



Multipoint Temperature GPRS NET Data Logger

Simultaneous 8 Digital Temperature Data Logging

Support GPRS, SMS and Ethernet

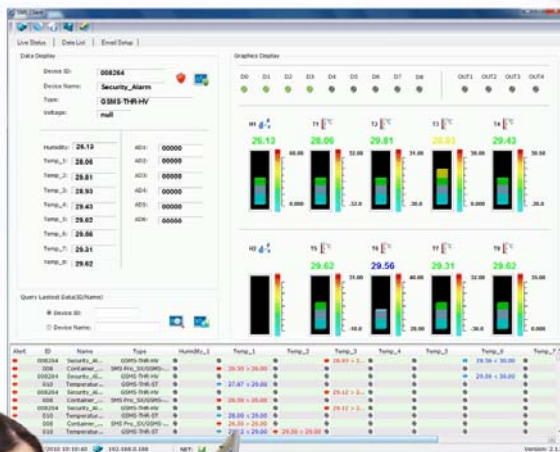
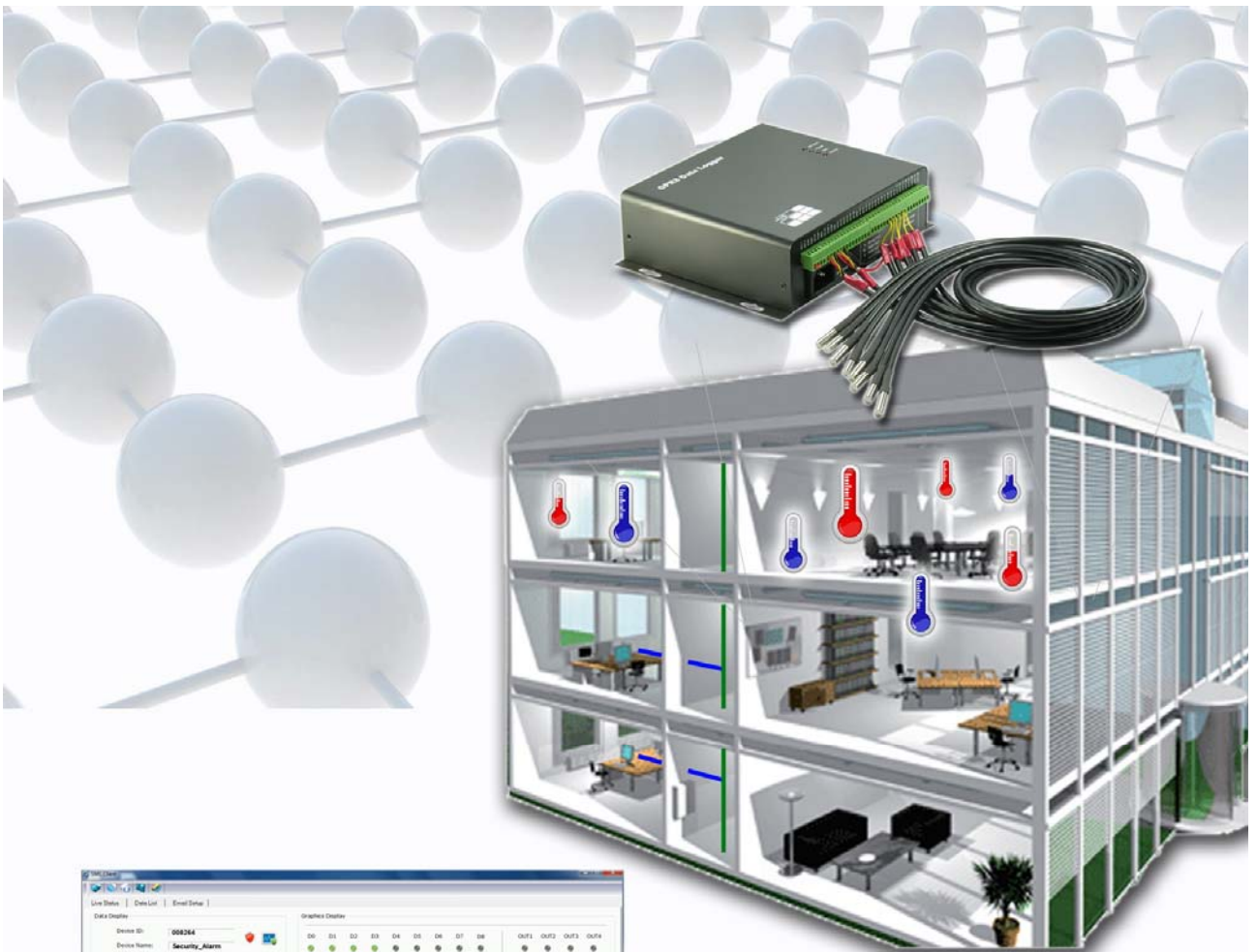


Upload Temperature Data on schedule or alarm triggered

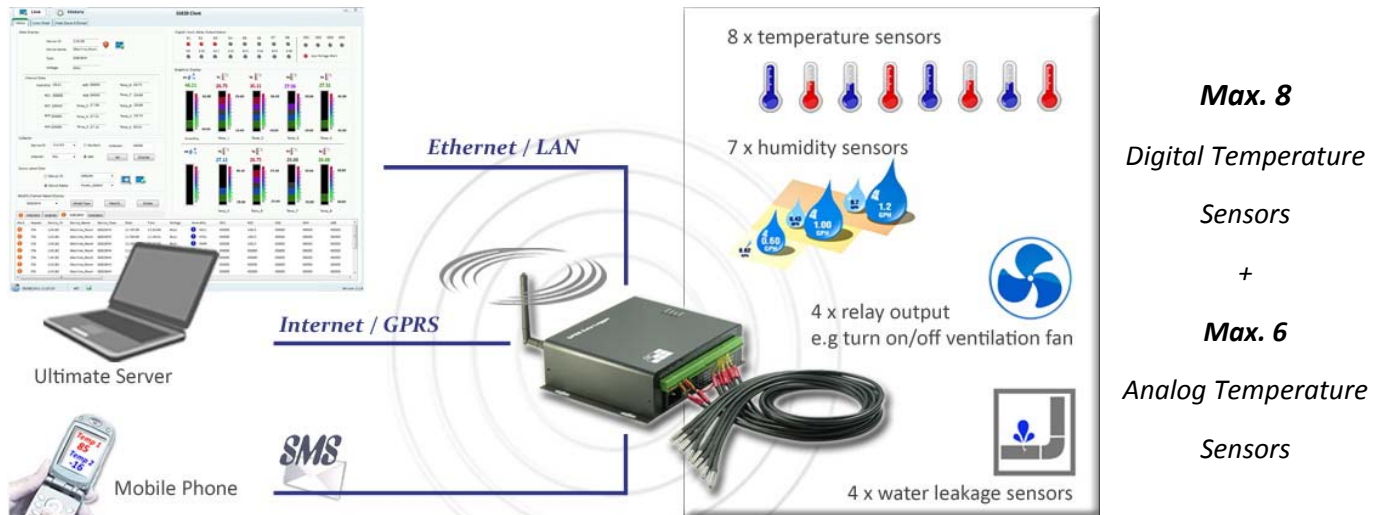
Instant users alert on high or low temperature & humidity

User configurable data logging and upload interval

Programmable Alarm Input & Relay Control



- 8 x Temperature Sensors, 1 x Humidity Sensor
- 6 x AD channels
[analog temperature or humidity sensor]
- Alert users via GPRS, SMS, Ethernet or RS232
- Programmable SMS Alarm text
- AC power Loss Alert
- 4MB Logging Memory
- Download historical data via GPRS or Ethernet
- Battery backup for AC power loss operation



GS828-HV / NS828-HV / GS828-NHV

Data Logger Series

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

Channels

- 8 x temperature, 7 x humidity sensors max.
- 6 x High Precision A/D Channels [available for pt100 analog temperature or humidity sensors]
- 10 x Digital Inputs (4 x Alarm) , 3 x Pulse Inputs, 4 x Relay Outputs
- 2 x DC 5V Outputs, sensors are powered by internal voltage, no external power is needed

Features

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



Specification

Power Input:	90~240VAC Auto, or 10~15VDC		
UPS Backup:	2Ah rechargeable battery (average 14 days operation), AC power loss alarm		
Internal 5VDC Output:	Power supply for temperature sensors		
Power Consumption:	Standby: 20mA	Data Upload: 500mA	* Sensor power rating is not included
Sensor Rating:	1mA each temperature sensor		
Metal Casing:	155 x 172 x 54 mm		

Channels

Temperature Channel:		Digital Input :	Dry contact or Power Type Triggered Level > 20ms
Signal Type:	Digital		
Accuracy:	+/- 0.5 °C		
Alert:	Programmable high / low level	Pulse Input:	Pulse Frequency Time lapse > 20ms Max. 40 pulses per second Max. 99999999 pulses
AD Channel:	High Precision 12Bit AD converter		
Signal Type:	4 ~ 20mA or 0 ~ 5VDC	Digital Output:	Max. DC24V @3A, Max. AC120V @3A
Input Impedance:	250Ω [current type input] 20KΩ [voltage type input]		
Accuracy:	2.5/ 4096=0.00061 (0.061%)		
Alert:	Programmable high / low level		

Temperature & Humidity Sensors

8 x Digital Temperature Channels



T_V2 Digital Temperature Sensor

Sensor:	DS18B20
Range:	-55 ~ 125 °C
Accuracy:	+/- 0.5 °C
Resolution:	12 bit (0.0625 °C)
Housing:	Submersible Steel housing

TH_V3 Digital Combo Sensor

Temperature :	DS18B20
Humidity :	CH1B
Range:	1 ~ 100%RH
Accuracy:	+/- 5%RH
Housing:	Indoor PVC
Power:	3.5~5.5VDC
Sensor Cable:	standard 2 meter (max. 200m)



6 x Analog Channels

Analog Temperature Transducer

T_A1	Waterproof
Enclosure:	PVC Housing

T_A2	Industrial Grade
Enclosure:	Aluminum Housing

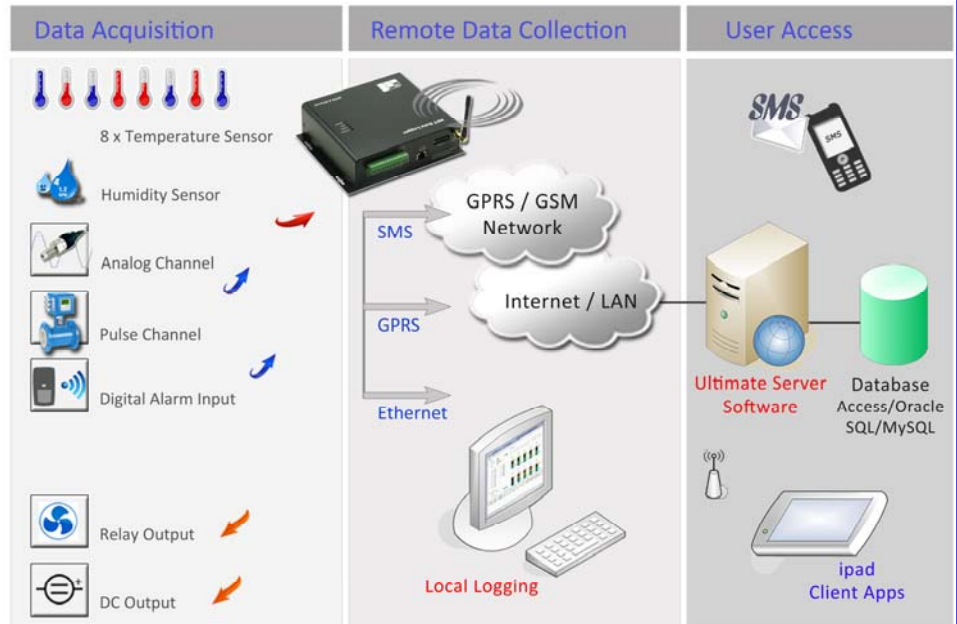
Sensor:	pt100
Measuring Range:	-100 ~ 400 °C User specified
Accuracy:	+0.2 / 0.5 °C
Operating Voltage:	12 or 24VDC
Extended Cable:	> 100 meter
Output Signal:	4~20mA





When will GS828 upload data?

- (A) On Schedule
 - ◆ Data upload in interval
 - ◆ Data records in live or packet
- (B) Manual Check
 - ◆ User mobile phone SMS
 - ◆ By Server via SMS or GPRS
- (C) Alarm Triggered
 - ◆ Temperature High/Low
 - ◆ Humidity High/Low
 - ◆ Digital Alarm
 - ◆ Analog Alert High/Low
 - ◆ Power Low Level Alert
 - ◆ Power Loss Alert



Temperature Logging & Upload

- * 8 x Independent Temperature Sensors, 1 x Humidity Sensor
- * All 8 temperature readings are logged and uploaded via GPRS, SMS or Ethernet
- * Temperature Sensors are powered internally
- * Wide Measuring Range: -55 ~ 125 °C
- * Support max. sensor cable: 100 meter
- * Independent Alert High / Low Level for each temperature channel
- * Max. 30000 records logged in 4MB memory
- * 6 AD available for additional temperature or humidity sensors

Calibration

- * DSD18B20 logged with its unique serial number
- * Good for calibration and validation certificate for each sensor
- * Each temperature sensor can be mapped to its own unique serial number for future reference
- * User can retrieve serial number over SMS or Ethernet

Temperature Alarm

- * Independent Alarm SMS text for each temperature channel
- * User programmable alarm SMS text
- * Temperature Alarm via GPRS, SMS or Ethernet
- * Programmable delay time for each temperature channel
- * Lower false alarm generated by short period high/low temperature

APPLICATIONS

- (a) cold storage and transportation e.g. food, chemical
- (b) 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 or research centre, medical or pharmacy industry
- (h) data centre environmental monitoring



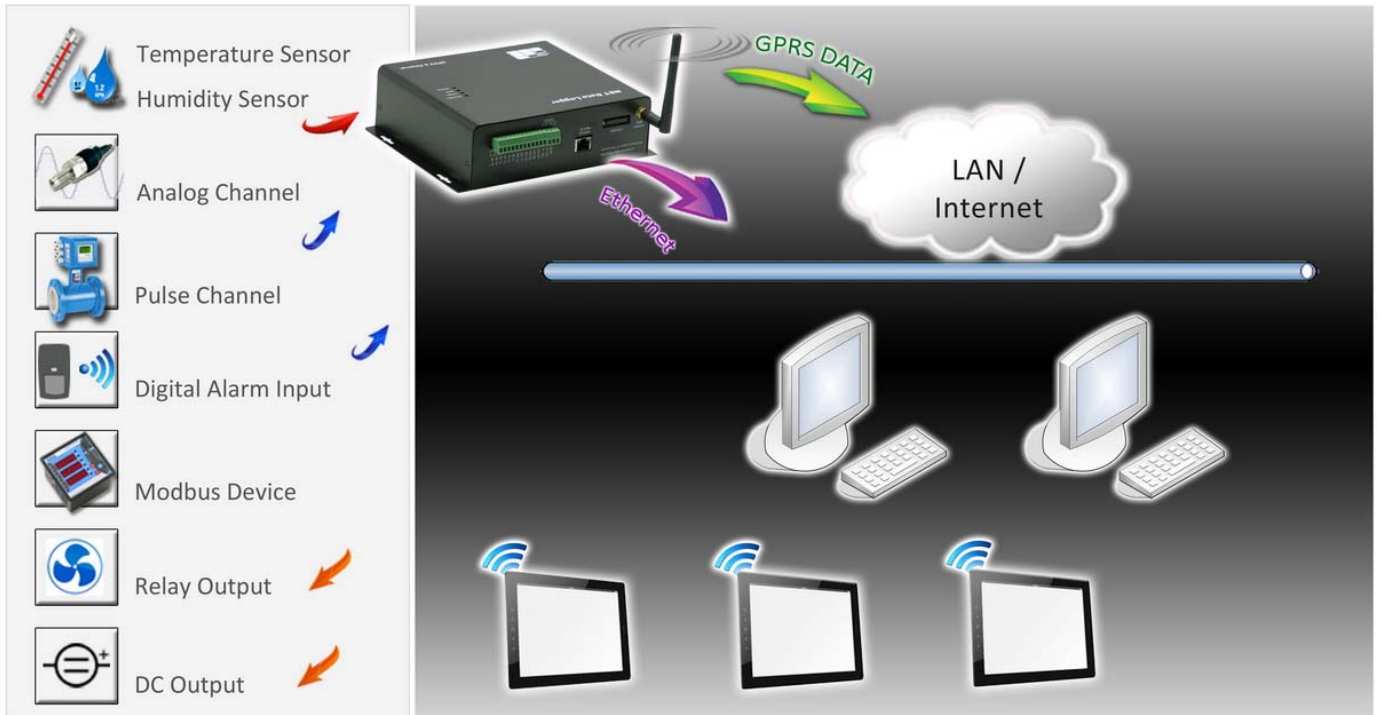
Model Selection



Specification	GS828-HV	NS828-HV	GS828-NHV
Data Transmission	GPRS, SMS & RS232	Ethernet	GPRS, SMS & Ethernet
Alarm Data	GPRS, SMS & RS232	Ethernet	GPRS, SMS & Ethernet
Alarm Text	SMS	—	SMS
Device Setup	SMS & RS232	Ethernet	GPRS, SMS & Ethernet
Cinterion MC55i GSM Module	850/900/1800/1900MHz	—	850/900/1800/1900MHz
Network Baud Rate	—	10/100M	10/100M
Protocol	UDP / TCP	UDP	UDP / TCP
Enclosure	Metal		
Power Input	DC 7~12V or AC 90~260V		
2Ah Rechargeable Battery Backup	Max. 7 days operation backup		
AC or Battery Status Alarm	Alert on AC power loss or resume		
Built-in 5VDC output to sensors	Direct temperature humidity sensors power source		
8 x Temperature Sensors	8 x Submersible [-55~125 °C], Steel Housing, standard 2m long		
	Extendable > 150 meter sensor cable		
High Precision AD Channels	6 [optional analog temperature sensors]		
Digital Inputs (Pulse / Alarm)	3 Pulse, 4 Alarm Inputs		
Relay Output (DO)	4		
Internal Memory	4MB		
1 x Humidity Sensor	0 ~ 100% RH, +/-3%		
Additional Humidity Sensors	Max. 6 via AD Channels		
Temperature Sensor S/N	Unique SN for each sensor (DS18B20)		
Data Logging Interval	Programmable (1 ~ 60 minutes)		
Data Upload Interval	Programmable (5 seconds ~ 24 hours)		
Server	Fixed IP / Dynamic Domain Name		
Server IP	3 x Ethernet Server IP / 1 x GPRS Server IP		
Data Upload	On Schedule / Manual Request / Alarm Triggered		
Internal Data Record	Average 200 days (4MB) or 30000 records		
Bundled Software Free	Standard Edition		
Setup Software	Support Local & Remote Configuration		
Net Client	Net Client for Windows, ipad & Android		
Optional Server Client Software	Ultimate Server Client Software Package		



How the HMI system works with GPRS or NET Data Logger & Net Client?



Sensors are installed in the machine, equipment or environment.

Data Logger logs the data from sensors, and stores into its memory.

Data Logger uploads measurement data to Net Client directly over GPRS or Ethernet.

User views the sensors readings in real time on charts.

User accesses the record data from Data Logger for analysis or comparison of historical data.

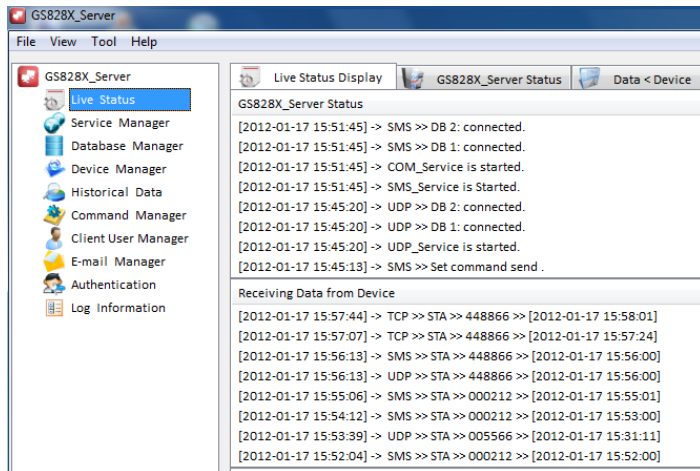
User will be alerted when incoming data is beyond the preset range e.g. high temperature.

Free “Net Client for Windows, iPad & Android” supports:

- ◆ Live Data Display on Split Screen, HMI and Data Listing modes
- ◆ Data comparison of max. 4 channels on Chart mode
- ◆ Max. 8 net data loggers
- ◆ Max. 16 channels
- ◆ Max. 2 users profiles in split screen and HMI modes



Monitoring hundreds of data loggers Server Client & Database Management



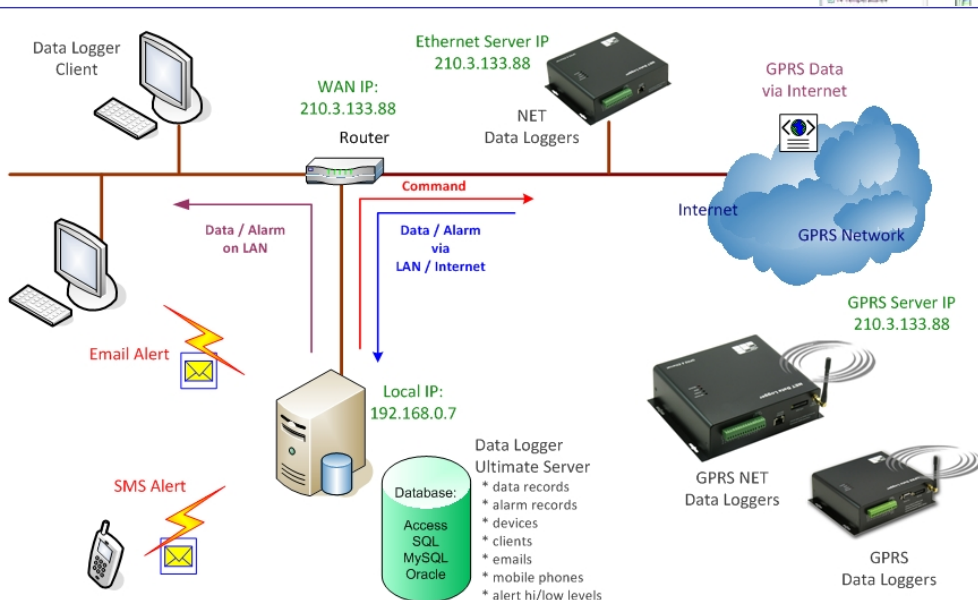
Ultimate Server Software

- ◆ Receiving data via:
 - LAN, Internet, SMS, 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 NET data loggers identities and properties
- ◆ Display status of server, data loggers and clients
- ◆ Interface for user development and application
- ◆ Alert user via network & Email
- ◆ Grouping of user/client/email/SMS phone numbers
- ◆ Client software for Windows, ipad & Android
- ◆ Storing data into one of formats below:
 - Access / MySQL / SQL / Oracle Databases

Client Software

Data Logger Client software :

- ◆ 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
- ◆ Support both Client application and Web Client





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.	—	Bundled
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