



Temperature & Humidity Data Logging

Upload Data via GPRS and SMS on schedule or alarm triggered

Programmable data logging and upload interval

Alert user when temperature or humidity is high/low

Support other sensors data logging and upload

Numerous Alarm Input, Analog, Pulse Channel, Relay Control



Overview



- ◆ 2 x external temperature and 1 x humidity sensor
- ◆ Data Logging & Upload
- ◆ Support other measuring devices via RS485 port
- ◆ GPRS Real Time Data & Historical Data Upload
- ◆ Real Time Alert on high/low temperature & humidity
- ◆ Multiple I/O [Digital Input, Output, Analog, Pulse]
- ◆ Integrated 16 bit MCU & Quad-band GSM/GPRS Module
- ◆ Battery Power or AC Power versions



GS828 is built with 2x temperature, 1x humidity sensors, and numerous digital & analog inputs for other sensors. It can be connected with Wind Speed/Direction Transducers for measuring environmental condition.

Environmental Monitoring System



GS828 Features

- (a) Built with externally attached 2 x temperature sensors and 1 x humidity sensor
- (b) Programmable high/low alert level of temperature and humidity
- (c) 6 High Precision A/D Channels
- (d) 10 DI [Digital Input] or 6 DP [Digital Pulse] Channels
- (e) 4 DO [Digital Output] Channels
- (f) Programmable data capturing type, range, start point, alert high/low and pulse level
- (g) Device configuration setup by PC software via COM port
- (h) Device parameters checked via SMS or PC software
- (i) Programmable Data Upload Interval (1 min ~ 24 hours)
- (j) Programmable Data Logging Interval (1 min ~ 60 min)
- (k) Remote Configuration by GSM SMS or GPRS
- (l) RS232 Port for PC communication, RS485 for measuring device communication
- (m) Support Dynamic Domain Name or Fixed IP
- (n) Support UDP / TCP protocol data transmission
- (o) 1MB Non-volatile Memory maintaining max. 60 days period of data [Optional 4MB memory]
- (p) Extended Version supports additional 6 AD, and 6 DI channels

Bundled Accessories for GS828-H2 & GS828-L2



Temperature Sensor [Submersible Type]



Temperature & Humidity Sensors [Indoor Type]



Schematics



1 x temperature sensor (indoor type)	
1 x temperature sensor (submersible type)	
1 x humidity sensor	
6 x high precision analog input channels	
1 x RS485 Port (Modbus support)	
10 x digital input or 6 x pulse channels	
4 x digital relay output	
Expandable extra:	6 x digital input 6 x analog input

Channel Specification

AD Channel:	High Precision 12Bit AD converter	Analog Input:	4 ~ 20mA or 0 ~ 5VDC
	* High / Low Value Alert	Input Impedance:	250Ω [current type input] 20KΩ [voltage type input]
	* Temperature/Wind Speed Measurement	Accuracy:	2.5/ 4096=0.00061 (0.061%)
	* Power Station Temperature Alarm	Digital On/Off Input :	Optic coupler dry contact Triggered Level > 20ms
Pulse Channel:	Max. 99999999 pulses counter	Pulse Input:	Pulse Frequency Measure > 20ms Max. 40 pulses per second
	* Water Meter or Gas Meter Data Reading	Digital Output:	max. DC24V @3A, AC120V @3A
RS485 Port:	Modbus Protocol support		
	* Power Meter or Scale monitoring		

When will GS828 upload data?

- (a) On Schedule
 - ◆ Data is uploaded every interval
 - ◆ User Programmable upload interval
 - ◆ Data records within the interval will be uploaded in packet
- (b) Alarm Triggered
 - ◆ Digital Alarm Input
 - ◆ Analog Input Alert High/Low
 - ◆ Power Input Voltage Level Low Alert
- (c) Manual Check
 - ◆ Query by user mobile phone SMS
 - ◆ Command from Server via SMS or GPRS Data

Bundled Sensors Specification

Model:	GS828-L2 / H2 / HX
Temperature Sensor :	-55 ~ 125 °C
Accuracy:	+/- 0.5 °C
Resolution:	12 bit (0.0625 °C)
Sensor 1:	Submersible
Sensor 2:	Indoor Type
Humidity Sensor:	1 ~ 100% RH
Accuracy:	+/- 5% RH
Resolution:	12 bit
Casing:	Indoor Type



GS828-H

- * Normal @50mA 12VDC
- * AC power input backup by rechargeable battery
- * Auto battery recharge when AC is normal
- * Suitable for sites with AC source
- * Recommended for frequent data logging or numerous I/O
- * Metal Casing, 155 x 172 x 54 mm



GS828-L

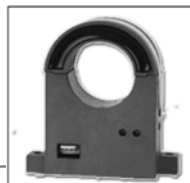
- * Low Power Sleep Mode @18uA, 12VDC
- * Internal 2 sets 3.6V 14AH high capacity battery
- * Built-in 24VDC output to power the sensor/transducer
- * It will turn off the 24V output after data reading to save power
- * Average 2 years operation for data upload once a day
- * Suitable for sites without AC source, or for solar panel power
- * IP67 waterproof and crash proof enclosure
- * Aluminum Casing, 280 x 199 x 90 mm

Applications

- water pump stations monitoring
- cold storage and transportation e.g. food, chemical
- weather stations – temperature, pressure and rain fall real time data logging & upload
- water pipes network temperature real time monitoring to avoid frozen water
- food, chemical and equipment manufacturing
- laboratory or research centre
- power station, power network, cable towers data logging
- data centre environmental monitoring

Examples of sensors measured by AD channels :

- ◆ Wind Speed/Direction Transducer
- ◆ Current/Voltage/Power Transducer
- ◆ Pressure Gauge
- ◆ Water Level Transducer



Examples of devices measured via RS485:

- ◆ Power Meter
- ◆ Water Flow Meter



RS485 Port [ModBus Protocol]



Model Selection

	GS828-H	GS828-L	GS828-H2	GS828-L2	GS828-HX
Enclosure	Metal	Aluminum	Metal	Aluminum	Metal
Waterproof		IP67		IP67	
High Capacity Battery 14Ah	—	✓	—	✓	—
Low Power Sleep Mode	—	✓	—	✓	—
Low Voltage Alert	—	✓	—	✓	—
Built-in 24VDC output to sensors	—	✓	—	✓	—
Power Input: DC 12V or AC 90~260V	✓	—	✓	—	✓
2Ah Rechargeable Battery Backup	✓	—	✓	—	✓
AC or Battery Status Alert	✓	—	✓	—	✓
High Precision AD Channels	6	2	6	2	12
Alarm (DI) or Pulse Input	10	4	10	4	16
Relay Output (DO)	4	2	4	2	4
Internal Memory	4MB	64KB	4MB	64KB	4MB
			Additional Input Ports		
2 x Temperature Sensors	—		1 x Indoor, 1 x Submersible [-55~125 °C]		
1 x Humidity Sensor	—		1 x Indoor, [Range: 1 ~ 100 RH]		
Data Capturing Interval	2 seconds				
Data Logging Interval	Programmable (5 ~ 60 minutes)				
Data Upload Interval	Programmable (30s ~ 24 hours)				
IP Connection	Dynamic / Fixed				
Protocol	UDP / TCP				
Data Transmission	GSM SMS / GPRS Data / RS232				
Data Upload	On Schedule / Manual Request / Alarm Triggered				
PC Communication Port	RS232				
Device Communication Port	RS485				
ModBus Protocol	Support				
Internal Data Record	Average 200 days (4MB)				
Local Setup via RS232 by PC Software	all parameters				
Remote Configuration via SMS or GPRS	all parameters				
Built-in Quad-Band GSM Module	850/900/1800/1900MHz				
Bundled Software Free	Standard Edition				
Setup Software	Remote (GSM Modem GS300) & Local (RS232 port)				
Centre Software	Support txt database, max. 99 data loggers				
SDK Tools	Client Demo Software				
UPD Testing Tool	available				
Optional Software	Premium Edition				



DataLogger Server

File Edit View Tools Window Help

DataLogger

- Control Panel
- Live Data Display
- Messages
- Command
- XML View
- Configuration

NET Data (Last 50)

SMS Data (Last 50)

Number	Header	ID	Name	Date
000001	STA	0004	Gate_23	09-03-30
000002	STA	0004	Gate_23	09-03-30
000003	STA	0004	Gate_23	09-03-30
000004	STA	0003	Gauge	09-03-30
000005	STA	0003	Gauge	09-03-30
000006	STA	0003	Gauge	09-03-30
000007	STA	0003	Gauge	09-03-30
000008	STA	0002	Water_Station	09-03-30
000009	STA	0002	Water_Station	09-03-30
000010	STA	0002	Water_Station	09-03-30
000011	STA	0002	Water_Station	09-03-30
000012	STA	0001	Power_Station	09-03-30
000013	STA	0001	Power_Station	09-03-30
000014	STA	0001	Power_Station	09-03-30
000015	STA	0001	Power_Station	09-03-30
000016	STA	0001	Power_Station	09-03-30
000017	STA	0001	Power_Station	09-03-30
000018	STA	0001	Power_Station	09-03-30
000019	STA	0002	Water_Station	09-03-30
000020	STA	0002	Water_Station	09-03-30
000021	STA	0002	Water_Station	09-03-30
000022	STA	0003	Gauge	09-03-30
000023	STA	0003	Gauge	09-03-30
000024	STA	0003	Gauge	09-03-30
000025	STA	0002	Water_Station	09-03-30
000026	STA	0002	Water_Station	09-03-30
000027	STA	0002	Water_Station	09-03-30
000028	STA	0001	Power_Station	09-03-30
000029	STA	0001	Power_Station	09-03-30
000030	STA	0001	Power_Station	09-03-30
000031	STA	2299	Gate_28	09-03-30

Premium Server Software

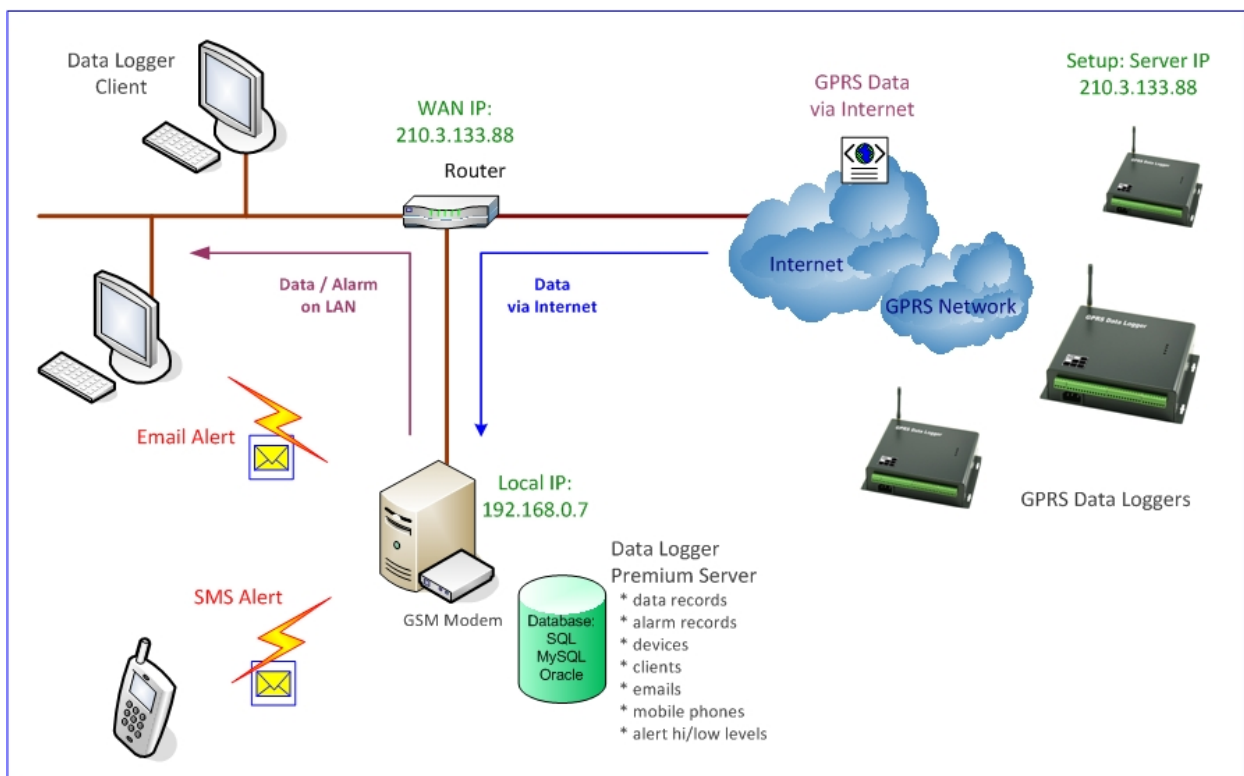
- ◆ Receiving data via Internet & SMS remotely and RS232 locally
- ◆ Display of live data and devices status in real time
- ◆ Maintaining the record database in xml files
- ◆ Maintaining the database of GPRS data loggers identities and properties
- ◆ Display status of server, data loggers and clients
- ◆ Interface for user development and application
- ◆ Alert user via TCP / Email / SMS
- ◆ Grouping of user/client/email/SMS phone numbers
- ◆ Client software support
- ◆ Support of integrating with: MySQL/SQL/Oracle Databases



Client Software

Data Logger Client software provides:

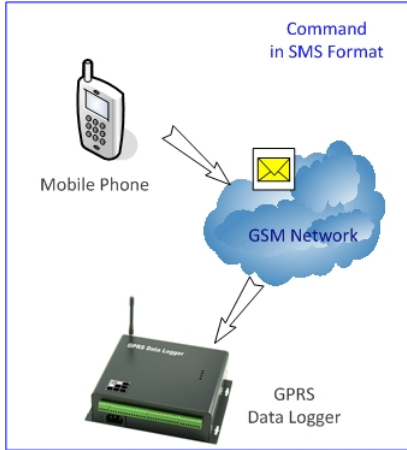
- ◆ Downloading data from Server
- ◆ Real time monitoring of a number of data loggers
- ◆ Alert users when temperature or humidity is too high/low
- ◆ Alert customers via email, SMS or TCP
- ◆ Historical data review



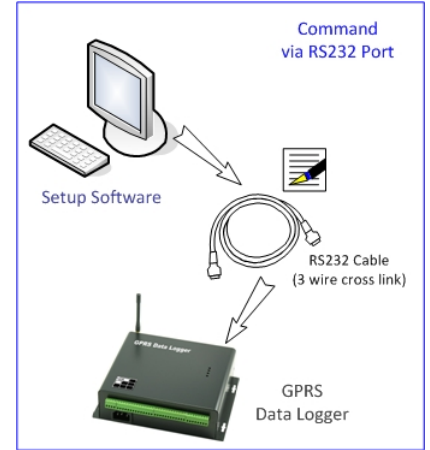
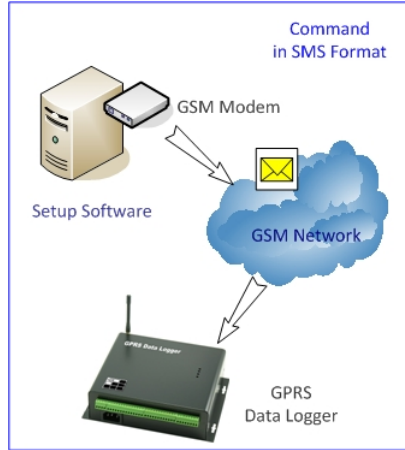


How to setup GS828?

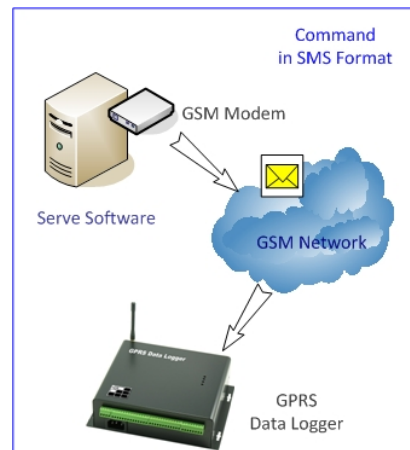
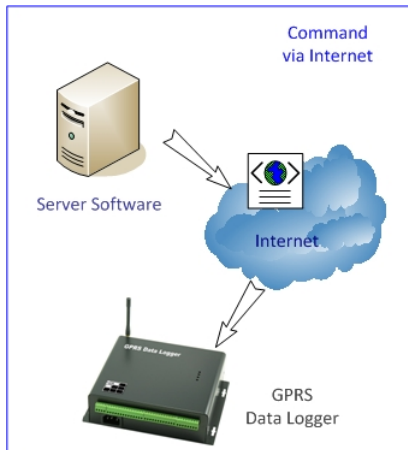
[1] Mobile Phone



[2] Setup Software

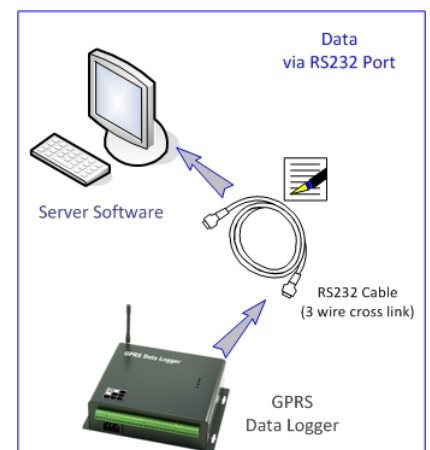
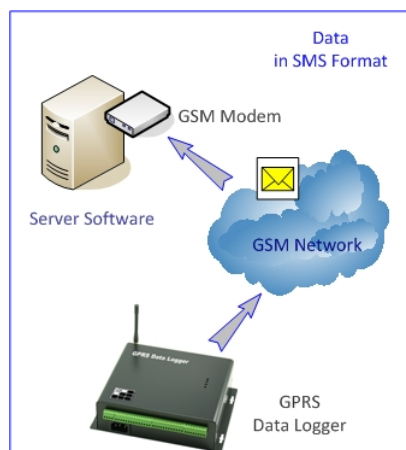
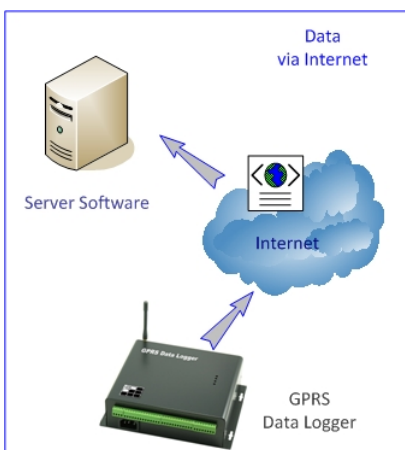


[3] Server Software Premium Edition



How to receive data from GS828?

[1] Server Software Premium Edition





Software Comparison

Edition	Centre	Premium
[A] Server Software		
Receive Data via SMS	—	Yes
Receive Data via GPRS Data	Yes	Yes
Receive Data via RS232 Port	—	Yes
Live Data Display	Yes	Yes
Database	txt	MySQL/SQL/Oracle
XML	—	Yes
Data Export to Excel	—	Yes
Remote Command via SMS	—	Yes
Remote Command via Internet	—	Yes
Schedule Command	—	Yes
Batch Command	—	Yes
Temperature & Humidity Alert	—	Yes
Send Alarm Alert via TCP network	—	Yes
Send Alarm Alert via email	—	Yes
Send Alarm Alert via SMS	—	Yes
Alert Users Grouping	—	Yes
Alert Emails Grouping	—	Yes
Client Software support	—	Yes
Max. Data Loggers simultaneous support	99	9999
Data Loggers Management	—	Yes
User Authentication & Management	—	Yes
Network Client Authentication & Management	—	Yes
Web Based Access support	—	Yes
SDK for user development	—	Yes
[B] Client Software	N.A.	Bundled
Live Data Display	—	Yes
Alarm Alert	—	Yes
Graphic Display of Temperature & Humidity	—	Yes
Temperature & Humidity Hi/Low Alert	—	Yes
Historical Data Access	—	Yes

Centre Edition is bundled with data logger free. Premium Edition is sold separately.