Ground Hub Continuous Monitor Installation, Operation, and Maintenance

Made in the United States of America

Figure 1. Desco 19203 Ground Hub Continuous Monitor

Description

The Desco Ground Hub Continuous Monitor confirms the integrity of the resistance path from the common ground point to electrical ground. It is designed in accordance with ESD TR 12-01 to “monitoring equipment ground connections.”

When the Ground Hub Continuous Monitor is plugged into an AC outlet, the green LED illuminates when both the outlet’s wiring is correct and the path to equipment ground via the equipment grounding conductor is intact. The monitor provides 13 verified ground points when in PASS condition. The red LED illuminates when either the outlet’s wiring is incorrect or the path-to-equipment ground is defective.

The outlet ground line is tested by measuring voltage between it and the neutral line. It is normal to have a few volts of AC induced on the neutral line. If the Ground Hub Continuous Monitor measures only a few volts, the ground line to neutral impedance is low and the ground line would make a suitable ESD ground point. If the monitor measures more than just a few volts between ground and neutral, this indicates either that they are not referenced to each other or that the outlet and associated wiring should be checked for loose connections. In this case, the Ground Hub Continuous Monitor will sound a warning alarm and display a red FAIL indication and should not be used for an ESD grounding point until corrected.

Use the Ground Hub Continuous Monitor to fulfill the S6.1 Section 6.3.1 requirement. “The hot, neutral, and equipment grounding conductor shall be verified to be in the proper wiring orientation in accordance with the National Electric Code (ANS/NFPA-70).” (Grounding ANSI/ESD S6.1 section 6.3.1 Equipment Grounding Conductor)

The Ground Hub Continuous Monitor is available in two models:

Item	Plug	Regions
19203	Type B	North America, Japan
19204	Type G	Southeast Asia, UK

Packaging

1 Ground Hub Continuous Monitor
6 Socket Head Screw, 10-32 x 1/4"
6 Split Lock Washer, #10
1 Hex L-Key, 5/32"

Figure 2. Ground Hub Continuous Monitor packaging contents

Features and Components

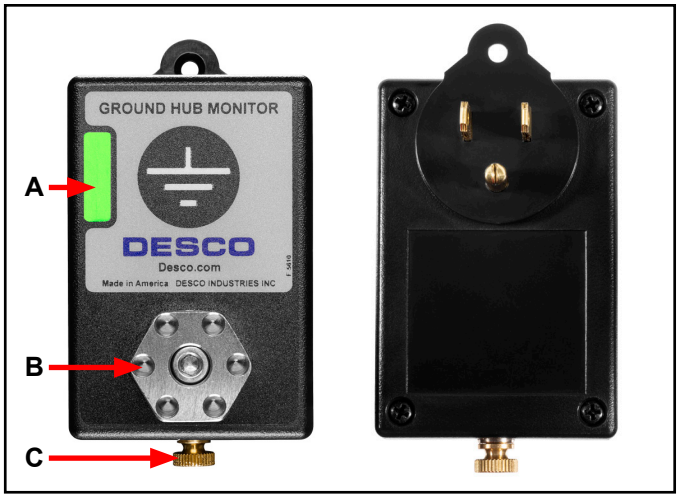

Figure 2. Desco 19203 Ground Hub Continuous Monitor features and components

Figure 3. Desco 19204 Ground Hub Continuous Monitor features and components

A. Ground LED: Illuminates green when the AC outlet is properly wired and its path to equipment ground via the equipment ground conductor is intact. Illuminates red and audible alarm sounds when the AC outlet is not properly wired and its path to equipment ground via the equipment ground conductor is broken.

B. Ground Hub: Provides 12 verified ground points via six banana jacks and six screws for #8 ring terminals.

C. Ground Post: Provides a verified ground point. Bond to the 09842 Multi-Ground Hub to create an additional 12 ground points.

Installation

1. Plug the Ground Hub Continuous Monitor into a proper electrical outlet.
2. The Ground LED will illuminate green if the outlet's wiring is correct and the path-to-equipment ground via the equipment grounding conductor is intact.

   The Ground LED will illuminate red and the audible alarm will sound if the outlet's wiring is incorrect or the path to equipment ground via the equipment grounding conductor is not intact.

Operation

Use the included socket head screws and split lock washers to connect ring terminals (not included) or the banana jacks (not included) to connect banana plugs to the Ground Hub. Ring terminals may also be connected to the ground post.

Figure 4. Using the Ground Hub Continuous Monitor

Calibration

Note: The following procedure should only be performed by someone familiar with voltage hazards. This procedure will work for 220 VAC configurations as long as the neutral and ground are referenced. 220 VAC produced with out-of-phase 110 VAC-to-Ground-to-110 VAC will produce a FAIL result.

1. Isolate the ground plug from the tester by inserting it into a 3 to 2 plug adapter.
2. Connect a 5 kilohm resistor between the supply ground and tester ground. The Ground LED should illuminate green until the resistor is removed. This test confirms the pass limit for the neutral-to-ground resistance.
3. Connect a 12.5 kilohm resistor between the supply ground and tester ground. The Ground LED should illuminate red and sound the audible alarm until the resistor is removed. This test confirms the fail limit for the neutral-to-ground resistance.

Specifications

Input Voltage and Frequency	100-240 VAC, 50/60 Hz
Operating Temperature	50 to 95°F (10 to 35°C)
Environmental Requirements	Indoor use only at altitudes less than 6500 ft. (2 km) Maximum relative humidity of 80% up to 85°F (30°C) decreasing linearly to 50% @ 85°F (30°C)
Equipment Ground Conductor Test Limit	10 kilohms (±25%)
Dimensions	19203: 3.0" x 2.0" x 1.4" (76 mm x 51 mm x 36 mm) 19204: 3.1" x 2.1" x 2.0" (79 mm x 53 mm x 50 mm)
Weight	0.4 lbs (181 g)
Country of Origin	United States of America

Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See the Desco Warranty - Desco.com/Limited-Warranty.aspx