

Safety of machinery - Electro-sensitive protective equipment - Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61496-2:2020 sisaldab Euroopa standardi EN IEC 61496-2:2020 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61496-2:2020 consists of the English text of the European standard EN IEC 61496-2:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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## English Version

**Safety of machinery - Electro-sensitive protective equipment -  
Part 2: Particular requirements for equipment using active opto-  
electronic protective devices (AOPDs)  
(IEC 61496-2:2020)**

Securité des machines - Equipements de protection électro-  
sensibles - Partie 2: Exigences particulières à un  
équipement utilisant des dispositifs protecteurs  
optoélectroniques actifs (AOPD)  
(IEC 61496-2:2020)

Sicherheit von Maschinen - Berührungslos wirkende  
Schutzeinrichtungen - Teil 2: Besondere Anforderungen an  
Einrichtungen, die aktive optoelektronische  
Schutzeinrichtungen (AOPD) verwenden  
(IEC 61496-2:2020)

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## European foreword

The text of document 44/875/FDIS, future edition 4 of IEC 61496-2, prepared by IEC/TC 44 "Safety of machinery - Electrotechnical aspects" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61496-2:2020.

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) 2021-05-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-08-19

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## 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](http://www.cenelec.eu).

*Annex ZA of Part 1 is applicable except as follows:*

*Add the following references:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60825-1	-	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	-
IEC 61496-1	2020	Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests	EN IEC 61496-1	2020
IEC 62471	-	Photobiological safety of lamps and lamp systems	EN 62471	-
ISO 13855	-	Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body	EN ISO 13855	-
ISO 20471	-	High-visibility clothing - Test methods and requirements	EN ISO 20471	-

# INTERNATIONAL STANDARD



**Safety of machinery – Electro-sensitive protective equipment –  
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protective devices (AOPDs)**



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

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
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# INTERNATIONAL STANDARD



**Safety of machinery – Electro-sensitive protective equipment –  
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protective devices (AOPDs)**

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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	8
4 Functional, design and environmental requirements .....	9
5 Testing .....	14
6 Marking for identification and safe use.....	40
7 Accompanying documents .....	41
Annex A (normative) Optional functions of the ESPE .....	42
Annex AA (informative) Type 2 AOPD periodic test configurations .....	46
Figure 1 – Limit area for the protection against the risk of beam bypass .....	12
Figure 2 – Limit of vertical and horizontal misalignment .....	13
Figure 3 – Test piece at 45° .....	18
Figure 4 – Test piece at 90° .....	18
Figure 5 – Verifying sensing function by moving the test piece (TP) through the detection zone near the emitter, near the receiver/retro-reflector target and at the midpoint.....	19
Figure 6 – Limit values for the effective aperture angle (EAA) .....	21
Figure 7 – Determination of the minimum detection capability .....	22
Figure 8 – Measuring method for EAA (direction).....	23
Figure 9 – Prism test to measure EAA of each beam .....	25
Figure 10 – EAA test using prism.....	26
Figure 11 – Example of optical subsystem .....	27
Figure 12 – Example of SMD LED Model .....	28
Figure 13 – Example of intensity distribution of emitting element .....	28
Figure 14 – Example of emitter model with beams internally blocked by aperture stop .....	29
Figure 15 – Example of receiving unit with off axis beam portion reflected internally on mechanical elements .....	29
Figure 16 – Example of test piece inside model of optical subsystem with passing radiation on the receiver .....	30
Figure 17 – Example of emitting unit adjusted at the limit.....	31
Figure 18 – Extraneous reflection test with mirror outside of limit area .....	32
Figure 19 – AOPD misalignment test .....	34
Figure 20 – Light interference test – Direct method .....	36
Figure 21 – Light interference test – Test set-up with incandescent light source .....	37
Figure 22 – Light interference test – Test set-up with fluorescent light source .....	38
Figure 23 – Light interference test – Test set-up with flashing beaconlight source .....	39
Figure AA.1 – Single beam sensing device .....	46
Figure AA.2 – Series connection of single beam sensing devices .....	46
Figure AA.3 – Assembly of multiple beams tested individually.....	46
Figure AA.4 – Example of type 2 AOPD with internal test.....	47

Table 1 – Correspondences of requirements/testing and AOPD designs .....	15
Table 2 – Maximum permissible angle of misalignment (in degrees) for a type 2 ESPE depending on the dimensions of the light curtain.....	32
Table 3 – Maximum permissible angle of misalignment (in degrees) for a type 3 ESPE depending on the dimensions of the light curtain.....	33
Table 4 – Maximum permissible angle of misalignment (in degrees) for a type 4 ESPE depending on the dimensions of the light curtain.....	33

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY OF MACHINERY –  
ELECTRO-SENSITIVE PROTECTIVE EQUIPMENT –****Part 2: Particular requirements for equipment using  
active opto-electronic protective devices (AOPDs)**

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International Standard IEC 61496-2 has been prepared by IEC technical committee 44: Safety of machinery – Electrotechnical aspects, in collaboration with CENELEC technical committee 44X: Safety of machinery – Electrotechnical aspects.

This fourth edition cancels and replaces the third edition published in 2013. This edition constitutes a technical revision.

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

- a) Requirements and test procedures in Part 2 that were found to be common to all ESPEs have been moved to Part 1. Test procedures that are dependent on the sensing technology remain in Part 2.

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

FDIS	Report on voting
44/875/FDIS	44/878/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.

This standard has the status of a product family standard and can be used as a normative reference in a dedicated product standard for the safety of machinery.

This standard is to be used in conjunction with IEC 61496-1:2020.

This part supplements or modifies the corresponding clauses in IEC 61496-1:2020.

Where a particular clause or subclause of IEC 61496-1:2020 is not mentioned in this Part 2, that clause or subclause applies as far as is reasonable. Where this part states "*Addition*", "*Modification*" or "*Replacement*", the relevant text of IEC 61496-1:2020 is adapted accordingly.

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## INTRODUCTION

Electro-sensitive protective equipment (ESPE) is applied to machinery that presents a risk of personal injury. It provides protection by causing the machine to revert to a safe condition before a person can be placed in a hazardous situation.

This document provides particular requirements for the design, construction and testing of electro-sensitive protective equipment (ESPE) for the safeguarding of machinery, employing active opto-electronic protective devices (AOPDs) for the sensing function.

Each type of machine presents its own particular hazards, and it is not the purpose of this document to recommend the manner of application of the ESPE to any particular machine. The application of the ESPE should be a matter for agreement between the equipment supplier, the machine user and the enforcing authority; in this context, attention is drawn to the relevant guidance established internationally, for example, ISO 12100.

Due to the complexity of the technology of ESPEs, there are many issues that are highly dependent on analysis and expertise in specific test and measurement techniques. In order to provide a high level of confidence, independent review by relevant expertise is recommended.