TT19SI
4G Real-Time Temperature and Humidity Data Logger

User Guide V1.0

1. Product overview

TT19SI is a global 4G real-time temperature and humidity data logger with high-quality sensitive components and high measurement accuracy. It is embedded with 4G modules. The data is sent to the cloud through the 4G network for monitoring and analysis, and it's also with the function of automatically generating PDF reports. With 4000mAh large capacity battery and low power consumption design, once charge, TT19SI can work for a long time, it's greatly adapt to different transportation temperature monitoring requirements.

Considering about the data security, TT19SI not only uploads data to cloud, but also stores data into flash. And for emergency use, the user can easily connect the USB C port to automatically generate PDF report. With a complete cold chain visibility, traceability monitoring (temperature, humidity, light, shock, location) system, the TT19SI is helping customers digitize their supply chain, prevent the loss of shipments with in-transit visibility and alerts, automate and increase compliance, and speed up product release, extremely improve transportation efficiency and reduce product losses.

2. Product features

1. Global use, support LTE with 2G fallback.

2. Real-time monitor temperature, humidity, light, shock and location.

3. Multi-use, with 4000mAh rechargeable battery.

4. High accuracy SHT30 digital temperature and humidity sensor with NIST traceable calibration.

5. IP64 waterproof design adapt to harsh environments.

6. Two button design with large LCD display, friendly use and easily operate.

7. Automatically generate PDF report via USB C port for emergency use.

3. Product specifications

Items	Details
Monitoring information	Temperature, humidity, location, light, vibration
Temperature and humidity sensor	Sensirion SHT30
Temperature measurement range	-20℃~+60℃
Temperature accuracy range	±0.3℃ (0℃ ~ +60℃); ±0.5℃ for other range
Humidity measurement range	5%~95%RH
Humidity accuracy range	±3%(10%~90%RH); ±5% for other range
Light sensor range	0-64000lux
Vibration sensor range	0-16G
Minimum unit	0.1℃/0.1%RH/1 lux/0.001G
Position type	LBS base station position
Memory capacity	17,000
Network system	Global LTE 4G, with 2G fallback
Recording interval	Default 15min , configurable
Reporting interval	Default 60min , configurable
Usage time	Once fully charged, it can be used for 120 days based on reporting interval of 60 min
Battery specification	Bulit-in3.7v/4000mAh Lithium rechargeable
USB interface	USB-C
Usage type	Multiuse+rechargeable
Waterproof level	IP64
Dimension	100mm*66mm*29mm
Weight	165g

4. Product description

| Items	Functions
OK Light	Indicate device status
Alarm Light	Indicate device status
LCD Screen	Display screen
START/STATUS Button	Turn on/View Machine Status/Send Data
STOP Button	Turn off/View Machine Status
ID	Device ID number
Light Sensor	Light sensor
USB-C	USB-C interface, for charging or automatically generating PDF report. The two LED will be on during charging and off when fully charged.

5. LCD display instructions
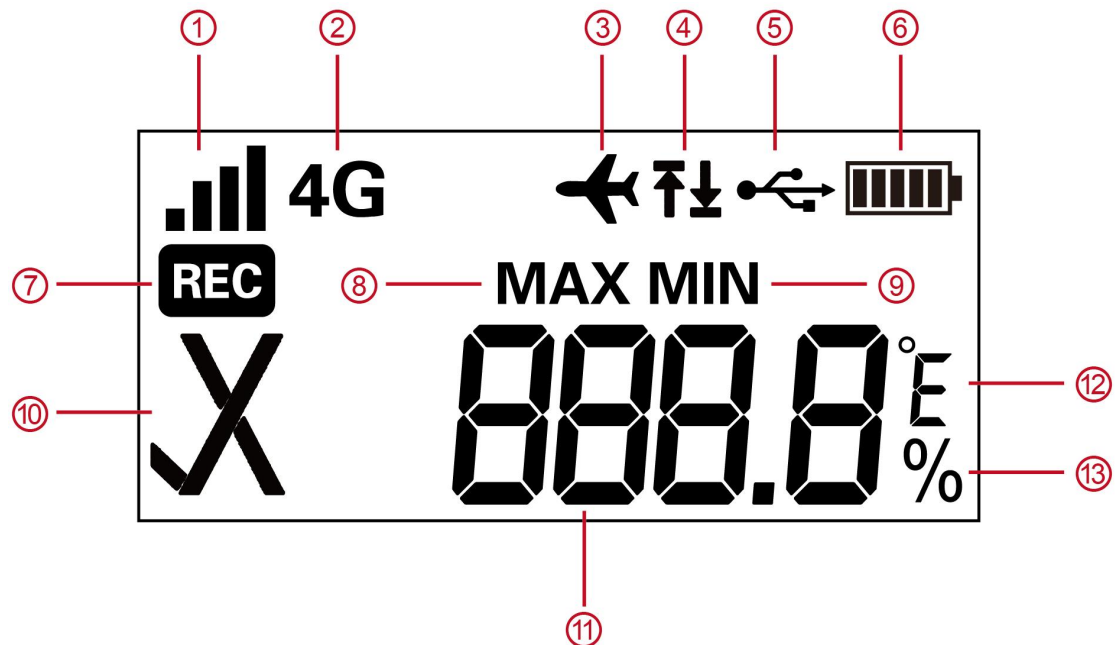
Serial Number	Functions	Explanation
1	Network signal strength icon	Indicating signal strength, the more signal bars, the better signal strength.
2	4G network icon	Indicate the device connected with 4G network.
3	Flight mode icon	It means the device has entered into flight mode, and it will only store data but not transmit.
4	Temperature and humidity exceeding the limits	Exceed the upper limit：↑ Exceed the lower limit：↓ Both exceed：↑↓
5	USB icon	Indicate the USB connected and battery charging, when full charged, the USB icon will not display.
6	Battery status	The higher the number of grids, the higher the electricity. Please charge immediately when there is only 1 grid or space.
7	Record icon	It means that device is in a record state, displayed after turn on.
8	Maximum icon	Display the maximum temperature and humidity value.
9	Minimum icon	Show the minimum temperature and humidity value.
10	Temperature and	Normal：√ Alarm：×

	humidity alarm icon	
11	Temperature and humidity value	The resolution of temperature and humidity is 0.1. When the sensor is abnormal, it will display -------
12	Temperature unit icon	Temperature unit, optional "℃" or "℉" display
13	Humidity unit icon	Humidity unit is "%".

6. Device operation and status

6.1 Turn on

In off state，press the "START" button more than 3 seconds, the "OK" LED will light in green, and the LCD display will show temperature values which means you've turned on the device,and device will upload a data to cloud immediately.

Long press
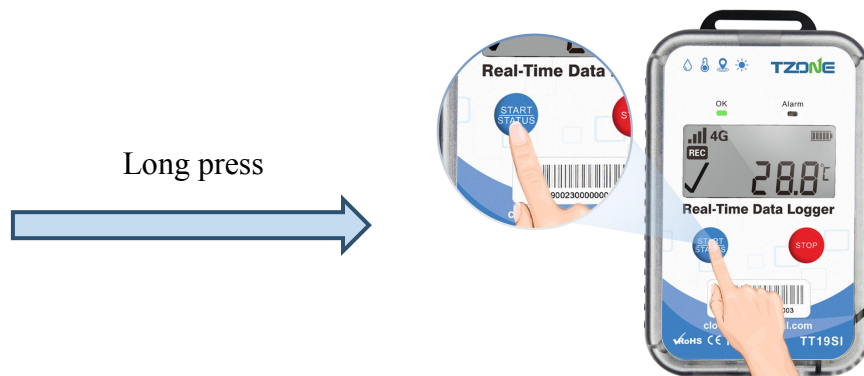
6.2 Turn off

In on state,press the "STOP" button more than 3 seconds, the "Alarm" LED will light in red and the LCD display will be off, which means you've turned off the device,and device will upload a data to cloud immediately.

Long press

6.3 No alarm

After turning on without alarm, the "OK" led will flash in green once every 10 seconds.

6.4 Alarm

6.4.1   Temperature and humidity alarm

After turning on, if temperature or humidity alarm, the "Alarm" led will flash in red once every 10 seconds and the LCD will display the temperature and humidity alarm mark, device will upload a data to cloud immediately.

6.4.2   Shock alarm

After turning on, If shock alarm, and device will upload a data to cloud immediately.

6.4.3   Light alarm

After turning on, If light alarm, and device will upload a data to cloud immediately.

Note: Each type of alarm will be triggered only once in every data recording cycle.

6.5 Query status

Current status	Operating	Indicator light status	LCD display
Initialization	Short press "Start" or "Stop" button	/	OFF
Start recording	Long press the start button for more than 3s	The green light lit continuously for 5s	Real-time data
Stop recording	Long press the stop button for more than 3s	The red light lit continuously for 5s	End
Recording and no alarm occurred	/	The green light flashes once every 10 seconds	Display " √ "
Recording and the alarm occurred	/	The red light flashes once every 10 seconds	Display " × " Display " ↑ " or " ↓ "
Generate report	Insert the device into USB and are generating a report	The red and green lights flashed alternately	Display End or OFF
USB status	Insert the device into USB, and the report has been generated	The red and green light is always on.	Display End or OFF

After turning on the device, if short press the "START" button, the device will be awakened and immediately send a data to cloud. If no alarm, the "OK" LED will flash in green, if alarm, the "Alarm" LED will flash in red.

Continuously pressing the button will toggle the display screen, in the order of "temperature value → humidity value → maximum temperature value → maximum humidity value → minimum temperature value → minimum humidity value."

Note：When toggling the display screen, short press the "STOP" button to toggle directly to the "temperature value"display screen. If there is no operation within 10 seconds, the LCD display will be off.

Short press

Short press
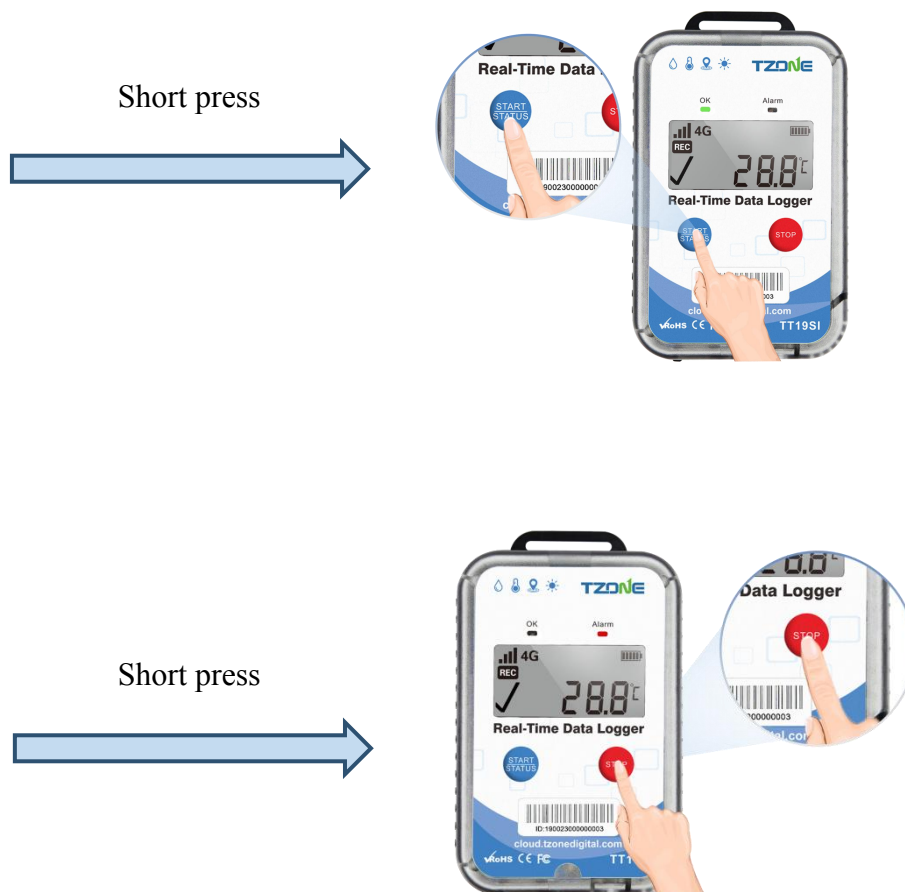
7. Data query

Tzone temperature and humidity cloud platform website: http://cloud.tzonedigital.com/

After turning on, the device data can be queried on TZONE cloud platform. Before entering the cloud platform, you will need to register an account. Once registered, log in and navigate to the "Device Management" section to add the TT19SI ID.

Light
2024-04-12 09:31 ~ 2024-04-12 09:39

68.00 lux (Light)

50

25

0

Friday, Apr 12, 09:31:14   09:35

09:35

Vibration
2024-04-12 09:31 ~ 2024-04-12 09:39

15

10

5

0

09:35

09:35

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Shipment ID		Customer company	
Asset ID		Goods	
Carrier		Transport Route	~
Sender		Receiver	
Vehicle			
EstimatedTime	2024/04/12 09:29:00~2024/06/11 09:29:00		
Remark			

Device Settings

Reporting Interval (min)	60	Recording Interval (min)	15
Start Delay Time (min)	0	Open GPS	Enable
Forbid manual stop	No	Set Airplane Mode	Disabled
Temperature Unit	°C	Time zone	UTC

Alarm Settings

Channel1 - Temperature alarm threshold (°C)	-40~100	
Channel1 - Temperature Pre-Alert threshold (°C)	-30~90	
Channel2 - Temperature alarm threshold (°C)	-200~1400	
Light alarm threshold (lux)	0~200	
Vibration alarm threshold (g)	2	
Effective date	2024/04/12 09:14:11~2025/04/12 09:14:11	
Repeat	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	
Effective time	00:00~23:59	

Channel1 - Humidity alarm threshold (%)	0~100
Channel1 - Humidity Pre-Alert threshold (%)	10~90

Alarm Notifier

Mail alarm notification	Share information
SMS alarm notification	

8. PDF report data query

After using the USB cable provided by our company to connect the device to one computer, the computer reads the disk and automatically generates the PDF report. If the real -time data of the device cannot be queried, the historical data of the device can be viewed through the PDF report:

Note: The device must end trip before generating a PDF report.

DATA REPORT

OK ✓   ID: 190224040000002

File Information

File Created Date:	04/12/24 01:23:58

Note: All Times shown are based on UTC+0:00 and 24-Hour clock,[MM/DD/YY HH:MM:SS]

Device Information

Device Type:	TT19SI	Firmware Version:	1.07

Order Information

Company Name:		Shipment ID:	

Logging Summary

First Point:	04/12/24 01:12:41	Max:	26.5°C/62.4%RH
Stop Time:	04/12/24 01:23:20	Min:	25.8°C/59.5%RH
Number of Points:	5	Average:	26.1°C/61.0%RH
Trip Length:	00d 00h 10m 39s	MKT:	26.1°C
Record Interval:	15 Mins	Threshold:	[-40.0°C,100.0°C]/[0.0%RH,100.0%RH]
Report Interval:	60 Mins		
Start Delay:	0 Mins		

Alarm Condition	First Alarm Time	Time of Alarm	No. of Alarm
Temp-High	00/00/00 00:00:00	00d 00h 00m 00s	0
Temp-Low	00/00/00 00:00:00	00d 00h 00m 00s	0
RH-High	00/00/00 00:00:00	00d 00h 00m 00s	0
RH-Low	00/00/00 00:00:00	00d 00h 00m 00s	0
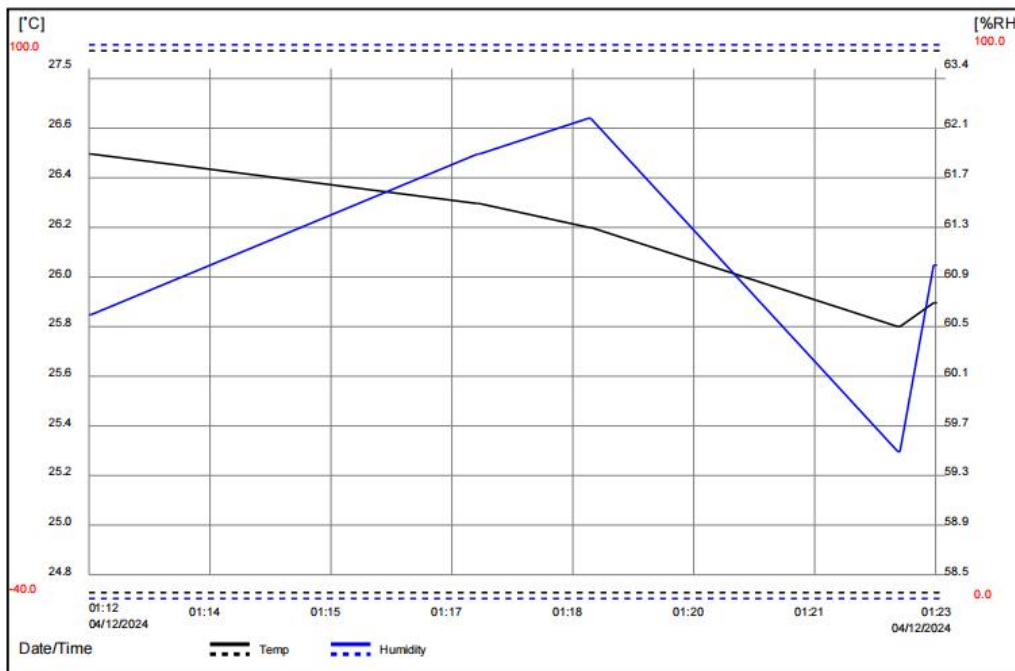
Temperature&Humidity Table

Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH	Date	Time	°C	%RH
04/12/2024,	01:12:41	26.5	60.6																
04/12/2024,	01:17:37	26.3	61.9																
04/12/2024,	01:18:58	26.2	62.4																
04/12/2024,	01:22:52	25.8	59.5																
04/12/2024,	01:23:20	25.9	61.0																