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Electrical Testing Procedures

Continuity, Polarity and Short Tests

Function: The continuity test is used to verify that the wires of the cord are properly connected from the plug end to the opposite end of the cord and that no shorts or wrong polarity conditions exist.

Description: Based on the product code, each conductor of the cord is checked in sequence by application of a test current from the plug end to the opposite end of the cord.

Specifications: Test current is 0.5 amperes at 12VDC, with rejection when resistance is greater than 0.5 ohms. Test duration 0.04 seconds.

Dielectric Strength Test

Function: The dielectric strength test (or Hi-Pot) test is used to verify the integrity of the cords electrical insulation. The common failure mode is a high voltage flashover, with fault current rejection over limit set point.

Description: Adjustable parameters include test voltage and leakage limits in milliamps. The test voltage is always applied and removed at the zero crossing point for transient free operation. Failure due to arcing or excessive leakage current causes the test to stop and requires reset to continue.

Specifications: Performed in accordance with applicable UL and CSA standards. 1,500VAC is applied at the zero crossing point. Rejects excessive fault currents or flashover. Fault current rejection adjustable from 1 to 10 milliamperes. Test voltage and sensitivity are adjustable parameters. Voltage is monitored across the output of a 50VA high voltage transformer. Test duration is adjustable from 1 to 60 seconds. Test voltage and fault current are displayed on the Computer monitor with an accuracy of +/- 1%.

Cold Resistance Test (optional per customer request)

Function: The four-point measurement method of cold resistance test determines the resistance between two terminal points on the product.

Description: When selected as a parameter this test measures the terminal to terminal resistance across each conductor in the product. The parameters allow any point to point of up to 3 conductor product.

Specifications: Test voltage 5VDC, dwell time of 0.5 second per measurement.