SCTE · ISBE

STANDARDS

Interface Practices Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 152 2019

Test Procedure for Contact Resistance Measurement of Mainline Plug Interface

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1. Introduction

1.1. Executive Summary

The purpose of this test procedure is to measure the resistance between the contact of the connector and cable interfaces.

1.2. Scope

The term contact resistance refers to the contribution to the total resistance of a system which can be attributed to the contacting interfaces of electrical leads and connections as opposed to the intrinsic resistance, which is an inherent property, independent of the measurement method.

High resistance contacts may cause excessive energy losses, overheating and possibly common path distortions. It is most desirable to have contact resistance as low as possible

The contact resistance is the resistance to the current flow in electrical connections, due to surface conditions in the connection to contact surface, which may lead to poor or bad connection if it is too high, causing different problems in the circuit. Therefore, the contact resistance test measures the resistance of electrical connections in switching devices, breakers, relays, joints, connectors, etc, for finding bad or corroded contacts as a preventive method, or for diagnosis and problem solving

1.3. Benefits

The contact resistance test is very important for contacts that carry large amounts of current (e.g. circuit breakers, busbars, cable joints, etc) as higher contact resistance leads to higher losses, lower current carrying capacity and dangerous hot spots in the substation, so that the contact resistance test is used for detecting and preventing future problems, checking the circuit or equipment condition.

1.4. Intended Audience

The intended audience for this document is for development/design engineers, technical operations and installers.

1.5. Areas for Further Investigation or to be Added in Future Versions

No changes are intended for future versions.