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S400W

# S400W Series Wireless Temperature and Humidity Data Logger User Manual



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#### Section 1 Introduction

S400 wireless temperature and humidity data logger is a high speed, intelligent device developed by HUATO which combines the advantages of its relevant devices. With built-in memory and Zigbee wireless transmission function, it can record 8192 readings as well as remotely monitoring warehouse, lab, refrigerator, cold storage room, etc. With its 2.4G transmission ability, wiring is not required to build a monitoring network, reliable and easy to use.

#### **Section 1.1 - Features**

(1)Zigbee to RJ45 DTU technical parameters

- Wireless/wired transmission speed: 115, 200 bps
- Maximum 64 wireless logger terminals.
- Number of supported frequency bands: 15 frequency bands
- Wireless interface: Zigbee ad hoc network, automatically find the best link to transmit data
- Built-in RJ45 interface to transmit received data to server through LAN
- · Can be used as a relay/gateway at the same time
- Power supply: DC 12V

(2)Zigbee wireless data logger technical parameters

- Zigbee 2.4G
- LCD screen
- Resolution: 0.1% <sup>C</sup>/0.1%RH
- LED +buzzer alarm for exceptional data
- 2 in 1 sensor made in Switzerland
- Configurable record interval: 2s 24h
- Transmission recovery function
- Wireless/wired transmission speed: 115, 200 bps.
- Maximum transmission range: 100-500 meters

#### Section 1.2 - Applications

Widely used in agricultural research, food, medicine, warehouse, cold storage, refrigerator, machine room, chemical industry, meteorology, environmental protection, electronics, laboratory and other applications of temperature & humidity monitoring, typical customers include China National Museum, State Grid Corporation Archives, Hong Kong Nanyang Tobacco, Shanghai Taste Candy, BGI Research Institute, Jiangsu Academy of Agricultural Sciences and other well-known entities.

## Section 1.3 - Data Logger Models

Model	Measurement Accuracy	Measurement Range	Sensor type	Remark		
S400W-TH	±0.5℃/±3%RH	-20~ 70℃ 0~100%RH	Internal temperature & humidity integrated sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		
S400W-EX	±0.5 <sup>°</sup> C/±3%RH	-40~ 85℃ 0~100%RH	External temperature & humidity integrated sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		
S400W-ET	<b>±0.5</b> °C	-40~ 85℃	Single channel external temperature sensor	1.5V AA battery * 4, 9VDC, LCD single figures		
S400W-EK	±(1-2%FS)	-100~ 300 °C	External thermocouple temperature sensor	1.5V AA battery * 4, 9V DC, LCD single figure, ultra-low temperature detection		
S400W-DT	<b>±0.5</b> °C	-40~ 85°C	Dual-channel external temperature sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		
S400W-T	±0.5°C	-40~ 85°C	Single-channel external temperature sensor	1.5V AA battery * 4, 9VDC, LCD single figures		
S400W-EPT	±0.5 °C	<b>-40~ 120</b> ℃	External PT100 pin sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		
S400W-DP						
S400W-CO2	0~20%/±70PPM +/-5%	0~ 20000PPM				
S400W-TH-ND	±0.5℃/±3%RH	-20~ 70℃ 0~100%RH	Internal temperature and humidity integrated sensor	1.5V AA battery * 4, 9V DC, no LCD display		
S400W-EX-ND	±0.5 °C/±3%RH	-40~ 85℃ 0~100%RH	External temperature and humidity integrated sensor	1.5V AA battery * 4, 9V DC, no LCD display		
S400W-ET-ND	±0.5 °C	-40~ 85°C	Single-channel external temperature senso	1.5V AA battery * 4, 9VDC, LCD dual figures		
S400W-EK-ND	±(1-2%FS)	-200~ 480°C	External thermocouple temperature sensor	1.5V AA battery * 4, 9V DC, LCD single figure, ultra-low temperature detection		
S430W-TH	±0.3℃/±3%RH	-20~ 70 ℃ 0~100%RH	Internal temperature and humidity integrated sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		
S430W-EX	±0.3℃/±3%RH	-40~ 85℃ 0~100%RH	External temperature and humidity integrated sensor	1.5V AA battery * 4, 9VDC, LCD dual figures		



### Section 1.4 - HE2400 & HE2410 DTU appearance



	HE2400		HE2410
1	Ethernet interface (RJ45)	1	USB interface
2	DC 12V	2	DC 12V
3	Antenna	3	Antenna



#### Section 1.5 - S400W series wireless logger with LCD display

#### Section 1.6 - Explanation of S400W Series LCD Symbols



#### Section 1.7 - S400W-ND series wireless temperature and humidity logger without LCD display





#### Section 1.8 - Install the battery

1 Use a screwdriver to loosen the fixing screws from the back cover, and install four 1.5V AA

2 batteries into the battery compartment according to the directions





#### Section 2 Software User's Guide

#### 2.1 Installing the software

- (1)Put the Monitor software CD into the CD-ROM drive, and install ToMonitor\_V8 software to the computer hard disk.(Note: It is recommended NOT to install it on the drive C to prevent the d losing data caused by operating system crashing).
- (2)Open the installation folder and find the ToMonitor icon.
- (3)This instrument may use HE2400 or HE2410 DTU to upload data. In case of HE2410, you need to install the driver. Find the USB\_Driver directory on the CD-ROM and click the Setup.exe program. A dialog box pops up and click the "INSTALL" button. It will take a while, to install the driver to the computer. Driver is not needed for HE2400.

#### 2.2 Setting the RJ45 module of the HE2400 wireless base station

Plug the HE2400 into a 12V power supply, plug in the ethernet cable, open Lanconfig program in the folder, and a pop-up interface will be shown as below:

		ID	Name	IP Address	MAC Address
Namo:	12345678	1	HUATOR2696	192.168.10.162	00:04:a3:aa:08:1b
adme.		2	HE24001135	192.168.10.213	00:04:a3:ab:01:eb
Mark Mades	2 Ten Client	3	HUATOR2263	192.168.10.165	00:04:a3:aa:05:e7
NOTK MODE:	13. Tep client	4	HUATOR1062	192.168.10.152	00:04:a3:aa:00:47
an na statum		5	HUATOR2665	192.168.10.164	00:04:a3:aa:07:9c
saud Rate:	115200	6	HE2485	192.168.10.66	00:04:a3:bb:05:01
		7	HE20160003	192.168.10.171	00:04:a3:00:03:60
OHCP Mode:	Disable	8	HE24851192	169.254.93.198	00:04:a3:cc:00:99
		9	HUATOR2614	192.168.10.161	00:04:a3:aa:07:69
IP Address:	192 . 168 . 10 . 208	10	HUATOR2543	192.168.10.154	00:04:a3:aa:07:1f
		11	HUATOR2301	192.168.10.166	00:04:a3:aa:06:1b
Net Mask:	255 . 255 . 255 . 0	12	HUATOR1790	192.168.10.170	00:04:a3:aa:04:07
		13	HUATOR2308	192.168.10.163	00:04:a3:aa:06:22
		14	HE24000072	192.168.10.179	00:04:a3:ff:03:3f
Gateway IP:	192 . 168 . 10 . 1	15	12345678	192.168.10.208	00:04:a3:ff:45:12
		16	HE20160000	192.168.10.172	00:04:a3:00:03:6e
istening Port:	4001	17	HUATOR1743	192.168.10.169	00:04:a3:aa:02:42
MAC Address:	00:04:a3:ff:45:12				
Object IP:	192 . 168 . 10 . 82				
Object Port:	5567				

(1) Click [Search Modules] to search for devices. The names and IP addresses of all the DTU connected to the LAN will be displayed in the right of the window.

Note: LanConfig software uses UDP broadcast protocol for module search, please make sure that the software is not blocked by firewall or antivirus software.

- (2) Select the serial number of the found HE2400 DTU and double-click to obtain the attributes.
- (3) Name: instrument name, can be modified according to actual needs. (Note: The factory setting is the instrument's serial number)
- (4) Work Model: Set to TCP Client mode.
- (5) Baud Rate: set to 115, 200
- (6) DHCP Mode: select Disable to turn it off. It is recommended to choose a fixed IP address to ensure network stability.

- (7) Address: IP address / Subnet mask / Gateway IP gateway, modify the IP information according to current LAN configuration, the IP address will be assigned to HE2400 DTU (Note: This IP address should not conflict with any IP address of other instruments)
- (8) Object IP: this IP address is the fixed IP address of the control computer.
- (9) Object Port: default is 4588, which should be consistent with the TCP listening port of ToMonitor software.
- (10) Click [Apply Changes] to submit the changes, a " Device Information Changed Successfully " dialog box will pop up, and finally click Confirm.

#### 2.3 ToMonitor software guide

#### 2.3.1 Run the software

Power on the instrument, connect the control computer to HE2400 through ethernet or to HE2410 through USB interface.

ToMonitor Pro \	/8.6.0.3					
System(S) Manag	jement(M) Mon	itor(L) Running(R)	License(L)	About(A)		
Login System	Comm Users	Groups Loggers	Diagram	Blocks Prior	Next Nodes	() Alarm
572		HE24R-447	7	HE	24R-471	
0.0	oC	30.0	оС	30,	. <b>3</b> ₀c	2
0.0	%RH	75.6	%RH	74	.6 %RH	
	🥝 00:00 L	ogin System	-		×	
		User N Passv 💽 L	Name: vord: ogin	🔀 Car	Icel	

Double-click the program icon and click [Login] button to enter the login interface as below. The initial user name and password are both "admin" (case insensitive).



After successfully login into ToMonitor software, all the menu keys on the toolbar are active, as shown in the following figure:

ToMonitor Pro V8.6.0.3	1) Burning (D) Lineard ()	theory (A)						- ø x	
Login System Comm	oups Loggers Diagram	Blocks Prior	Next Nodes Alarm Logs	About Help					
5	72		HE24R-44		HE24R-471		\$630ETB002		
0.0	oC	;	30.0	oC	30.3	oC	29.2	οC	
0.0	%RI	н	75.6	%RH	74.6	%RH	0.0	%RH	
	<b>O</b> 0	:00		3 13:59		🕙 14:11		O8:51	
Ready	LAN:6000   D	TU-USB:off / RS485:0	COM4 off		HUATO	Electronics	2020-05-13 00:01:50 work time	e 0 day1 hour50 minute	

#### 2.3.2 System settings

Click the soutton, the following dialog pops up:

- (1) Software name: Customize the software name according to actual needs.
- (2) Set the number of rows and columns about how the panels are arranged.
- (3) Recording interval

System(S) Management(M) Monitor(L) Running(R) License(L)	About(A)										
Login System Comm	Solution         Prior         Next         Amount         Amount         Amount         Amount         Logs										
ToMonitor Pro System Setup	×										
Title	SMS Validity           1         Minute(s)         Test SMS										
Groups     DB Interval       Rows:     4       Lines:     4       (1~8)       Interval       2 Minute											
Autorun       Show background       GSP       FDA       Multi-threads Sampling         Image: Output to 3rd DB       Alarm by Group       Auto Del       GPRS SYNC       Master         Image: Alarm DB       Alarm DB       Alarm DB       Alarm DB       Alarm DB											
Email Alarm	Logs Backup										
SMTP Server: smtp.gmail.com											
Sender: pengshengqihuato@gmail.com	© PDF C LogPro C SQL										
Account: pengshengqihuato@gmail.com											
Password:	C:\Users\HP\Desktop\??ToMonitor-V8.										
Port: 465 Email Test											
SecurityType: USE_SSL 💌											
📀 ок	Cancel										

#### **2.3.4 Communication settings**

Click the 🧱 button, the following dialog pops up:

DTU server port settings:

a. TCP listening port (RJ45): 4588 (HE2400 DTU refers to this port) b. USB Port (USB): Port selection COM1 ~ COM9 (HE2410 refers to this port, the port number should be the same as actual USB port number connected to HE2410)

System(S) Management(M) Monitor(L) Running(R)	License(L) About(A)
Login System Comm	Diagram Blocks Prior Next Nodes Ala
COMM Setup	×
A. GSM SMS Alarm	C. HE2410 USB-DTU
1. GSM SMS	4. USB Port: COM14 -
2. COM Port: COM5	D. RS485
B. Wireless Server	5. RS485 Port: COM4 _
3. TCP Listening 6000	E. SoundLight Alarm 6. Port: COM12
Attention: The port of item 2,4,5,6 cannot be the same.	F. Remote Alarm 7. IP Address:
	8. Port: 0
	OK 🔀 Exit

#### 2.3.5 User management



Click the solution, the following dialog pops up, add user names as needed:

Users Gro	Dups Loggers	<u> </u>	🗞 Blocks	Prior	Next	Nodes	() Alarm	Logs	About	() Help	
User Manager	ment										×
admin Si Amin '+İAyağ			G1								
			Name:	a	dmin	_	Pas	sword:	****	*	-
			Email:	abr	n.spicer@g	gmail.com	•	Nobile:	0		
			Level:	Administ	rator	Exp	oire Date:	2049/ 8/3	0星期—	•	
			+	Add	_	Delete	R	Apply	$\mathbf{S}$	Exit	



#### 2.3.6 Group management

Click the solution to pop up the following dialog, add groups as needed:

Groups	Loggers	<u> </u>	阏 Blocks	Prior	Next	Nodes	() Alarm	Logs	About	() Help	
Groups											×
61			6	572 572 E24R-447							
ID: Name: Image fil IP Addre IP Port:	e: 19	100 G1 100.jpg 2.168.0.251 4001	S	HE24R-471							
+ /	Add Pply	Delete									

Note: After adding a new logger, group must be specified, otherwise the newly added logger will not be displayed in the monitoring window.

#### 2.3.7 Device management

Click the button, the following dialog pops up:

s Logger Stup	Nodes Alarm Logs	bout Help	×
G1			
	Basic           Name:         572           SN:         2018120572           Sampling(S)         60	Logger Type           Type:         Wireless           IP-         192.168.1.133           Port:         4001	Overanging Delay in Office Hour(m) 1 Delay in Quitting Time(m) 1 SMS+S&L+Email •
HE24R-447	Sensors: Two   Enable Disable Sensor One	Connect Senior 3rd	Disconnect Delay in Office Hour(m) Delay in Quitting Time(m) I0 Alarm Type: SMS+S&L+Email
с	High: 0.0 Low: -250 Type: 0 Temp(oC) Decimal: 0.0 Color:	High:         40.0           Low:         0.0           Type:         0 Temp(oC)           Decimal:         0.0           Color:	DC Off:     None       Alarm Times     1       SoundLight     On always       Alarm Extend Time(m)     60
	Sensor Two           High:         90.0           Low:         5.0           Type:         1 Humidity(%RH) 🗸	Sensor 4th           High:         100.0           Low:         0.0           Type:         1 Humidity(%RH) ~	Addition test Low battery None  Page No: 0
C Select All	Decimal: 0.0  Color:	Decimal: 0 v Color: v	T Add Mar Apply

(1) [Basic setting] Logger parameters setting

Name: a logger can be named according to the actual situation. The name of each instrument cannot be duplicated.

Serial number: enter the 10-digit serial number according to the sticker attached to the logger.

Instrument type: set to "Wireless instrument".

Sampling interval (seconds): The refresh interval of the instrument data can be set according to the actual need.

Number of sensors: select single channel to display only 1 channel (one channel for temperature logger), select dual channel to display 2 channels (two channels for temperature and humidity logger).

(2)[Sensor 1]

Upper threshold: the upper threshold can be set. When measurement exceeds the set value, the monitored value will be displayed in red. Please also set the alarm method to send the alarm information according to the actual need.

Lower threshold: the lower threshold can be set. When measurement exceeds the set value, the monitored value will displayed in red. Please also set the alarm method to send the alarm information according to the actual need.

Type: Temperature / Humidity (Please choose according to the type of the logger.)

(3) [Sensor 2]

Upper / lower thresholds: The upper and lower thresholds can be set according to the actual need. When the set value is exceeded, the monitored value will be displayed in red, and the alarm information will be sent according to the set alarm method.

Type: Temperature / Humidity

Sound and light alarm: It can be selected to close working hours only or always open.

Add: first select one of the logger in the dialog, display the properties, enter the new name and serial number, set other parameters according to the actual need, and then click Add.

Modify: first select one of the logger in the dialog, set the relevant parameters according to the actual need, click the modify button to confirm, and then click OK after the successful message.

Delete button function: first select one of the logger in the dialog box, click the delete button to confirm the deletion, and then click OK after the successful message .

Exit button: Click the exit button to exit the device management dialog.



#### 2.3.8 Real-time curve button

Click the button, all the data will be displayed in the form of curves, as shown below:

🖳 ToM	lonitor Pro	V8.6.0.3												—		×
System(	(S) Mana	agement(N	1) Monit	tor(L) Ru	unning(R)	License(L)	About(	4)								
Login	X System	ි Comm	Users	Groups	Coggers	Liagram	Blocks	<b>Prior</b>	Next	Nodes	Alarm	Logs	About	() Help		
	Value	572			HE Value	24R-447			Vatue	HE24R-471	,	50 50 23 23 23 10 10 0	Value	S630ETB002		
Ready L	AN-6000		off / RS/R	5-COM4	-#					lectronics	2020-05-1	14 00-01-3	2 work tin	a 0 dav1 l	our <sup>32</sup> r	ninut 4

#### 2.3.9 Text display button

Click the button, all the data will be displayed in the form of curves, as shown below:

🖳 ТоМ	lonitor Pro	V8.6.0.3												-	
System(	( <u>S)</u> Man	agement(	M) Monit	tor( <u>L)</u> Ru	nning( <u>R</u> )	License(L	) About(	<u>A</u> )							
Login		මි <sub>ලා</sub> Comm	Users	Groups	Loggers	Liagram	600 Blocks	Prior	Next	Nodes	Alarm	Logs	() About	() Help	
		572			HE	E24R-447			H	E24R-471			S	630ETB002	
	0.0	)	oC		30.	.0	oC		30	.3	oC		29	.2	oC
	0.0	)	%RH		75.	.6	%RH		74	.6	%RH		0.	0	%RH
		0	00:00			0	13:59			٢	14:11			-	08:51
				5 00144	«I						2020.05.1	4 00 01 0	7 1 2	0 1 11	27

#### 2.3.10 Previous Area / Next Area Button

Click the 👷 🐋 button to switch the window page to view the monitoring data. The up, down, left and right buttons on the keyboard can also be used.

#### **2.3.11 Group list button**

Click the Button to show or hide the group list.

#### 2.4 View the exported data

(1) Double click the ToClient icon in the Huato software folder and run the software, as shown below:



(Note: ToClient requires ToMonitor to be running, otherwise you will get a prompt of 'fail to connect to the server' and cannot view the data)

(2)Login connection

File(F) Data(D) Help(H)	
Login Query Alarm Realtime DATALIST EXCE	EL PDF BMP Print Preview About
Login	×
IP Address: 127.0.0.1	
Port 4589	
Network Speed: Very Fast	J .
User Name: admin	_
Password: *****	
Connect 😢 Cancel	

(Note: The port number is the [LAN] number displayed in the bottom of ToMonitor software plus 1, the default user name and password are both admin)



(3)Click the [Query Logger] icon to pop up the following dialog. Check the instrument to be queried, select the time period to be queried, and click [Start Query]

ToClient - Untitled		
File(F) Data(D) Help(H)		
Login Query Alarm Realtime		
ONE HE24F		
TWO HE24R	2	
R\$485 HE520		
Channel 1st		
Channel 2nd High: 0 Low: 0		
Channel 3rd High: 0 Low: 0	□ □ Select All □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	
Channel 4th High: 0 Low: 0	Begin:         End:           2019/ 8/ 1         0:00:00 ↔         2019/ 8/ 2         23:59:59 ↔	
	Begin Query 😵 Exit Query	

(4)The following dialog pops up to view the corresponding data analysis chart.

			2	222 Log Grap	n			
2 sen	sors	41 logs	Begin:	2015-08-0	5 09:12:00	End:	2015-08-	05 09:57:00
	Sensor 01:	oC	Maximum:	30.1	Minimum:	29.4	Average:	29.8
	Sensor 02:	%RH	Maximum:	10.1	Minimum:	9.2	Average:	9.6
▲ Value(oC)								
35 -								
-								
33 -								
31 -								
	and the second							
29 -	12 62 52		1.15.20					
27 -								
-								Time
25	00.16		00.05	00.22	00.43	2	00.60	00.57
2015-08-05	2015-08-05		2015-08-05	2015-08-05	2015-08-05	2	09.00	2015-08-05
77.559(17)(57.5	005000.05							
▲ Value(%R	1)							
15-								
14 Y 25								
-								
13 -								
13 -								
13								
13-								
13 - 11 - 9 -								
13-11-								-
13 - 11 - 9 - 7 -								
13 - 11 - 9 - 7 -								Time
13 11 9 7 - 5 00 12	0918		00/25	00 32	00.43		09.50	Time



(5)Click the [Query Data] icon to pop up the following dialog to view real-time data.

Too	lient - Untitles								_		_		
File(F	Data(D)	telp(H)		0									
Logi	Query	Alarm	Realtime	DATALIST E	👌 🛃 🖻	AP Print Preview	w About						
ata L	st			4 >	<								
/N	Date	Time	oC-1	%RH-1	A				2222 L	og Graph			
	2015-08-06	11:00:00	28.7	54.4									
	2015-08-06	11:12:00	28.6	52.9	2	sensors	131 logs	Begin:	2015-08	-06 11:00:00	End:	2015-08-08	14:09:00
	2015-08-06	11:30:00	28.5	50.9		C	-0		20.5	A Contractory	00.4	A	00.5
	2015-08-06	12:00:00	28.6	51.3		Sensor 01:	00	Maximum:	30.5	Minimum:	28.1	Average:	28.5
	2015-08-06	12:30:00	28.3	48.9		Sensor 02:	%RH	Maximum:	54.4	Minimum:	47.5	Average:	49.0
	2015-08-06	13:00:00	28.1	48.1		C 50 C 7 1 S 7 A	10100	1000000000000	1000	120202020	0.077	\$ 1777 TO 10	0.000
	2015-08-06	13:26:00	28.3	49.8	A Va	lue(oC)							
	2015-08-06	13:28:00	28.3	49.7	35 -								
	2015-08-06	13:30:00	28.3	49.0	100								
	2015-08-06	13:31:00	28.3	49.4	22								
	2015-08-06	13:32:00	28.3	49.4									
	2015-08-06	13:33:00	28.3	49.6									
	2015-08-06	13:34:00	28.4	49.8	31 -								7.50
	2015-08-06	13:35:00	28.4	49.8	-								N
	2015-08-06	13:40:00	28.4	49.7	29								1
	2015-08-06	13:41:00	28.4	49.7	-								~
	2015-08-06	13:42:00	28.4	49.5	07								
	2015-08-06	13:43:00	28.4	49.6	21-								
	2015-08-06	13:44:00	28.4	49.8									Tir
	2015-08-06	13:45:00	28.4	49.7	25	T and	<u>a</u>	and the O	and the		12		1122
	2015-08-06	13:46:00	28.4	49.8	11:00	13	47	14:09	14[31	14:52		15:14	14:09
	2015-08-06	13:47:00	28.4	49.7	2015-08-0	6 2015-	08-06	2015-08-06	2015-08-06	2015-08-06	2	015-08-06	2015-08-0
	2015-08-06	13:48:00	28.5	49.7	4.14	Lun (R) (DLI)							
	2015-08-06	13:49:00	28.5	49.6	↓ va	inel serent)							
	2015-08-06	13:50:00	28.4	49.4	55 -								
	2015-08-06	13:51:00	28.4	49.3	-1								
	2015-08-06	13:52:00	28.4	50.0	53 -								
	2015-08-06	13:53:00	28.4	49.8	1								
	2015-08-06	13:54:00	28.4	49.9	51 - 1								B
	2015-08-06	13:55:00	28.4	49.7	31-1				(46.)				1
	2015-08-06	13:56:00	28.4	49.4		10	m		~				1
	2015-08-06	13:57:00	28.4	49.6	49	V ×			~		m	12-1	11
	2015-08-06	13-58-00	28.4	49.5	-	V					~	m	
	2015-08-06	13-50-00	28.4	49.7	47					~			1000
	2015-08-06	14:00:00	28.4	49.6									
	2015-08-06	14.01.00	29.4	40.6	15								-10
	2015-08-06	14.02.00	20.4	49.0	45 11:00	13	47	14.09	14 31	14 52	10	15-14	14 09
	2015-08-06	14-02-00	29.5	40.3	2015-08-0	6 2015-	08-06	2015-08-06	2015-08-06	2015-08-06	2	015-08-06	2015-08-08
	F010-00-00	A4:05:00	20.3	49.3	2010-00-0	2010			2010-00-00	2013-00-00			2010 00-01

(6)Click [PDF] to export the queried data as a PDF file, and click [BMP] to export the analysis chart as a BMP image file.

#### **Section 3 Precautions**

#### 3.1 Notes

- •The waterproof index of this logger is IP34. If there is moisture on the case, do NOT perform USB connection operation to prevent the electronic circuit from being short-circuited with water, which may damage the instrument.
- •The logger adopts ABS engineering fireproof plastic shell, please prevent the device from corrosion of acid and alkali chemicals.
- •If a malfunction occurs, it must be repaired by an authorized professional. Please do NOT repair or modify it by yourself.
- •The four 1.5V lithium batteries equipped with this instrument cannot be recharged or short-circuited, otherwise danger may occur. Please dispose of used batteries properly to protect the environment.

#### 3.1 Notes

- •The LCD display becomes low lighted
- Cause: the battery power is low or the environment temperature is too low or too high. Solution: replace the battery. If it is caused by the environment temperature, please take the

logger out of the environment immediately to avoid damage to the logger.

- •The LOG indicator disappears
- Reason: when the battery power is too low, there will not be enough power to maintain the recording function on the logger.

Solution: replace the battery