Technical Specification for SG800 4G Edge Gateway

VERSION NUMBER: **V2.2**

XIAMEN KEY-IOT TECHNOLOGY CO., LTD

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
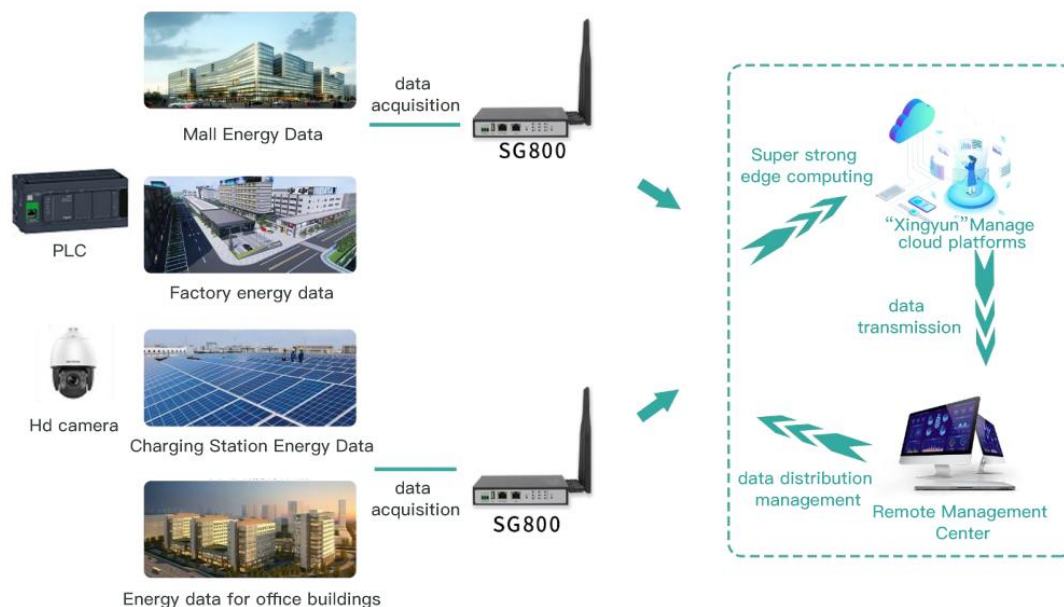
Technical Parameters

| 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

星创
KEY-IOT

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℃ (-31 ~ +167℉)
Storage temperature	-40~+85℃ (-40 ~ +185℉)
Operating humidity	5%~95% (non-condensing)
Equipment ventilation	Natural heat dissipation, no noise

Physical Characteristics

Casing Material	Metal housing
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	Complies with CCC, Rohs
MTBF	≥ 100,000 hours

Software Features (OpenWrt)

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,

MODBUS, 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 Protocol(Optional)	Supports SNMP v1/v2/v3, Supports SNMP TRAP Functionality
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
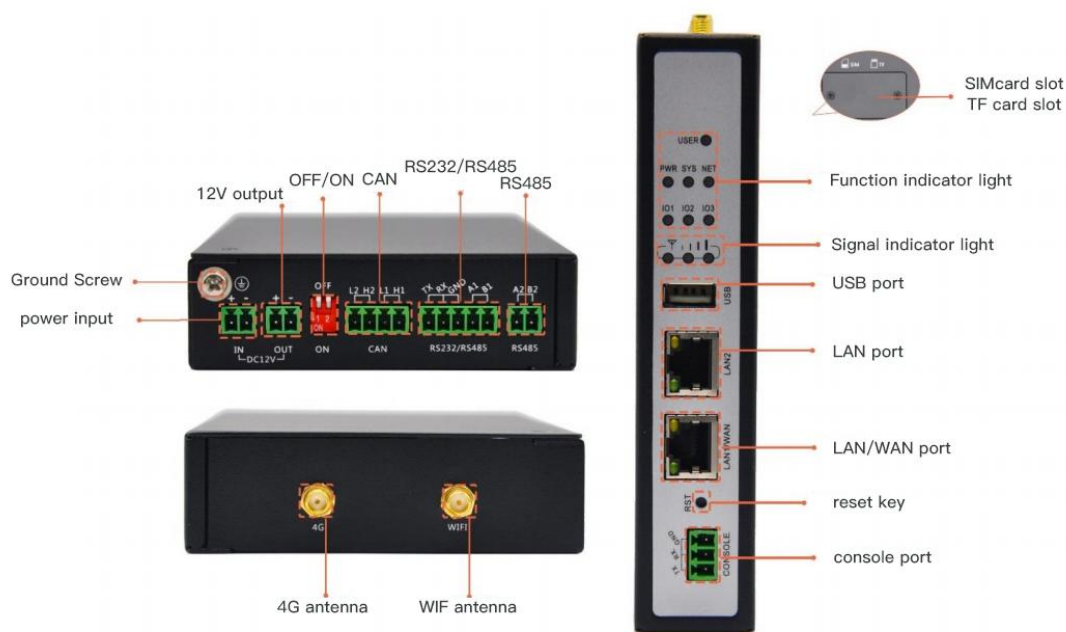
Product Dimensions

单位:mm
unit:mm