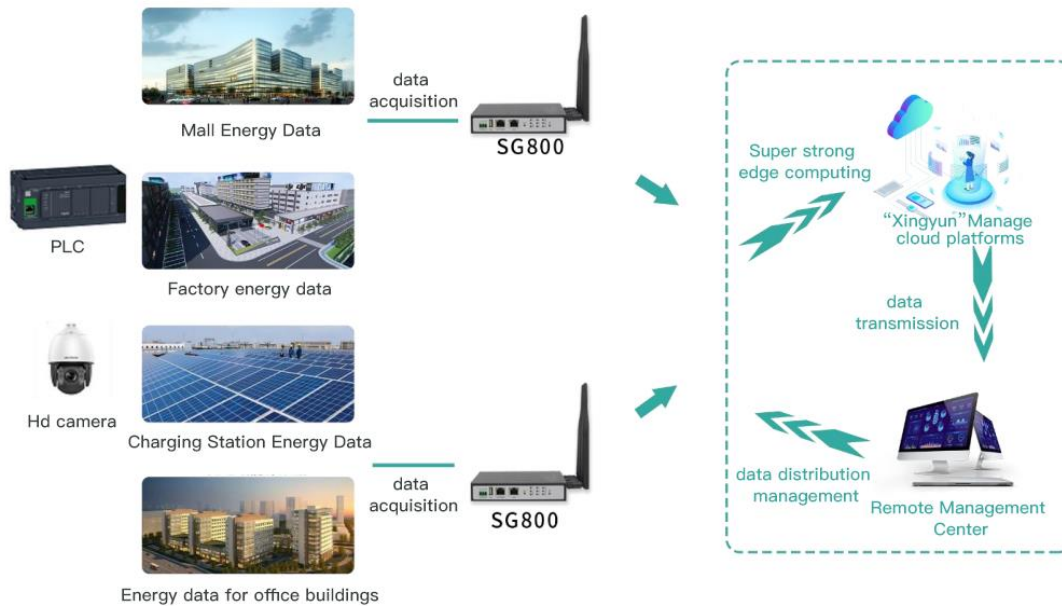
# Product Overview

The SG800 series products are industrial-grade wireless communication gateways for user-side energy monitoring, an important component of energy management. They can collect energy data from charging stations as well as factories, office buildings, and shopping malls. Through platform data analysis, they achieve operational management and energy conservation goals.

## Product Features

- Supports WLAN (optional)
- Supports 4G and wired network backup
- Supports 4G LTE CAT4 high-speed network
- Supports DIN rail and desktop installation
- Efficiently completes large-scale device network deployments
- Supports multiple hardware interfaces to meet various requirements
- Industrial-grade design, capable of withstanding challenging conditions
- Supports various VPN functions: PPTP, L2TP, IPSEC, OPENVPN, GRE, GERTAP, Vxlan, etc
- Supports SNMP and Star Device Manager (Star Cloud) platform for efficient remote centralized network management
- Supports Linux OpenWrt 19.07 system and Ubuntu 16.04 system, facilitating user secondary development with comprehensive secondary development guides

# Topology Diagram



# Technical Parameters

## Hardware Performance

Memory	1GB
FLASH	4GB EMMC
WIFI (optional)	802.11b/g/n
Network Support	Supports seven-mode full-network access (4G)
System Time	NTP technology for time synchronization, with built-in RTC

## Interfaces

WAN port	1 WAN port, can be reused as LAN
LAN port	1 (10M/100M/1000M adaptive MDI/MDIX port)
SIM card interface	1 (flip card slot, supports 1.8V/3V SIM/UIM cards)
USB interface	1*USB2.0
Reset	1 (reset button)
Antenna interfaces	1 (4G, impedance 50 ohms, SMA female inner hole interface)
	1 (2.4G antenna, impedance 50 ohms, SMA male inner pin interface)
Power terminal	1 (2-pin 3.81mm spacing connector)
Console port	1, RS232
CAN	2 pcs

RS485	2*RS485, independent isolation, one of which can be reused as RS232
Power output	1 channel 12V
Indicators	9, including 1 PWR light, 1 SYS light, 1 GPS light, 3 signal strength lights, SIM1, SIM2, and TF indicators

### Power Characteristics

power	External Power Adapter (12V·2A)
Operating voltage	DC 12V
Standby power consumption	300~500 mA@12V DC
Operating power consumption	500~700 mA@12V DC

### Operating Conditions

Operating temperature	-35 ~ +75°C (-31 ~ +167°F)
Storage temperature	-40~+85°C (-40 ~ +185°F)
Operating humidity	5%~95% (non-condensing)
Equipment ventilation	Natural heat dissipation, no noise

### Physical Characteristics

Enclosure	All-metal enclosure
Dimensions	Length*Width*Height: 126*44*166mm (excluding antenna and installation components)
Installation methods	Desktop, DIN rail, wall-mounted
weight	Net weight: 0.67KG (excluding antenna and installation components) Gross weight: 0.95KG (with accessories and packaging box)

### Device Safety and Reliability

Safety and reliability	Power reverse protection, overvoltage protection, overcurrent protection; Ethernet interface built-in 1.5KV electromagnetic isolation protection; RS232/RS485 interface built-in 15KV ESD protection; SIM/UIM card interface built-in 15KV ESD protection
Protection level	IP30
Certification	Compliant with CCC, RoHS
MTBF	≥ 100,000 hours

### Software features (OpenWrt system)

Network access	Supports APN VPDN
Access authentication	Supports CHAP/PAP authentication
Network modes	GSM/GPRS/EDGE, LIMTS/HSPA+/EVDO, TD-SCDMA/TD-LTE/FDD LTE/5G NR
LAN protocol	Support ARP, Ethernet
WAN protocol	Supports static IP, DHCP, PPPoE, PPP
IP applications	Supports Ping, Trace, DHCP Server, DHCP Relay, DHCP Client, DNS relay, DDNS, Telnet
IP routing	Supports routing
NAT function	Supports network address translation

Industrial protocols Supports environmental protection 212 protocol, supports MQTT, MUDBUS, and other industrial protocols

## Network Security

### Firewall

Full-state packet inspection (SPI), prevent denial of service (DoS) attacks, filter multicast Ping packets, access control lists (ACL), URL filtering, port mapping, virtual IP mapping, IP-MAC binding

### Data Security

IPsec VPN/L2TP/PPTP/GRE /OPEN VPN/CA certificate

## Reliability

### Backup function

Supports wired and wireless backup

### Online link detection

Sends heartbeat packets for detection and automatically reconnects when disconnected

### Built-in watchdog

Device self-checking technology, device fault self-repair

## WLAN (optional)

### Protocol standards

IEEE 802.11b/g/n

### Rate

Up to 144Mbps

### Safety features

Open system, shared key, WPA/WPA2 authentication, WEP/TKIP/AES encryption

### Operating modes

AP, Client operating modes

### Transmission distance

100m (actual transmission distance depends on the environment)

## Intelligent Features

### Integrated DTU function

Supports TCP, UDP transparent transmission mode, TCP Server mode, supports Modbus RTU to Modbus TCP bridge, supports DCUDP, DCTCP mode

## Network Management

### QoS management

Supports bandwidth limitation, IP throttling

### Configuration methods

Supports telnet, web, SSH, and console configuration methods

### Upgrade methods

Supports web upgrade, FOTA

### Logging functionality

Supports local system logs, remote logs, serial port output logs

### Network management functionality

Supports batch management on the Star Device Manager (Star Cloud) platform

### Simple network management functionality

Supports SNMP v1/v2/v3, supports SNMP TRAP function

### Traffic management

Supports traffic threshold setting, traffic statistics, and traffic alert functionality

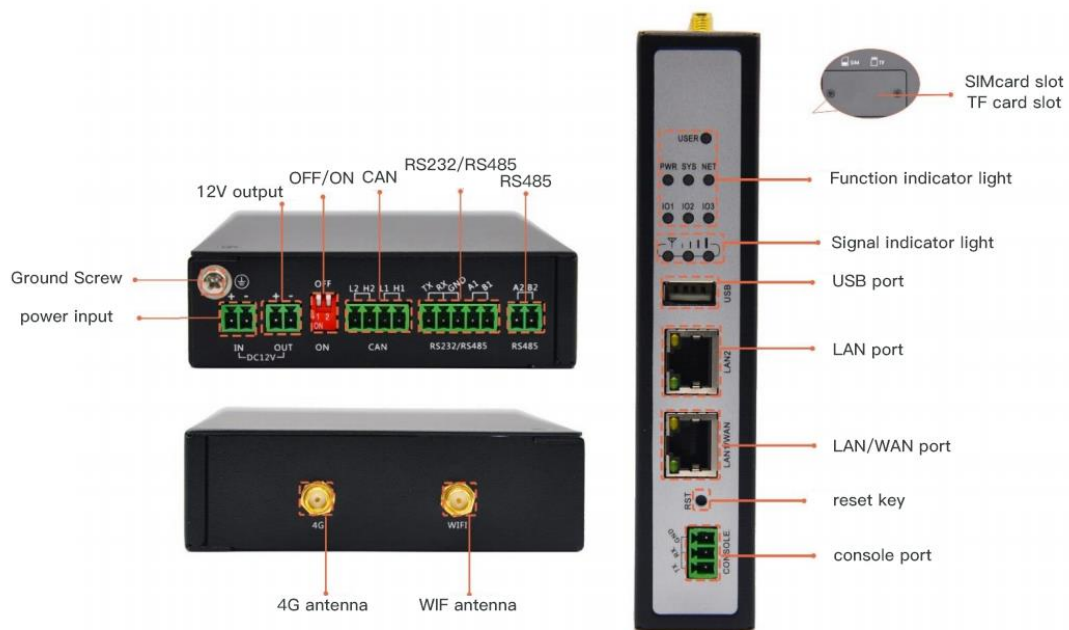
### Maintenance Tools

Ping, route tracing

### Status Inquiry

System status, modem status, network connection status, route status

# Product Interfaces



# Product Dimensions

单位:mm  
unit:mm

