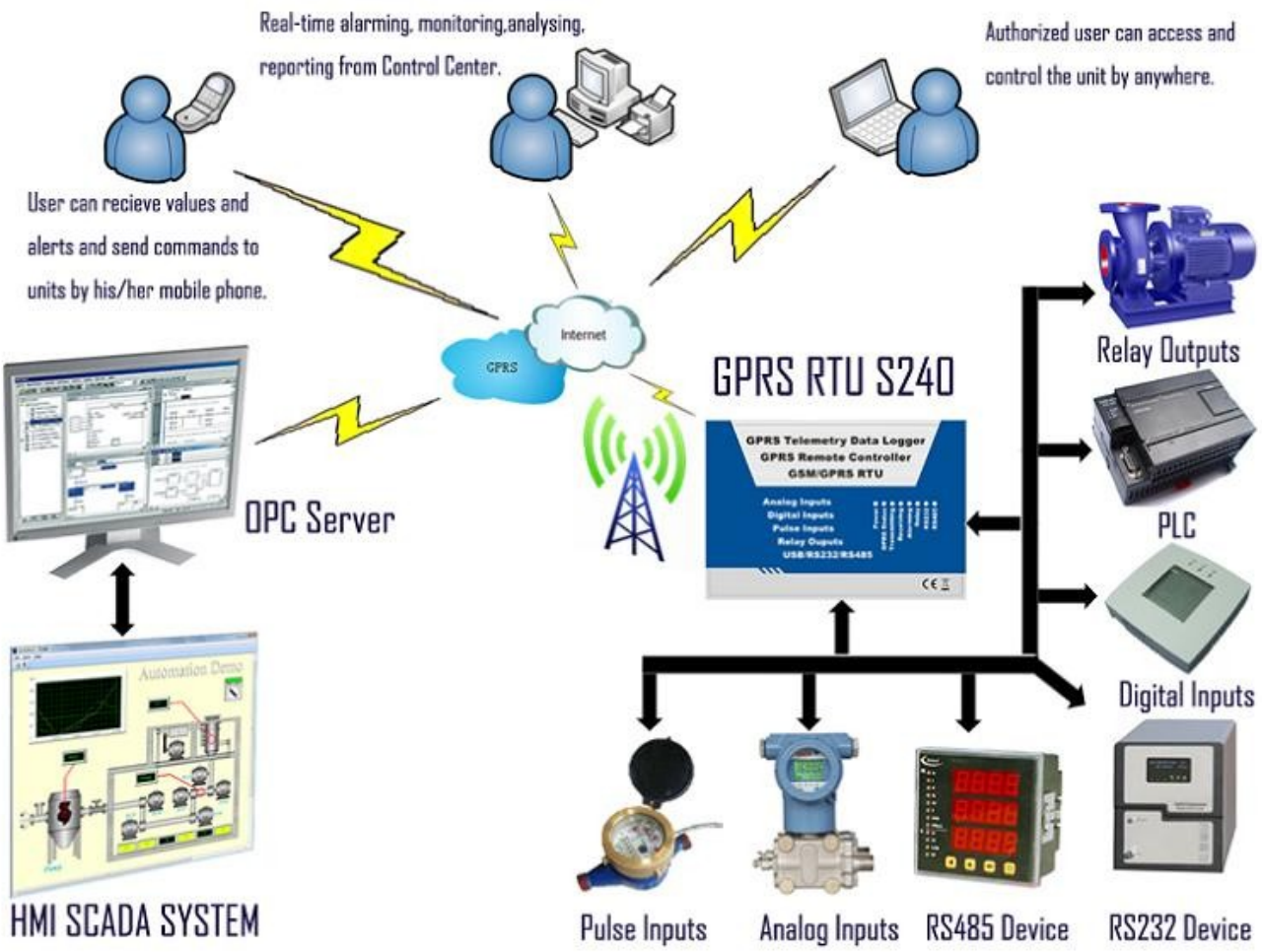
GSM GPRS RTU Telemetry Data Logger

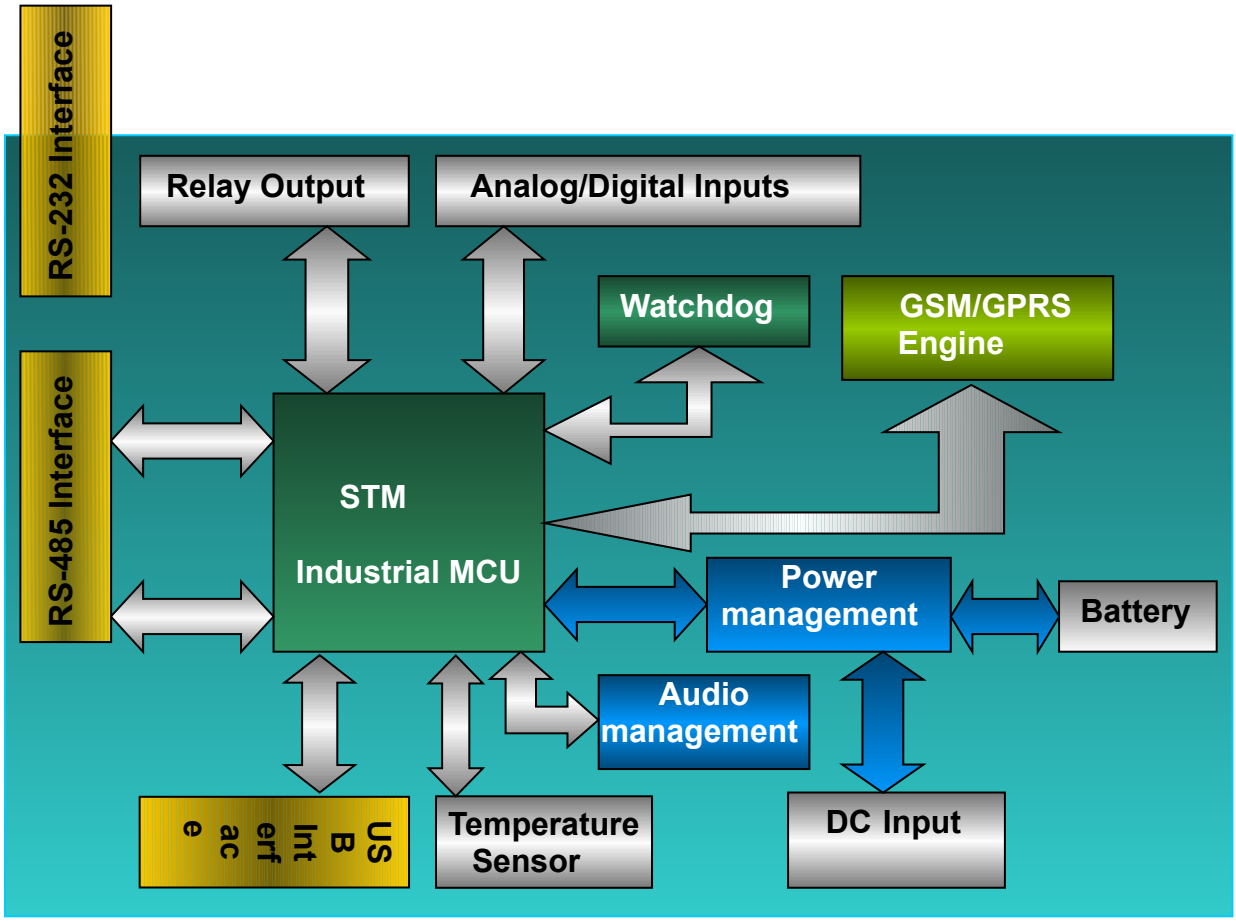
The S240 GSM GPRS RTU Telemetry Data Logger is a low cost M2Mdata logger and universal GSM GPRS Engine which can transmit and receive analog, digital and pulse counter inputs and PLC or metering data and send this data to any device connected to the GSM/GPRS network such as mobile phones, Web Servers, monitoring centers, control rooms or web based SCADA packages



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 occurence;
- Supports Dynamic Domain name or Static IP address;
- Supports SMS, GPRS UDP and TCP protocols;

- Supports Modbus RTU protocols;
- 1USB Port, 1 RS232 Serial Port, and 1 RS485 Serial Port;
- 6 Opto-isolated digital inputs can be programmed to NC/NO/Edge/Level type by DIP 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 the unit can send Alarm Messages by SMS or GPRS or auto dial the preset phone numbers;
- 6 digital inputs can be used as Pulse Counters;
- 4 Digital Relay Outputs can be programmed to switch on & off by phone call or SMS, or by linking to inputs alarms;
- 10 Analog Inputs. (12 bit resolution, 0-5V or 0-20mA);
- 2 Thermometer Inputs for DS18B20, measures temperatures from -55°C to +125°C, ±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 devices, 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 S240 as well as upload the data from the S240 by SMS or GPRS, all of the Current Value or status of the S240 can be displayed directly, and it will also display the SMS Command details while you program the unit;
- More Protocols can be updated by user through USB Port with the latest firmware;
- Power supply 9V to 24V(Recommend 12VDC).



Specifications of GPRS RTU:

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	Supports 3V SIM Card
External antenna	Connected via 50 Ohm antenna connector or antenna pad, SMA Antenna interface
Serial Interfaces	1 RS-232 Port,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	6 OPT Coupler (Active Contact 3-24V);NC/NO/Edge/Level type; Active Contact and Passive Contact Selected By DIP Switch; Can be used as Pulse Counters;

Analog Inputs	10 Analog Inputs. 12 bit resolution, 0-5V or 0-20mA;
Thermometer Inputs	2 Ports DS18B20, Measures temperatures from -55°C to +125°C. ±0.5°C accuracy from -10°C to +85°C, Thermometer resolution is 12 bits.
Digital Relay Outputs	4, 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:

S240 GSM/GPRS RTU X 1

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

USB cable for communication X 1

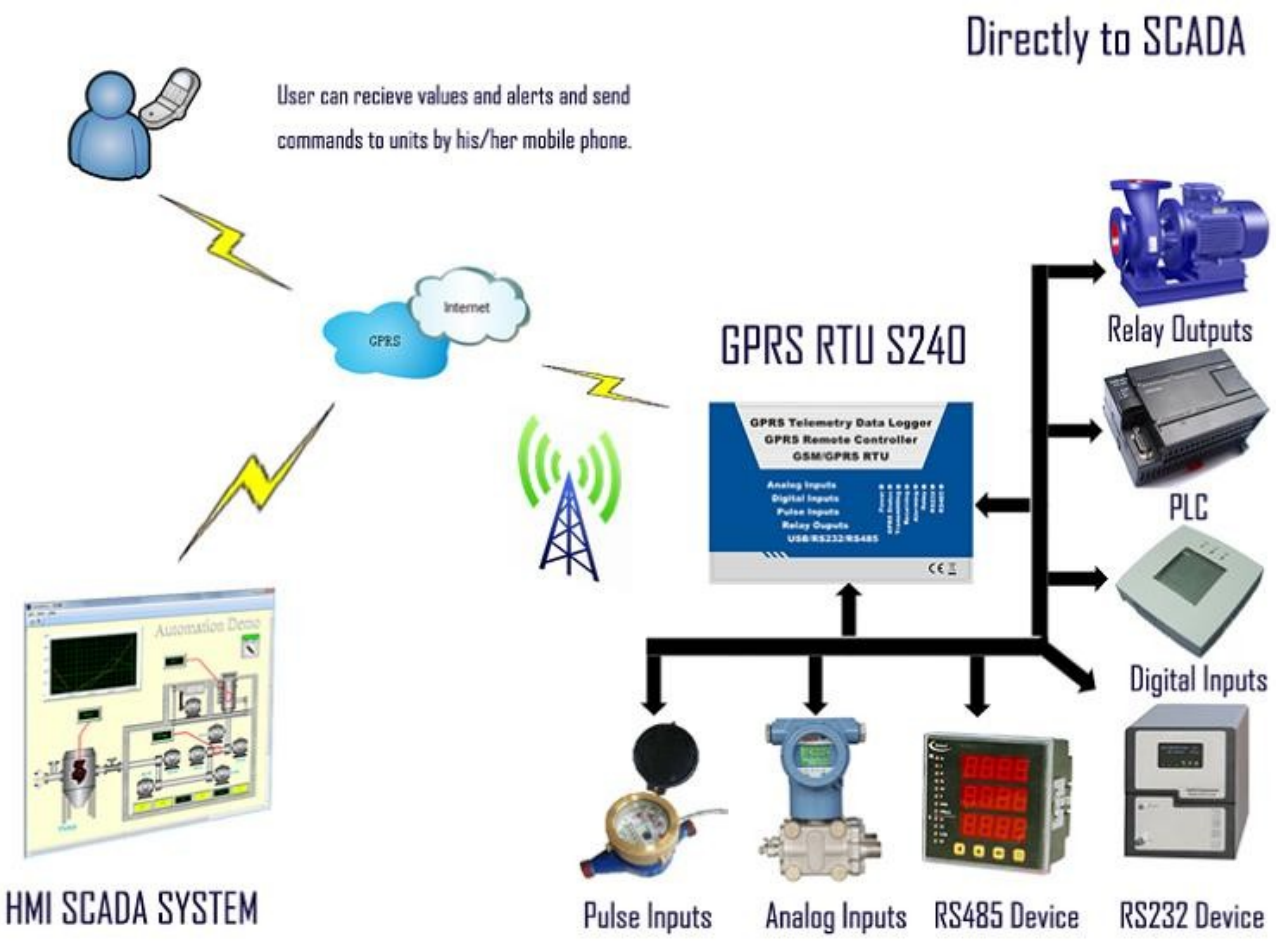
CD (PC Configurator and User Manual) X 1

GSM Antenna X 1

Monitoring Center or OPC Server or SCADA:

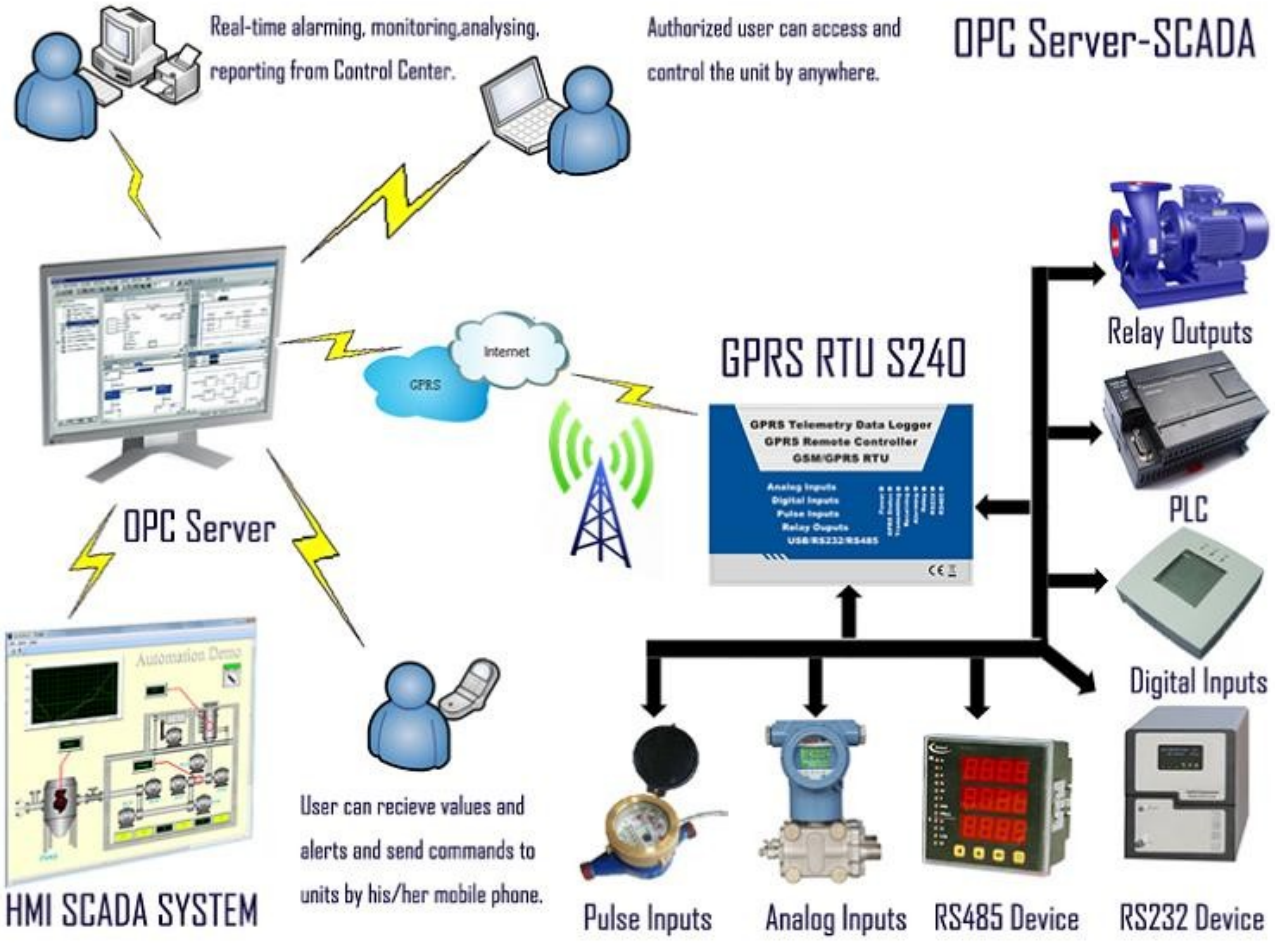
1. Directly to SCADA System

If you want to log data to an existing SCADA system directly, you must develop the GSM/GPRS Driver then install it in the SCADA according to our communication protocols, the communication protocols are outlined in the Appendix. The schematic is as below:



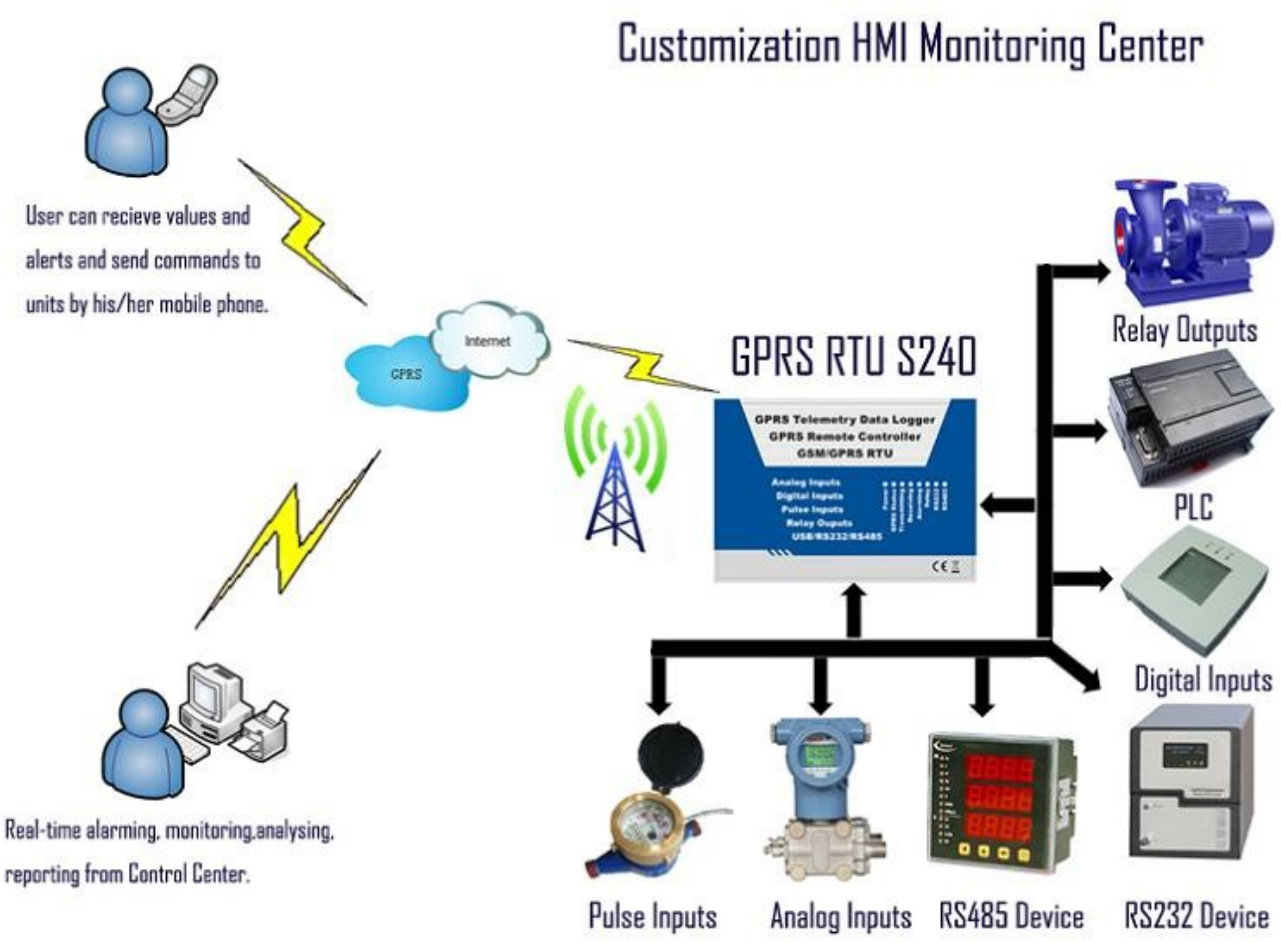
2. Monitoring by SCADA System through OPC Server

If you want to log data to an existing SCADA package through an OPC Server, you should develop the GSM/GPRS Driver then install it in the OPC Server according to our communication protocols, so that the OPC Clients can access the GSM/GPRS RTU through the OPC Server. The communication protocols are in the appendix. The schematic is as below:



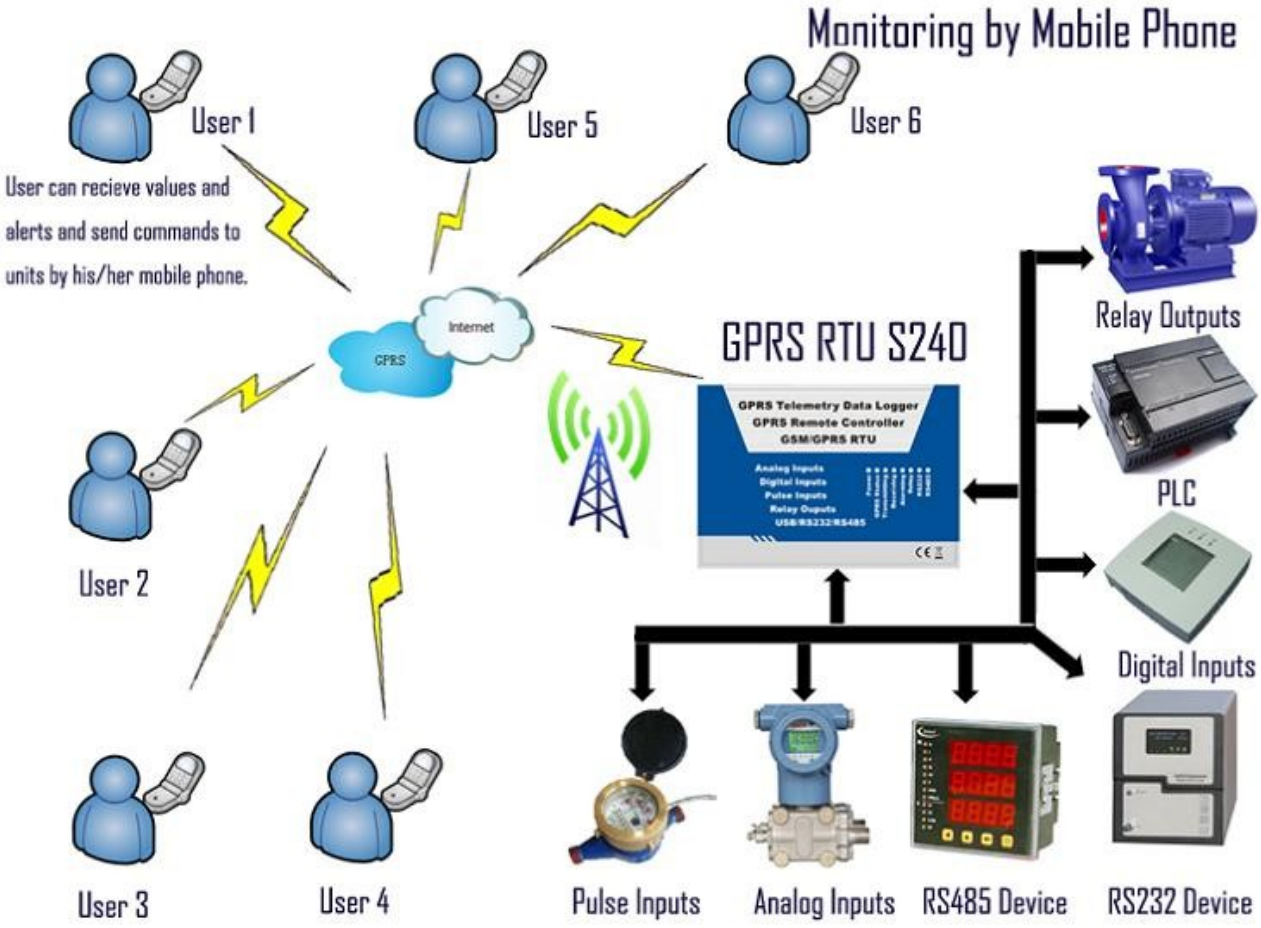
3. By customer customization monitoring center

If you want to log data to a custom monitoring center, you need to develop the GSM/GPRS Driver then install it in the monitoring center software according to our communication protocols. The communication protocols are in the appendix. The schematic is as below



4. By Mobile phone through SMS.

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


Monitoring by Mobile Phone
User 1
User 5
User 6
User can recieve values and alerts and send commands to units by his/her mobile phone.
Internet
GPRS
GPRS RTU S240
GPRS Telemetry Data Logger
GPRS Remote Controller
GSM/GPRS RTU
Relay Outputs
PLC
Digital Inputs
User 2
User 3
User 4
Pulse Inputs
Analog Inputs
RS485 Device
RS232 Device