SENSIDYNE®

Industrial Health & Safety Instrumentation

Introducing The LSI Heat Stress System

LSI HEAT SHIELD WBGT METER & ACCESSORIES

What Is The LSI Heat Shield Monitor?

◉ Portable heat stress meter using the wet bulb globe temperature method

◉ WBGT method
- Indoor result
- Outdoor result
- Other results related to heat & cold stress are also calculated

◉ Multiple units available
- Master unit
- Satellite unit

What Is The Heat Shield Monitor Used For?

- To assess the local environment for workers in hot or cold conditions to prevent problems associated with
  - Heat strain
  - Heat stress
  - Cold stress
  - Hypothermia

- To assess the local thermal comfort of workers
  - Predicted mean vote (PMV)
  - Predicted percentage dissatisfied (PPD)

Who Uses The Heat Shield Monitor?

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- Bakeries, warehouses, shops, offices, cold rooms

- Foundries, power plants

- Utility companies, linemen, road crew

- Military training establishments

- Sports facilities and event locations

- Firefighters

- IH consultants

What Are The Primary Requirements For A Heat Stress Monitor?

- ◉ Compliance with OSHA National Emphasis Program (NEP) issued April 2022

- ◉ Compliance with relevant international standards
  - ISO 7243 "Estimation of the Heat stress on working man based on WBGT index"

- ◉ Use over a wide range of environmental conditions

- ◉ High quality and reliable temperature sensors
  - Accuracy better than 0.5 °C (0.9 °F)

- ◉ Direct live calculation and display of WBGT, indoor and outdoor values

What Additional Measurements Are Important To Collect?

- ⊙ Remote measurements from satellite units for positional information for the worker(s)

- ⊙ Average values for individual worker from other sensor units at same location different heights

- ⊙ Time history variations of parameters – data logging

- ⊙ Heat Index

- ⊙ Humidex value

What Additional Features Are Useful To Have?

⊙ Choice of 2" and 6" black globe thermometers depending on local standards

⊙ Optional anemometers to measure wind speed

⊙ Comprehensive software package for reporting results and post calculations

⊙ Offline calculation of
 – Predicted Mean Vote, PMV (Thermal Comfort)
 – Predicted Percent Dissatisfied, PPD (Thermal Comfort)
 – Predicted Heat Strain, PHS (Hot Environments)
 – Insulation Required, IREQ (Cold Environments)

What Results Are Calculated And Displayed?

- ◉ WBGT indoor result

- ◉ WBGT outdoor result

- ◉ Results in degrees C or F

- ◉ Single station or average of all stations results

- ◉ Delayed start and stop timers

What Additional Results Are Calculated And Displayed?

⦿ Date and time

⦿ Logging sample time

⦿ Multi language menus

⦿ Add extra displays as required

		B =
t g	23.5	' C
t n w	23.2	' C
t a	23.2	' C
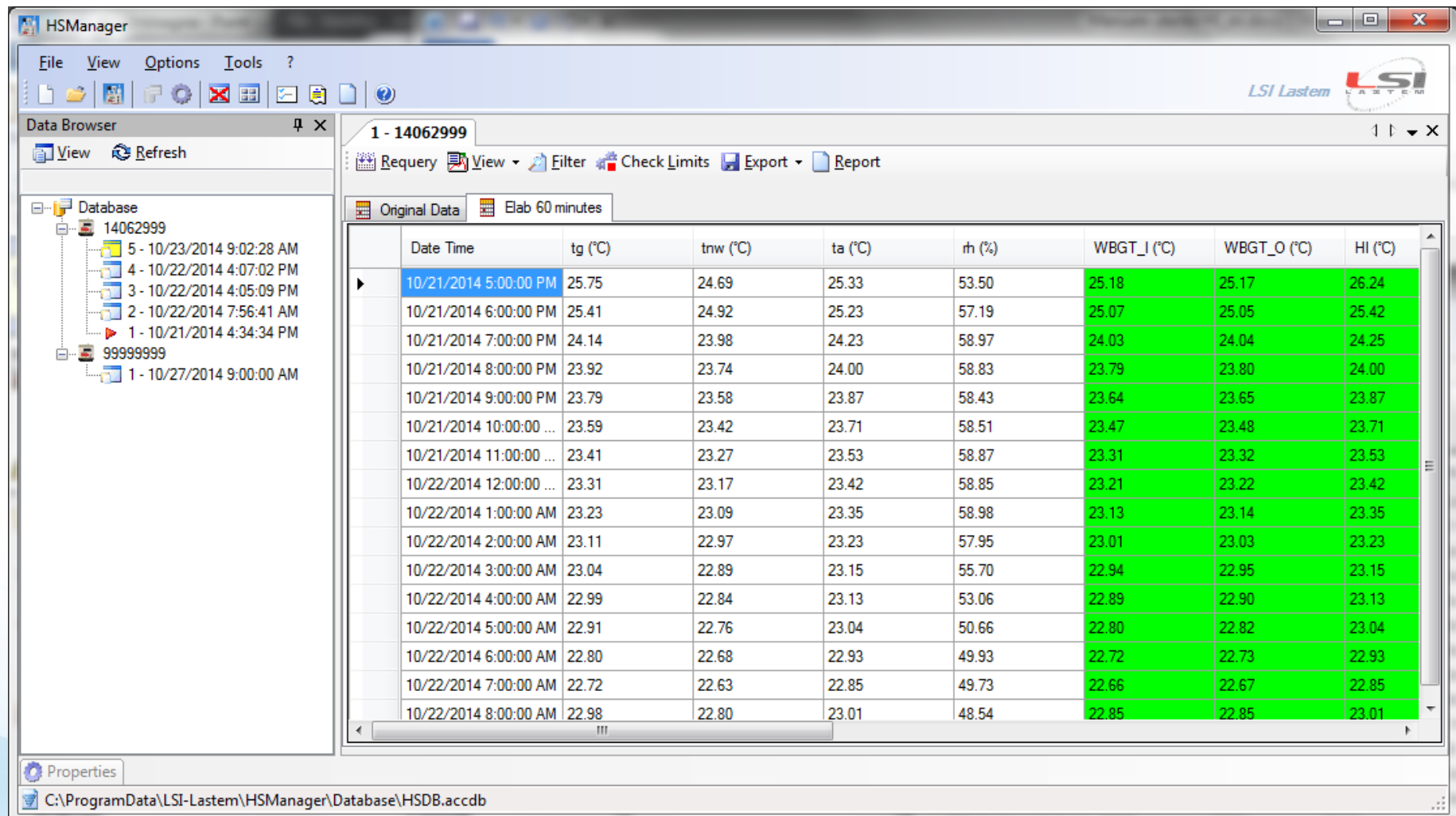
		B =
t g 1	23.6	' C
t n w 1	23.3	' C
t a 1	23.3	' C

		B =
t g 2	23.6	' C
t n w 2	23.4	' C
t a 2	23.4	' C

How Are Results Usually Displayed After Download to Computer?

Some Example Software Screen Displays

Live Results

Backup Database

Time History Chart
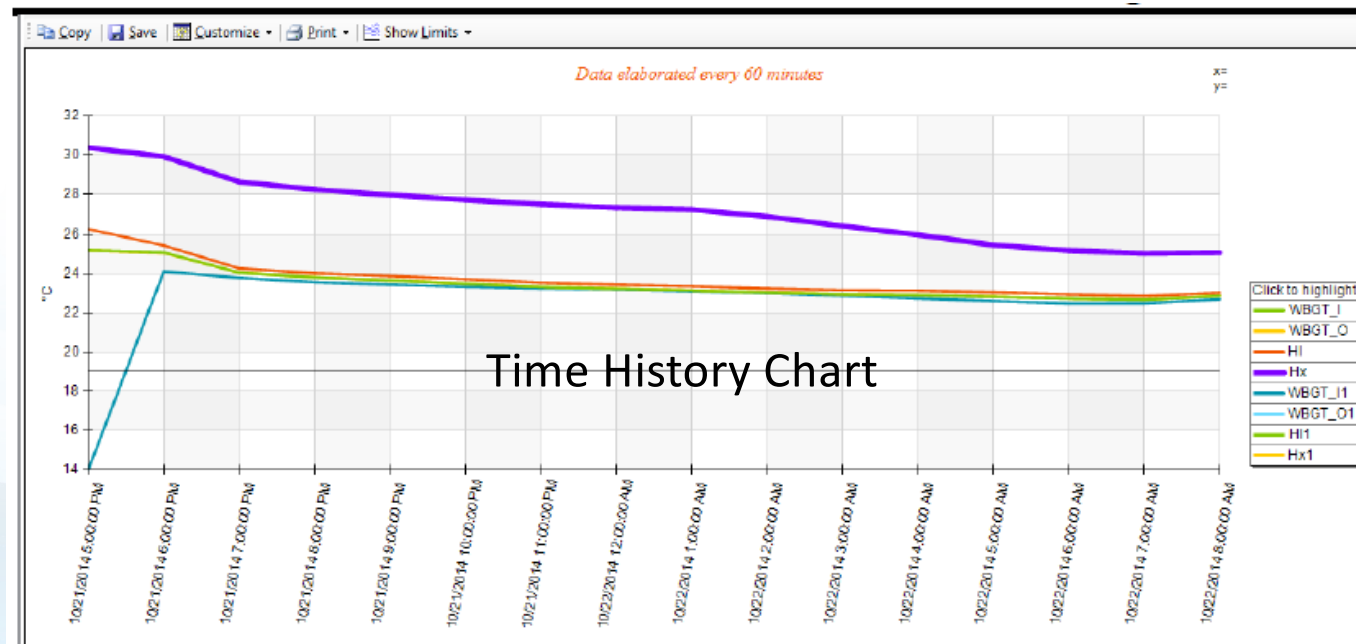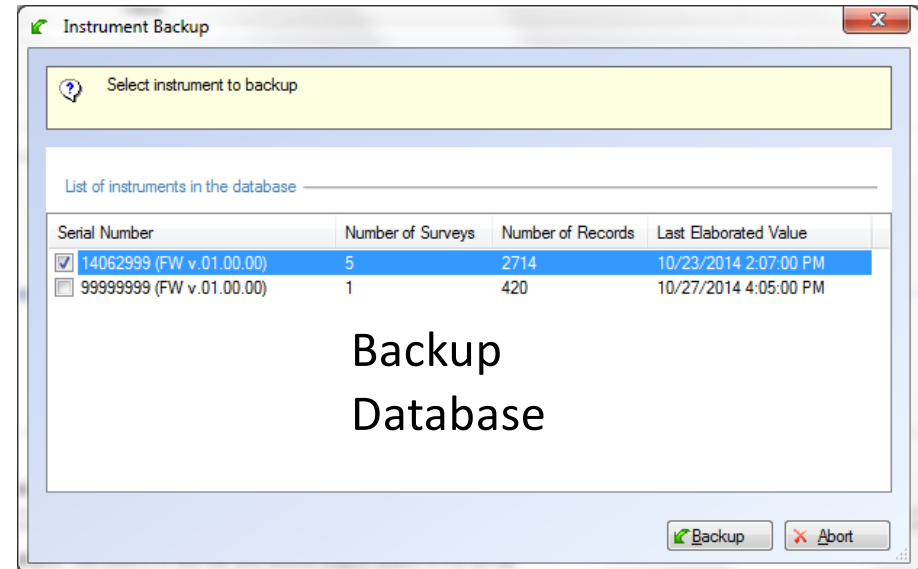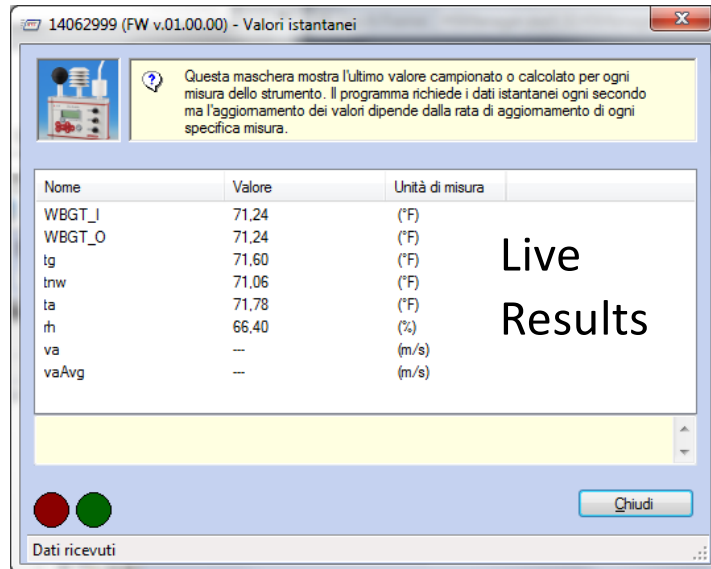
What Are Some Related Items To Go With LSI Heat Shield Monitor?

- ◉ Anemometer
  - – Hot wire or wind cup

- ◉ Satellite units
  - – Alternate locations or head and foot of same person

- ◉ Kit case for secure transportation

- ◉ Mounting tripod for main and satellite units