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Metallic ~~communication~~ cables and other passive components – Test methods – Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

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METALLIC ~~COMMUNICATION~~ CABLES AND OTHER PASSIVE COMPONENTS – TEST METHODS –

Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

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International Standard IEC 62153-4-8 has been prepared by IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

a) use of the triaxial set-up in a similar manner as for the measurement of the transfer impedance (see IEC 62153-4-3),
b) use of vector network analyser instead of capacitance bridge or pulse generator.

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

FDIS	Report on voting
46/684/FDIS	46/690/RVD

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

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

A list of all parts of the IEC 62153 series, under the general title: *Metallic cables and other passive components – Test methods*, can be found on the IEC website.

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METALLIC ~~COMMUNICATION~~ CABLES AND OTHER PASSIVE COMPONENTS – TEST METHODS –

Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

1 Scope

This part of IEC 62153 ~~applies to metallic communications cables. It~~ specifies a test method for determining the capacitive coupling admittance ~~by the measurement of through capacitance using either a capacitance bridge or by a pulse method~~ the capacitive coupling impedance and the coupling capacitance by the use of a triaxial set-up in a similar manner as for the measurement of the transfer impedance (see IEC 62153-4-3). Most cables have negligible capacitive coupling; however, in the case of cables with loose single-braids, the coupling through the holes in the screen shall be determined by the measurement of the capacitive coupling admittance.

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 60050-726, *International Electrotechnical Vocabulary (IEV) – Part 726: Transmission lines and wave guides*~~

~~IEC 61196-1, *Coaxial communication cables – Part 1: Generic specification – General, definitions and requirements*~~

~~IEC 62153-4-1, *Metallic communication cable test methods – Part 4-1: Electromagnetic Compatibility (EMC) – Introduction to electromagnetic (EMC) screening measurements*~~[1]

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

~~[1] To be published.~~

IEC 62153-4-8

Edition 2.0 2018-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Metallic cables and other passive components – Test methods – Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

Câbles métalliques et autres composants passifs – Méthodes d'essai – Partie 4-8: Compatibilité électromagnétique (CEM) – Admittance de couplage capacitif



IEC 62153-4-8:2018-06(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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METALLIC CABLES AND OTHER PASSIVE COMPONENTS – TEST METHODS –

Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

FOREWORD

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METALLIC CABLES AND OTHER PASSIVE COMPONENTS – TEST METHODS –

Part 4-8: Electromagnetic compatibility (EMC) – Capacitive coupling admittance

1 Scope

This part of IEC 62153 specifies a test method for determining the capacitive coupling admittance, the capacitive coupling impedance and the coupling capacitance by the use of a triaxial set-up in a similar manner as for the measurement of the transfer impedance (see IEC 62153-4-3). Most cables have negligible capacitive coupling; however, in the case of cables with loose single-braids, the coupling through the holes in the screen shall be determined by the measurement of the capacitive coupling admittance.

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

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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CÂBLES MÉTALLIQUES ET AUTRES COMPOSANTS PASSIFS – MÉTHODES D'ESSAI –

Partie 4-8: Compatibilité électromagnétique (CEM) – Admittance de couplage capacitif

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Cette deuxième édition annule et remplace la première édition parue en 2006. Cette édition constitue une révision technique.

Les futures normes de cette série porteront dorénavant le nouveau titre général cité ci-dessus. Le titre des normes existant déjà dans cette série sera mis à jour lors de la prochaine édition.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) l'utilisation d'un montage triaxial similaire à celui utilisé pour le mesurage de l'impédance de transfert (voir l'IEC 62153-4-3),
b) l'utilisation d'un analyseur de réseau vectoriel en lieu et place d'un pont capacitif ou d'un générateur d'impulsions.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
46/684/FDIS	46/690/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 62153, publiées sous le titre général: *Câbles métalliques et autres composants passifs – Méthodes d'essai*, peut être consultée sur le site web de l'IEC.

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CÂBLES MÉTALLIQUES ET AUTRES COMPOSANTS PASSIFS – MÉTHODES D'ESSAI –

Partie 4-8: Compatibilité électromagnétique (CEM) – Admittance de couplage capacitif

1 Domaine d'application

La présente partie de l'IEC 62153 spécifie une méthode d'essai pour la détermination de l'admittance de couplage capacitif, l'impédance de couplage capacitif et la capacité de couplage par l'utilisation d'un montage triaxial similaire à celui utilisé pour le mesurage de l'impédance de transfert (voir l'IEC 62153-4-3). La plupart des câbles présentent un couplage capacitif négligeable. Cependant, dans le cas d'un câble à tressage individuel détendu, le couplage à travers les trous de l'écran doit être déterminé par le mesurage de l'admittance de couplage capacitif.

2 Références normatives

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