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Multicore and symmetrical pair/quad cables for digital communications – Part 14: Symmetrical single pair cables with transmission characteristics up to 20 MHz – Work area wiring – Sectional specification

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 14: Symmetrical single pair cables with transmission characteristics up to 20 MHz – Work area wiring – Sectional specification

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IEC 61156-14 has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
46C/1296/CDV	46C/1313/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 14: Symmetrical single pair cables with transmission characteristics up to 20 MHz – Work area wiring – Sectional specification

1 Scope

This part of IEC 61156 specifies cables for work area wiring intended to be used for transmission of 10 Mb/s over a single twisted pair in channels for distances of up to 1 km. The transmission characteristics of these cables are specified up to a frequency of 20 MHz and at a temperature of 20 °C. Depending on the MICE environment and the installation conditions, either unscreened or screened cables can be used. Furthermore, to consider different maximum transmission lengths, two sets of requirements are specified. The cable type A-1000W does not have attenuation de-rating compared to the A-1000 type according to IEC 61156-13 and is a design supporting up to 1 km channel length. The cable type A-400W has attenuation de-rating compared to the A-400 type according to IEC 61156-13. A blank detail specification can be found in Annex A.

The cables covered by this document are intended to operate with voltages and currents normally encountered in communication systems. While these cables are not intended to be used in conjunction with low impedance sources, for example the electric power supplies of public utility mains, they are intended to be used to support the delivery of DC low voltage remote powering applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath*

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

IEC TS 61156-1-2, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables*

IEC 61156-6*, Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 62153-4-3, *Metallic communication cable test methods – Part 4-3: Electromagnetic compatibility (EMC) – Surface transfer impedance – Triaxial method*

IEC 62153-4-9:2018, *Metallic communication cable test methods – Part 4-9: Electromagnetic compatibility (EMC) – Coupling attenuation of screened balanced cables, triaxial method*
IEC 62153-4-9:2018/AMD1:2020/
IEC 62153-4-9:2018/AMD2:2024