

User Manual of Temperature and Humidity Data Logger



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Chapter 1. Introduction

1.1 Features

- Elegant appearance, easy to operate and reliable. Desktop and wall-mounted
- Transferring real-time temperature and humidity data to computer through WIFI
- High accuracy: 0.2[~]0.5[°]C/2[~]5%RH
- Large Capacity: 65000 data groups
- Can be locked to display maximum and minimum value
- Internal audible and visual alarm and send alarm message to mobile phone once temperature or humidity is over limit.
- Multiple levels of data protection; all the collected data will not be lost.

1.2 Application

Widely used in environment with WIFI access to monitor temperature and humidity.

Model	Accuracy	Measuring range	Sensor type	Capacity
S500-TH	S500-TH ±0.5°C/±5%RH		Temperature + humidity , internal	65000
S500-EX	±0.5°C/±3%RH	-40~85℃ 0~100%RH	Temperature + humidity external sensor with 3 meters	65000
S520-TH	±0.3°C/±3%RH	-20~70℃ 0~100%RH	Temperature + humidity , internal	65000
S520-EX	S520-EX ±0.3°C/±3%RH		Temperature + humidity , external sensor with 3 meters	65000
S580-TH	S580-TH ±0.2°C/±2%RH		Temperature + humidity , internal	65000
S580-EX	±0.2°C/±2%RH	-40~85℃ 0~100%RH	Temperature + humidity , external sensor with 3 meters	65000
S500-ET	±0.5°C	-40 ~ 85°C	Single Temperature external sensor with 3 meters	65000
S500-DT	±0.5°C -40 ~ 85°C Dual Temperature external sensor with 3 meters		65000	
S520-ET	520-ET ±0.3°C -40~85°C		Single Temperature external sensor with 3 meters	65000
S520-DT	±0.3°C	-40 ~ 85°C	Dual Temperature external sensor with 3 meters	65000

1.3 Specifications

1.4 Structure Instruction



- 1. LCD display
- 2. ON/OFF
- 3. Backlight
- 4. MAX/MIN checking button
- 5. LOG
- 6. Hanger (used for fixing on the wall)
- 7. Battery cover (screw to replace the battery)
- 8. Holder (used for desktop)
- 9.WIFI reset button

1.5 LCD Display Instructions



Symbol	Instruction
Å	Backlight
((&))	Alarming for over limit of temperature or humidity
25.0°	Temperature
66.3×	Humidity
4	Battery indication
66	Buttons locked/unlocked
ار ک	External AC 12V power connected
* >•	Connected to computer by USB cable
LOG 记录	Logger is in the logging mode
MEM 4250	Number of data groups collected
	Maximum value is displayed
	Minimum value is displayed
o 18:38	Time

1.6 Instruction of Buttons

Button	Instruction
LOG	Log function button, turn on/off the log function.
	Press to check the maximum and minimum value of all the
	recording data.
	Backlight button
C	Power button
мах/міл	Press these two buttons simultaneously to lock and unlock
	the data logger

Chapter 2. Software

2.1 WIFI Setup

Copy the WIFIConfig software from the accompanied CD in the package to a computer, then to the designated cell phone (Android Cell Phone only).

Install the software which will create icon.

Reset the logger for 3-5 seconds (reset hole is at the upper corner in the back of logger), then search for network module of this device (defaulted as RAK415-AP-606AB0) in WIFI settings of the cell phone and choose it.

Open WIFICONFIG software in the cell phone, slide down the screen to refresh interface of the app, then click on RAK415WIFI to enter setting mode.

2.1.1 Click on [OK] button to confirm [Certificate].



2.1.2 Click on [Mode] in the function list, then choose [STA] and [Save] to save settings.



2.1.3 Click on [STA] and choose the WIFI name and input password, then

[Save] to save the settings.



2.1.4 Socket Settings



【Object IP】 is the IP address of the computer where the data is stored, for example: 192.168.1.25; As of 【Object Port】, please enter "4588".

2.1.5 Click on [Settings], then [RESET] to save settings and restart WIFI module of the logger.

🔄 🗘 💖 🔔	🕺 🛜 🦓 89% 🖬 10:56 🖒	
WifiConfig		
Mode AP	STA UART Socket	s
Username :	admin	
Password :	admin	
Confirm :		
	Save	
Modulename :	RAK415	
Groupname :	RAK415	
Version :	1.0.9.2-2.1.32	
	Save	
	RESET	Click on RESET
	FAC RESET	

2.2 Instruction of ToMonitor software

(1)Copy the software folder to the computer, then open the software



(2) User Name: admin; Password: admin

Login System	×
User Name: admin	
Password:	
Cancel	

(3) Add New Logger in Tomonitor



- 1. Run Tomonitor software & Login
- 2. Press "Loggers"
- Choose a logger in the logger list and display its properties on the right side
- 4. Input the new logger's Serial Number & Name.

Tips: Name cannot include \/:*?"<>| symbol. Serial Number is on the label of the logger

- 5. Sampling (Seconds): When S500-GPRS upload real-time data, ToMonitor will sync this value to the data logger's "Logging Interval" (Logging/Upload frequency) property.
- 6. Logger type choose [Wireless]
- 7. Press [Add] and [Exit] to enter the monitoring interface
- In short time, real-time data collected by the logger will be displayed

ToMonitor Pro V8.4		-	
System(S) Management(M) Monitor(L) Running(R) L	icense(L) About(A)		
Login System Comm	🔎 😣 🔶 d Diagram Blocks Prior Next N	lodes Alarm Logs About Hel	P
Logger Setup		6	X
4	Basic	Logger Type	- Overranging
3 5773	Name: 5773	Type: Wireless	Delay in Office Hour(m) 30
	SN: HE20125773	IP: 192.168.11.3	Delay in Quitting Time(m) 30
5	Sampling(S) 60	Port: 4001	Alarm Type: None
5781	Sensors: Two	Connect (Sownload/Delet	Disconnect
			Delay in Office Hour(m) 60
5789	Enable 🛗 Disable	Property ASerial Number	Delay in Quitting Time(m) 60
	Sensor One	Sensor 3rd	Alarm Type: None
	High: 30.0	High: 100.0	Others
	Low: 10.0	Low: 0.0	DC Off: None 🔻
	Type: 0 Temp(oC)	Type: 7 Difference-Pres 🔻	Alarm Times 10
	Decimal: 0.0 💌	Decimal: 0.0 -	SoundLight On always
	Sensor Two	Sensor 4th	Alarm Extend Time(m) 60
	High: 75.0	High: 0.0	Addition Message:
	Low: 45.0	Low: 0.0	
	Type: 1 Humidity(%RH)	Type: 0 Temp(oC)	🕈 Add 🏼 🖌 Apply
13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Decimal: 0.0 💌	Decimal:	🗕 Delete 🔀 Exit
¥			_

2.3 Data Analysis

(Notice: ToMonitor needs to be opened before we can use ToClient8

software which is used for data analysis)

(1)Open Toclient8 software in the software folder



(2) Click on [Connect] to login. [Password] is "admin".

🔁 ToClient - Untit	led			
File(F) Data(D)	Help(H)			
Login Query	Realtime Alarm Dat	ta List Excel PDF	BMP Print	Preview About
L	ogin		x	
	IP Address:	127.0.0.1		
	Port	4588		
	Network Speed:	Very Fast	-	
	User Name:	admin		
	Password:	*****		
	Connect	Cance	1	

(3)Data Query:



(4) It will come out the following graph

🔁 ToClier	nt - Untitled	_							
File(F)	Data(D) Help	(H)							
Login	Query Real	time Alarm Data List	Excel PDF BMP	Print Preview About					
				ŀ	HE20143362 Log Grap	h			
	2 8	ensors	52 logs	Begin:	2015-07-	07 09:27:40	End:	2015-07-07	/ 10:18:20
		Sensor 01:	oF	Maximum:	31.0	Minimum:	30.8	Average:	30.9
		Sensor 02:	%RH	Maximum:	57.0	Minimum:	55.9	Average:	56.6
	100 Value								
	90								
	80								
	70								
	60 -								
	50								
	40 -								
	30								
	20 -								
	- 10 -								
	-								Time
	0 09:27	09:3	35	09:44	09:52	10:0	01	10:09	10:18
	2015-07-07 2015-07-07 2015-07-07 2015-07-07 2015-07-07 2015-07-07								
Ready			Connect	Ready 2015-07-0	7 09:56:02 30.9 oF	56.8 %RH		HUATO Electronics.	回英ノッ間サチ

(5)Click on 【Data List】 to get historic data



Chapter 3. FAQ

3.1 LCD Screen Dim

Reason:

• Insufficient battery or the environment temperature is too low or too high.

Solution:

• In the case of insufficient battery, please replace the battery. If resulted from environment temperature, please immediately take the logger out of the environment.

3.2 Software "Runtime Error"

Reason:

• OS forbid software creating files.

Solution:

- Run the program (software) as an administrator.
- Install software in Disk D:\
- A data logger name cannot contain any of the following characters:
 \ / : * ? " < > |
- Software's installation path cannot include Chinese character or garbage character.

3.3 Check COM Port Number

 Press "Win" + "R" in keyboard -> Run "devmgmt.msc" to Open "Device Manager" in Windows-> Expand "Ports (COM & LPT)" -> "USB-SERIAL CH340 (COM No.)" is the Data Logger