

STN	Multimediálne systémy a zariadenia automobilov Systém na monitorovanie jazdy Časť 3: Metódy merania	STN EN IEC 63033-3 36 8001
------------	--	--

Car multimedia systems and equipment - Drive monitoring system - Part 3: Measurement methods

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/20

Obsahuje: EN IEC 63033-3:2019, IEC 63033-3:2019

130279

EUROPEAN STANDARD

EN IEC 63033-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2019

ICS 33.160.60; 43.040.10; 43.040.15

English Version

**Car multimedia systems and equipment - Drive monitoring system - Part 3: Measurement methods
(IEC 63033-3:2019)**

Systèmes et équipements multimédias pour automobiles -
Système de surveillance de la conduite Partie 3: Méthodes
de mesure
(IEC 63033-3:2019)

Multimediasysteme und -geräte in Fahrzeugen -
Fahrüberwachungssystem - Teil 3: Messverfahren
(IEC 63033-3:2019)

This European Standard was approved by CENELEC on 2019-10-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 63033-3:2019 (E)**European foreword**

The text of document 100/3147/CDV, future edition 1 of IEC 63033-3, prepared by IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63033-3:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-07-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-10-18

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

Endorsement notice

The text of the International Standard IEC 63033-3:2019 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 16505	2019	Road vehicles - Ergonomic and performance aspects of Camera Monitor Systems - Requirements and test procedures	-	-
IEC/TS 63033-1	2017	Car multimedia systems and equipment - Drive monitoring system - Part 1: General	-	-
UN Regulation No. 46		Uniform provisions concerning the approval of devices for indirect vision and of motor vehicles with regards to the installation of these devices	-	-
UN Regulation No. 125		Uniform provisions concerning the approval of motor vehicles with regards to the forward field of vision of the motor vehicle driver	-	-



IEC 63033-3

Edition 1.0 2019-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Car multimedia systems and equipment – Drive monitoring system
Part 3: Measurement methods**

**Systèmes et équipements multimédias pour automobiles – Système de
surveillance de la conduite
Partie 3: Méthodes de mesure**





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2019 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.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
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 corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

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

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.



IEC 63033-3

Edition 1.0 2019-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Car multimedia systems and equipment – Drive monitoring system
Part 3: Measurement methods**

**Systèmes et équipements multimédias pour automobiles – Système de
surveillance de la conduite
Partie 3: Méthodes de mesure**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.160.60; 43.040.10; 43.040.15

ISBN 978-2-8322-7312-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and abbreviated terms	6
3.1 Terms and definitions.....	6
3.2 Abbreviated terms.....	6
4 System model.....	6
5 Camera image quality.....	7
5.1 Camera resolution.....	7
5.2 Camera image quality	7
6 Camera calibration	7
6.1 General.....	7
6.2 Verification.....	7
7 Field of view	9
8 Time behaviour.....	9
8.1 Start-up time.....	9
8.2 Frame rate	9
8.3 Latency.....	9
Annex A (informative) Field of view (FOV)	10
Bibliography.....	16
Figure 1 – System model of drive monitoring system	7
Figure 2 – Orthogonal reference	8
Figure 3 – Reference guideline	8
Figure A.1 – Example view for Class I FOV.....	10
Figure A.2 – Example view for Class II FOV.....	11
Figure A.3 – Example view for Class III FOV.....	12
Figure A.4 – Example view for Class IV FOV	12
Figure A.5 – Example view for Class V FOV	13
Figure A.6 – Example view for Larger FOV on the passenger side	13
Figure A.7 – Example view for Class VI FOV	14
Figure A.8 – Example view for FOV of 5.4.1 defined in UN Regulation No. 125.....	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CAR MULTIMEDIA SYSTEMS AND EQUIPMENT –
DRIVE MONITORING SYSTEM****Part 3: Measurement methods**

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 itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 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 63033-2 has been prepared by technical area 17: Multimedia systems and equipment for cars of IEC technical committee 100: Audio, video and multimedia systems and equipment.

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

CDV	Report on voting
100/3147/CDV	100/3258/RVC

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 in the IEC 63033 series, published under the general title *Car multimedia systems and equipment – Drive monitoring system*, can be found on the IEC website.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document specifies measurement methods for the drive monitoring system that is specified in IEC TS 63033-1:2017. IEC TS 63033-1:2017 specifies the model for generating the surrounding visual image of a drive monitoring system. The system allows drivers to monitor the car's perimeter in real time by using "free eye point" technology, which allows drivers to dynamically change the viewing perspective to obtain the most appropriate views according to the driving situation.

CAR MULTIMEDIA SYSTEMS AND EQUIPMENT – DRIVE MONITORING SYSTEM

Part 3: Measurement methods

1 Scope

This document specifies measurement methods for the drive monitoring system that is specified in IEC TS 63033-1:2017.

2 Normative references

The following documents are referred to in the text in such a way that any 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 TS 63033-1:2017, *Car multimedia system and equipment – Drive monitoring system – Part 1: General*

ISO 16505:2019, *Road vehicles – Ergonomic and performance aspects of Camera Monitor Systems – Requirements and test procedures*

UN Regulation No. 46, *Uniform provisions concerning the approval of devices for indirect vision and of motor vehicles with regards to the installation of these devices*

UN Regulation No. 125, *Uniform provisions concerning the approval of motor vehicles with regards to the forward field of vision of the motor vehicle driver*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN