

R6200

REED INSTRUMENTS

WBGT Heat Stress Meter



Instruction Manual



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Introduction

Thank you for purchasing your REED R6200 WBGT Heat Stress Meter. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

Product Quality

This product has been manufactured to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

Features

- Measures ambient temperature, humidity, wet bulb temperature, black globe temperature, WBGT (wet bulb global temperature), heat stress index, dew point and pressure
- Heat Stress Index measures how hot it feels when humidity is combined with temperature, air movement and radiant heat
- Black Globe Temperature (GT) monitors the effects of direct solar radiation on an exposed surface
- In/Out function displays the WBGT value with or without direct sun exposure
- Multi-line backlit LCD display simultaneously displays 4 measurements
- Maximum, Minimum, Average and Data Hold functions
- Internal memory stores up to 99 measurements
- User selectable unit of measure (°F or °C)
- User adjustable WBGT threshold alarm (audible)
- Tripod mount for long-term monitoring
- Low battery indicator and auto shut off

Specifications

Temperature

Measuring Ranges:	Air Temperature: 32 to 122°F (0 to 50°C) Black Globe: 32 to 176°F (0 to 80°C) WBGT (Indoor): 59 to 138.2°F (15 to 59°C) WBGT (Outdoor): 59 to 132.8°F (15 to 56°C)
Accuracy:	Air Temperature: ±1.1°F (±0.6°C) Black Globe: 68-122°F (20-50°C): ±1.1°F (±0.6°C) Other: ±1.8°F (±1°C) WBGT (Indoor): ±2.7°F (±1.5°C) WBGT (Outdoor): ±3.6°F (±2°C)
Resolution:	0.1°F/°C

Humidity

Measuring Ranges:	5 to 95% RH
Accuracy (@ 25°C):	10 to 70% RH: ±3% Rest of Range: ±5%
Resolution:	0.1% RH

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Barometric Pressure

Measuring Range:	300 to 1100hPa (inHg, mmHg switchable)
Accuracy:	±1.5hPa
Resolution:	1hPa, 0.1inHg, 0.1mmHg

General Specifications

Dew Point/Wet Bulb Calculation:	Yes
Response Time:	1 sec
Display:	LCD
Backlight:	Yes (non-condensing)
Data Hold:	Yes
Min:	Yes
Max:	Yes
Average:	Yes
Internal Memory:	Yes, up to 99 measurements
Auto Shut-Off:	Yes (after 15 minutes/off)

User Adjustable

WBGT Alarm:	Yes (audible)
Tripod Mountable:	Yes
Low Battery Indicator:	Yes
Power Supply:	4 x AAA Batteries, Optional AC Adapter
Product Certifications:	CE, RoHS
Operating Temperature:	32 to 122°F (0 to 50°C)
Operating Humidity:	<80% (non-condensing)
Storage Temperature:	-4 to 122°F (-20 to 50°C)
Storage Humidity:	<90% (non-condensing)
Dimensions:	Instrument: 6.4 x 2.3 x 1.3" (162 x 58 x 32mm) Black Brass Ball Diameter: 2.0" (50mm)
Weight:	4.8oz (136g)

Included

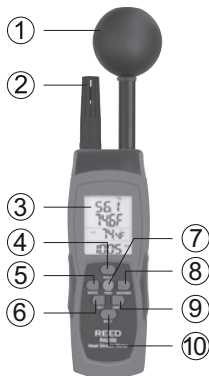
- Batteries

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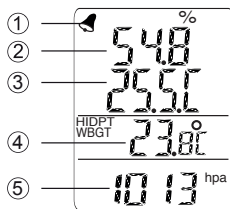
Instrument Description

1. Black Globe Sensor
2. Temperature & Humidity Sensor
3. LCD Display
4. Hold Button
5. Mode Button
6. Set Button
7. Power Button
8. Max/Min Button
9. Unit of Measurement Button
10. Backlight Button



Display Description

1. Alarm Indicator
2. Relative Humidity Indicator
3. Ambient Temperature Indicator
4. HI, DPT, WB, GT, WBGT Indicator
5. Barometric Pressure Indicator



Operating Instructions

Power ON/OFF

1. Push the **PWR** button to turn the meter on. To turn the meter off, press and hold the **PWR** button for approximately 3 seconds.
2. When the meter is powered on, the LCD displays the WBGT mode and the previously selected "Indoor or Outdoor" WBGT measurement mode.
3. Shortly after, a beep will sound and the instrument will begin taking measurements.



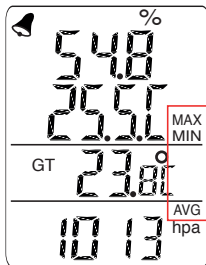
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MAX/MIN/AVG

1. Press the **MAX/MIN** button to cycle through the maximum, minimum and average measurements of Ambient Temperature, Global Temperature and Relative Humidity since the instrument was powered on.
2. To clear the maximum, minimum and average readings, press and hold the **MAX/MIN** button until "CLR" appears at the bottom of the LCD. The instrument will automatically return to normal operation once the readings have cleared.



Note: When the meter is MAX/MIN/AVG function, the **HOLD** and **MODE** buttons are disabled.

Indoor/Outdoor Temperature Mode Selection

When in the WBGT mode, press and hold the **UNIT** button to toggle between indoor or outdoor temperature. The instrument automatically calculates the measurement using the following parameters:

1. For outdoors with direct sun exposure:
 $WBGT = 0.7 \times \text{Tempwet bulb} + 0.2 \times \text{Tempglobe} + 0.1 \times \text{Tempair}$.
2. For indoors or outdoors without direct sun exposure:
 $WBGT = 0.7 \times \text{Tempwet bulb} + 0.3 \times \text{Tempglobe}$.

Switching the Temperature Unit of Measure

Press the **UNIT** button to switch between °C and °F.

Switching the Pressure Unit of Measure

Press the **BKLT** button to change the pressure measuring unit. (hpa--> inHg--> mmHg).

Temperature Display Modes

Press the **MODE** button to toggle through the GT (Globe temperature) --> WBGT temperature --> HI (Heat index) --> DPT (Dew point) --> WB (Wet bulb temperature measurements).

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Data Hold

Press the **HOLD** button under normal measurement and a "HLD" icon appears on the display to indicate that the meter is in Data Hold.

Note: When data hold is active the **MAX/MIN** and **SET** buttons are disabled.

Auto-Power Off

To preserve battery life, the meter is programmed to turn off after 15 minutes of inactivity.

1. To turn this function off, press and hold the **HOLD** Button while powering on the meter.
2. Release both buttons simultaneously.
3. The LCD will momentarily display "n" while powering on indicating the auto-power off feature is disabled.
4. If the meter is turned off then back on, the "Auto-Power Off" feature will be enabled again.

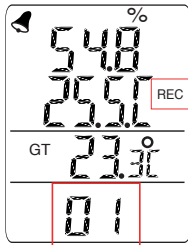
Backlight Function

Press and hold the "**BKLT**" button to turn the LCD Backlight ON or OFF.

Internal Memory

The R6200 has the ability to record up to 99 temperature/relative humidity points internally.

1. Press the **SET** button to save a reading.
2. While the reading is being saved, the "REC" indicator will appear next to the temperature reading and the record number appears at the bottom of the LCD for approximately 2 seconds.



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Memory Recall

1. Press and hold the **MODE** button to recall the recorded Temperature/RH measurement values and sequential number.
2. Press the **HOLD** button to scroll up the stored readings.
3. To scroll down the stored readings, press the **BKLT** button.
4. To exit memory recall function, press and hold the **MODE** button at which point you will be redirected into the WBGT alarm threshold setting.
5. Press and hold the **MODE** button again to exit the memory recall function and resume normal operation.

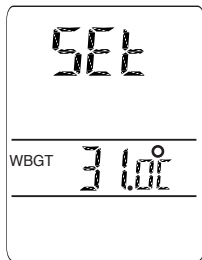
Clear Stored Readings

When required, you can clear the stored readings by pressing and holding the **SET** button. The LCD display will indicate "----" confirming that the stored values have been cleared.

WBGT Audible Alarm Threshold Setting


(The default WBGT temperature alarm value is set at 31°)

1. Press and hold the **MODE** button for 2 seconds and the meter will enter memory recall function.
2. Press and hold **MODE** button again to enter WBGT alarm function.
3. Press the **HOLD** button to increase the value.
4. Press the **BKLT** button to decrease the value.
5. Press the **UNIT** button to confirm your selection and jump to the next digit.
6. Repeat steps 3 to 5 for each digit.
7. Once the alarm is selected, press and hold the **MODE** button to save the value and resume normal operation.



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Turn Alarm Function ON/OFF

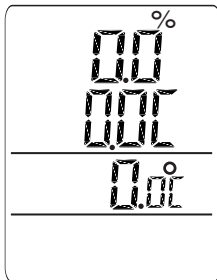
After setting up the threshold, press the **PWR** button and the alarm indicator  will display on the screen indicating the alarm is activated. Press the **PWR** button again to disable alarm function.

Global Temperature/Ambient Temperature/Humidity Offset Function

It is recommended that this unit be calibrated once a year to ensure measurements stay within manufacturer's specifications. In the case that a user would like to perform self-verification with a trusted calibration source follow the offset procedures below.

To enter the offset function:

1. Power off the meter.
2. Press and hold the **MODE** and **BKLT** buttons while powering on the meter.
3. Release both buttons when the LCD indicates all 3 parameters with "0.0" values as shown.



Note: Hold the **MAX/MIN** button and press the **POWER** button to select the required offset temperature in °C or °F.

Globe Temperature Offset

1. Hold the **UNIT** button and then press the **HOLD** button to increase the value.
2. Hold the **UNIT** button and then press the **BKLT** button time to decrease the value.
3. Press the **MODE** and **POWER** buttons to save the value.
4. The LCD display will indicate "SAVE" confirming the selection.
5. Repower the meter to resume normal operation.

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Ambient temperature offset

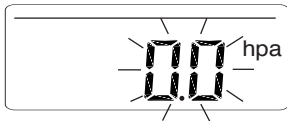
1. Hold the **SET** button and then press the **HOLD** button to increase the value.
2. Hold the **SET** button and then press the **BKLT** button to decrease the value.
3. Press the **MODE** and **POWER** buttons to save the value.
4. The LCD display will indicate "SAVE" confirming the selection.
5. Repower the meter to resume normal operation.

Humidity Offset

1. Hold the **MAX/MIN** button and then press the **HOLD** button to increase the value.
2. Hold the **MAX/MIN** button and then press the **BKLT** button to decrease the value.
3. Press the **MODE** and **POWER** buttons to save the value.
4. The LCD display will indicate "SAVE" confirming the selection.
5. Repower the meter to resume normal operation.

Pressure Offset Function

1. While in normal operation, press and hold the **SET** button until the **LCD** shows "0.0 hpa".
2. To increase the value press the **HOLD** button.
3. To decrease the value press the **BKLT** button.
4. Press and hold the **POWER** button to save the set value.
5. The LCD display will indicate "SAVE" confirming the selection.



Note: The compensation range is ± 3 hpa.

Error Codes

Code	Description
Er1:	Sensor failed.
Er2:	Out of measured range.

continued...

Battery Replacement

When the low battery symbol "bAt" appears on the display, the batteries need to be replaced.

1. Open the battery cover by sliding the cover off.
2. Replace the 4 x AAA batteries and secure the battery cover.

Note: If the unit will not be used for a long period of time, remove the batteries to avoid battery leakage and corrosion of the battery contacts.

Applications

- Sports (leisure, organized, and professional)
- Monitor seasonal conditions to ensure safe environment at school or daycare
- Ensuring safe work environments

Accessories and Replacement Parts

- **R9933** Humidity Calibration Standard, 33%
- **R9975** Humidity Calibration Standard, 75%
- **R9980** Humidity Calibration Kit Standard, 33% and 75%
- **R1500** Tripod
- **R9450-ADP** International AC Adaptor
- **CA-05A** Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on www.reedinstruments.com.

Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at info@reedinstruments.com to discuss the claim and determine the appropriate steps to process the warranty.

Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at info@reedinstruments.com.

Please visit www.REEDINSTRUMENTS.com for the most up-to-date manuals, datasheets, product guides and software.

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