

GSM 3G 4G LTE Cellular IoT Gateway



S473/S474/S475

Data Sheet

Ver 1.1

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www.4G-RTU.com

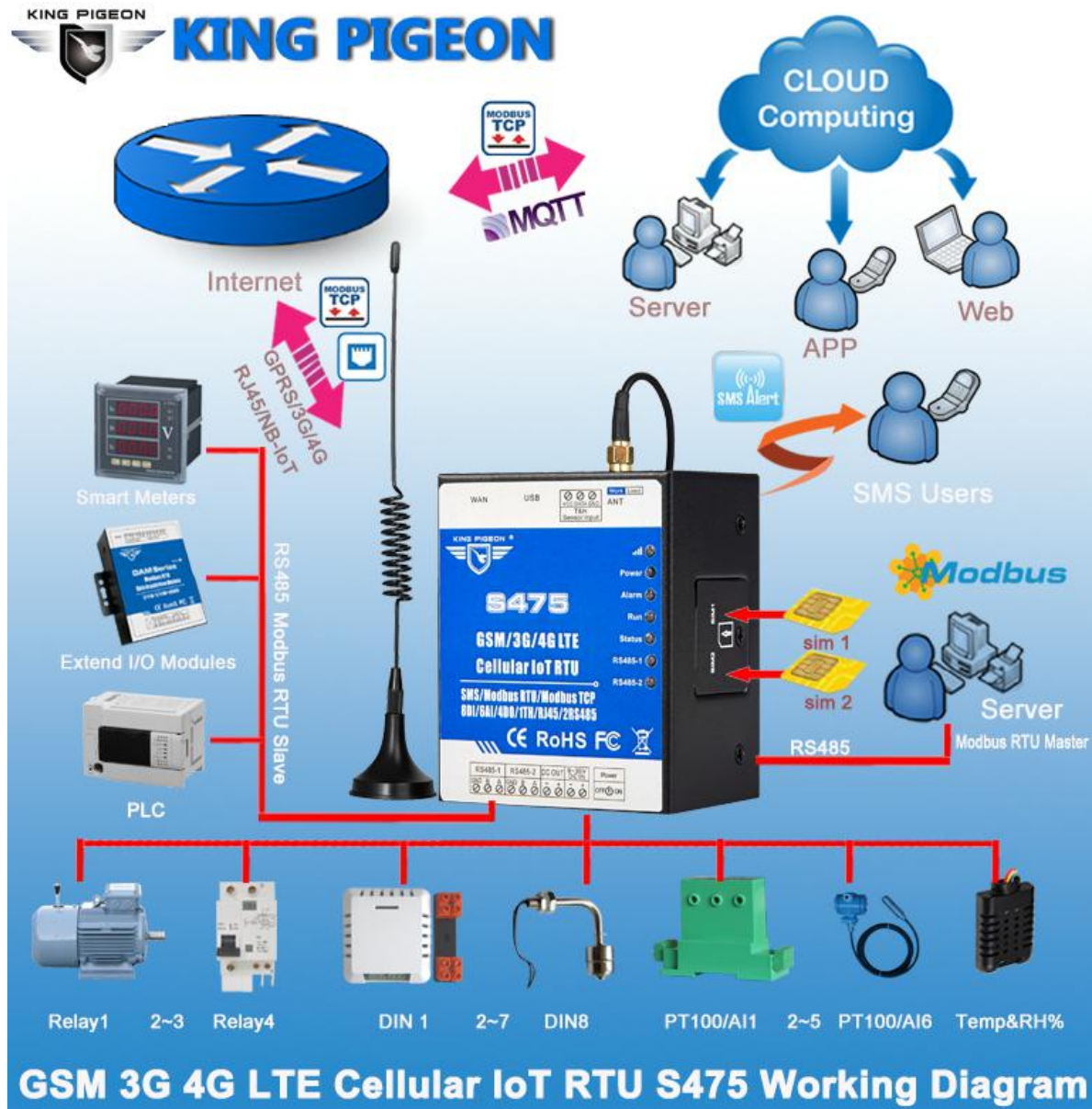


Model List

Model	GSM/3G/4G	Ethernet	DIN	AIN/PT100	Relay	T&H	SD Card	Extend I/O tags				
								Boolean	16-Bit	32-Bit	64-Bit	RS485 Port
S473	✓	✓	8	6	4	1	8G	64	64	×	×	2
S474	✓	✓	8	6	4	1	8G	64	128	32	×	2
S475	✓	✓	8	6	4	1	8G	64	128	64	64	2
S475E	×	✓	8	6	4	1	8G	64	128	64	64	2

Notice

- 1.Default version is GSM/GPRS module inside.
- 2.For 3G WCDMA, 4G LTE version, please tell our sales where would you like to use them.
- 3.The S475E series has no communication module, so it can't call and SMS to alarm.



1. Brief introduction

The Cellular IoT Gateway S47X is an industrial class, high reliability, high stability, and programmable Remote Terminal Unit (RTU). It embedded 32-Bit High Performance Microprocessor MCU, inbuilt industrial Cellular module. It provides 8 digital inputs, 6 analog (ultra high 24 bit resolution) or PT100 Resistance Temperature Detector (RTD) inputs, 4 relay outputs, 1 ambient sensor input for monitoring onsite temperature and humidity, 1 Ethernet RJ45 port for connect internet WAN or LAN, and 2 RS485 serial port, supports 128/224/320 IO tags via Modbus RTU protocol. It can monitoring and operates the I/O ports by SMS, APP, Web Server, internet, timers and programmed inter-lock events automatically.

The Cellular IoT Modbus Gateway S47X inbuilt TCP/IP protocol stack make it suitable for internet of things (IoT) applications, it can be operated easily by the provided cloud, app, and web server, or integrated to your IoT applications via Ethernet or the TCP/UDP protocol, or integrated to SCADA systems by standard Modbus TCP protocol, too. This is very useful if you need remote control onsite devices with low cost solution.

The Cellular IoT Modbus Gateway S47X supports 2 RS485 ports, which can be used as Modbus RTU Master and Slave at the same time and supports transparent data transmission . The Cellular IoT Modbus RTU can be used as Modbus RTU Master to reading smart meters, I/O modules, PLC, and converts to SMS alert once triggered the threshold value, or transmit data to remote server over GPRS/3G/4G/NB-IOT network.

Typically applications:

The Cellular IoT Modbus Gateway S47X is designed for working in the harsh industrial application environment, widely used in a variety of industrial automation:

BTS Monitoring, Security Alarm System applications, Supervision and monitoring alarm systems, Automatic monitoring system, Vending Machines security protection, Pumping Stations, Tanks, Oil or Water levels, Buildings and Real Estate, Weather Stations, River Monitoring and Flood Control, Oil and gas pipelines, Corrosion protection, Temperatures, water leakage applications, Wellheads, boat, vehicle, Energy saving, street lights control system, Valve controls, Transformer stations, Unmanned machine rooms, Control room application, Automation System, M2M, etc.

2. Safety Directions



Safe Startup

Do not use the unit when using GSM/3G/4G equipment is prohibited or might bring disturbance or danger.



Interference

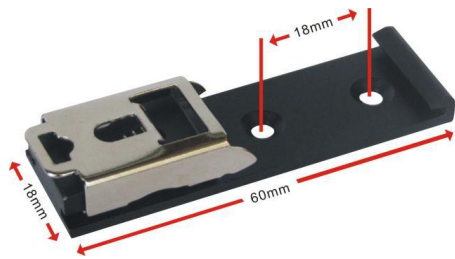
All wireless equipment might interfere network signals of the unit and influence its performance.

3. Standard Packing List

Gateway X1; AC/DC Adaptor X1; GSM/3G/4G Antenna X1; User Manual X1; PC Configurator X1 .

Note: The package does not include any SIM card.

Optional: 35mm Standard DIN rail fixed Bracket



4. Features and Specification

4.1 Mainly Features

- GSM/GPRS/3G/4G network communication, can be operated from anywhere, no distance limitation;
- Quad band 850/900/1800/1900Mhz GSM GPRS Module inside,3G/4G/NB-IoT Modules are optional;
- Modular design, can easily upgrade the cellular module if network upgrade;
- Embedded ARM® Cortex™-M4 32 Bit RISC Core, 168 MHz inside, RTOS system, reliable performance with in-built watchdog;
- Wide range power supply 9~36VDC with over voltage and phase-reversal protection;
- 8 digital inputs, compatible dry and wet contact, first one can be used as pulse counter;
- 6 analog inputs, 24bit resolution, compatibles 0/4~20mA, 0~5V, can change to PT100 Resistance Temperature Detectors;
- 4 relay output (5A/30VDC, 5A/250VAC), compatibles pulse outputs;
- 1 temperature & humidity sensor input for monitoring onsite environment, the sensor model is AM2301, Measures temperature from -40-80°C,0.5°C accuracy, Relative Humidity from 0-99RH%, accuracy is 3%;
- Inbuilt inter-lock logic programmer and powerful timer program function;
- Resend the data while communication failure and alert to users by SMS;
- Embedded TCP/IP protocol stack, support TCP/UDP, Modbus TCP, Modbus RTU over TCP , KingPigeon IoT RTU protocol and transparent transmission function, support self-defined handshake protocol active connecting server and automatically reconnect the server function after connection failure;
- Built-in TCP listening port, can be used as a TCP server, supports up to 5 terminal accesses;
- With dual SIM interface: SIM card 1 active, SIM 2 standby mode, improve communication quality;
- Supports RJ45 Ethernet port for connect internet, WAN or LAN;
- 2 RS485 port, supports Modbus RTU Master and Slave, can be used to extend I/O ports or meters;
- Supports SMS Alert when I/O triggered or recovery, and external power lost or recovery;

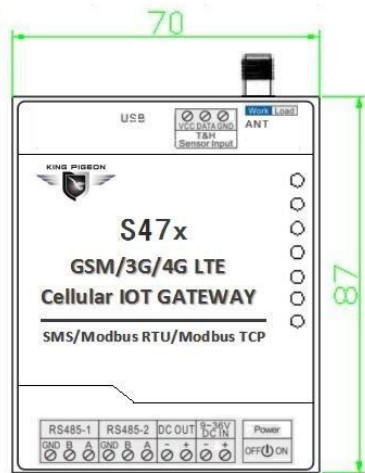


- Provides 1 channel 9~36VDC power source output for external device, saving wiring cost;
- Up to 10 SMS Alert and dial numbers, can program to receive specified alarm message, 10 authorized numbers can switch on/off device with a free charge call at the specified time;
- Inbuilt 8G SD card to save up to 100000 historical data and events;
- Inbuilt large capacity automatically rechargeable backup battery;
- Using metal shell, protection class IP30. Metal shell and system security isolation, especially suitable for industrial applications in the field;
- L70 * W87 * H52mm, compatible wall installation and DIN35mm industrial rail installation.

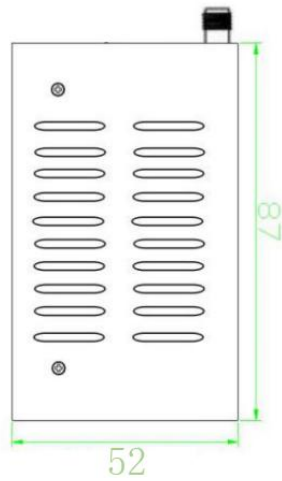
4.2 Specifications

Item	Reference Scope
DC Power supply	Standard adapter: DC 12V/2A Range 9-36VDC
Power consumption	Standby:12V/130mA; Working Max.: 12V/500mA
GSM Frequency	850/900/1800/1900Mhz
3G/4G/NB-IoT	Optional: WCDMA/TDD-LTE/FDD-LTE/NB-IoT
TCP/IP stack	TCP,UDP
SIM interface	Dual SIM Card,supporting 3V and 1.8V SIM Card
External antenna	SMA Antenna interface, 50 Ohm, Gain: 3dB
Serial Interfaces	1 USB Port
Protocols	SMS, GPRS UDP,TCP,MQTT, Modbus RTU, Modbus TCP and more equipment protocols can be added according to requirements.
Ethernet	1 RJ45 Ethernet port for connect internet, WAN or LAN.
RS485	2 RS485, Support Transparent transmission and Modbus RTU Slave, Modbus RTU Master.
Digital Inputs	8 Digital input, NC/NO type, first one can be used as Pulse Counters;
Analog Inputs	6 Analog Inputs. 24 bit resolution, 0-5V or 0-20mA or 4-20mA; Optional: each AIN can be changed to PT100 RTD inputs.
Temp.&Hum Inputs	Temperature range: -40°C to +80°C, Humidity Range: 0~100%RH;
Relay Outputs	4, Rated: 5A/30VDC,5A/250VAC
Power Outputs	1 Port, for external device;
Extend I/O tags	Max.320
Memory Capacity	Internal 8G SD card inside, can save the data for 100000events.
Backup Battery	3.7V 900mAH
Temperature range	-20°C ~ +70 °C
Humidity range	Relative humidity 95% (condensation free)
Exterior dimension	70mm*87mm*52mm
Net Weight	350g

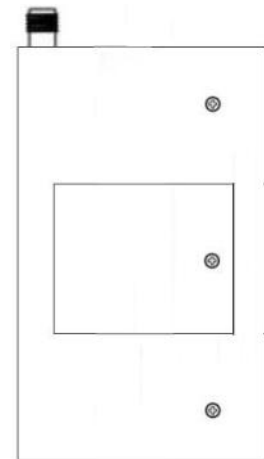
5. Control Unit size



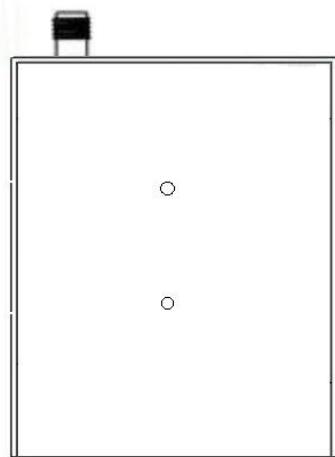
(Front view)



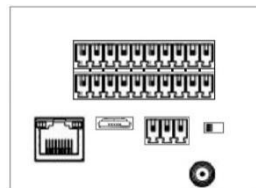
(Left side view)



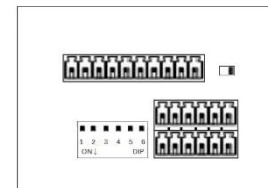
(Right side view)



(Back view)



(Vertical view)



(Bottom view)

The End!

Any questions please help to contact us feel free.

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