BS EN 50288-10-2:2015

BSI Standards Publication

Multi-element metallic cables used in analogue and digital communication and control

Part 10-2: Sectional specification for screened cables characterized from 1 MHz up to 500 MHz for work area, patch cord and data centre applications

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National foreword

This British Standard is the UK implementation of EN 50288-10-2:2015.

The UK participation in its preparation was entrusted to Technical Committee EPL/46, Cables, wires and waveguides, radio frequency connectors and accessories for communication and signalling.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Multi-element metallic cables used in analogue and digital communication and control - Part 10-2: Sectional specification for screened cables characterized from 1 MHz up to 500 MHz for work area, patch cord and data centre applications

Câbles métalliques à éléments multiples utilisés pour les transmissions et les commandes analogiques et numériques - Partie 10-2: Spécification intermédiaire pour les câbles écrantés caractérisés de 1 MHz à 500 MHz - Câbles horizontaux et câbles verticaux de bâtiment

Mehradrige metallische Daten- und Kontrollkabel für analoge und digitale Kommunikation - Teil 10-2: Rahmenspezifikation für geschirmte Kabel von 1 MHz bis 500 MHz für Geräteanschlusskabel, Schaltkabel und Anwendungen für Rechenzentren

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (EN 50288-10-2:2015) has been prepared by CLC/SC 46XC "Multicore, multipair and quad data communication cables," of CLC/TC 46X, "Communication cables".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-08-03
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2018-08-03

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This Part 10-2 is to be read in conjunction to EN 50288-1.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

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1 Scope

This sectional specification covers screened cables, characterised from 1 MHz up to 500 MHz, to be used to construct cords for use in cabling specified in the EN 50173 series of standards.

The premises-specific cabling standards of the EN 50173 series reference the D1 requirements of this specification for the cable used within cords of the “reference implementations” of those standards. The alternative D2 requirements of this specification may be used to produce cords for other implementations and applications including the direct connection of equipment in data centres.

This sectional specification contains the electrical, mechanical, transmission and environmental performance characteristics and requirements of the cables when tested in accordance with the referenced test methods.

This sectional specification is to be read in conjunction with EN 50288-1, which contains the essential provisions for its application.

The cables covered in this sectional specification are intended to operate with voltages and currents normally encountered in communications systems. These cables are not intended to be used in conjunction with low impedance sources, for example the electrical power supplies of public utility mains.

2 Normative references

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

EN 50288-1:2013, *Multi-element metallic cables used in analogue and digital communication and control – Part 1: Generic specification*

EN 50289-3-2, *Communication cables – Specifications for test methods – Part 3-2: Mechanical test methods – Tensile strength and elongation for conductor*

EN 50289-3-4, *Communication cables – Specifications for test methods – Part 3-4: Mechanical test methods – Tensile strength, elongation and shrinkage of insulation and sheath*

EN 50289-3-5, *Communication cables – Specifications for test methods – Part 3-5: Mechanical test methods – Crush resistance of the cable*

EN 50289-3-6, *Communication cables – Specifications for test methods – Part 3-6: Mechanical test methods – Impact resistance of the cable*

EN 50289-3-8, *Communication cables – Specifications for test methods – Part 3-8: Mechanical test methods – Abrasion resistance of cable sheath markings*

EN 50289-3-9:2001, *Communication cables – Specifications for test methods – Part 3-9: Mechanical test methods – Bending tests*

EN 50289-3-16, *Communication cables – Specifications for test methods – Part 3-16: Mechanical test methods – Cable tensile performance*

EN 50289-4-6, *Communication cables – Specifications for test methods – Part 4-6: Environmental test methods – Temperature cycling*

EN 50290-2 series, *Communication cables – Part 2: Common design rules and construction*

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EN 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath* (IEC 60708)

IEC 60189-2, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 2: Cables in pairs, triples, quads and quintuples for inside installations*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50288-1 and the following apply.

3.1.1
screening of cable
a cable is considered screened when the cable core is covered by a continuous conductive layer forming a part of the shielding and bonding system of the cabling system.

Note 1 to entry: DC continuity has to be given and minimum shielding requirements have to be met.

3.2 Symbols and abbreviations

For the purposes of this document, the following abbreviations apply.

EX Exogenous (derived or originating externally)

POE Power Over Ethernet

4 Cable construction

4.1 Conductor

The conductor shall be solid or stranded annealed copper and comply with the requirements of EN 50288-1:2013, 4.1

The solid conductor nominal diameter shall be ≥ 0,40 mm and ≤ 0,80 mm.

The stranded conductor shall consist of seven wires each with a nominal diameter of ≥ 0,10 mm to ≤ 0,21 mm.

NOTE Constructions with ‘copper clad’ conductors **do not** meet the requirements.

4.2 Insulation

The insulation shall be of a suitable material in accordance with the appropriate part of the EN 50290-2 series.

4.3 Cabling elements

The cable element shall be a pair or quad.

4.4 Identification of cabling elements

Unless otherwise specified, the colour coding for identification shall be as specified in IEC 60189-2 or EN 60708, as appropriate. The colours shall comply with the requirements given in EN 50288-1:2013, 4.4

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