

Ground Master® Equipment Ground Monitors

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Know whether your equipment is properly grounded at all times

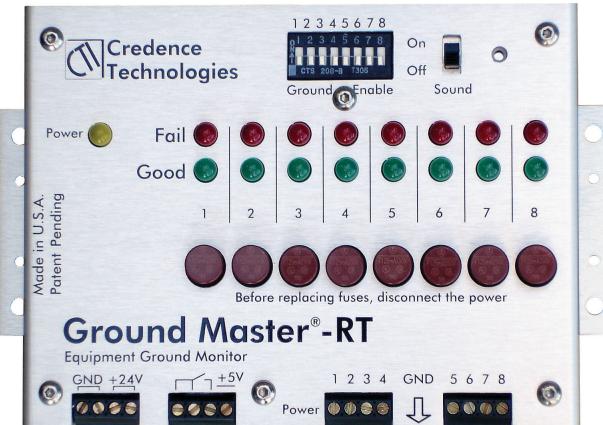
Proper grounding is crucial for safe and uninterrupted operation of equipment. In critical environments broken ground connection may result in personnel exposure to dangerous voltage, equipment lockup or malfunction and damage to sensitive components.

Ground Master offers continuous monitoring of proper ground connection of up to 8 tools and up to 16 tools in tandem with another Ground Master. With individual status indication, Ground Master shows which ground connection is being monitored, which one is OK and which one has failed. Enabling switches for each ground connection allow for accurate and safe indication.

With safety in mind, every ground connection has individual easily-replaceable fuse to prevent dangerous voltages from miswiring propagating to other equipment.

In addition to ground connection, Ground Master offers monitoring of EMI on each ground, assisting in diagnostics of lockups and malfunction.

Ground Master provides intelligent information to a facility monitoring system with detailed status on each ground connection. Ground Master RT provides relay closure and logic signal to the tool so that it can be shut down in case of ground failure.



Applications

Front-End Semiconductors
Photolithography Equipment
Wafer Handlers
Back-End Semiconductor Tools
GMR Head Testers
Any Sensitive Equipment Locations
Industrial Robotics
Tool Clusters
Medical Environment
Military
Wherever ESD and EMI are an Issue

Features

Continuous ground monitoring
ANSI/ESDA S.20.20 compliant
Adjustable alarm threshold
EMI monitoring on each ground
Safety protection for each ground
Enable switches for each ground
Industrial network interface
Connection to Facility Monitoring System
Connection to the Tool

Key Advantages

ANSI/ESDA S.20.20 Compliant

Ground Master measures ground impedance in accordance with requirements of ANSI/ESDA S.20.20 standard.

Adjustable Alarm Threshold

The alarm threshold can be easily adjusted at any time in a range of 1 to 20 Ohms

Safety

Each ground connection is protected by individual fuses to protect equipment in case of miswiring of neutral, power and ground.

EMI

Ground Master monitors EMI on each ground and indicates EMI status

Output to Data Acquisition or Facility Monitoring System

Ground Master® monitors provide intelligent output to a data acquisition or facility monitoring system. Power can be supplied via the same cable from FMS as well.

Output to the Tool

Ground Master® RT provides relay closure and logic signal to the tool to shut it down when any of the grounds fail.

Ground Master®

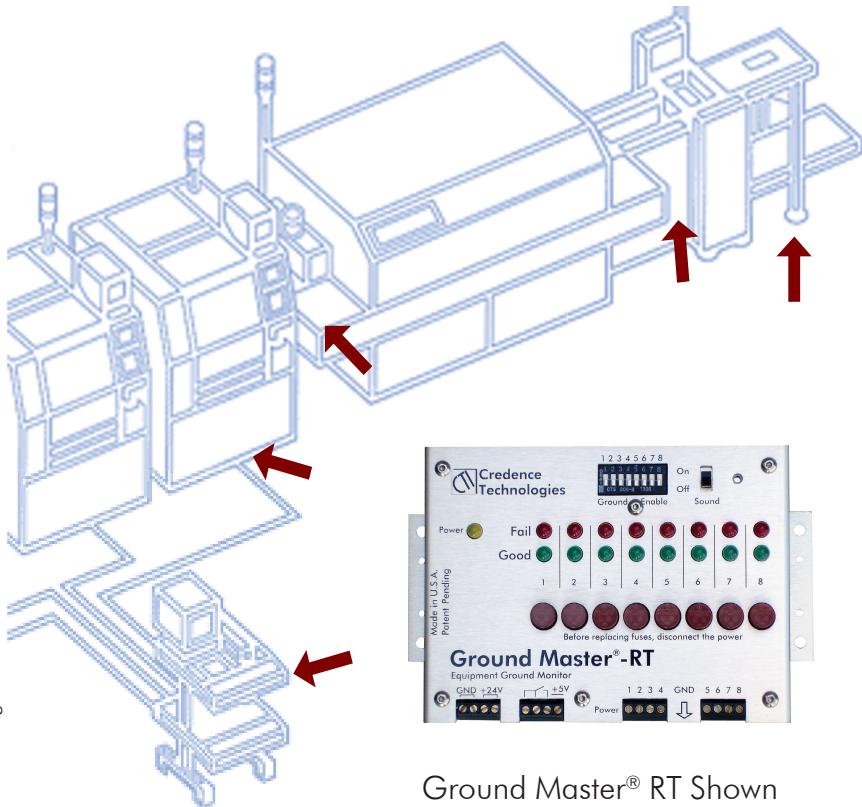
Ground Monitors

CTC065

CTC065RT



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Ground Master® RT Shown

Specification

Ground Impedance	
Alarm Threshold	1...20 Ohms (user-adjustable)
EMI on Ground	0dBm Broadband
Indication	
Visual	LEDs for each channel
Audio	Buzzer
Other	
Enable switches	Each channel
Connectivity	
Interface	
Current Interface	4...20 mA
Relay Output	N/C Relay Contacts plus Logic Level Output
MODBUS Interface	MOSBUS Std. Compliant
Data Connector	RJ45
General	
Power (local or network)	
Voltage	24V DC
Current Consumption	<250mA
Dimension (approx.)	4.5" x 3.6" x 1.1"
(without mounting bracket)	114mm x 92mm x 28mm

Application Example: Monitoring of Assembly Tool

Many assembly tools consist of several parts which are not always grounded. Their ground connection may also be broken during maintenance, modifications and even in normal use. Ground Master® can monitor ground connection of every single part of the entire tool to assure its compliance with the standards and uninterrupted operation of the tool. Ground Master® RT can provide relay closure or logic level signal to the tool to stop in case of ground failure.

Safety First: Grounding is Safety Issue

While grounding is very important for ESD protection, its foremost objective is to protect personnel from exposure to high voltage. Improperly done wiring in the facility or inside the tools can easily bring high voltage on exposed surfaces of equipment creating a safety hazard. Patent-pending Ground Master is the only instrument that uses individual fuses for each ground to prevent propagation of high voltage on ground wiring of equipment to other tools.

Ordering Information

Ground Master® comes with:

- four spare fuses
- grounding hardware
- universal power adapter
- User's guide.

Please contact factory for other options and accessories.

CTC-065-X

Interface

Current Loop 4..20mA	3
Relay Closure / Logic Level	RT
MODBUS	5



**Credence
Technologies, Inc.**

3601-A Caldwell Dr.
Soquel, CA 95073 U.S.A.
Tel. 831-459-7488
FAX 831-427-3513
www.credencetech.com
info@credencetech.com



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