

INTERNATIONAL STANDARD

IEC
61156-6-1

Second edition
2007-06

**Multicore and symmetrical pair/quad
cables for digital communications –**

**Part 6-1:
Symmetrical pair/quad cables with
transmission characteristics up to 1 000 MHz –
Work area wiring – Blank detail specification**

(<https://standards.iteh.ai>)
Document Preview

<https://standards.iteh.ai> IEC 61156-6-1:2007

<https://standards.iteh.ai/catalog/standards/iec/561156-6-1-2007>



Reference number
IEC 61156-6-1:2007(E)



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2007 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

IEC 61156-6-1:2007

<https://standards.iec.ch/standards/iec/5a4cb00d-e4dc-4600-924b-785586f2840b/iec-61156-6-1-2007>

INTERNATIONAL STANDARD

IEC 61156-6-1

Second edition
2007-06

Multicore and symmetrical pair/quad cables for digital communications –

Part 6-1: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Blank detail specification

(<https://standards.iteh.ai>)
Document Preview

<https://standards.iteh.ai>
IEC 61156-6-1:2007

<https://standards.iteh.ai/Catalogue/standards/iec/581dc00d-e4dc-4600-924b-785586f2840b/iec-61156-6-1-2007>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

K

For price, see current catalogue

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 6-1: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Working area wiring – Blank detail specification

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61156-6-1 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 second edition cancels and replaces the first edition published in 2002. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) new requirements for new cables Cat6_A, Cat7_A for 10 GBase-T applications;
- b) revised requirements and tests for the cables.

The text of this standard is based on the second edition and on the following documents:

FDIS	Report on voting
46C/819/FDIS	46C/827/RVD

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

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

This specification is to be used in conjunction with IEC 61156-1 and IEC 61156-6.

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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

Part 6-1: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Working area wiring – Blank detail specification

1 Scope

This part of IEC 61156 describes symmetrical pair/quad cables intended for working area cabling in class D, E, E_A, F and F_A channels (Cat 5e, Cat 6, Cat 6_A, Cat 7, Cat 7_A) as defined in ISO/IEC 11801 and ISO/IEC 24702.

This blank detail specification includes additional recommended environmental characteristics and severities, which are derived from the environmental classifications that are specified for cabling for industrial environments.

NOTE Cabling for various severities of industrial environments is specified in ISO/IEC 24702. Environmental classifications are presented in ISO/IEC 24702 with three levels of severity in four areas: mechanical, ingress, climatic, and electromagnetic: thus, in tabular form, they are referred to as the "MICE table".

The blank detail specification determines the layout and style for detail specifications describing symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz for digital communications. Detail specifications, based on the blank detail specification, may be prepared by a national organization, a manufacturer, or a user.

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

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 – Working area wiring – Sectional specification*

ISO/IEC 24702, *Information technology – Generic cabling – Industrial premises*

3 Guidance for preparation of detail specifications

It is necessary to keep the transmission characteristics indicated in the relevant sectional specification for the referenced category number, i.e. 5e, 6, 6_A, 7 or 7_A.

The detail specification shall be written in accordance with the layout of the blank detail specification, which forms part of this standard.

The numbers shown in brackets in this and the following pages correspond to the following items of required information, which shall be entered in the spaces provided.