

ESD CONSTANT MONITOR SELECTION GUIDE



Application	CM400	CM410	CM420	CM5000	CM1601	CM1602	CM1600	CM2815	CM2800
General Use	✓	✓	✓	✓					
Back End Semiconductor				✓	✓	✓	✓	✓	✓
Electronic Assembly	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitor Type									
Capacitance (single wire)	✓	✓	✓						
Impedance (single wire)				✓					
Resistance (dual wire)					✓	✓	✓	✓	✓
Monitoring Capabilities									
Number of Operators	1	1	2	2	1	1	2	2	2
Mat Grounds		1	1	2		1	2	2	2
Tool Grounds							2		2
Operator Voltage									✓
Operator Presence Check									✓
Output Signal							✓	✓	✓
Network-Ready								✓	✓
Programmable Alarms									✓

Types of Constant Monitors

Capacitance (or single wire) constant monitors

This type of monitor is simplest and most cost effective constant monitor. When a person is wearing the single wire wrist strap the monitor detects the person and puts the monitor in the unalarmed state. The monitor circuit detects a person (a conductive object) and its relationship to ground (another conductive object).

Impedance (or single wire) constant monitors

The impedance monitor uses a detection circuit designed to reduce false alarms and eliminate adjustments. It uses the phase difference between current and voltage to detect changes in impedance of the cord, band and person. A very low AC voltage is used for constant sensing. Any standard wristband and coiled cord can be used.

Resistance (or Dual Wire) constant monitors

This type of monitor is used with a two wire (dual conductor) 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. 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 other wire.