Safetemp Personal Monitoring Sensor

Every year, thousands of workers suffer from heat-related illnesses such as heat exhaustion and heat stroke, which can cause irreversible brain damage or even death. Anyone subject to high ambient temperatures during exertion is at risk for heat illness, but people participating in high-intensity physical activity often ignore the signs of heat illness. Heat-related illnesses are a hazard in the construction industry.

The Safetemp™ personal monitoring sensor, invented by CoolShirt Systems, is the only self-alert temperature monitoring device. Safetemp uses patent-pending technology to prevent heat-associated illnesses. Safetemp estimates core body temperature from the temporal artery region, the area from the temple to just above the eyebrow.

This technique is accurate and comfortable, and allows the user to self-monitor for the first signs of dangerous over-heating. The sensor warns of dangerous body temperatures. A heat-stress alarm warns workers with an audible alert when their core body temperatures reach dangerous levels — before they begin to feel dizzy, headachy, or nauseous.

The Safetemp is worn against the skin and can be held in place by the band of a hardhat, cap, visor, or moisture-resistant adhesive bandage. The Safetemp is not waterproof, but is water-resistant to sweat and environmental conditions such as rain.

The sensor is 1.5 inches in diameter — slightly larger than a quarter — and weighs 6 grams, far less than 1 ounce. Safetemp is powered by a lithium-ion battery that lasts two years. The warning alert's sound level is 69dbA. The device's operating temperature range is -4 to 140°F (-20 to 60°C).

The device can easily be mounted directly to the skin below the ear or to the inside of a hardhat's headband, above the eyebrow. Each sensor ships with a one-month supply of 3M Mounting Spots. The 3M products are medical-grade.

To begin using the device, a worker needs to press the button in the center of the sensor, which activates sound and LED indicators. The Safetemp sensor monitors temperature continuously while in the Normal Skin Temperature Range of 96 to 99.9. If the Safetemp sensor detects skin temperature over the Alert Temperature Threshold of 99.9F, it will sound an alarm and flash the red LED. That is the signal for a worker to take precautions to prevent overheating and seek help.

This technique is accurate, comfortable, non-invasive, and allows the user multiple areas to self-monitor his or her personal status for the first signs of dangerous overheating. The Safetemp™ personal monitoring sensor utilizes multiple patent-pending technologies that estimate core body temperature from two locations: the carotid artery just below the ear, and the temporal artery region across the temple to just above the eyebrow.

The Safetemp sensor measures skin temperature with an industry standard correlation formula that gives an estimated core temperature much like the temporal scanners found in pharmacies. The device can be cleaned with warm water and soap.

The Safetemp is not a medical device—rather, it is an early warning training device and has not been evaluated by the FDA.

COOLSHIRT SYSTEMS is privately owned and is located in Stockbridge, Georgia. in business since 1987 and has become the leader in personal cooling systems. Originally, the Company provided cooling devices to surgeons to keep them cool under hot lights in the operating room. Over the years, COOLSHIRT SYSTEMS has expanded into other markets including Racing, Fire Fighters, Sports and Industry.

COOLSHIRT SYSTEMS

Model ST-S

SAFETEMP® Sensor Indications

Sounds	LEDs			Meaning
🔊◀	🔴	🟡	🟢	Ready for use
🔊▶	🟢	🟡	🔴	Going to sleep
🔊 🔊 X 5	🔴	🔴	🔴	Alert state

SAFETEMP® Sensor Troubleshooting

Sounds	LEDs			Meaning
🔊 🔊 🔊	🟡	🟡	🟡		Low Battery: Replace sensor
🔊 🔊 X 3	🔴	🔴	🔴		Dead Battery: Do not use, replace sensor
🔊 🔊 🔊	🔴	🔴	🔴		Temperature Out of Range: Press start button to reset sensor
🔊 ◀◀◀	🔴 🔴 🔴 🔴 🔴			Temperature Sensor Error: Do not use, replace sensor

Mounting the SAFETEMP® Sensor

3   4   6

3   4

5   6