



BSI Standards Publication

## Multicore and symmetrical pair/quad cables for digital communications

Part 1-5: Correction procedures for the measurement results of return loss and input impedance

**National foreword**

This Published Document is the UK implementation of IEC/TR 61156-1-5:2013.

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.

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Published by BSI Standards Limited 2013

ISBN 978 0 580 81670 3

ICS 33.120.20

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 1 July 2013.

**Amendments/corrigenda issued since publication**

Date	Text affected
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# TECHNICAL REPORT



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**Multicore and symmetrical pair/quad cables for digital communications –  
Part 1-5: Correction procedures for the measurement results of return loss and  
input impedance**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE

**S**

ICS 33.120.20

ISBN 978-2-83220-918-9

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MULTICORE AND SYMMETRICAL PAIR/QUAD  
CABLES FOR DIGITAL COMMUNICATIONS –**

**Part 1-5: Correction procedures for the measurement  
results of return loss and input impedance**

FOREWORD

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IEC TR 61156-1-5, which is a technical report, has been prepared by subcommittee SC46C: Wires and symmetric cables, of IEC technical committee TC46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
46C/973/DTR	46C/979/RVC

Full information on the voting for the approval of this technical report 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.

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 publication will remain unchanged until the stability 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.

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## MULTICORE AND SYMMETRICAL PAIR/QUAD CABLES FOR DIGITAL COMMUNICATIONS –

### Part 1-5: Correction procedures for the measurement results of return loss and input impedance

#### 1 Scope

This part of IEC 61156 describes correction procedures for the measurement results of return loss and input impedance.

#### 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.

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

IEC/TR 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/TR 62152, *Transmission properties of cascaded two-ports or quadripols – Background of terms and definitions*

IEC 62153-1-1, *Metallic communication cables test methods – Part 1-1: Electrical – Measurement of the pulse/step return loss in the frequency domain using the Inverse Discrete Fourier Transformation*

ASTM D4566:1998, *Standard Test Methods for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable*

#### 3 Acronyms

CUT	cable under test
FRL	fitted return loss
GRL	gated return loss
IDFT	Inverse discrete Fourier transformation
OSRL	open short return loss
PRL	parasitic inductance corrected return loss
RL	return loss
SRL	structural return loss