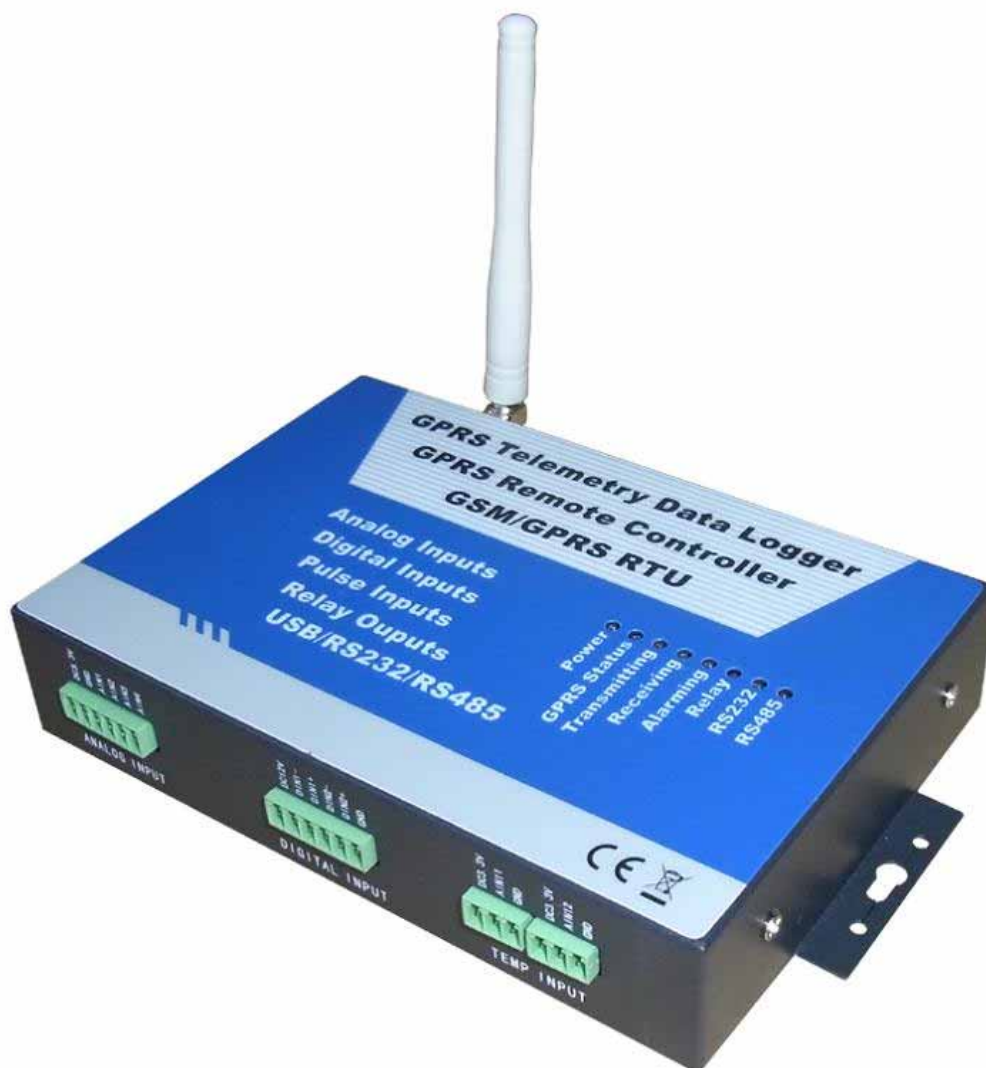# Remote Monitoring Your Assets In Anywhere and Anytime!

Name: GSM GPRS Remote Controller

Model: S200

## Model Table

Model	AIN	DIN	DOUT	Temp.	USB	RS232	RS485
S200	4	2	2	2	1	0	1
S220	6	6	4	2	1	0	1
S240	10	6	4	2	1	0	1
**The S200,S220,S240 support to upgrade the firmware by USB on site by end-users, no need to return the hardware to our factory if you need more special functions or want to use the latest							

version firmware.

**The user can remotely real-time monitoring the GSM GPRS Remote Controller by GPRS remotely via the PC Configurator.

The King Pigeon S2XX Serial GSM GPRS Remote Controller is a universal GSM dialer and controller as well as a GSM GPRS Remote Control and Alarm Unit. it provides multi digital relay outputs(120VAC/3A, 24VDC 3A,), upto 6 digital inputs(Opto-isolated,Active Contact, 3~24VDC, Completely isolated).can be used as pulse counter inputs), 2 temperature inputs for DS18B20, multi analog input(both of 0-20mA and 0-5V, 12 bit resolution), RS485 Port(Support Modbus RTU Protocol, more protocols can be added according to application requirements), reserved RS232 Serial Port and USB port for setting and download upgraded firmware by user on-site. It allows you to monitor and control an alarm or remote stations or equipments or machines by SMS(Short Message Service) Or GPRS. Another, it can transmit data from apparatus (thermometer, humidity meter, electric meter, flowmeter, PLC) to user or monitoring center by GPRS.
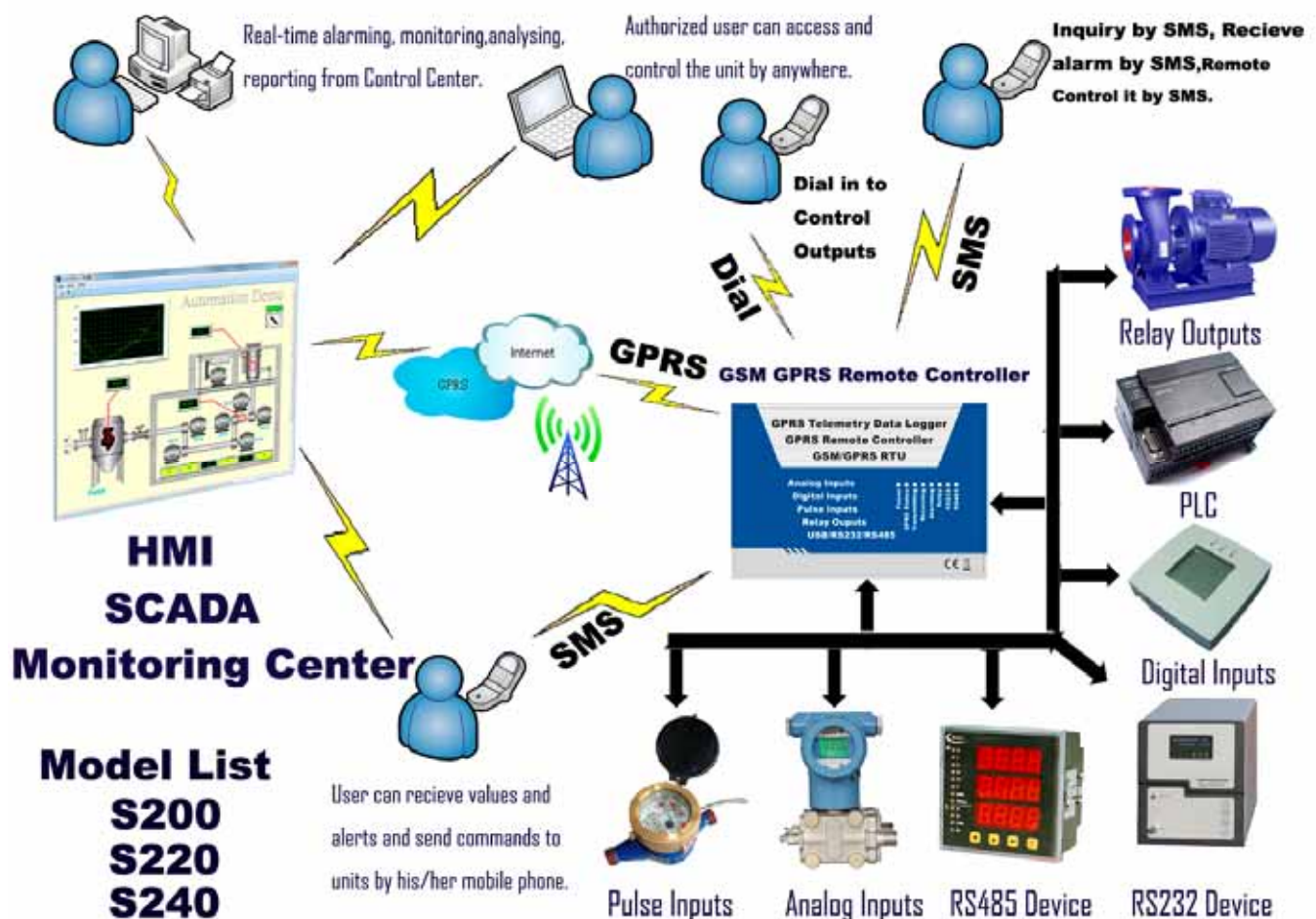
The King Pigeon S2XX Serial GSM/GPRS Remote Controller equipped Siemens MC55i quad-band GSM Module inside to make it is industrial class reliability, is a low cost, wireless M2M, wireless data logger, universal GSM GPRS Engine which can remote control outputs, transmit and receive analog, digital and pulse counter data, PLC, Varity metering equipments to any device connected to the Wireless GSM GPRS network such as mobile phones, Web Sites, monitoring center, control room, SCADA, etc.

The GSM GPRS Remote Controller S2XX can be used as:

- **A Switch with SMS Remote Control.** SMS texts for switching particular terminals on/off are configurable.

- **A Timer-Switch which can be activated automatically.** It can be used as preset time when the GSM GPRS Remote Controller need work and when it needn't work. 4 daily timer and 7 Weekly Timers.

- **A Relay with dialling-in remote control.** Up to 4 tel. numbers can be authorized for it. Because calls are not answered dialling-in control within GSM is free of charge. (it only checks the caller's number and - if the number is authorized - responds with relay activation.) This can be used for parking latch control, gsm gate opener, remote control machine, etc.

- **An automation system.** Each input can link to output actions, this is very useful when the temperature upto appointed value, need switch on the air-conditioning immediately, or when water overflow and need switch on the dryer, or when somebody broken into the door or windows need to start the CCTV and Siren.

- **A SMS reporter.** The digital Inputs activations or deactivations can be reported by SMS and optionally confirmed by phone calls. Each input can have its own message texts and the message can be programmed by users.

- **A Pulse Counter.** The digital inputs can be used as the pulse counter, the user can setup both of interval value activated alarm and total value activated alarm.

- **A Data Logger.** The unit can save the all of the acquisition data in internal memory storage and upload to internet by GPRS network according to schedue, no distance limitation.

- **A Wireless Data Acquisition to SCADA or HMI or Monitoring Center.** The unit can acquisition the varity data(E.g.: Pressure, Level, Current, Voltage, digital input status, pulse counter, digital relay output status, temperature value, humidity value and other) and upload to the SCADA(Real time dynamic data) or HMI or Mornitoring Center by SMS or GPRS, no distance limitation.

- **A Wireless Intelligent Meter Reader.** The GSM GPRS Remote Controller can be used to read remotely intelligent meter data to SCADA or monitoring center by RS232 port or RS485 Port, at present supports ABB,KL,HHE intelligent meters by RS485, more special meters' communication protocol can be add according to application requirements.
- **A GSM GPRS Remote Termials** (GSM GPRS Remote Controller). It can work with the supervisioning center, in the supervisioning center, the own can remote monitoring and control the remotely terminals by GSM GPRS Network.This is very useful to Fuel tank monitoring, Oxygen in hospital, Flood level, street light control, wellhead control, BTS environment monitoring, power transmission system monitoring and other applications.

What Applications does the GSM GPRS Remote Controller suitable for?

1. Security Alarm System applications;

2. Supervision and monitoring alarm systems

3. Automatic monitoring system;

4. Vending Machines;

5. Pumping Stations;

6. Buildings and Real Estate;

7. Weather Stations remote control and data logging;

8. River Monitoring and Flood Control remote control and data logging;

9. Oil and gas pipelines remote control and data logging;

10. Corrosion protection

11. Valve controls;

12. Wellheads;

13. Energy saving,street lights control system;

14. Tanks, levels, temperatures,water leakage applications;

15. Transformer stations;

16. Unmanned machine rooms;

17. Control room application;

18. PLC and Automation System, M2M;

19. GSM Access Control System, GSM Gate Opener, etc.

Features:

➢ Quad-band Siemens MC55i GPRS Module and High-density performance line ARM 32-bit MCU inside;

➢ Direct connection to the GSM GPRS Network;

➢ Transparent Serial Data Tunneling using low cost SMS/GPRS network;

➢ Remote Configuration by SMS Messages or GPRS;

➢ Upload data via GPRS or SMS on Schedule or event occurs;

➢ Supports Dynamic Domain name or Static IP address;

➢ Supports SMS, GPRS UDP and TCP protocols;

➢ Supports Modbus RTU protocols;

➢ 1USB Port and 1 RS485 Serial Port;

➢ 2 Opto-isolated digital inputs can be programmed to NC/NO/Edge/Level type by switch, Passive Contact Type and Active Contact (3~24VDC) type can be programmed by DIP switch, DIN1 and DIN2 are Completely isolated. when alarm occurs can send Alarm Messages by SMS or GPRS or auto dial the preset phone numbers;

➢ 2 digital inputs can be used as Pulse Counters;

➢ 2 Digital Relay Outputs can be programmed as dial to switch on/off with free communication fee, alarm-linkage and Schedule to action, also can be send SMS to switch on/off;

➢ 4 Analog Inputs. (12 bit resolution, 0-5V or 0-20mA);

➢ 2 Thermometer Inputs for DS18B20, measures temperatures from -55°C to +125°C. Fahrenheit equivalent is -67°F to +257°F, ±0.5°C accuracy from -10°C to +85°C, Thermometer resolution is programmable from 9 to 12 bits;

➢ 4 Power Source Outputs for external device, like Thermometer or transducer, 3 with 3.3V/400mA, another with 12VDC/750mA;

➢ Supports 1 SMS Center Number and 1 IP address or 1 Dynamic Domain name;

➢ MTBF(Mean Time Between Failure) up to 2Years;

➢ User friendly PC Programming Interface, it can remotely program the terminals as well as to upload the data from the terminals by SMS or GPRS, all of the Current Value or status of the

terminal can be display directly, and also will display the SMS Command details while you programming it;

➢ More Protocols can be updated by user through USB Port with the updated firmware;

➢ Power supply 9V to 24V(Recommend 12VDC).
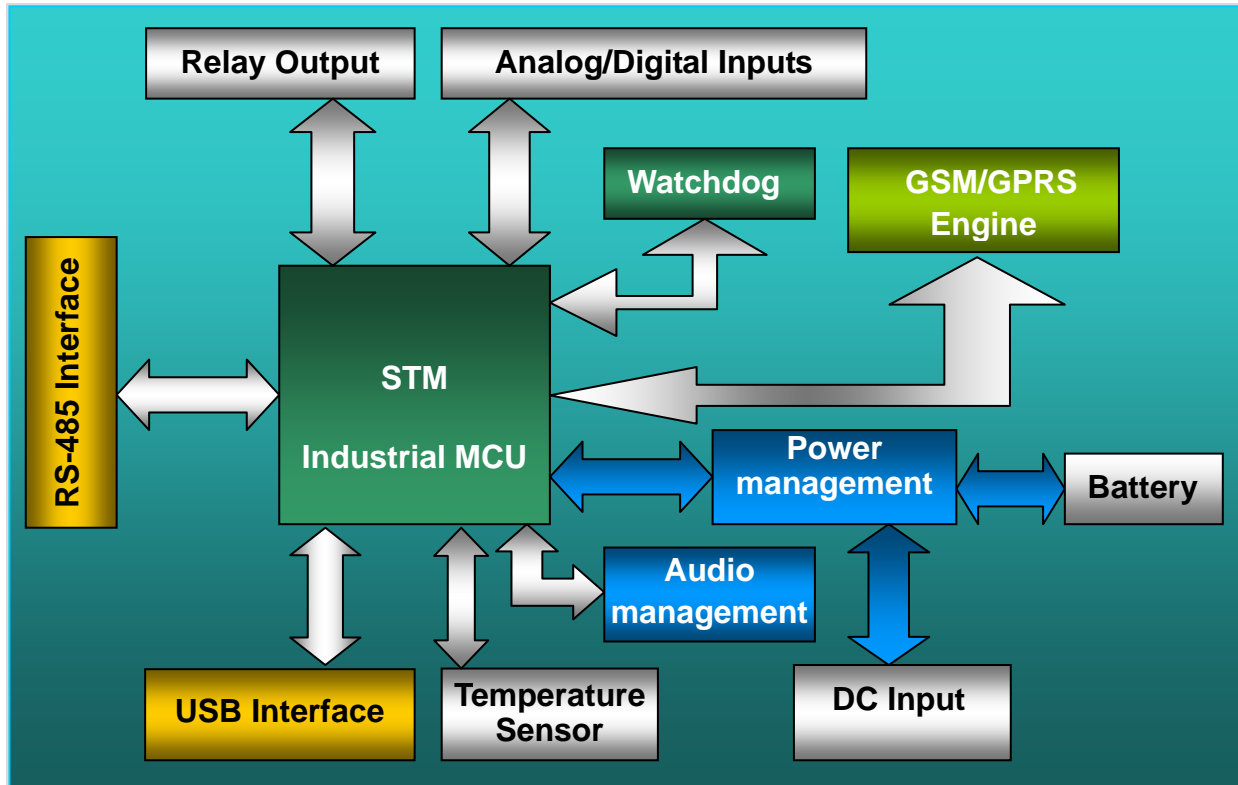
Specifications of GPRS RTU S200:

Parameter Item	Reference Scope
DC Power supply	Standard adapter: DC 12V/1.5A Reference scope 9-24V DC
Power consumption	Standby:12V/70mA; Working Max.: 12V/300mA
GPRS Module	Siemens MC55i
Frequency bands	Quad-band: EGSM 850,EGSM900, GSM 1800, GSM 1900, Compliant to GSM Phase 2/2+
Transmit power	Class 4 (2W) at EGSM 900 and EGSM 850; Class 1 (1W) at GSM 1800 and GSM 1900
GPRS connectivity	GPRS multi-slot class 10
GPRS Data Transmission	GPRS data downlink transfer: max. 85.6 kbps; GPRS data uplink transfer: max. 42.8 kbps.
TCP/IP stack	TCP,UDP
SIM interface	Supporting 3V SIM Card
External antenna	Connected via 50 Ohm antenna connector or antenna pad, SMA

	Antenna interface
Serial Interfaces	1 RS485 Port, 1 USB Port;
Protocols	SMS, GPRS UDP, TCP, Modbus RTU, and more equipment protocols can be added according to requirements.
Digital Inputs	2 OPT Coupler (Active Contact 3-24V);NC/NO/Edge/Level type; Active Contact and Passive Contact By Switch; Can be used as Pulse Counters;
Analog Inputs	4 Analog Inputs. 12 bit resolution, 0-5V or 0-20mA;
Thermometer Inputs	2 Ports DS18B20, Measures temperatures from -55°C to +125°C. Fahrenheit equivalent is -67°F to +257°F, ±0.5°C accuracy from -10°C to +85°C, Thermometer resolution is 12 bits.
Digital Relay Outputs	2, 120VAC/3A, 24VDC 3A, Can be controlled by Event, scheme, Incoming call, SMS Commands, Timer, Interlock; 2 outputs can setup as NC or NO type;
Power Source Outputs	3 Ports with 3.3VDC/400mA Power for external device; 1 Port with 12VDC/750mA Power for external device;
Internal Backup Battery	7.2v 1200mAH
Work Temperature range	-10-+70 °C
Humidity range	Relative humidity 95% (condensation free)
Exterior dimension	168mm*113mm*32.3mm
Net Weight	1000 g

Standard Package list:

GSM/GPRS RTU X 1

Power supply adapter X 1 (12V 1.5A 1)

USB cable for communication X 1

CD (PC Configurator and User Manual) X 1

GSM Antenna X 1

Monitoring Center or OPC Server or SCADA or HMI:

The GSM GPRS Remote Controller supports GPRS Communication, it is useful to create the

monitoring center,HMI and SCADA at reliable and low cost.

The user can according to the abovementioned SMS Commands List and formart to create special monitoring cetner and OPC server or other applications.

Also, we provided the Kingview SCADA and its OPC server to users, it can save time and cost to the implementation of varity applications. From the SCADA, the user can remotely monitoring a large quantity of remote equipments and intelligent meters. All the operations are dynamic. See below:

More about the SCADA and how to setup the SCADA please read the SCADA Setup for GSM GPRS Remote Controller Instructions.

In this user manual, we introduce the basic knowledge of the monitoring center types and how does them work.
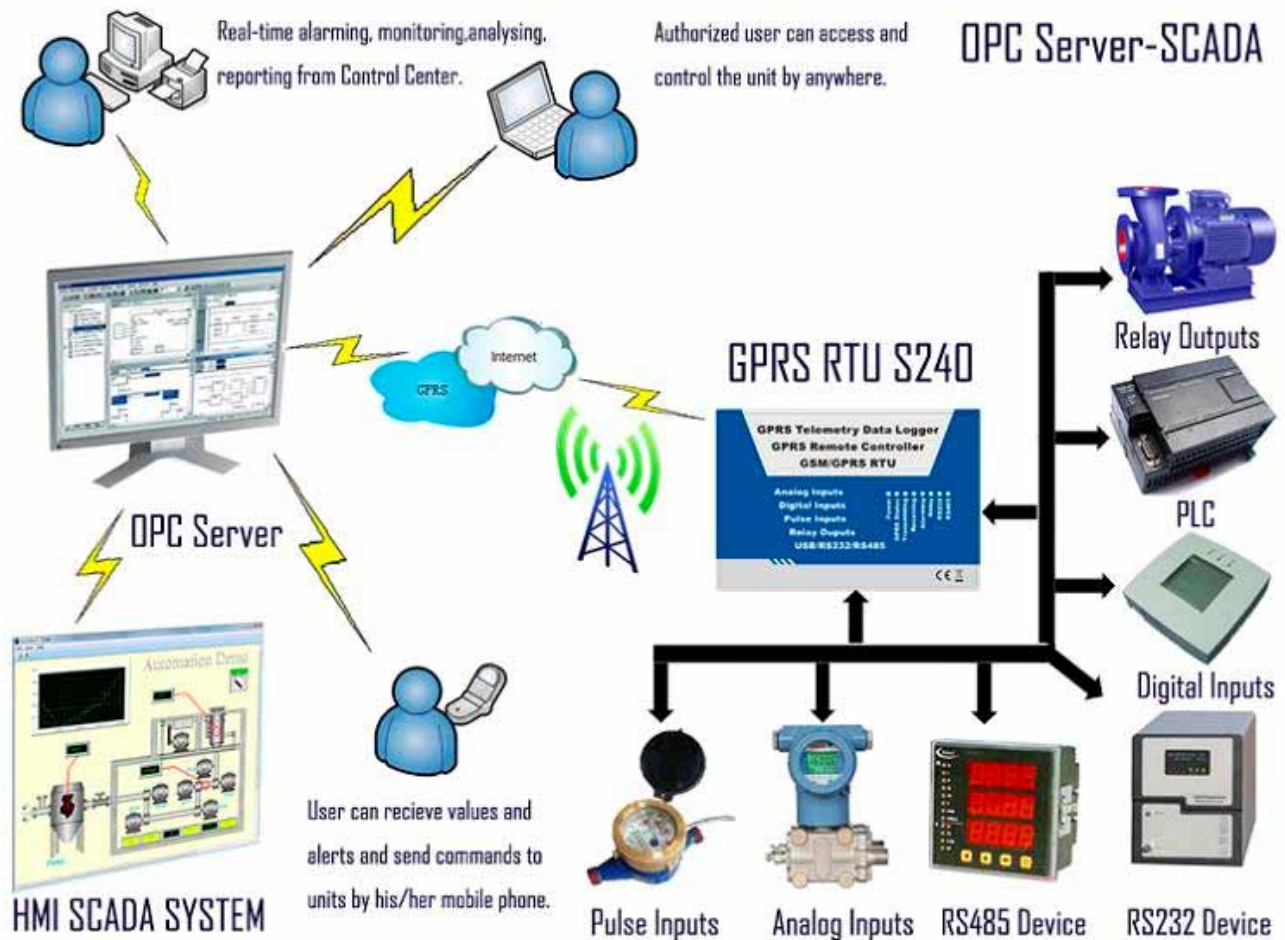
1.   Directly to SCADA System

If the users want to log data to its present SCADA system directly, the user must develop the GSM/GPRS Driver then install in its present SCADA according to our communication protocols, the communication protocols please see appendix. The topological graph please see below:
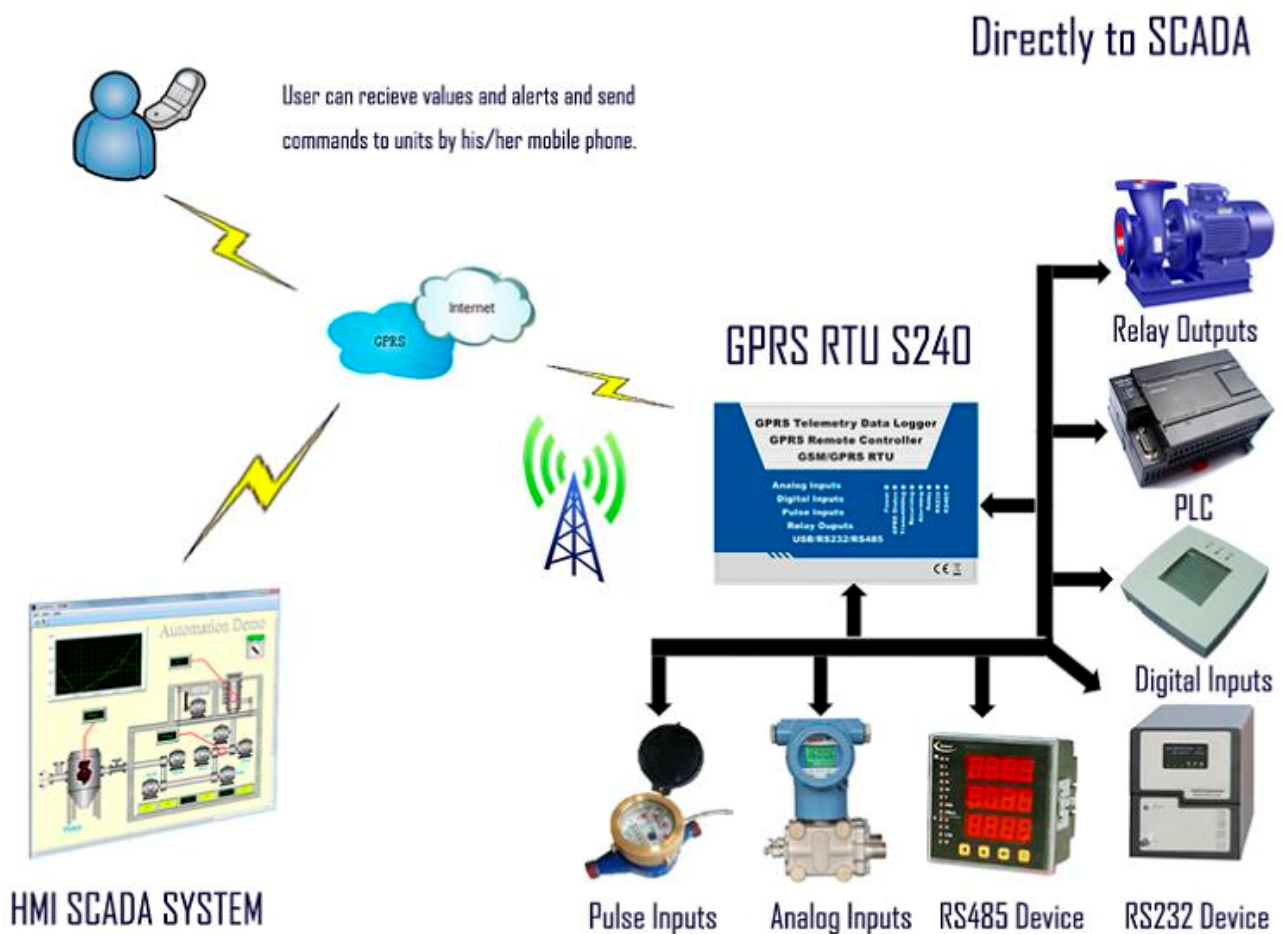
## 2. Monitoring by SCADA System through OPC Server

If the users want to log data to its present SCADA system through OPC Server, the user must develop the GSM/GPRS Driver then install in its present OPC Server according to our communication protocols, so that the OPC Clients can access the GSM/GPRS RTU through OPC Server. The communication protocols please see appendix. The topological graph please see below:

3. By customer customization monitoring center

If the users want to log data to its customization monitoring center, the user must develop the GSM/GPRS Driver then install in its monitoring center software according to our communication protocols. The communication protocols please see appendix. The topological graph please see below:

Customization HMI Monitoring Center
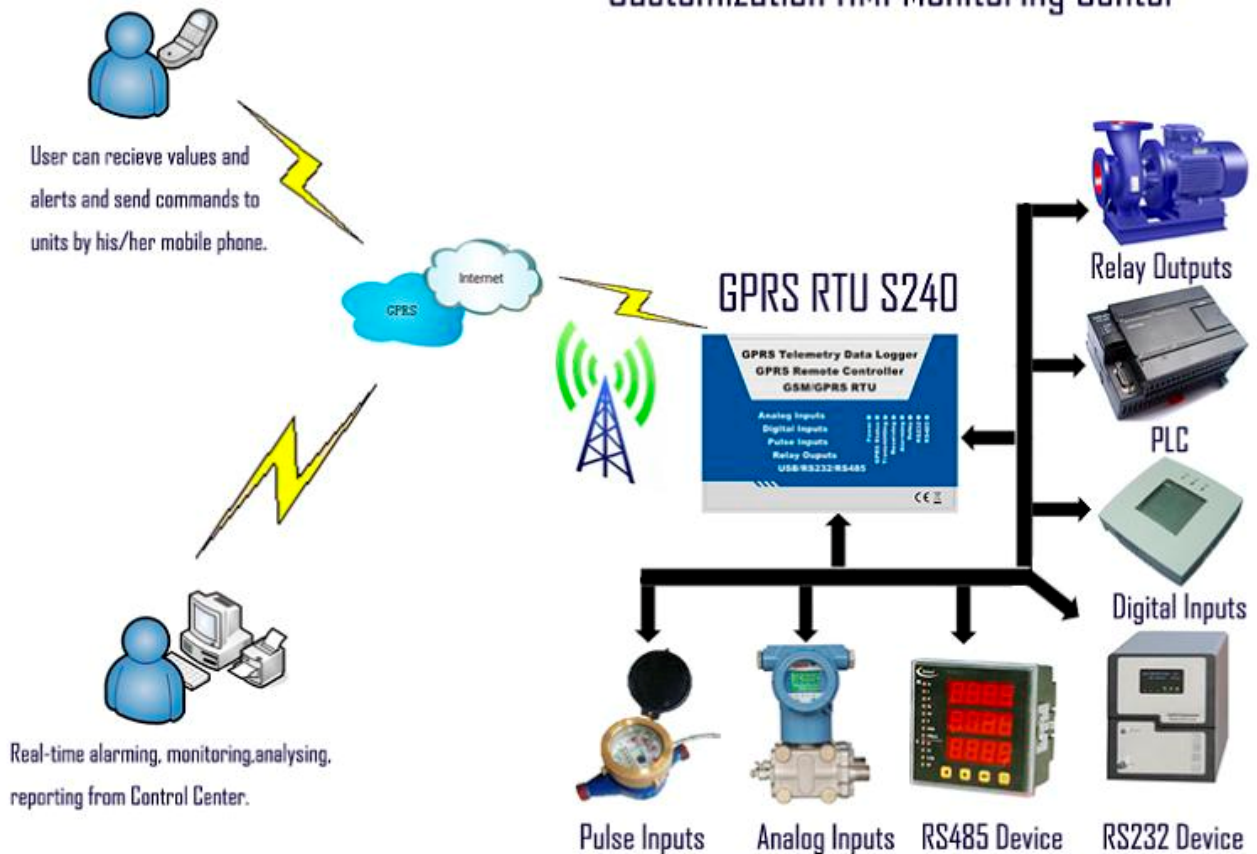
4. By Mobile phone through SMS.

The GSM/GPRS RTU can send the reports and events by SMS to 1 SMS Center number and 6 user numbers.

Monitoring by Mobile Phone