

Product Specifications

Wrist strap open circuit voltage	0.7 VDC, ± 0.1 VDC @ < 2mA
Alarm indicators	Visual, audible
Alarm set point	38 to 87pF (human body); with 1 meg ohm wrist strap resistance
Unit monitoring capabilities	CM300 - One person CM310 - One Person, One Worksurface CM320 - Two Person, One Worksurface
Periodic Verification Units	CM410PV or CM420PV: Periodic Verification Tool
Mounting	Two Screws, built in bracket—Mounting materials included
Power Supply	Input: 120VAC—60hz, Output: 12VDC, 200mA
Audible Alarm	10 beeps (max); 5 seconds
Adjustment	No adjustments required



Spartan Monitors

Spartan Series Continuous Workstation Monitors
Model CM300, CM310 and CM320



Service and Warranty

Transforming Technologies, LLC provides a limited warranty for the Model CM300, CM310 and CM320. All new products are guaranteed to be free from defects in material and workmanship for a period of one (1) year from the date of shipment. Liability is limited to servicing (after evaluating, repairing or replacing) any product returned to Transforming Technologies. The company does not warrant damage due to misuse, neglect, alteration or accident. In no event shall Transforming Technologies be liable for collateral or consequential damages. To receive service under warranty, please contact Transforming Technologies.

Instruction Manual

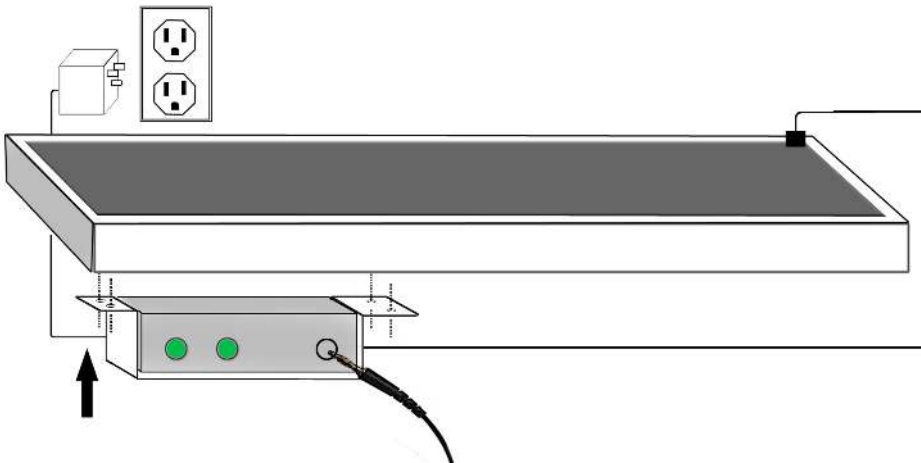


Spartan Monitor Installation Diagrams

- 1) Mount the monitor under your work bench area using the included screws or Velcro. The monitor should be mounted in an area that can be easily viewed and heard by operators in the area.
- 2) Plug in the AC power supply to the monitor and then into a grounded 110v outlet. (Please note that the monitor is grounded through the AC Adapter. If the outlet is not properly grounded, the monitor will malfunction.)
- 3) The Operator LED should be **RED** and an alarm will sound until a properly grounded wrist strap is plugged into the wrist strap jack.
- 4) With wrist strap worn correctly by the operator and plugged into monitor, the LED will go from **RED** to **GREEN** indicating grounding is functioning.

For Bench Ground monitoring—CM310 & CM320

- 1) Locate the bench ground cord (stereo plug on one end and a banana on the other).
- 2) Attach the “Bench” cord (smaller plug) to the back of monitor and attach the banana plug into the common point ground. The Bench light on the monitor should turn Green.



Technology

Constant monitors, also called continuous monitors in [ESD-S20.20](#), are designed to provide testing of the wrist strap system. The Spartan Monitors are designed to detect the capacitance of the person and ground. A signal is sent out through the wrist strap and when the capacitance of both are present, the monitor goes into an unalarmed state. If the electrical connection to the person or to ground should fail, the circuit will detect this change in capacitance and will alarm state to signal there is a problem.

Operation

Monitoring begins when the coiled cord of the wrist strap is plugged into the monitor. The status of a wrist strap is indicated by the bicolor LED and audible Alarm.

Normal indication.

When the operator is properly grounded, the “OPERATOR” LED will be **GREEN**.

High alarm.

If the operator wrist strap is plugged into the remote and the operator is not properly grounded, the “OPERATOR” LED will be **RED** and an audible alarm will sound.

Stand-by indication.

If the wrist strap is removed or not being worn, but is still plugged into the monitor, an audible alarm will sound for 4-6 seconds, and the LED labeled “OPERATOR” will **blink RED**.

Calibration and Verification

The CM300, CM310 and CM320 are factory calibrated and fixed. It does not require re-calibration. If verification is required by your quality program, we recommended to verify proper operation with the CM410PV verification unit available from Transforming Technologies.