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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18015.1-2017

Replacing GB/T 18015.1-2007

**Multicore and symmetrical pair/quad cables for digital
communications -- Part 1: Generic specification
(English Translation)**

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Foreword

GB/T 18015 "Twisted pair or multi-core symmetrical cable for digital communications" has published or plans to release the following sections.

- Part 1. General Specifications;
- Part 2. Horizontal level wiring cable specification;
- Part 3. Work area wiring cable specification;
- Part 4. Vertical wiring cable specification;
- Part 5. Conductor or twisted pair with 600MHz and below transmission characteristics

Horizontal level cable distribution specification;

--- Part 6. 600MHz and below the transmission characteristics of the twisted pair or star twisted symmetrical work area wiring cable points specification;

--- Part 7. Pair or twisted symmetrical cable with 1200MHz and below transmission characteristics Digital and analog communication cable sub specification;

--- Part 8. Pair or twisted symmetrical cable with 1200MHz and below transmission characteristics Work area wiring cable points specification;

--- Part 11. Capability certification standards;

--- Part 21. Blanket specification of horizontal level cabling;

--- Part 22. Horizontal layer wiring cable capacity approval points specification;

--- Part 31. Work area wiring cables blank detail specification;

--- Part 32. Work area wiring cable capacity approval points specification;

--- Part 41. Blank detail specification for vertical wiring;

--- Part 42. Vertical cabling capacity approval of sub - standard.

This section GB/T 18015 Part 1.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 18015.1-2007 "Digital communications with twisted pair or twisted multi-core symmetrical cables Part 1. General Specifications" and GB/T 18015.1-2007 compared to the main technical changes are as follows.

--- Removed "unbalanced shielding capacitance" (see 2007 version 2.1.3);

--- Removed "group propagation speed" (see 2007 version 2.1.5a);

--- Remove the "group propagation delay" (see 2007 version 2.1.13);

--- Added "coupling attenuation" terms and definitions (see 3.5);

--- Removed "the release of toxic gases" (see 2007 version 3.5.13);

--- Increasing the "carrying capacity" terms and definitions (see 3.6);

--- Added "terminally attenuated crosstalk ratio" terms and definitions and test methods (see 3.17,6.3.6);

--- Added "term attenuation crosstalk ratio" terms and definitions and test methods (see 3.18,6.3.7);

--- Increasing the "cable between (external) near-end crosstalk," the terms and definitions and test methods (see 3.19,6.3.8);

- Increasing the "cable between (external) far-end crosstalk," the terms and definitions and test methods (see 3.20,6.3.9);
- Increase the "cable between (external) crosstalk power and" terms and definitions and test methods (see 3.21);
- Added "bundled cable" terms and definitions (see 3.28);
- Increased "hygroscopic" terms and definitions (see 3.29);
- Added "Capillary Phenomenon" terms and definitions (see 3.30);
- Increasing the "ambient temperature" terms and definitions (see 3.31);
- Added "working temperature" terms and definitions (see 3.32);
- Increase the common mode matching load value (see 6.1);
- Modify the "transfer impedance" test requirements (see 6.2.7, 2007 version 3.2.7);
- Increasing the "coupling attenuation" test method (see 6.2.8);
- Modify the "propagation speed" measurement method (see 6.3.2, 2007 edition 3.3.1);
- Increasing the temperature requirements of the test (see 6.3.4.1 and 6.3.4.2);
- Added "test methods for crosstalk between bundled cables" (see 6.3.10);
- Increased "bending under tension" test (see 6.4.10);
- Increased "cable bending" test (see 6.4.11);
- Added "impact test" (see 6.4.13);
- Added "crash test" (see 6.4.14);
- Added "vibration test" (see 6.4.15);
- Increased "steady hot and humid" (see 6.5.9);
- Increase the "sunshine radiation" (see 6.5.10);
- Added "solvent and contaminated liquid" (see 6.5.11);
- Added "salt spray and sulfur dioxide" (see 6.5.12);
- Increased "flooding" (see 6.5.13);
- Increased "hygroscopicity" (see 6.5.14);
- Added "capillarity test" (see 6.5.15).

This section uses the redrafted law to amend the use of IEC 61156-1:2009 "Digital communications with twisted pair or multi-core symmetrical cable stranded cable No. 1 Part. General Specifications. " this part of the structure compared with IEC 61156-1:2009

compared to more adjustment, Appendix A lists this section and IEC 61156-1.

2009 chapter number control list.

This section compared with IEC 61156-1:2009 there are technical differences, the provisions of these differences have been passed in the outer margin of the page the position of the vertical single line (|) were marked in Appendix B is given a list of the corresponding technical differences and their causes.

This section made the following editorial changes.

--- The original text of Chapter 2 Incorrect reference document IEC 62012-1:2004 changed to IEC 62012-1:2002;

--- Fixed the editorial error of far-end imbalance attenuation formula [see formula (22) in 6.3.5.3.4];

--- Replace a large number of suspension in the original text to "general requirements";

--- Added Appendix C (informative) "common cable structure abbreviation";

--- Added Appendix D (informative) "Digital communications with twisted pair or multi-core symmetrical cable stranded cable method of preparation." this part is proposed by China Electrical Equipment Industry Association.

This part of the wire and cable standardization Technical Committee (SAC/TC213) centralized.

This section drafted by. Shanghai Electric Cable Research Institute Co., Ltd., China Institute of Information and Communications, Jiangsu East Co., Ltd., Jiangsu Heng Cable Technology Co., Ltd., Zhejiang Zhaolong Cable Co., Ltd., Suzhou Yongding Cable Technology Co., Ltd., Zhejiang Zhengyin Cable Co., Ltd. Hui State Akihabara Industrial Co., Ltd., Hangzhou Futong Wire and Cable Co., Ltd., Shenzhen City, Jia Xiang Technology Co., Ltd., Bao Sheng Technology New Co., Ltd.

1 Scope

GB/T 18015 provisions of this part of the digital communications with twisted pair or multi-core symmetrical cable stranded cable installation conditions, materials and cable structure, Performance and requirements.

This section applies to digital communications systems, such as Integrated Services Digital Network (ISDN), LAN and data communications systems, as well as building wiring system System used in the cable.