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Edition 1.1 2014-09
CONSOLIDATED VERSION

TECHNICAL REPORT

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Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of Symmetrical pair/quad cables

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ELECTROTECHNICAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables

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IEC TR 61156-1-2 edition 1.1 contains the first edition (2009-05) [documents 46C/853/DTR and 46C/889/RVC] and its amendment 1 (2014-09) [documents 46C/993/DTR and 46C/1000/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions and deletions are displayed in red, with deletions being struck through. A separate Final version with all changes accepted is available in this publication.

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IEC 61156-1-2, which is a technical report, has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61156 series, under the general title: *Multicore and symmetrical pair/quad cables for digital communications*, can be found on the IEC website.

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MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables

1 Scope

This technical report is a revision of the symmetrical pair/quad electrical transmission characteristics present in IEC 61156-1:2002 (Edition 2) and not carried into IEC 61156-1:2007 (Edition 3).

This technical report includes the following topics from IEC 61156-1:2002:

– the characteristic impedance test methods and function fitting procedures of 3.3.6;
– Annex A covering basic transmission line equations and test methods;
– Annex B covering the open/short-circuit method;
– Annex C covering unbalance attenuation.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-726, *International Electrotechnical Vocabulary – Part 726: Transmission lines and* waveguides

IEC 60169-15, *Radio-frequency connectors – Part 15: R.F. coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with screw coupling – Characteristic impedance 50 ohms (Type SMA)*

IEC 61156-1:2007, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61169-16, *Radio-frequency connectors – Part 16: Sectional specification – RF coaxial connectors with inner diameter of outer conductor 7 mm (0,276 in) with screw coupling – Characteristics impedance 50 ohms (75 ohms) (type N)*

IEC/TR 62152, *Background of terms and definitions of cascaded two-ports*

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