Heat Stress Monitoring Systems

Environmental Heat Stress Monitoring
Wet Bulb Globe Temperature Meter (WBGT)

Features

- Intrinsically safe CSA STD C22.2 No. 157-M 1987
- High reliability (MTBF=171,000 hrs.)
- Dust and splash-proof construction
- Hand held
- Fast responding (<3 minutes typical)
- Direct reading of outdoor and indoor WBGT, W, DB or GT Vernon Globe equivalent temperatures
- Calculates time weighted mean WBGT and metabolic rates
- Calculates work rest ratios
- Complete kit
- Individually replaceable sensors
- Self-diagnosis feature at every power-up verifies monitor operation
- Quick in-the-field function check
- Microprocessor based
- Lightweight
- Accurate (calculates to 1/100th degree displays to 1/10th degree)
- Carrying case: high quality, foam-lined, copolymer construction
- Available with optional built-in data logger
- Remote operation option with extension cable
- Choose between C/ F readings with push of a button
- Output jack for strip chart recorder (0-1V D.C.)
- Base nut for tripod mounting
- Low battery indicator (rechargeable Ni-Cd)
- Can operate indefinitely on supplied A.C. adapter
- Windows software

The last thing you need is a worker down with heat stress.
Specifications

Calibration Range

- Verified
- 25 C
- 45 C
- 60 C

Range can be extended to 100 C/199.9 F through an optional extension cable.

WBGT values are calculated as follows:

- WBGT (outdoor) = 0.7WB + 0.2GT + 0.1DB
- WBGT (indoor) = 0.7WB + 0.3GT
- WB = Wet Bulb
- GT = Vernon Globe equivalent temperature
- DB = Dry Bulb

Accuracy

- Resolution 0.1 C/0.1 F
- Electronics Accuracy including Temperature Coefficient -0.1 C/0.2 F
- Measurement Accuracy -0.4 C/0.7 F within calibration range

Sensors

- Globe Temperature: Patented construction provides characteristics identical to 6" Vernon globe.
- Dry Bulb: Ambient air temperature
- Wet Bulb: Wick-covered sensor with reservoir, wetted with deionized or distilled water.

Battery Life

- Rechargeable 9V Ni-Cd battery gives 17 hours of continuous operation. Charger plugs into monitor. Can operate unit while charging. (Recharges in less than 14 hours.)

Response Time

(to a step change in WBGT)

- Less than 2.2 minutes (2.0 minutes typical) to the 90% responded level.
- Less than 4.5 minutes (4.2 minutes typical) to the 95% responded level.

Notes:

1) Electronics warm-up takes less than 3 seconds. Provided the sensors are acclimatized, readings taken as soon as the meter reading stabilizes (<3 sec.) are valid.
2) For most practical purposes, the 95% response time can be considered as fully responded.

Size

- Meter 15.8 x 9.5 x 4.5 cm / 6.2 x 3.75 x 1.75 in
- Overall height with sensors attached: 19.8 cm/7.8"
- Weight: 350g/12oz.

Add-in Data Logger

- Allows up to 511 records of data to be stored and output later through a serial port.
- Data can be logged manually or at preselected intervals of 0.5, 1, 2, 5, 6, 10, 20 or 30 minutes.
- Current sensor data may be viewed while logging.
- Most recent data is transmitted first (reverse chronological) to your PC.
- Data is secure— even if battery fails or is removed.
- Data output provides: Record number, date and time, WB, DB, GT, In WBGT, Out WBGT.
- Software provides for data storage, retrieval and calculates time weighted WBGT and time weighted metabolic rates.

Personal Sensor Set (hard hat mounted)

Allows the RSS-214 with data logger to become a personal WBGT dosimeter

Remote Sensor Set

Sensor assembly extension cables available for indoor or outdoor weatherproof use. Available lengths include: 20', 50' and 100'.

Part #323-2200, 2201, 2202, 2203 (For weatherproof option, add “wp” to part #.)

For additional information:

1624 Headway Circle
Austin, TX 78754 USA

Tel: (512) 832-5665
(800) 275-4246
Fax: (512) 832-2188

www.istcorp.com

*American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values.