# ZOGLAB

# HWS1000

## Handheld Weather Station

· Accurate measurements of multiple weather parameters including temperature, humidity, barometric pressure, wind, UV and light
· Built-in weather forecast and comfort index functions
· Support infrared temperature measurement
· Integrated high performance MEMS sensors
· Pocket size and ergonomic design with light weight
· Support GPS/BDS/GLONASS/GALILEO/QZSS/SBAS satellite navigation

LTD          STD          PRO          DEF

# HWS1000

## Handheld Weather Station

HWS1000 is professional hand-held weather station that supports measurements of temperature, humidity, barometric pressure, wind speed, wind direction, UV, light, infrared temperature, GPS positioning and other parameters. The overall design incorporates ergonomics and reshapes the appearance and structure of the traditional hand-held weather station.The highly integrated electronic circuit design enables the compact size to contain several times more the functionalities,which brings more convenience to outdoor weather observation.

· Accurate measurements of multiple weather parameters including

  temperature,humidity, barometric pressure, wind, UV and light

· Built-in weather forecast and comfort index functions

· Support infrared temperature measurement

· Integrated high performance MEMS sensors

· Pocket size and ergonomic design with light weight

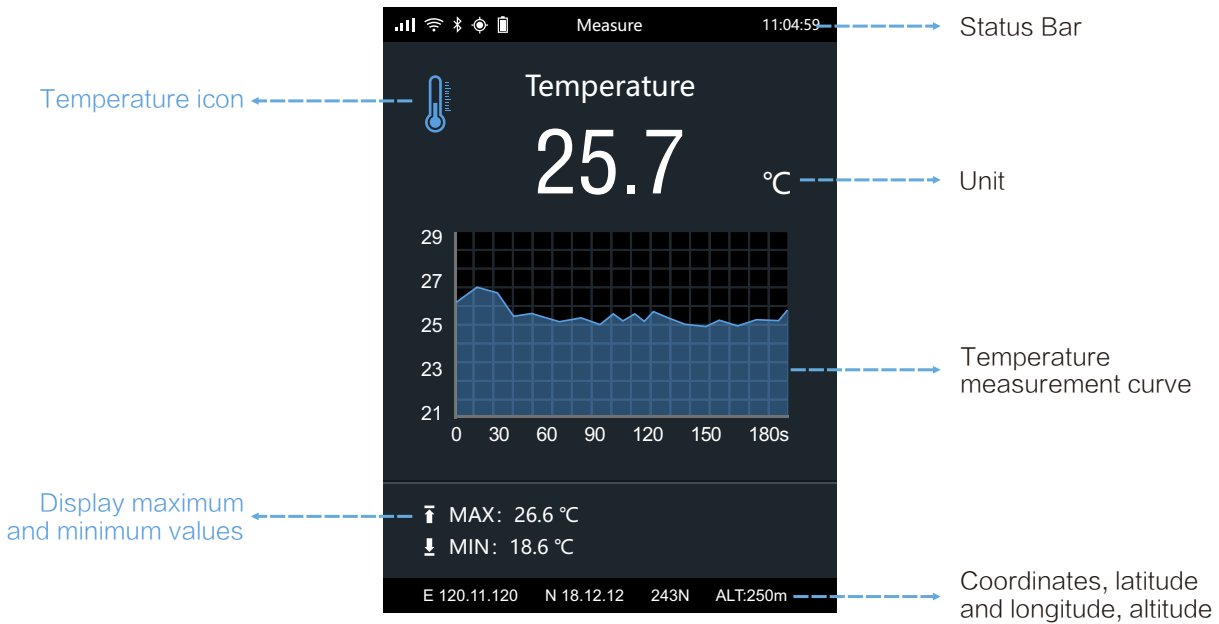· Support GPS/BDS/GLONASS/GALILEO/QZSS/SBAS

  satellite navigation

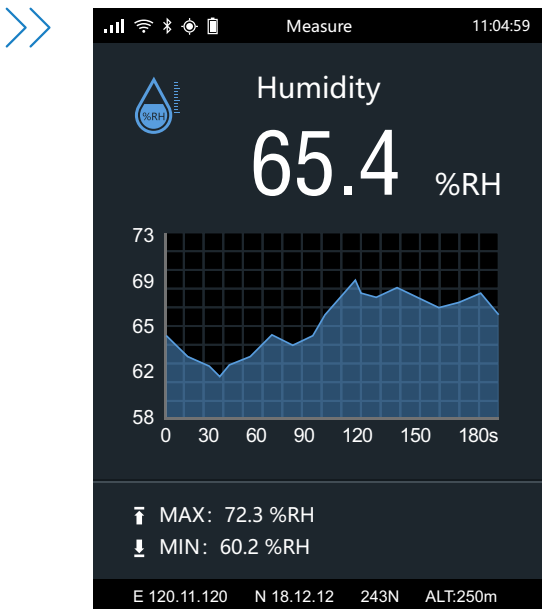Temperature and humidity sensor

UV and light sensor

Indicator light

Display screen

**ZOGLAB**

温度

25.7 ℃

HWS1000
Handheld Weather Station

Up button

Down button

Menu key/ Back key

Confirm button

Power switch

Impeller

Infrared temperature measurement

LED lighting

Protective cover

Air hole

HW     00            LAB

Temp          -30℃-
RM Ra         %RH-10
Press    ge: 300        00hPa
Wind      ange:        /s
Wind D    n Rang       60°
Batter        mAh
Dimen         44*58
Weight

Back clamp

CE

VCI

@2012-202
ZOGLAB Microsystem Co., Ltd

USB port

Lanyard hole

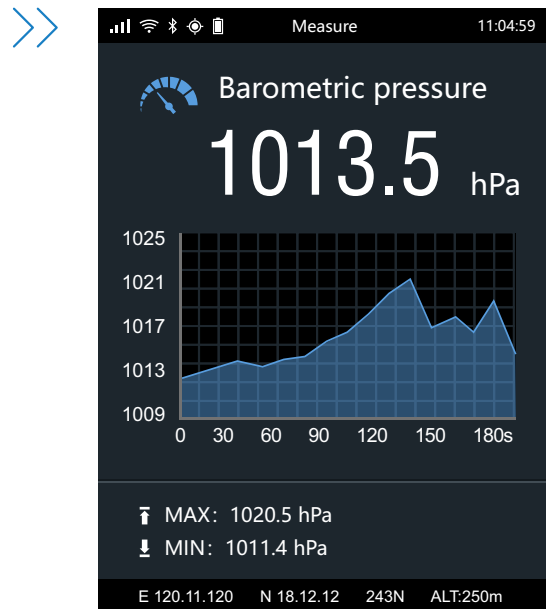# HWS1000 · Interactive Interface

## Measurement interface

The operation interface of HWS1000 is simple and easy to use, including status bar, icon, value, curve, graph, maximum value statistics, etc. The interface can show various parameters such as "temperature,humidity, air pressure, wind speed, wind direction, light, ultraviolet light, compass, infrared temperature measurement, positioning, star map, weather forecast" and so on.
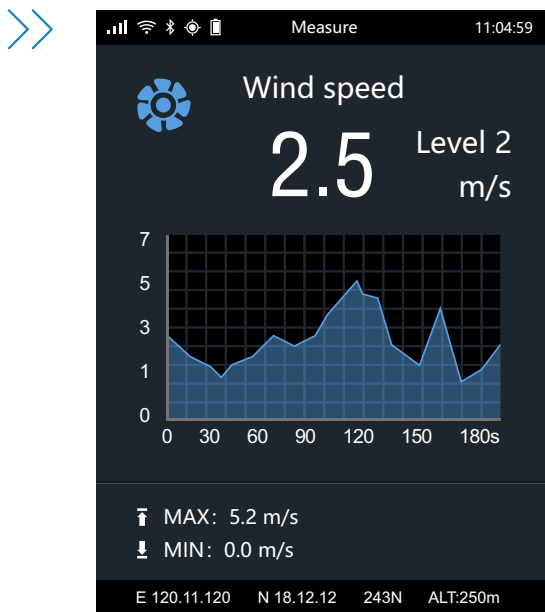
Status Bar

Temperature icon

Unit

Temperature measurement curve

Display maximum and minimum values

Coordinates, latitude and longitude, altitude

Measure 11:04:59

Temperature

25.7 ℃

29
27
25
23
21
0  30  60  90  120  150  180s

⬆ MAX: 26.6 ℃
⬇ MIN: 18.6 ℃

E 120.11.120    N 18.12.12    243N    ALT:250m

---

Switch to the humidity measurement interface to display, as follows:

Measure 11:04:59

Humidity

65.4 %RH

73
69
65
62
58
0  30  60  90  120  150  180s

⬆ MAX: 72.3 %RH
⬇ MIN: 60.2 %RH

E 120.11.120    N 18.12.12    243N    ALT:250m

Switch to the barometric pressure measurement interface to display, as follows:

Measure 11:04:59

Barometric pressure

1013.5 hPa

1025
1021
1017
1013
1009
0  30  60  90  120  150  180s

⬆ MAX: 1020.5 hPa
⬇ MIN: 1011.4 hPa

E 120.11.120    N 18.12.12    243N    ALT:250m

Switch to the wind speed measurement interface to display, as follows:

>>

| .ıll 🛜 ✳ ◈ ▯ | Measure | 11:04:59 |

Wind speed

2.5   Level 2
m/s

```
7
5
3
1
0
  0   30   60   90   120  150  180s
```

⬆ MAX： 5.2 m/s
⬇ MIN ： 0.0 m/s

E 120.11.120    N 18.12.12    243N    ALT:250m

Switch to the wind direction measurementinterface to display, as follows:

>>

| .ıll 🛜 ✳ ◈ ▯ | Measure | 11:04:59 |

Wind speed

313˚   northwest

N
NW        NE
W          E
SW        SE
S

E 120.11.120    N 18.12.12    243N    ALT:250m

Switch to the compass measurement interface to display, as follows:

>>

| .ıll 🛜 ✳ ◈ ▯ | Measure | 11:04:59 |

Compass                    ⏸
                          3/0%

N
SN      NE
W        E
SW      SE
S

0°          north

E 120.11.120    N 18.12.12    243N    ALT:250m
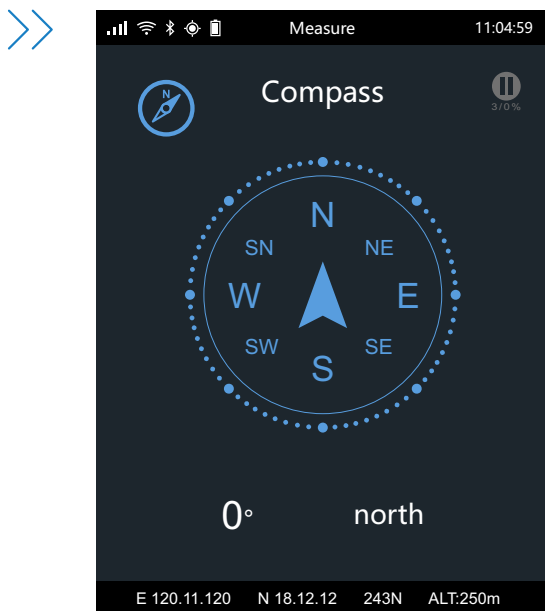
Switch to the light measurement interface to display, as follows:

>>

| .ıll 🛜 ✳ ◈ ▯ | Measure | 11:04:59 |

Light

1165   Lux

```
4622
3467
2312
1157
   1
     0   30   60   90   120  150  180s
```

⬆ MAX： 4621 Lux
⬇ MIN ： 1160 Lux

E 120.11.120    N 18.12.12    243N    ALT:250m
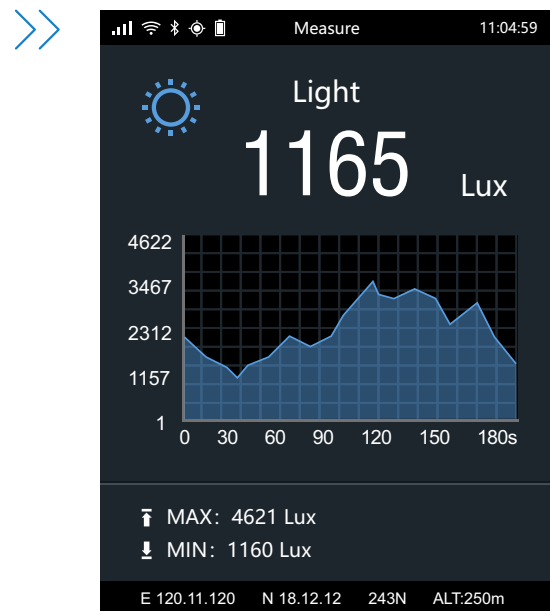
Switch to the GPS star map measurement interface to display, as follows:

⟫
| | | |
|---|---|---|
| .ıll 📶 ✳ ◈ 🔋 | Measure | 11:04:59 |

### GPS

```
              N
         Q194
315                  45
   G28 G30      G27
          G8        G10
       G7
W            G16         E
       G21
          G1   G26
    G9 G6
225      G22    135
              S
```

In Total: 14   Available: 12

E 120.11.120    N 18.12.12    243N    ALT:250m

---
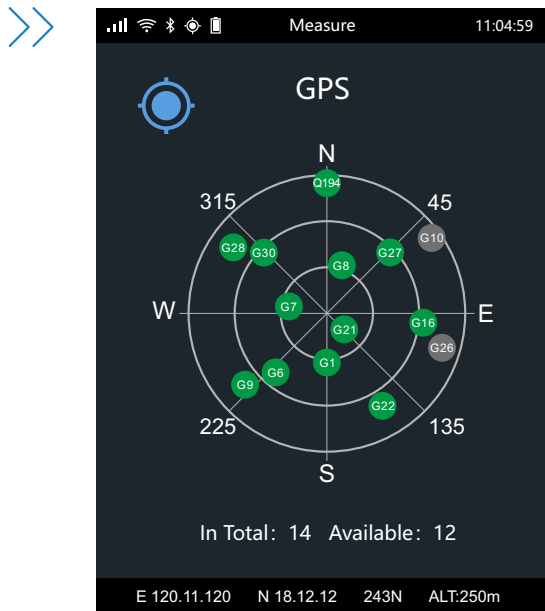
Switch to the infrared temperature measurement interface to display, as follows:

⟫
| | | |
|---|---|---|
| .ıll 📶 ✳ ◈ 🔋 | Measure | 11:04:59 |

### Infrared temperature

Ir **36.3** ℃

🙂

comfortable
Press the confirm key to measure

⬆ MAX: 37.1 ℃
⬇ MIN: 36.0 ℃

E 120.11.120    N 18.12.12    243N    ALT:250m

---
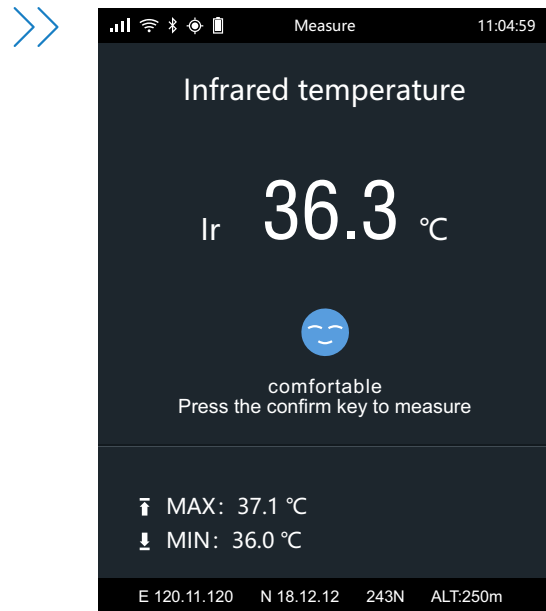
Switch to the weather measurement interface to display, as follows:

⟫
| | | |
|---|---|---|
| .ıll 📶 ✳ ◈ 🔋 | Measure | 11:04:59 |

### Weather

☀ 23℃

05:00    08:00    现在
☁        ☁        ☼

Update in hours

0h ▬▬▬▬▬▬▬ 3h

E 120.11.120    N 18.12.12    243N    ALT:250m

---
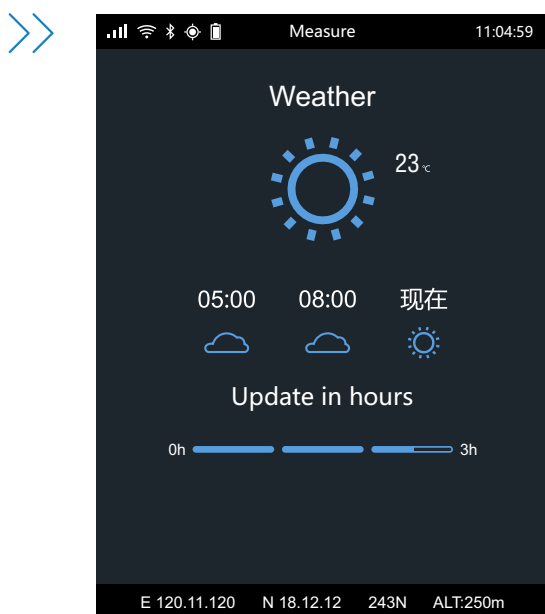
Switch to the comfort index interface to display, as follows:

⟫
| | | |
|---|---|---|
| .ıll 📶 ✳ ◈ 🔋 | Measure | 11:04:59 |

### Comfort

😌
Warm

Cold ▬▬▬▬▬▬▬ Hot
Comfortable

T: 25.7 ℃   Humi: 65.4 %RH
Windchill: 23.8 ℃
Heat index: 26.5 ℃
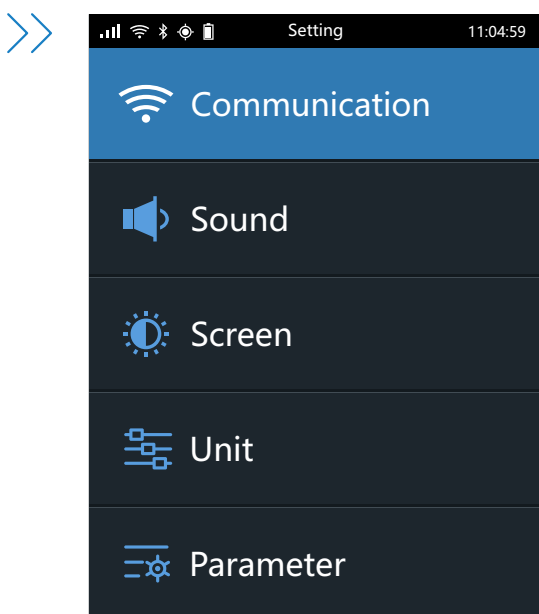
E 120.11.120    N 18.12.12    243N    ALT:250m
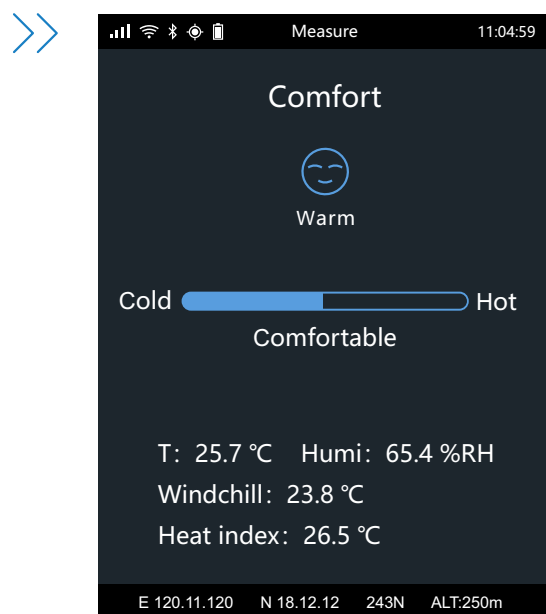
# Setting interface

The setting interface includes communication, sound, screen, unit, parameter, record, alarm, clock, language, information, etc. Set the system through key operation.

| Setting | 11:04:59 |
|---------|----------|
| 🛜 Communication | |
| 🔊 Sound | |
| 🔅 Screen | |
| Unit | |
| Parameter | |

| Setting | 11:04:59 |
|---------|----------|
| 💾 Logging | |
| ⚠ Alarm | |
| 🕐 Time | |
| Language | |
| Information | |
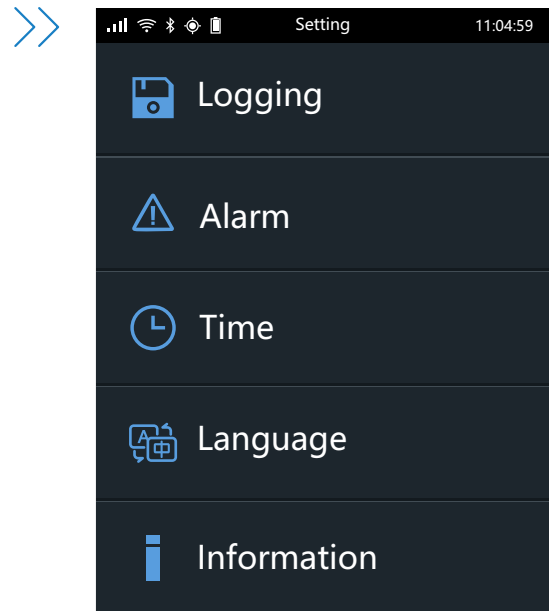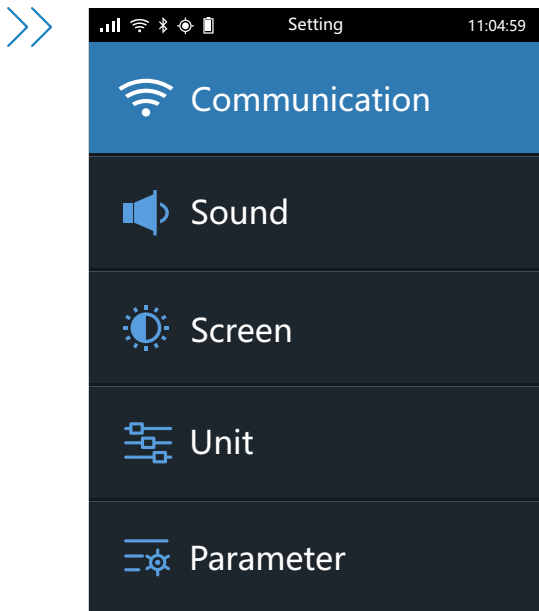
# Information Interface

You can view the detailed information of the product.

| Setting | 11:04:59 |
|---------|----------|
| 🛜 Communication | |
| 🔊 Sound | |
| 🔅 Screen | |
| Unit | |
| Parameter | |

| Setting | 11:04:59 |
|---------|----------|
| ✈ RF Silent | OFF |
| 🅱 Bluetooth | ON |
| 🛜 WiFi | ON |
| ◎ GPS | ON |
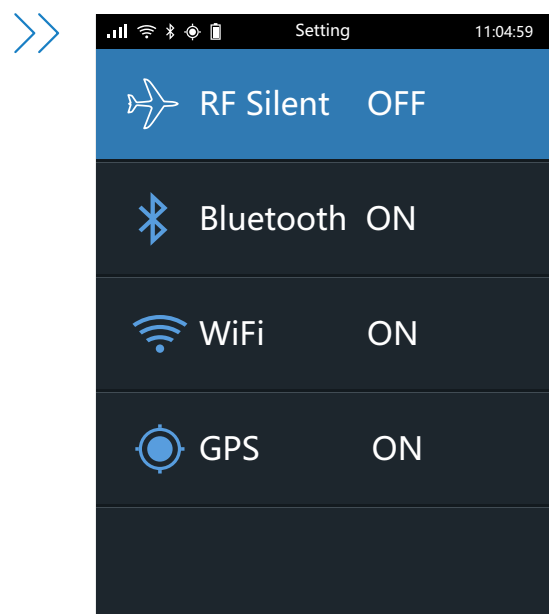
# HWS1000 · Functional Performance



## Compact and Portable

·Compact and portable, pocket-sized and ultra-light design

·The weight of the meter is 168g



## Multi-parameter Measurement

· Temperature, humidity, air pressure, wind speed, wind direction, light,UV, infrared temperature measurement, positioning and others

· Scalable to measure rainfall and more meteorological parameters



Global universal GNSS positioning
BDS/GPS/GLONASS/GALILEO/QZSS/SBAS

## Multiple Satellite Positioning Trajectories

· Beidou Satellite Navigation System (BDS)
· Galileo Satellite Navigation System (GALILEO)
· GLONASS
· QZSS
· SBAS
· GPS



## Bright Screen

· 262K color display

· 22.6 "a-Si TFT, 240rgb * 320 resolution

· Remote adjustment the light, the elements are clearly displayed on the screen.
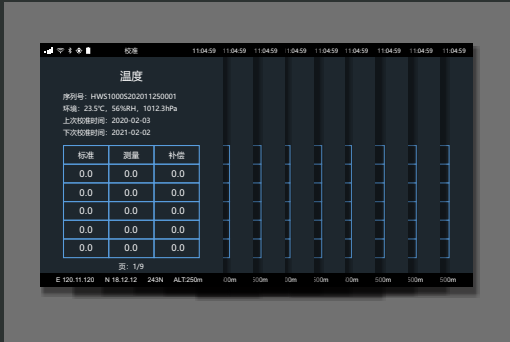
## Auxiliary Lighting

· Can be used to illuminate the darker measurement environment as required



## Ergonomic Design

· The curvature of the back fits the palm of the hand for a comfortable grip

· Non-slip side design
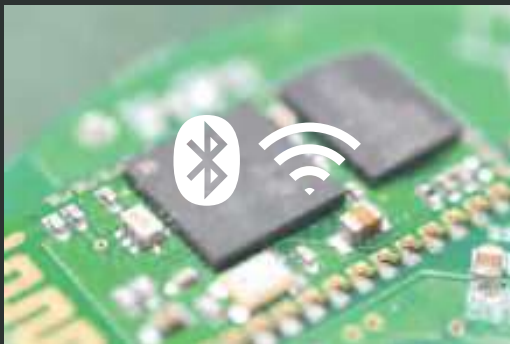


## Wireless Communication

· Support low-power consumption Bluetooth,WiFi communication

· Expandable USB (Type C)



## Waterproof and Splash-proof

· Unique waterproof and splash-proof structure

· IP65 waterproof rating, spraying on the equipment will not cause damage

# HWS1000 · Application Illustrations

## Aviation and Navigation

The HWS1000 portable meteorological multi–parameter measurement function brings great meteorological observation convenience to aviation and navigation. It can provide flexible marine meteorological observation methods for various types of ships, and can provide a novel mode for marine meteorological observation.
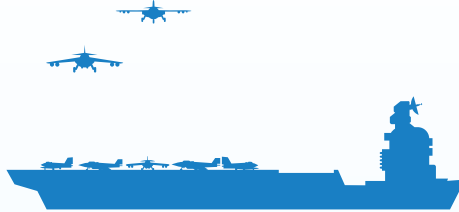
## Airdrop

The success probability of airdrops is closely related to meteorological conditions. HWS1000 can quickly measure a number of meteorological parameters, especially the wind speed in the target area, and can quickly calculate the feedback to provide a fast response to the evaluation of the meteorological conditions in the operation area.

## Emergency Rescue

HWS1000 provides a one–stop weather observation solution. It can be applied to on–site monitoring and temporary network deployment of sudden catastrophic weather, and weather sampling when the meteorological emergency vehicle cannot enter the area, providing novel methods for on–site weather observation during flood seasons, early warning and emergency rescue.

应急通信

中国气象
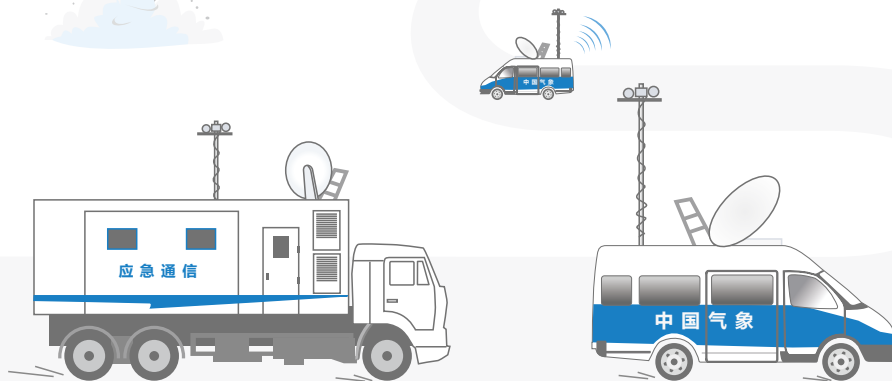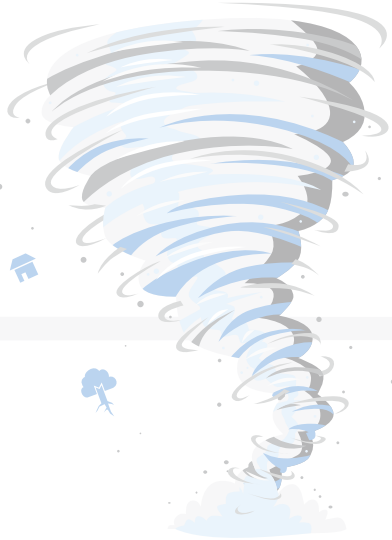
## Outdoor Adventure

HWS1000 is capable of measuring conventional weather parameters with relative high accuracy, and it can be widely used in various fields such as hiking, mountaineering, camping, water sports, outdoor adventure, etc.
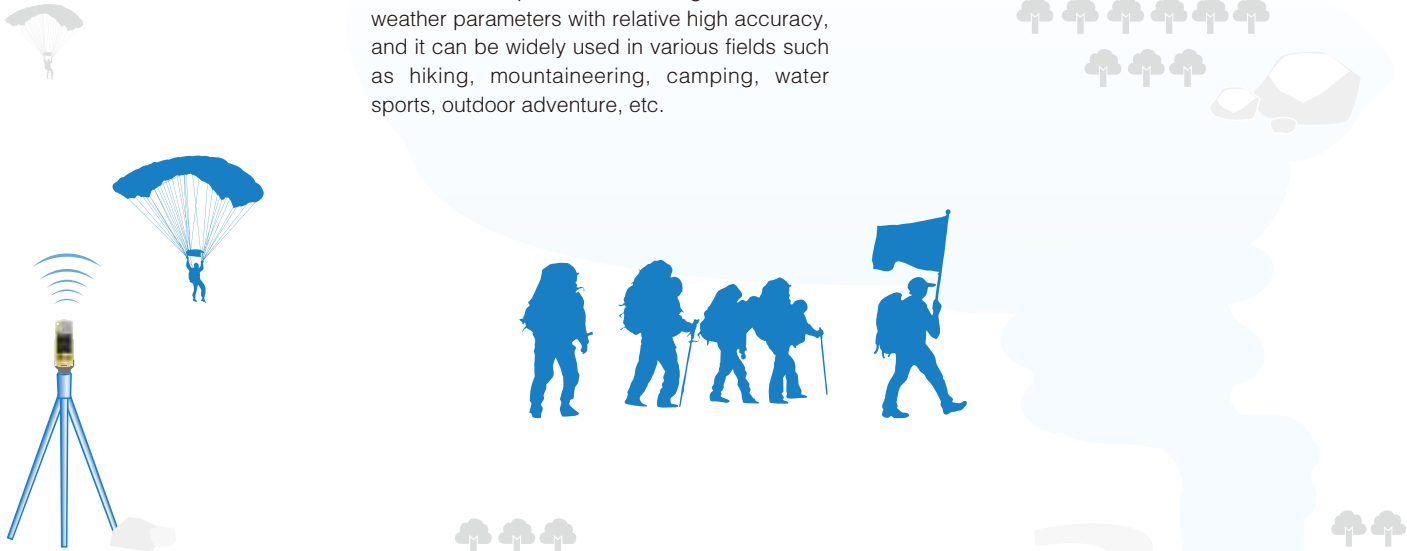
## Mobile Weather Observation

HWS1000 is capable of measuring conventional weather parameters with relative high accuracy. It can be used as an auxiliary observation method other than national meteorological stations and regional stations. At the same time, it can also be used as a weather calibration equipment for radar scanning, laser telemetry, microwave analysis, radiation detection and other systems.
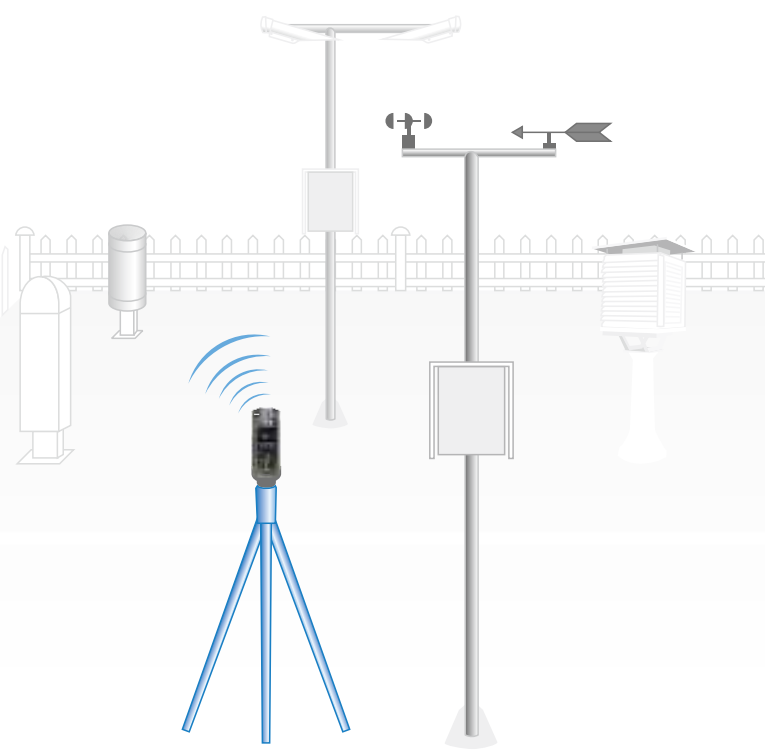
# HWS1000 · Technical specifications

| Measurement specification | |
|---|---|
| Temp measurement range | -30℃~70℃，-40℃~80℃(wider range version) |
| Temp measurement accuracy | ±0.3℃，±0.2℃(5℃~35℃) |
| Temp resolution | 0.1℃ |
| Infrared temperature measuring range | -40℃~85℃ |
| Accuracy of infrared temperature measurement | ±0.5℃ |
| Humidity measurement range | 0%RH~100%RH |
| Humidity measurement accuracy | ±3%RH(10%RH~90%RH);±5%RH( other range) |
| Humidity resolution | 0.1%RH |
| Barometric pressure range | 300hPa~1100hPa |
| Barometric pressure  accuracy | ±0.5hPa |
| Barometric pressure resolution | 0.1hPa |
| Wind speed  range | 0~40m/s |
| Wind speed accuracy | ±0.5m/s |
| Wind speed resolution | 0.1m/s |
| Wind direction range | 0~360° |
| Wind direction accuracy | ±4° |
| Wind direction resolution | 1° |
| Illumination dynamic range | 0~128000 lx |
| Illumination resolution | 1 lx |
| UV index grade | 1~11 |
| Measurement wavelength range | 280nm~400nm(UV-B & UV-A) |
| UV intensity | 0~400W/㎡ |
| GNSS module signal reception | BDS/GPS/GLONASS/GALILEO/QZSS/SBAS |
| GNSS positioning accuracy | <2m |
| GNSS speed measurement accuracy | <0.1m/s |
| Cold start TTFF | ≤35s |

## General specification

| | |
|---|---|
| Communication Interface | USB(Type C )，WIFI，BT |
| Charging requirement | 5V , 2A max |
| Waterproof level | IP65 |
| Battery type | Lithium polymer , 3.7V 3800mAh |
| Battery life | Continuous bright screen working for 24 hours,standby for 200 hours: |
| Operating environment | -40℃~80℃，10%RH~95%RH（Non condensing） |
| Dimensions | 144mm×58mm×36mm |
| Weight | 168g |
| Certificates | CE、FCC、VCCI、C-TICK |

## Dimensions (mm)



144.0

36.0

58.0
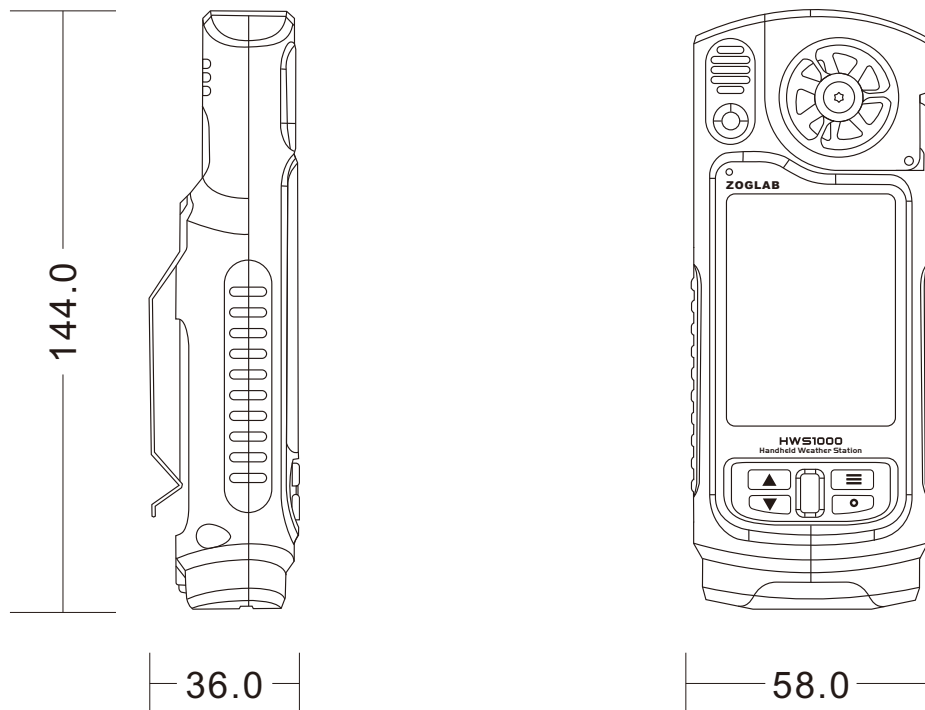
# HWS1000 · Accessory part

## Packing list
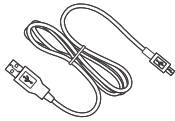
| USB cable | Power adapter | Waterproof bag | User manual |
|---|---|---|---|



| Calibration certificate | Quality card | Warranty card | WEEE card |
|---|---|---|---|
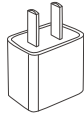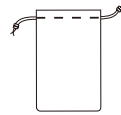
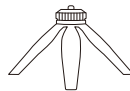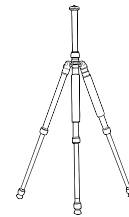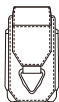## Optional accessories



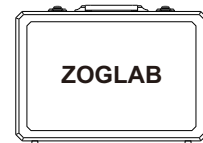Wind vane　　　　　Small tripod　　　　　Tripod



Portable waist bog　　　Storage bag　　　Portable traveling case

## Ordering model

| Model | EDU<br>Educational version | LTD<br>Limited version | STD<br>Standard version | PRO<br>Professional version |
|---|---|---|---|---|
| Temperature,humidity pressure,wind,uv,light | ● | ● | ● | ● |
| Flashlight | ● | ● | ● | ● |
| Compass | | ● | ● | ● |
| Infrared temperature | | | ● | ● |
| GNSS | | | | ● |

International Free Call
# +86-400-8878-571

| Website | Weibo | WeChat | Youku |
| Facebook | Twitter | Linkedin | Google+ |

**ZOGLAB Microsystem Co.,Ltd**
Tel: +86-571-87176990(16 lines)     Fax: +86-571-87176992     E-mail: sales@zoglab.cn
Add: Building B5 & B6, China iValley, Jiulong Ave, Yinhu Area, Fuyang District, Hangzhou, Zhejiang, China     P.C:310000