

# WS Aware®

## The Safest Dual Workstation Monitor

[www.credencetech.com](http://www.credencetech.com)

### DSP-based monitor keeps track of operators, tool and bench grounding and EMI

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

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

For equipment, WS Aware® CTC061 provides continuous monitoring for two metal grounds (such as tools) and for two "soft" grounds (such as dissipative mats, surfaces and parts made of dissipative plastics), or four metal grounds (CTC062)

WS Aware® 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 WS Aware® will help assure proper operation of your equipment.



### Applications

- Disk Drive Assembly
- GMR Head Handling
- Semiconductor Fabrication
- Reticle Handling
- Flat Panel Fabrication
- Laser Diodes/Fiberoptics
- Electronic Assembly
- Industrial Robotics
- Medical
- Military
- Wherever ESD is an Issue

### Features

- Dual wrist strap monitor
- Big Brother™ operator detection
- Extremely low voltage on person
- Body voltage monitoring
- Metal ground monitoring
- EMI on metal ground
- Dissipative ground monitoring
- Programmable thresholds
- Industrial Network Interface
- Comprehensive information to FMS
- Miniature
- Individually Calibrated

### Key Advantages

#### Highly Integrated

This miniature monitor with the footprint of a credit card, packs inside a combination of features that cannot be found in any monitor several times its size.

#### Assurance of Operator Grounding

WS Aware® utilizes patent-pending Big Brother™ terminals that detect 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

WS Aware® 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 any comparable monitor. WS Aware® is completely safe to use in any environment utilizing the most sensitive components -- now or for years to come.

#### Safety

WS Aware® has built-in safety 1M resistors in ground path for each half of the wriststrap. This assures operator's safety and quick charge dissipation.

### Workstation Monitor

Models CTC061  
CTC062



Credence  
Technologies

## Big Brother® Terminals

Big Brother® operator's terminals provide assurance that the operator is always grounded by sensing operator's presence within reach of the workbench. If an operator is within reach of components but is not plugged in, WS Aware equipped with Big Brother™ terminals will raise an alarm. This patent-pending method prevents non-grounded operators from damaging sensitive parts.

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

## Specification

### Wrist strap Monitor

Wrist Strap Type	Dual, 3.5mm plug
Connection to Ground	1 MOhms for each side
Number of Wrist Straps	2
Imposed Voltage on Body	0.025V (25mV) max.
Remote Terminals	2, one for each operator
Remote Terminal Cables	Mini-DIN 6-pin
Visitor Jack on Remote	Available
Body Resistance Alarm Level*	10MOhms default
Body Voltage Alarm Level*	+/-2.5V default
Local Indication	LED, Buzzer
Indicated Parameters	Availability Continuity Body Voltage
Output Parameters for Each Operator	Availability Continuity Body Voltage

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

### Ground Monitor

Parameters Monitored	
CTC061	
Metal Ground (Tools)	2 connections
Dissipative Surfaces	2 connections
CTC062	
Metal Ground (Tools)	4 connections
Ground Connector	No-Screw Terminal
Connection Activation	Dip-Switch (no jumpers)
Metal Ground Alarm*	10 Ohms default
Dissipative Ground Alarm*	1GOhms default
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)

### Connectivity

Interface	
Current Loop	4..20mA
Logic Level	0/20mA
MODBUS	MODBUS Std. Compliant
Data Connector	RJ45 jack

### General

Power (local or network)	
Voltage	12..24V DC
Current Consumption	<150mA
Dimension (approx.)	3.2" x 2.25" x 1.30" 81mm x 57mm x 33mm
Weight (approx.)	4.25 oz (120g)

## Replaceable Jacks Protect Your Investment

WS Aware® terminals utilize special jacks custom made for high reliability allowing for a long period between service.

Should jacks ever become damaged, replacement of them in WS Aware® terminals does not require replacement of the entire terminal. Patent-pending modular construction of WS Aware® terminals allows replacement of only an inexpensive internal board with the jacks using a simple screwdriver instead of buying the entire new terminal. This greatly simplifies maintenance and significantly reduces cost of ownership.



## Ordering Information

The following is included when you order WS Aware:

WS Aware® CTC061/2	1ea.
Remote Terminal	2ea.
10' (3m) Cable	2ea.
User's Guide	1ea.
Grounding hardware	1ea.

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

## CTC-06X-YY-Z

Model	
2 metal and 2 dissipative grounds	1
4 metal grounds	2
Terminals	
Regular	-
Big Brother™	BB
Interface	
Current Loop 4..20mA	3
MODBUS	5
Logic Level (0..20mA)	RT

Accessories

AC/DC Power Adapter (U.S.)	CTA216
AC/DC Power Adapter (Universal)	CTA217
Ground Cord for Dissipative Surfaces (1 ea.)	AWD006
Ground Cord for Metal Surfaces (2 ea.)	ATD018
Replacement Terminal Board w/Jacks	CTA245
Remote Terminal Cable (10' -- 3m)	NCA001
Professional dual wriststrap w/10' (3m) cord	CTA472-10



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Электрон  
Связь**

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