

Wet Bulb Globe

TEMPERATURE HEAT

STRESS MONITOR

TECHNICAL DATA SHEET

ELECTRONICS
4ALL

ORDER CODE: HSS-100
CATEGORY: Sensors

Heat Stress Under Control – Smarter Monitoring. Safer Work.

PRODUCT OVERVIEW

General Description

Protect your workforce from heat-related risks with E4A's advanced Heat Stress Monitor — a cutting-edge device designed to help you manage heat stress with precision. Using Wet Bulb Globe Temperature (WBGT) measurements, this monitor provides real-time environmental readings that factor in temperature, humidity, and radiant heat. More than just a sensor, it intelligently analyzes work conditions and offers clear guidance on individual cooling periods and recommended break schedules, promoting safe productivity in hot environments. Ideal for construction sites, athletic training, industrial facilities, and outdoor event management, this device ensures compliance with safety regulations and supports proactive health and performance management.



PRODUCT BENEFITS

01 Optimizes Break Planning

Analyzes exposure and workload to recommend personalized cooling periods and rest breaks, reducing the risk of heat-related illness.

02 Real-Time Awareness

Delivers up-to-the-minute status updates and alerts, giving supervisors the insights needed to make fast, informed safety decisions.

03 Productivity Protection

Helps maintain safe work rates without compromising performance by balancing environmental stress with proactive recovery strategies.

04 Regulatory Compliance

Supports adherence to OSHA, ISO, and industry heat stress guidelines with accurate, timestamped data for reporting and audits.

05 Simple Integration

Compact and wireless-ready, the WBGT Monitor installs quickly and fits into existing safety systems with minimal setup.

06 Team Health Insights

Monitors heat stress exposure levels across the work environment to help managers ensure safe conditions and prevent overheating.

07 Data-Driven Decisions

Empowers organizations with accurate environmental data to support planning, training, and operational risk assessments.

08 Proactive Risk Reduction

Identifies hazardous heat conditions before they become critical, enabling early intervention and safer work environments.

MEASURED PARAMETERS

✓ Humidity and
Thermal Radiation



✓ Ambient
Temperature



✓ Ambient
Humidity



FEATURES

✓ 24/7 Alarm Notifications

Continuously monitors conditions and sends instant alerts when heat thresholds are exceeded.

✓ Automatic Data Logging

Securely records all measurements and events for traceability, audits, and long-term trend analysis.

✓ Work-Rest Recommendations

Delivers real-time guidance on rest breaks and cooling periods based on current WBGT levels.

✓ Extended Battery Operation

Ultra-low-power design, delivering over 2 years of continuous use at a 5-minute reporting interval

✓ Customizable Alarm Limits

Set heat stress thresholds based on job roles, locations, or compliance standards to tailor alerts.

✓ Fast, Scalable Deployment

Compact and easy to mount—ready for rapid rollout across enterprise-wide operations.

✓ User-Defined Reporting

Generate custom reports based on your team's specific needs, timeframes, and regulatory requirements.

✓ Wireless Data Transmission

Transmits real-time heat stress data via Bluetooth 5.0 to a gateway for live environmental visibility.

✓ Accessible Data

Sends data through a secure gateway to a central dashboard for real-time viewing and trend analysis.

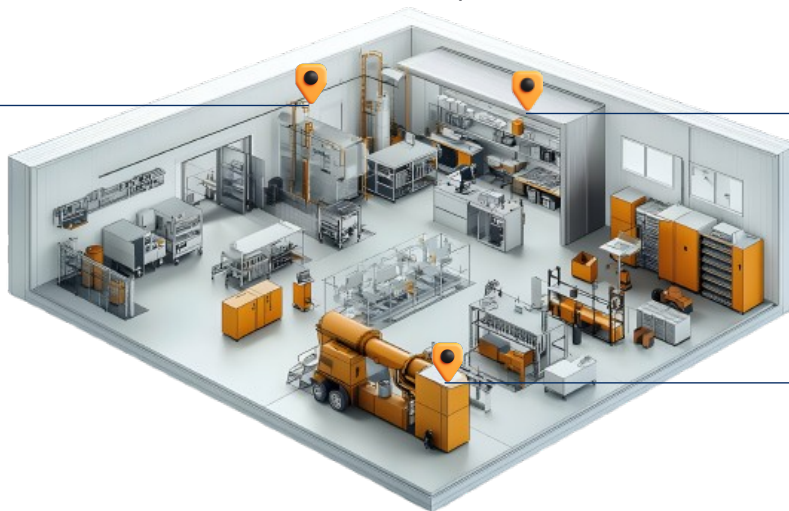
Real-Time WBGT Display and Historical Data

Our intuitive online dashboard application, available through the E4A IoT Manager, offers a powerful way to monitor your facility's heat conditions in real time. Each wireless WBGT sensor is visually mapped onto your building's layout, so you can instantly see both the exact location of each sensor and the corresponding WBGT data it's collecting. Depending on the preference, our team creates either 2D or 3D maps of your facility—or work with existing layouts—to provide a clear spatial view of your environment. Within the E4A IoT Manager, you can enable or disable sensors, adjust reporting intervals, manage the system, and view live and historical data for trend analysis. This level of visibility allows you to plan work schedules more accurately, optimize work-rest ratios, and reduce the risk of heat-related incidents.

Additionally, the system's graphing capability allows you to observe trends and identify abnormalities, offering valuable insights into system health even when no alarms are present.

WBGT-001

WBGT: 32.644°C
Temperature: 45°C
Humidity: 40%



WBGT-003

WBGT: 32.096°C
Temperature: 44°C
Humidity: 41%

WBGT-002

WBGT: 32.36°C
Temperature: 44°C
Humidity: 42%

E4A IOT MANAGER

Unlock the full potential of your sensor network with E4A's IoT Manager — a powerful, web-based platform designed for real-time monitoring, control, and analysis of your IoT devices.

- 01 Real-Time Sensor Dashboard
- 02 Advanced Data Analytics
- 03 Customizable Alarm Thresholds
- 04 Remote Setpoint Configuration
- 05 Historical Data Review
- 06 Plus Much More!

SIGN UP HERE!



Don't Have an Account? No Problem!

Just scan the QR code and follow the prompts. Once you contact us, we'll handle the setup and get you connected — quick and hassle-free.

TECHNICAL SPECIFICATIONS

Power Supply

Main Power	Internal Battery (3VDC, 1550mAh LiMnO2)
Current Consumption	22uA
Battery Life	2 years* @ 5 minute reporting interval *battery life extended with reduced reporting interval

Operating Specifications

Operating Temperature	-20°C to +70°C
Storage Temperature	-20°C to +70°C (battery installed) -20°C to +70°C (battery not installed)
Permissible Humidity	20-85% (operating and storage)
Ingress Protection Rating	IP30
Pollution Degree	2
Altitude	2000m

Measurement Characteristics

Thermal Radiation Sensor	PT100
WBGT Temperature	0°C to +60°C (±0.5°C accuracy)
Dew Point	-35°C + 49°C
Dry Bulb	-40°C to 105°C (±0.1% accuracy)
Temperature Measurement	-30°C to +75°C (±0.2°C accuracy)
Humidity Measurement	0-100% relative humidity (±1.5% accuracy)

Physical Characteristics

Housing Material	ABS plastic
Physical Dimensions	Height: 132mm / 5.2 inches Width: 88mm / 3.5 inches Depth: 36.6mm / 1.4 inches
Weight	250g
Mounting	Magnetic mount
Equipment Mobility	Portable or fixed equipment

Communications

Wireless Module	2.4GHz Bluetooth 5.0 transceiver
Communication Range	250m line of sight
Communication Interval	User programmable in 10 second increments
Security	AES 128-bit crypto accelerator ECC and RSA public key accelerator (PKA) SHA2 accelerator (full suite up to SHA-512) True Random Number Generator (TRNG)

Interface

Indicators	Pairing and broadcast (red, green LED)
User Interface	1 push button (device reset and pairing)
Alarm Range	User programmable

SPARE PARTS AND ACCESORIES

Part Description E4A Part Number

Magnetic Mounting Feet	E4A-FAS-00048-00
Quad-Band Gateway	E4A-BFA-00005-01
Dual-Band Gateway	E4A-BFA-00004-01

CERTIFICATIONS

FCC	2AXVKHSS01
Industry Canada	26661-HSS01
Safety	CSA C22.2 No. 61010-1-12 UPD1: Jul 2015 UPD2: APR 2016 UPD3: Jun 2023 and AMD 1:2018 UL61010-1 3rd Edition: 2023

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DISTRIBUTORS

