Dual Wire Resistance Continuous Monitoring

Dual-Wire Resistance Continuous Monitors

- **Open circuits cause alarms**
- **Steady state DC signal - not pulsed**
- **Durable: over 11,000,000 flex test per S1.1 vs 200,000 from our competition**
- **Dual polarity signal and near zero voltage on operator**
- **Programmer allows adjustments in seconds**

What's Better: Single-Wire or Dual-Wire Continuous Monitors?

- **Both are sound and reliable technologies**
- **Leading companies have used both for many years to improve quality and productivity**
- **User preference is the deciding element**
- **All EMIT Continuous Monitors use steady state signals, not pulsed signals**

Dual-Wire Resistance Continuous Monitors

From ESD TR 12-01 "This type of monitor is used with a two wire (dual) wrist strap. When a person is wearing a wrist strap, the monitor observes the resistance of the loop, consisting of a wire, a person, a wristband, and a second wire. If any part of the loop should open (become disconnected or have out of limit resistance), the circuit will go into the alarm state."

50580 Ultra Low Voltage Monitor

"There are two types of signals used by resistance based constant monitors; steady state DC and pulsed DC. Pulsed DC signals were developed because of concerns about skin irritation. However, pulse DC units introduce periods of off time (seconds) when the system is not being monitored."

Superior Dual-Wire Resistance Continuous Monitors

EMIT Dual Wire Continuous Monitors utilize a steady state DC signal and we have never received a skin irritation complaint. EMIT Dual Wire Wrist Straps passed the ANSI/ESD S1.1 flex test at over 11,000,000 cycles vs. the 16,000 requirement while the top competitor has touted their dual wire wrist strap life at only 200,000 cycles.

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Dual wire resistance continuous monitors use the same technology as on demand touch testers, and it is easily understood. An important feature of the dual wire wrist strap is that even if one conductor is severed, the operator has reliable path-to-ground with the other wire. The electrical signal does place that amount of charge on the operator. However, EMIT Zero Volt Monitors and Ultra Low Volt Monitors utilize a steady state DC dual polarity signal, with a plus signal sent via one wire and a minus signal sent via the other wire, balancing and leaving virtually zero voltage on the operator. A Programmer is available to quickly and accurately set the upper and lower resistance levels to be monitored while the Continuous Monitor is installed at the workstation.

What's Better: Single-Wire or Dual-Wire Continuous Monitors?

Both single wire wave distortion impedance and dual wire resistance continuous monitors are based on sound reliable technologies. Both have been used successfully for many years by leading companies to improve their quality and productivity, and immediately alert the user when there is a break in grounding of operators and worksurfaces. User preference is typically the deciding element.

All EMIT Continuous Monitors use steady state signals, not pulsed signals which are used by competitive brands. Damaging ESD events are often intermittent and can occur in the portion of the time in between the pulses. The off period of 2 seconds equals 2 billion nanoseconds, and "it takes only about 25 volts applied for 100 nanoseconds to blow most memories or microprocessors."* There have not been any reported skin irritation problems associated with our monitors. EMIT Continuous Monitors are appropriate for use in all applications including critical voltage sensitive applications such as disk drive manufacturing.

***Article by Donald E. Frank - Electrical Overstress Electronic Discharge Symposium Proceedings**

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