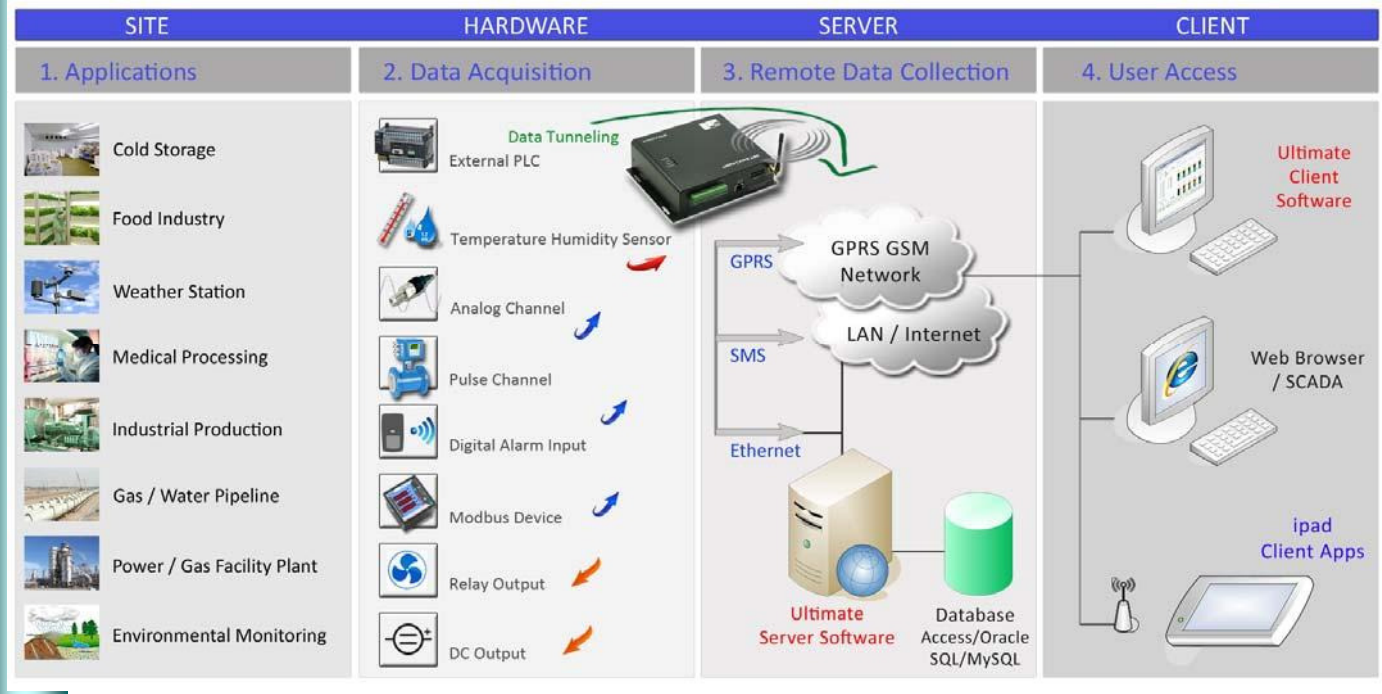
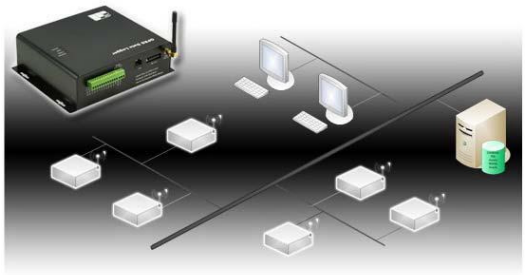
GPRS Data Logger



- Multi-Channels GPRS Wireless Transmission & Data Logging
- Upload Data via GPRS & SMS on schedule or alarm triggered
- Programmable data logging and upload interval
- Support sensors via analog, digital, pulse channels or RS232/485 Modbus
- Alert user or report data when analog level is high or low
- Alert user when temperature/humidity is high/low
- Digital Alarm Input & Relay Output
- 4MB Internal Logging Memory



Data Logger Series

GS828	GPRS Data Logger	* support data upload by GPRS, SMS & RS232
NS828	NET Data Logger	* support data upload by Ethernet
GS828-N	GPRS NET Data Logger	* support data upload by GPRS, SMS & Ethernet

1. GS828-H GPRS Data Logger
2. GS828-H2 Temperature & Humidity GPRS Data Logger
3. GS828-HV Multipoint Temperature GPRS Data Logger
4. GS828-S4 Modbus GPRS Data Logger
5. GS828-S2 Power Monitoring GPRS Data Logger
6. GS828-H3 PLC GPRS Data Logger

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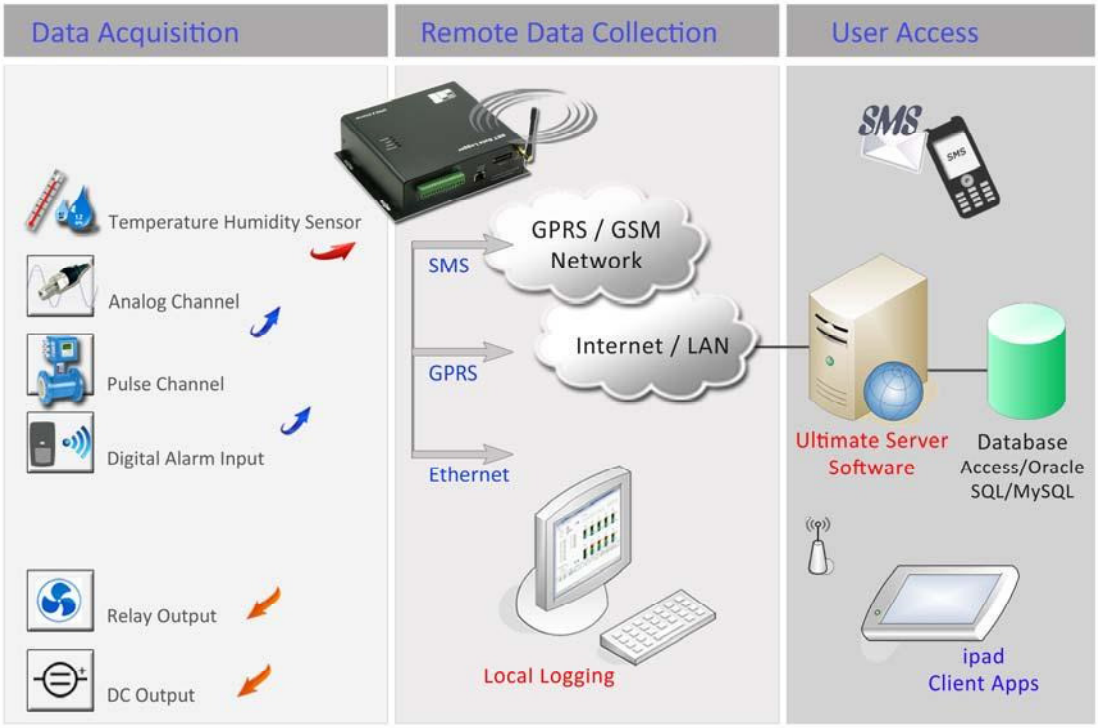
Temperature & Humidity GPRS Data Logger GS828-H2

GS828-H2

Max. 12

Analog Channels



Channels

(a) 2 x temperature, 1 x humidity sensors

(b) 6 x High Precision A/D Channels [max. 12 x AD Channels for GS828-HX]

(c) 10 x Alarm Inputs, 6 x Pulse Inputs, 4 x Relay Outputs [max. 16 x Digital Inputs for GS828-HX]

(d) 2 x DC 5V Outputs, sensors are powered by internal voltage, no external power is needed

Features

1) Programmable high/low alert level of temperature/humidity or analog levels in each channel
2) Alarm SMS text message is user programmable in each channel
3) Programmable Data Upload Interval (5 seconds ~ 24 hours)
4) Programmable Data Logging Interval (1 min ~ 60 min)
5) Live data and logged data of all channels can be retrieved over GPRS, SMS
6) Support both live data and packet data (upload several data records in one packet)
7) Live Data can be uploaded to server instantly
8) Local Configuration by PC Setup software over Internet via GPRS or SMS
9) Support Dynamic Domain Name or Fixed IP
10) Support UDP / TCP protocol data transmission
11) 4MB Non-volatile Memory storing average 60 days period of data or 30000 records
12) Power Loss Alert, Options of power source & enclosure

When will GS828 upload data?

(A) On Schedule
- Data is uploaded every interval via GPRS, SMS
- User Programmable upload interval
- Live Data record will be uploaded

(B) Manual Check
- Query by user mobile phone sending SMS
- Command from Server via GPRS, SMS

(C) Alarm Triggered
- Digital Alarm Input
- Analog Input Alert High/Low
- Power Input Low Voltage Level Alert
- Power Loss Alert
- Temperature or Humidity High/Low

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Multipoint Temperature GPRS Data Logger GS828-HV

GS828-HV

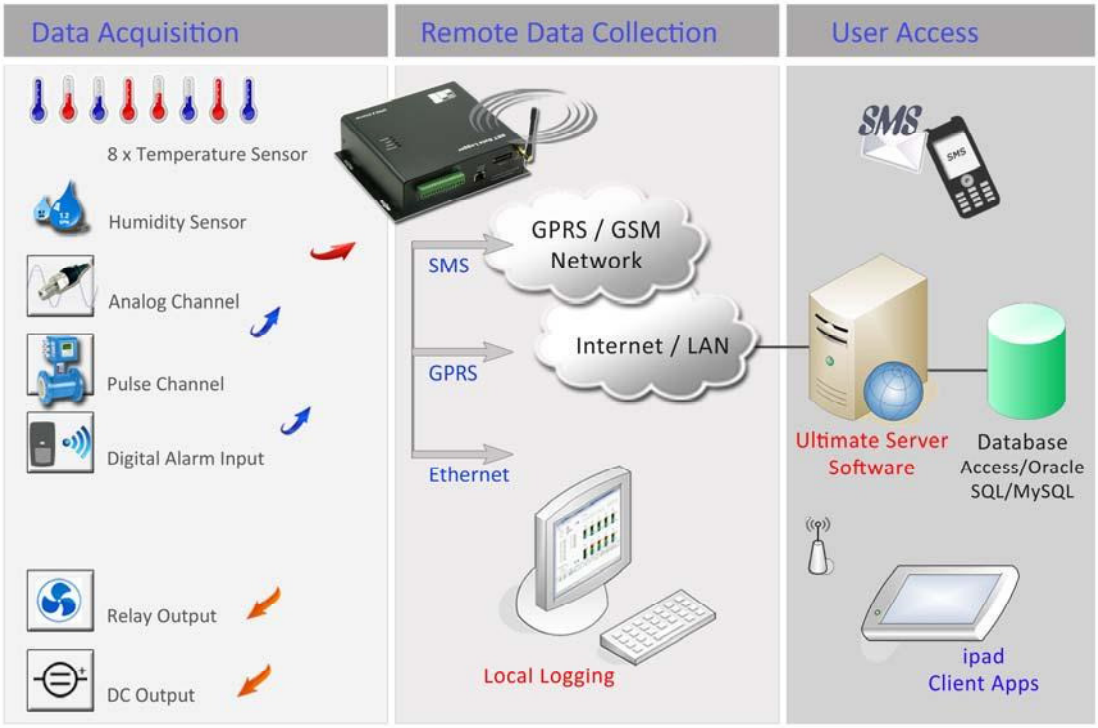
Max. 8

Digital Temperature Sensors

+

Max. 6

Analog Temperature Sensors



Channels

(a) 8 x temperature, 7 x humidity sensors max.

(b) 6 x High Precision A/D Channels [available for analog temperature or humidity sensors]

(c) 10 x Digital Inputs (4 x Alarm) , 3 x Pulse Inputs, 4 x Relay Outputs

(d) 2 x DC 5V Outputs, sensors are powered by internal voltage, no external power is needed

Features

1) Programmable high/low alert level of temperature/humidity or analog levels in each channel
2) Alarm SMS text message is user programmable in each channel
3) Programmable Data Upload Interval (5 seconds ~ 24 hours)
4) Programmable Data Logging Interval (1 min ~ 60 min)
5) Live data and logged data of all channels can be retrieved over GPRS, SMS
6) Support both live data and packet data (upload several data records in one packet)
7) Live Data can be uploaded to server instantly
8) Local Configuration by PC Setup software over Internet via GPRS or SMS
9) Support Dynamic Domain Name or Fixed IP
10) Support UDP / TCP protocol data transmission
11) 4MB Non-volatile Memory storing average 60 days period of data or 30000 records
12) Power Loss Alert, Options of power source & enclosure

Designed for temperature logging & monitoring

(A) Digital Temperature Sensors

- DSD18B20 logged with its unique serial number
- Good for calibration and validation certificate for each sensor
- All temperature readings will be uploaded in one date record

(B) Alarm Delay Time

- Programmable delay time for each temperature channel
- Reduce false alarm generated by short period high/low temperature

(C) Programmable Alarm Text

- User defined text for each alarm

(D) Pt100 support

- Analog Channels support
- Industrial graded pt100 sensors
- Max. 6 channels

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Channels & Sensors

GS828 series is built with temperature, humidity sensors, and numerous digital & analog inputs for other sensors.

Analog Channels can be connected with Wind Speed/Direction Transducers, pressure gauge , level sensors for measuring environmental condition.

Power Rating

GS828-H / H2 / HV / HX / S2 / S4

Power Input	90~240VAC Auto / 10~15VDC	
Power Rating:	Standby	20mA
	Data Upload	500mA
	* Sensor rating is not included	

GPRS

GPRS Properties

GSM Module	Cinterion GSM Quad Band 850/900/1800/1900MHz
Server:	Fixed IP & Dynamic Domain Name
Data Upload to Server IP via UDP or TCP	

Channels

Temperature & Humidity Channel:

Temp Accuracy:	+/- 0.5˚C
Humidity Accuracy:	+/- 5%RH
Alert:	Programmable high / low level

AD Channel:

Signal Type:	4 ~ 20mA or 0 ~ 5VDC
Input Impedance:	250Ω [current type input] 20KΩ [voltage type input]
Accuracy:	2.5/ 4096=0.00061 (0.061%)
Alert:	Programmable high / low level

Digital Input :	Dry contact Triggered Level > 20ms
Pulse Input:	Pulse Frequency Time lapse > 20ms Max. 40 pulses per second Max. 99999999 pulses Water Meter or Gas Meter
Digital Output:	Max. DC24V @3A, Max. AC120V @3A

Bundled Sensors—Temperature & Humidity

Temperature Sensor
T_V2 [Submersible Type]

Temperature & Humidity Combo Sensor
TH_V3 [Indoor Type]

	Temperature	Temperature	Humidity
Sensor:	DS18B20	DS18B20	CH1B
Range:	-55 ~ 125 ˚C	-55 ~ 125 ˚C	1 ~ 100% RH
Accuracy:	+/- 0.5 ˚C	+/- 0.5 ˚C	+/- 5% RH
Resolution:	12 bit (0.0625 ˚C)	12 bit (0.0625 ˚C)	12 bit
Sensor:	Submersible	Indoor Type	Indoor Type
Housing:	Waterproof Steel	PVC	PVC
Power Input:	3.5~5.5VDC	3.5~5.5VDC	3.5~5.5VDC
Sensor Cable:	2 meter (max. 100m)	2 meter (max. 100m)	2 meter (max. 100m)

PLC GPRS Data Logger GS828-H3

GS828-H3

Data Tunneling

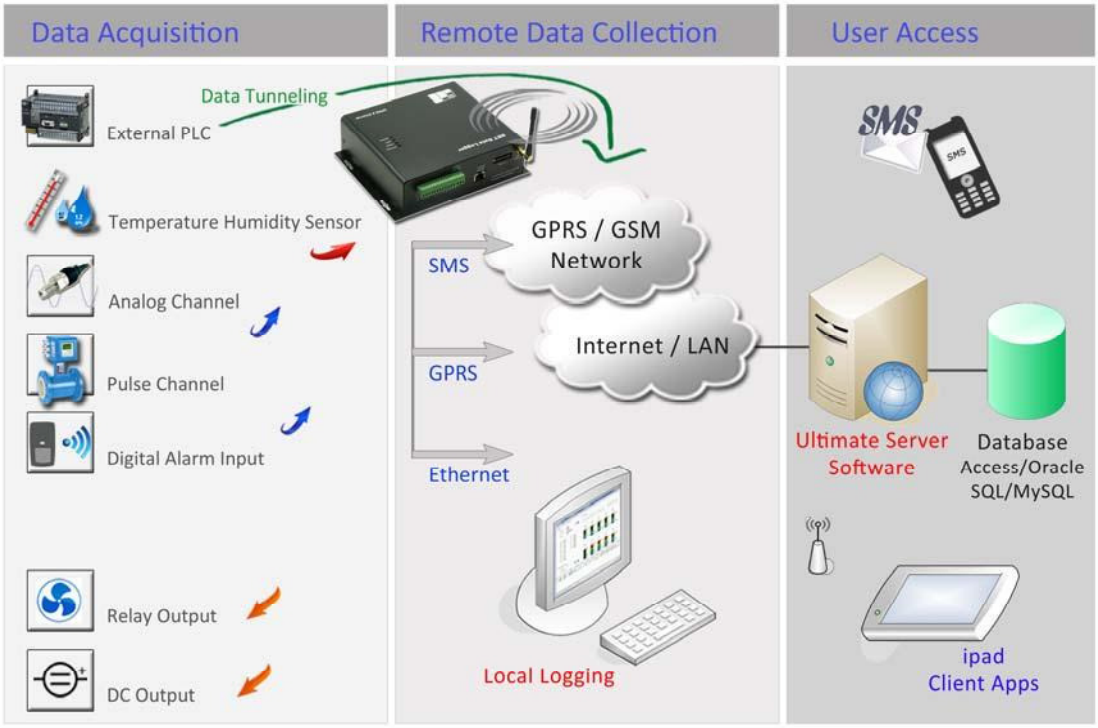
Transmit PLC data

by GPRS or Ethernet

In transparent mode

RS485 <—> GPRS

RS485 <—> RS232



Channels

(a) 2 x temperature, 1 x humidity sensors max.

(b) 6 x High Precision A/D Channels

(c) 10 x Alarm Inputs, 6 x Pulse Inputs, 4 x Relay Outputs

(d) 2 x DC 5V Outputs, sensors are powered by internal voltage, no external power is needed

Features

1) Programmable high/low alert level of temperature/humidity or analog levels in each channel
2) Alarm SMS text message is user programmable in each channel
3) Programmable Data Upload Interval (5 seconds ~ 24 hours)
4) Programmable Data Logging Interval (1 min ~ 60 min)
5) Live data and logged data of all channels can be retrieved over GPRS, SMS
6) Support both live data and packet data (upload several data records in one packet)
7) Live Data can be uploaded to server instantly
8) Local Configuration by PC Setup software over Internet via GPRS or SMS
9) Support Dynamic Domain Name or Fixed IP
10) Support UDP / TCP protocol data transmission
11) 4MB Non-volatile Memory storing average 60 days period of data or 30000 records
12) Power Loss Alert, Options of power source & enclosure

Data Tunneling

(A) Internal channels data & External PLC device data

- GS828-H3 uploads external PLC data over GPRS or Ethernet in transparent (direct transfer)
- Uploads its internal channels data simultaneously

(B) User Defined Register Read Command

- PLC read command is programmable in GS828-H3
- Read data from PLC via RS485 port

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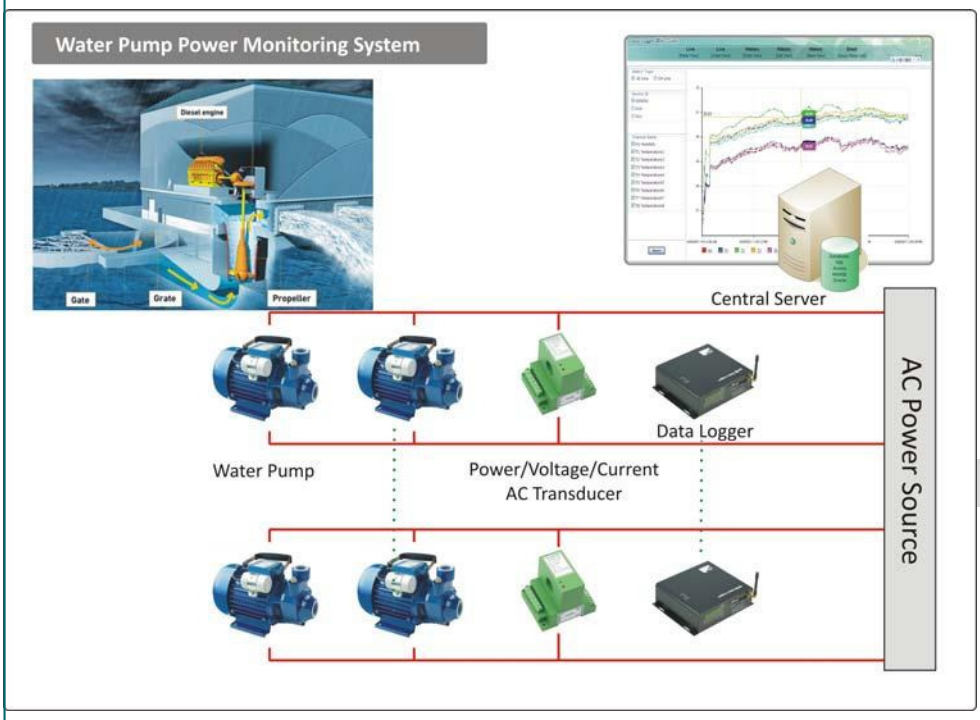
Power Monitoring GPRS Data Logger GS828-S2

GS828-S2

* **GPRS Data Logger**
* **Multi-parameter Current/Voltage/Power Transducer**

* Dedicated designed for Multi-parameters Power Transducer
* Support DC, 1-Phase AC, 3-Phase AC Power Transducer
* Capture, Log and Upload Current/Voltage/Power readings
* Data communication via Modbus protocol via RS485
* 2 x temperature sensors and 1 x humidity sensor
* Additional I/O: 2 x AD, 8 x DI, 4 x DP, 4 x DO



Measuring parameters:

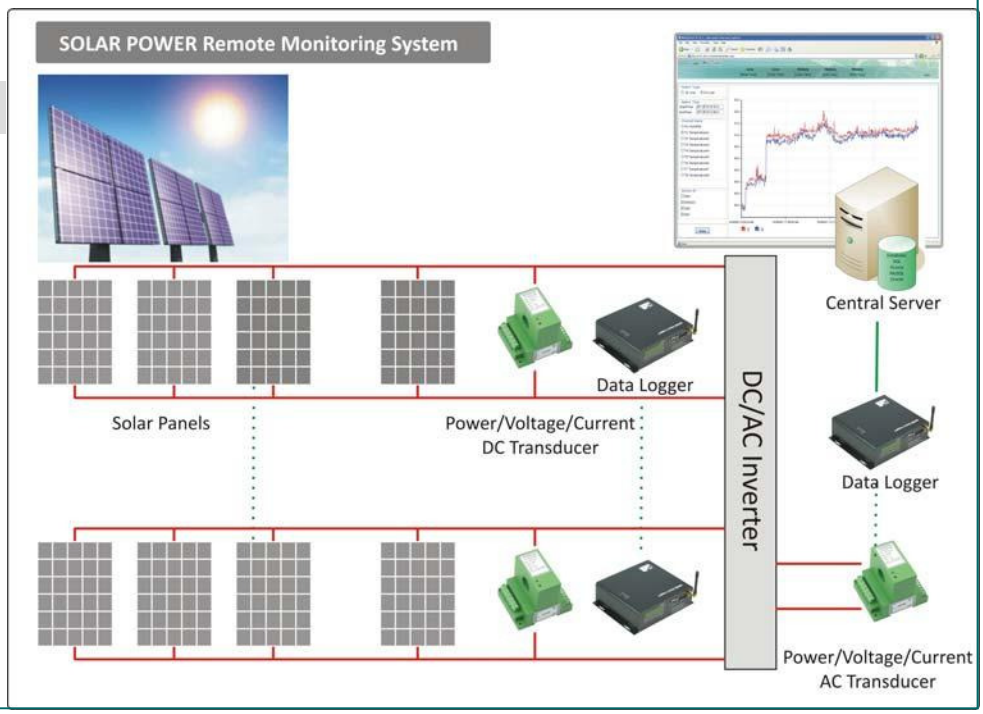
* Voltage (1/3-Phase)
* Current (1/3-Phase)
* Frequency
* Active Power (kW)
* Reactive Power (kVar)
* Power Factor
* Active energy (kW/h)
* Reactive energy (kVar/h)

AC Power Applications

1. Water Pump Stations power monitoring
2. Power Station, Sub-station, Power Network, Cable Towers data logging

DC Power Applications

1. Solar Power Plant System Monitoring
2. Wind Power Plant System Monitoring



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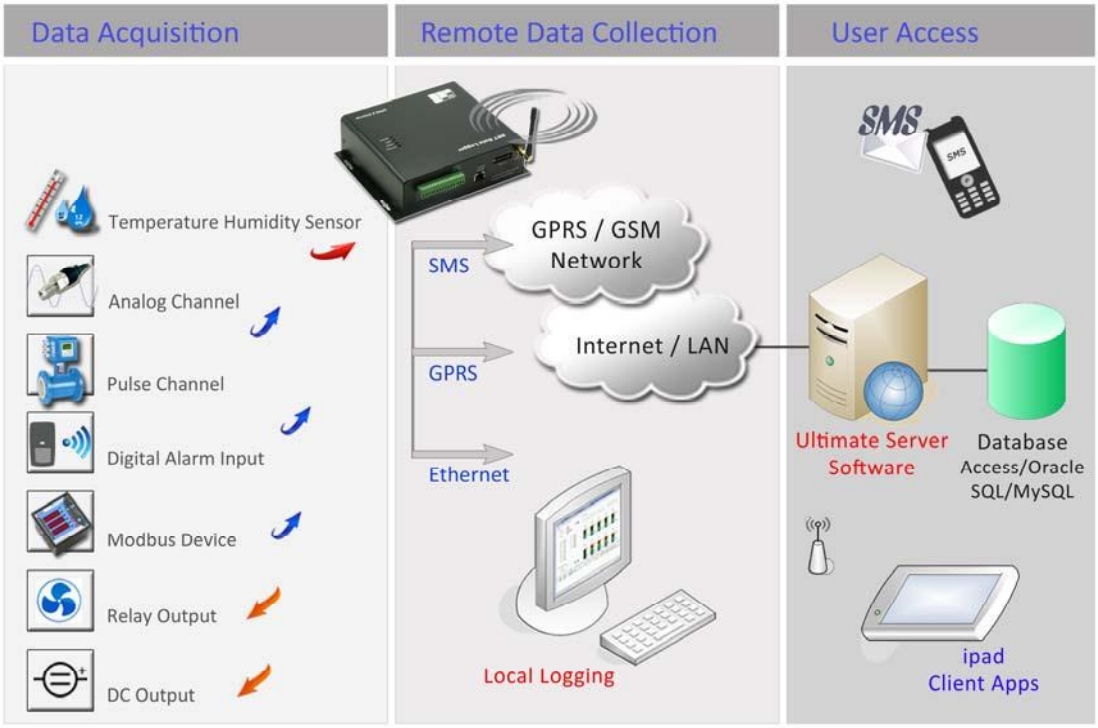
GS828-S4



Modbus Device

RS485/232

—> GPRS

—> RS232

Max. 12 data registers are mapped to:

* 8 x floating points

* 4 x integer numbers

Channels

(a) 1 x temperature, 1 x humidity sensors max.

(b) 4 x High Precision A/D Channels

(c) 6 x Alarm Inputs, 2 x Pulse Inputs, 4 x Relay Outputs

(d) 2 x DC 5V Outputs, sensors are powered by internal voltage, no external power is needed

Features

1) Programmable high/low alert level of temperature/humidity or analog levels in each channel
2) Alarm SMS text message is user programmable in each channel
3) Programmable Data Upload Interval (5 seconds ~ 24 hours)
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7) Live Data can be uploaded to server instantly
8) Local Configuration by PC Setup software over Internet via GPRS or SMS
9) Support Dynamic Domain Name or Fixed IP
10) Support UDP / TCP protocol data transmission
11) 4MB Non-volatile Memory storing average 60 days period of data or 30000 records
12) Power Loss Alert, Options of power source & enclosure

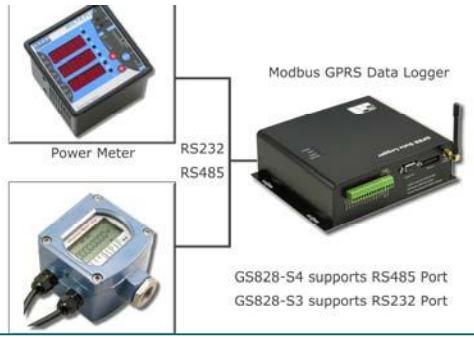
Modbus Data

(A) Support Modbus protocol

- GS828-S4 uploads reads and logs Modbus meter data into memory
- It uploads its own channel data and Modbus data via GPRS or Ethernet

(B) User Defined Register Read Command

- Send Read command via RS485 / RS232
- Read data via RS485 / RS232 port
- Direct support a number of famous brand Modbus Meter



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Applications

(a) water pump stations monitoring

(b) cold storage and transportation e.g. food, chemical

(c) weather stations – temperature, pressure and rain fall real time data logging & upload

(d) water pipes network temperature real time monitoring to avoid frozen water

(e) food, chemical and equipment manufacturing

(f) power station, power network, cable towers data logging

(g) Laboratory, research centre or data centre environmental monitoring

- Modbus Protocol Interface via RS485
- Transparent Data Tunneling by GPRS

GS828-S4 & Power/Flow Meter

* Remote Monitoring of Modbus Meter Reading
* Modbus Power Meter bundled
* Measurement logging and upload
* Voltage / Current / Power Rating / Consumption
* Instant Flow Rate, Total consumption

GS828-S2 & Power Transducer

* Remote Monitoring of Power Status
* Health Check of power and machinery status
* Measurement Logging and Upload via GPRS, SMS
* Keep Track of power consumption and stability
* Alert user on abnormal power status

GS828-L & Water Meter

* Remote Monitoring of Water Meter Reading
* Support average 5 years operation

GS828-HC/LC & Weather Station Monitoring

* Remote Monitoring of Rain Fall & Temperature
* Solar Panel Controller package

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Options for Power Source & Enclosure

D	DC Version	* 7.5 ~ 15V DC Power Input Only
R	AC Version	* Internal AC/DC Power Adaptor + Rechargeable Li-ion 2A Battery Backup
V	IP65 Version	* PVC Case + Rechargeable Li-ion 2A Battery
A	IP67 Version	* Aluminum Case + High Capacity 14Ah Battery [non-rechargeable]
C	Solar Version	* Aluminum Case + Solar Panel Controller + Rechargeable Li-ion 2A Battery

AC Power >

GS828-H_R

* AC 90~230V power input
* Backup by internal 2Ah Li-ion rechargeable battery (battery does not backup Ethernet operation)
* Auto battery recharge when AC is normal
* SMS alarm on AC power loss
* Suitable for sites with AC source
* Average @50mA rating
* Recommended for high volume data logging and I/O
* Metal Casing, 155 x 172 x 54 mm

Battery Power >

GS828-H_V

* Internal 2 sets 3.6V 20Ah high capacity battery
* Suitable for sites without AC source
* SMS Alarm on low power level

[Option A]

* IP67 waterproof and crash proof enclosure
* Aluminum Casing, 280 x 199 x 90 mm

[Option V]

* IP65 PVC water proof casing
* PVC Casing, 220 x 190 x 100 mm

GS828-H_A

Solar Power >

GS828-HC

* Built-in Solar Panel Controller
* Internal 3Ah Li-ion Rechargeable Battery
* Direct connection to solar panel
* Automatic switch to battery power when losing sunlight
* Automatic recharge battery on sunlight
* IP67 Aluminum waterproof and crash proof enclosure
* Aluminum Casing, 280 x 199 x 90 mm
* Solar Panel is not included in package

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GPRS Data Logger Selection

Model Selection	GS828-H3	GS828-H2	GS828-HX	GS828-HC	GS828-HV	GS828-S4	GS828-S2
	High Performance					Modbus	
Aluminum Waterproof	—	—	—	IP67	—	—	—
Solar Panel Controller	—	—	—	✓	—	—	—
Metal Enclosure	✓	✓	✓	—	✓	✓	✓
Power Input: DC or AC	✓	✓	✓	—	✓	✓	✓
2Ah Rechargeable Battery	✓	✓	✓	✓	✓	✓	✓
AC or Power Loss Alert	✓	✓	✓	✓	✓	✓	✓
Built-in 5VDC output	✓	✓	✓	✓	✓	✓	✓
AD Channel	12	6	12	12	6	4	2
Pulse Channel	6	6	6	6	3	2	4
Alarm/Digital Input	10 / 16	10 / 10	10 / 16	10 / 16	4 / 8	6	8
Relay Output (DO)	4	4	4	4	4	4	4
Internal Memory	4MB	4MB	4MB	4MB	4MB	4MB	4MB
Modbus Device Support	—	—	—	—	—	✓	—
Modbus Power Transducer	—	—	—	—	—	—	✓
Digital Temperature Sensor	2	2	2	2	8	1	1
Humidity Sensor	1	1	1	1	1	1	1
Data Tunneling	RS485	—	—	—	—	—	—
Data Logging Interval	Programmable (1 ~ 60 minutes)						
Data Upload Interval	Programmable (5s ~ 24 hours)						
Data Upload	On Schedule / Manual Request / Alarm Triggered						
Internal Data Record	Average 30000 records (4MB)						
Alarm Trigger	Digital Alarm / AD Level High or Low / Power Loss						
Server Network Connection	Dynamic Domain Name / Fixed IP						
Data Transmission	GPRS Data / GSM SMS / RS232						
Protocol	GPRS - UDP & TCP						
Upload Server via SMS	1 x Centre						
Upload Server via GPRS	1 x Server IP						
Modbus Device Port	RS485 [GS828-S4], RS232 [GS828-S3]						
Alarm Data	GPRS / SMS						
SMS Alarm Text	User programmable SMS alarm text						
Local Setup	Over network by PC Software						
PC Communication Port	RS232 Port						
Remote Command	GPRS, SMS or RS232						
Cinterion GSM Module	MC55i Quad Band [850/900/1800/1900MHz]						
Bundled Software Free	Standard Edition						
Setup Software	Over Ethernet Network						
Client Software	Net Client [for Windows, iPad, Android]						
Centre Software	Support txt database, max. 99 data loggers						
Optional Software	Ultimate Server Client Software Package						

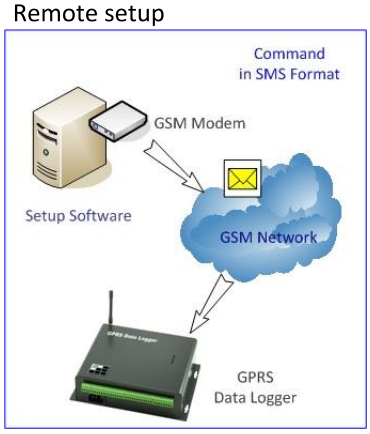
How to setup GS828-N?

[1] Mobile Phone

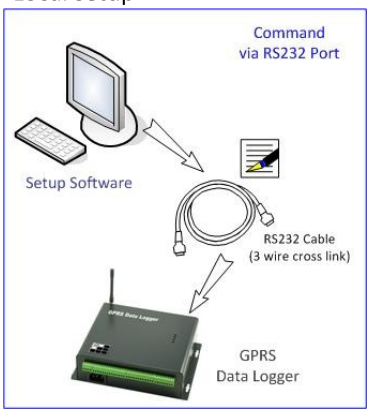
Remote setup

[2] Setup Software [bundled free]

Remote setup



Local setup



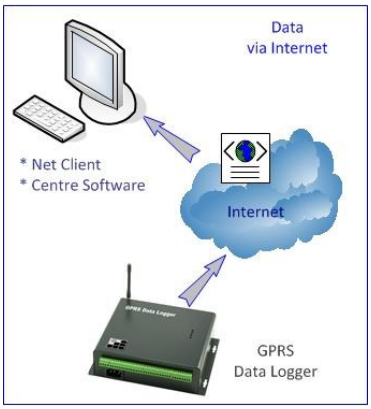
How to receive data from GS828-N?

[1] Mobile Phone

SMS

[2] Centre or Net Client Software [bundled free]

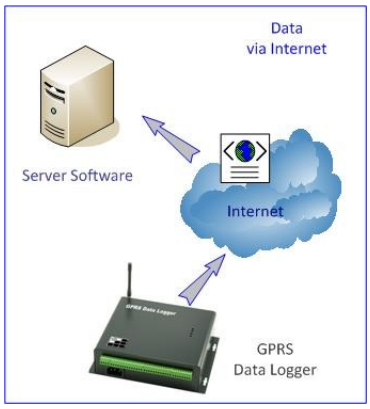
Internet



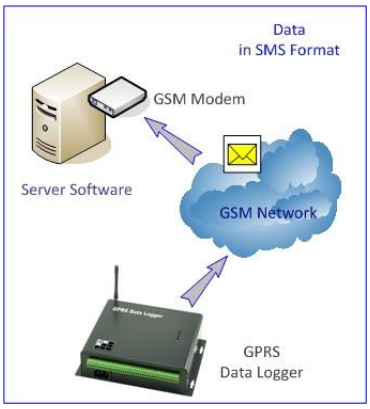
[3] Ultimate Server Software

* Support Internet, SMS & LAN

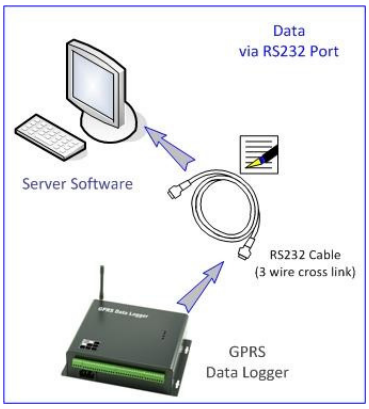
Internet



SMS



RS232



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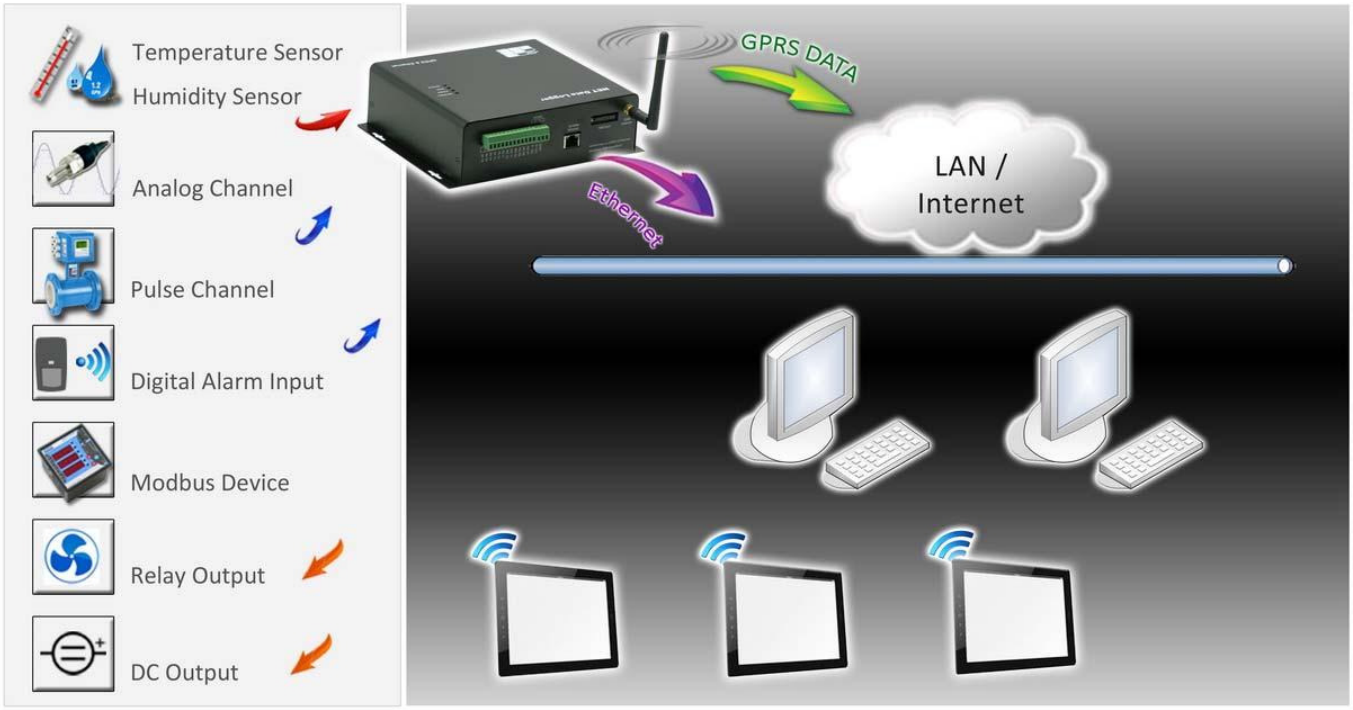
3GTrack Data Logger & Net Client Software

... builds an Intelligent HMI system



Net Client for Windows, iPad, Android are free bundled with each data logger.

Instant On. Touch. Drop & Drag Operation. No more proprietary display equipment!

Direct Access data from the data logger over network!

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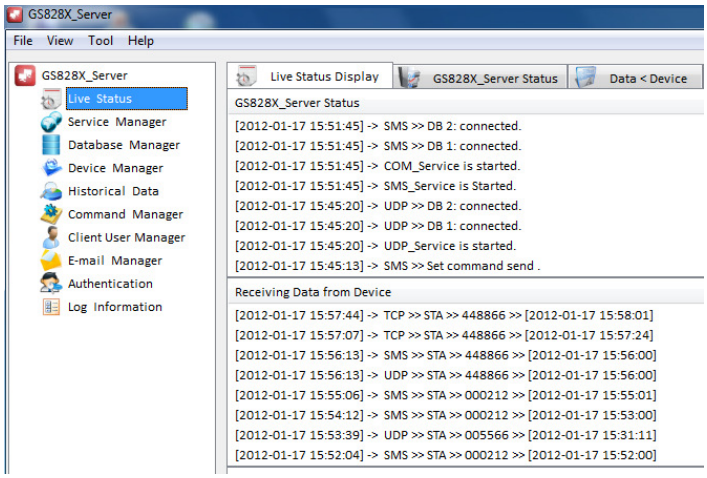
GPRS Data Logger — Ultimate Server Client Software

Monitoring hundreds of data loggers

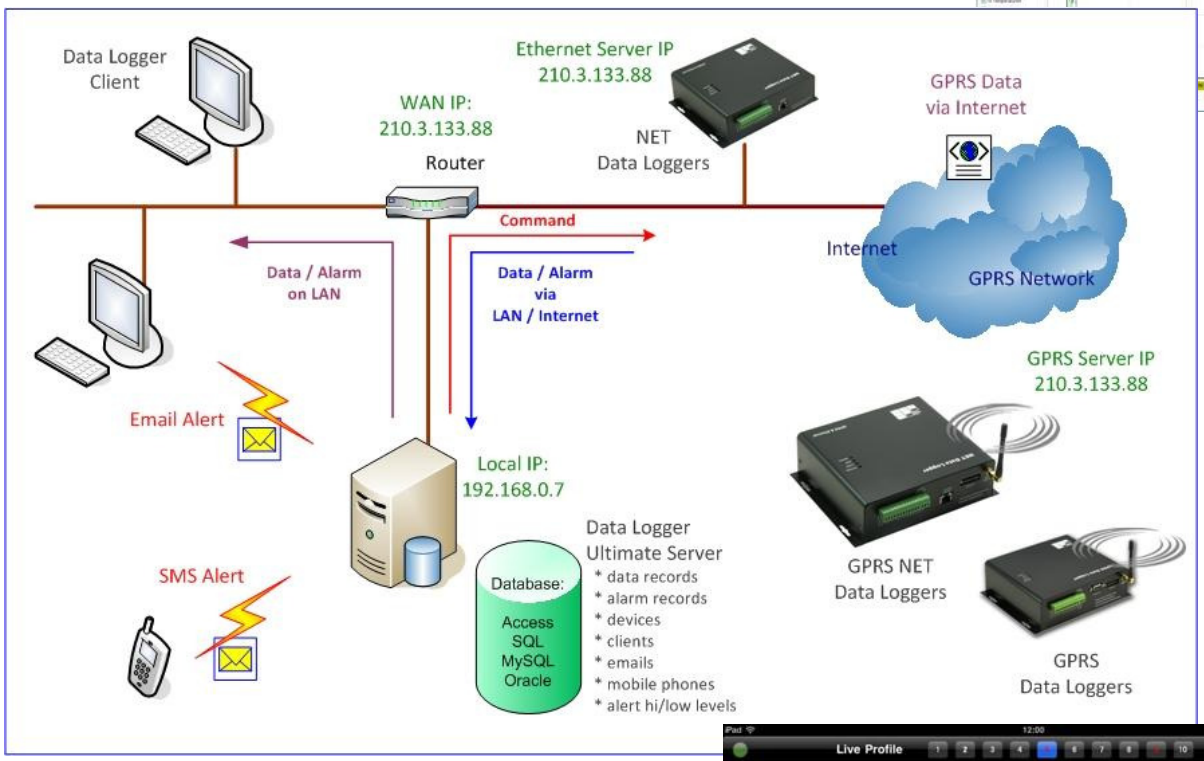
Server Client & Database Management



Ultimate Server Software

- Receiving data via Internet, SMS and LAN
- Display of live data and devices status in real time
- Maintaining the database of data loggers properties
- Display status of server, data loggers and clients
- Interface for user development and application
- Alert user via UDP / TCP / Email / SMS
- Grouping of user/client/email/SMS phone numbers
- Client software and ipad apps support
- Support of integrating with:

  Access / MySQL / SQL / Oracle Databases



Ultimate Client Software

Data Logger Client software provides:

- Downloading live or historical 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
- Data trend review
- Web based Client

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Software Options

Edition	Centre	Net Client	Ultimate Server
[A] Server Software	Free	Free	Option
Receive Data & Alarm via GPRS	Yes	Yes	Yes
Receive Data & Alarm via SMS	—	—	Yes
Receive Data & Alarm via Ethernet, WiFi	Yes	Yes	Yes
Receive Data via GPRS & Ethernet simultaneously	—	—	Yes
Live Graphical Data Display	—	Yes	Yes
Database	txt Daily only	—	Access / MySQL SQL / Oracle
Data Export to Excel	—	—	Yes
Remote Command via SMS, GPRS Internet, Ethernet	—	—	Yes
Schedule & Batch Command	—	—	Yes
Temperature & Humidity Alert	—	Yes	Yes
Send Alarm Alert via TCP network or email	—	—	Yes
Data Loggers Grouping & Management	—	—	Yes
Remote Clients Grouping & Management	—	—	Yes
Client Software support	—	—	Yes
Max. Data Loggers simultaneous support	8	8	99999
Max. Clients simultaneous support	1	3	999
Intelligent Data Recovery	—	—	Yes
Redundant Database Management	—	—	Yes
User Login Authentication & Management	—	—	Yes
Network Client Authentication & Management	—	—	Yes
Web Based Server	—	—	Yes
Data Access for user software development	—	—	Yes
[B] Web Server Software [PHP]	N.A.	N.A.	Bundled
[C] Client Software	N.A.	—	Ultimate Client
Live, Historical & Alarm Data Display	—	Yes	Yes
AD Level, Temperature & Humidity Hi/Low Alert	—	Yes	Yes
Graphics Display of Temperature, Humidity & AD	—	Yes	Yes
No. of Split Screen profiles / Channels each profile	—	2 / 4	10 / 9
No. of HMI Graphics profiles / Channel each profile	—	2 / 4	10 / 16
No. of Channels in each comparison chart	—	4	10
Charts & Lines Styles selection	—	2	10
Data Logger Access Mode	Direct	Direct	Server/Direct
[D] iPad & Android Apps	—	Yes	Yes
[E] GSM Modem Bundled	—	—	Yes

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