

3M™ WS Aware Dual Workstation Monitor

Models CTC061 and CTC062

Assurance of continuous good grounding is the cornerstone of an ESD-safe environment. Utilizing the latest advances in digital signal processing, the 3M WS Aware Workstation Monitor provides continuous, uninterrupted monitoring of most grounding parameters on a workbench or in a tool, in compliance with ANSI 6.1 and ANSI/ESDA S.20.20 requirements, as well as high-frequency noise (EMI) on ground.

For operators, the WS Aware monitor utilizes dual wrist straps for a continuous resistivity check of human body connection and advanced DSP technology for reliable monitoring utilizing ultra-low control voltage. Each operator's body voltage is also continuously monitored.

For equipment, the WS Aware Monitor, Model CTC061 provides continuous monitoring for two metal grounds (i.e. tools) and for two “soft” grounds (i.e. dissipative mats, surfaces and parts made of dissipative plastics). The WS Aware Monitor, Model CTC062 provides continuous monitoring for four metal grounds.

The WS Aware Monitor provides monitoring of EMI on metal grounds with programmable alarm thresholds. As electromagnetic interference (EMI) is rapidly becoming a significant factor in equipment failures, this patent-pending unique feature of the WS Aware monitor will help provide for the proper operation of your equipment.

Applications	Features
Disk drive assembly	Dual wrist strap monitor
GMR head handling	3M™ Big Brother Operator Sensor Detector
Semiconductor fabrication	Extremely low voltage on person
Reticle handling	Body voltage monitoring
Flat panel fabrication	Metal ground monitoring
Laser diodes/fiberoptics	EMI on metal ground
Electronic assembly	Dissipative ground monitoring
Industrial robotics	Programmable thresholds
Medical	Industrial network interface
Military	Comprehensive information to FMS
Wherever ESD is an issue	Miniature
	Individually calibrated



Key Advantages

Highly Integrated

This miniature monitor, with the footprint of a credit card, packs a combination of features that may not be found in other monitors several times its size.

Assurance of Operator Grounding

The WS Aware monitor utilizes 3M Big Brother Operator Sensor Detector that detects the presence of an operator and raises an alarm if an operator is within reach of sensitive components but is not plugged in.

Ultra-low Voltage

The WS Aware Monitor provides only 25 millivolts of signal to any part of the wrist strap at any time, even when it is open—many times less than most comparable monitors.

The WS Aware Monitor is completely safe to use in most environments utilizing the most sensitive components.

Safety

The WS Aware Monitor has built-in safety 1M resistors in the ground path for each half of the wrist strap, providing for the operator's safety and quick charge dissipation.



3M™ Big Brother Operator Sensor Detector

The Big Brother Detectors are designed to detect whether the operator is grounded by sensing the operator's presence within reach of the workbench. If an operator is within reach of components but is not plugged in, the 3M™ WS Aware Workstation Monitor equipped with the Big Brother Detector will raise an alarm. This method prevents non-grounded operators from damaging sensitive parts.



3M™ Big Brother Operator Sensor Detector

As a true dual workstation monitor, the WS Aware Monitor uses two terminals for two operators' connection to allow their placement at different workbenches for the convenience of operators. A visitor/supervisor jack is of the same type as for operators harmonizing the type of the wriststraps throughout the factory.

Replaceable Jacks Protect Your Investment

The WS Aware Monitor utilizes special jacks that are custom-made for high reliability, allowing for long periods between service.

Should jacks ever become damaged, repair is simple and does not require replacement of the entire terminal. The modular construction of the WS Aware Monitor allows replacement of only an inexpensive internal board using a simple screwdriver instead of replacing the entire unit. This greatly simplifies maintenance and is cost effective.

Specifications		Specifications	
Wrist Strap Monitor		Ground Monitor	
Wrist Strap Type	Dual, 3.5 mm plug	Parameters Monitored	
Connection to Ground	1 megohm for each side	CTC061	
Number of Wrist Straps	2	Metal Ground (Tools)	2 connections
Imposed Voltage on Body	0.025V (25mV) max.	Dissipative Surfaces	2 connections
Remote Terminals	2, one for each operator	CTC062	
Remote Terminal Cables	Mini-DIN 6-pin	Metal Ground (Tools)	4 connections
Visitor Jack on Remote	Available	Ground Connector	No-screw terminal
Body Resistance Alarm Level*	10 megohm default	Connection Activation	Dip-switch (no jumpers)
Body Voltage Alarm Level*	+/-2.5V default	Metal Ground Alarm*	10 Ohm default
Local Indication	LED, Buzzer	Dissipative Ground Alarm*	1 gigohm default
Indicated Parameters	Availability Continuity Body Voltage	Imposed Voltage	
		Metal Ground	< 0.075V open circuit
		Dissipative Surfaces	< 0.4V open circuit
		EMI on Metal Ground	
		Sensitivity*	0dBm default
		Local Indication	Good/Alarm/Off LED, Buzzer
		Indicated Parameters	Resistance to Ground EMI on Metal Ground
		Output Parameters for Each Connection	Availability Resistance to Ground EMI (Metal Ground)

*These parameters are programmable in the field either locally or via a facility monitoring system. Default values are used when no other specification is provided.

Specifications

Connectivity

Interface

Current Loop	4-20mA
Logic Level	0/20mA
MODBUS	MODBUS Std. Compliant

Data Connector	RJ45 jack
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Specifications

General

Power (local or network)

Voltage	12-24v DC
Current Consumption	<150mA

Dimension (approx.)

3.2" x 2.25" x 1.30"
81 mm x 57 mm x 33 mm

Weight (approx.)

4.25 oz (120 g)

Ordering Information

The following is included when you order
3M™ WS Aware Dual Workstation Monitor:

- WS Aware CTC061/2 1 each
- Remote terminal 2 each
- 10' (3m) cable 2 each
- User's guide 1 each
- Grounding hardware 1 each
- Calibration Certificate 1 each

Don't forget to order the proper power adapter unless FMS
or data acquisition system provides power to WS Aware.

CTC-06X-YY-Z

Model

1= 2 metal and
2 dissipative
grounds
2= 4 metal grounds

Terminal

– = Regular
BB= Big Brother™

Interface

3= Current Loop
4-20mA
5= M0 DBUS
RT= Logic Level
(0-20mA)

Accessories

AC/DC Power Adapter (Universal)	CTA212
Ground Cord for Dissipative Surfaces (1 ea.)	AWD006
Ground Cord for Metal Surfaces (2 ea.)	AWD018
Replacement Terminal Board w/Jacks	CTA245
Remote Terminal Cable (10' – 3m)	NCA001

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