

WBGT HEAT STRESS SENSOR



ORDER CODE: HSS-100
PRODUCT 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 Sensor—a cutting-edge device designed to help you manage heat stress with precision. Using Wet Bulb Globe Temperature (WBGT), this sensor 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, correctional facilities, industrial facilities, and warehouse facilities, this device ensures compliance with safety regulations and supports proactive health and performance management.

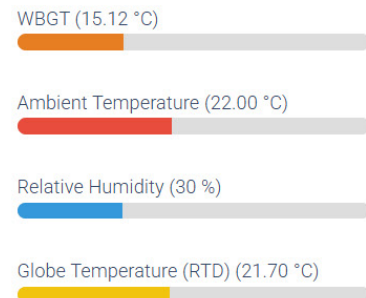
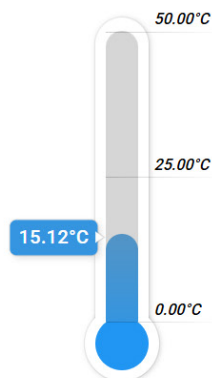
HSS-100 Insights

ACGIH TLV® – Threshold Limit Values

WBGT values in °C - 8-hour workday - 5 days/week

| Work/hr | TLV® Acclimatized | | Action Limit Unacclimatized | | Workloads Definitions | |
|---------|----------------------|------|--------------------------------|---------|--------------------------|--|
| | Light | Mod. | Heavy | V.Heavy | | |
| 75-100% | 31.0 | 28.0 | — | — | | |
| 50-75% | 31.0 | 29.0 | 27.5 | — | | |
| 25-50% | 32.0 | 30.0 | 29.0 | 28.0 | | |
| 0-25% | 32.5 | 31.5 | 30.5 | 30.0 | | |

[Learn More](#)



TECHNICAL SPECIFICATIONS

Power Supply

| | |
|---------------------|--|
| Main Power | Internal Battery 3VDC, 1550mAh LiMnO2 |
| Current Consumption | 22uA |
| Battery Life | 3 years @ 5min. reporting interval |

Operating Specifications

| | |
|---------------------------|---|
| Operating Temperature | -20°C to +70°C |
| Storage Temperature | -20°C to +70°C (with battery) -20°C to +70°C (without battery) |
| Permissible Humidity | 20-85% RH (operating & 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 | Flame Retardant Polycarbonate/ABS |
| Physical Dimensions | Height: 132mm / 5.2 inches Width: 88mm / 3.5 inches Depth: 36.6mm / 1.4 inches |
| Weight | 250g |
| Mounting | Magnetic mount Portable or fixed equipment |

Communications

| | |
|---------------------|-------------------------------------|
| Wireless Module | 2.4GHz Bluetooth® 5 transceiver |
| Communication Range | 200m line of sight |
| Reporting Interval | User programmable in 30s increments |

Security

| | |
|------------|---|
| Encryption | AES 128-bit crypto accelerator ECC and RSA public key accelerator (PKA) SHA2 accelerator (full suite to SHA-512) True Random Number Generator (TRNG) |
|------------|---|

User Interface

| | |
|-------------|---|
| Pushbuttons | 1 pushbutton (device reset and pairing) |
| Status LED | 2 status LED's (red, green) |
| Alarm Range | User programmable |



PRODUCT CERTIFICATIONS

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

CONTACT US

Headquarters

250 Herzberg Road
Kanata, Ontario, Canada K2K 2A1

Lab Testing Facility

1292 Rosedale Road North
Smiths Falls, Ontario, Canada K7A 4S6

Phone: +1 (613) 595-0303

E-mail: sales@electronics4all.ca

Website: www.electronics4all.ca

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