SVENSK STANDARD SS-EN IEC 62271-215

Fastställd	Utgåva	Sida	Ansvarig kommitté
2021-11-17	1	1 (1+43)	SEK TK 17AC

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Kopplingsapparater för spänning över 1 kV – Del 215: Faskomparator för system för detektering och indikering av spänning

High-voltage switchgear and controlgear – Part 215: Phase comparator used with VDIS

Som svensk standard gäller europastandarden EN IEC 62271-215:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62271-215:2021.

Nationellt förord

Europastandarden EN IEC 62271-215:2021

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62271-215, First edition, 2021 - High-voltage switchgear and controlgear - Part 215: Phase comparator used with VDIS**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN IEC 62271-213, utgåva 1, 2021.

Tidigare fastställd svensk standard SS-EN 61243-5, utgåva 1, 2001 och SS-EN 62271-206, utgåva 1, 2011, gäller ej fr o m 2024-08-03.

ICS 13.260.00; 29.130.10; 29.240.20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62271-215

August 2021

ICS 13.260; 29.130.10; 29.240.20

English Version

High-voltage switchgear and controlgear - Part 215: Phase comparator used with VDIS (IEC 62271-215:2021)

Appareillage à haute tension - Partie 215: Comparateur de phase utilisé avec un VDIS (IEC 62271-215:2021)

Hochspannungs-Schaltgeräte und -Schaltanlagen - Teil 215: Phasenvergleicher in Kombination mit einem Spannungsprüf- und -anzeigegerät (IEC 62271-215:2021)

This European Standard was approved by CENELEC on 2021-08-03. 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

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Ref. No. EN IEC 62271-215:2021 E

European foreword

The text of document 17C/788/FDIS, future edition 1 of IEC 62271-215, prepared by SC 17C "Assemblies" of IEC/TC 17 "High-voltage switchgear and controlgear" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62271-215:2021.

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) 2022–05–03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024–08–03

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62271-215:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61481-1:2014 NOTE Harmonized as EN 61481-1:2014 (not modified)

IEC 61481-2:2014 NOTE Harmonized as EN 61481-2:2014 (not modified)

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.

Publication	Year	Title	EN/HD	Year
IEC 60060-1	-	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60068-2-1	2007	Environmental testing - Part 2–1: Tests - Test A: Cold	EN 60068-2-1	2007
IEC 60068-2-2	2007	Environmental testing - Part 2–2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-6	-	Environmental testing - Part 2–6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-31	-	Environmental testing - Part 2–31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	-
IEC 60068-2-38	-	Environmental testing - Part 2–38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	EN IEC 60068-2-38	-
IEC 60417	-	Graphical symbols for use on equipment	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4–2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4–3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN IEC 61000-4-3	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4–5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-

IEC 62271-1	-	High-voltage switchgear and controlgear - Part 1: Common specifications	EN 62271-1	-
IEC 62271-213	-	High-voltage switchgear and controlgear - Part 213: Voltage detecting and indicating system	-	-

IEC 62271-215

Edition 1.0 2021-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

High-voltage switchgear and controlgear – Part 215: Phase comparator used with VDIS

Appareillage à haute tension – Partie 215: Comparateur de phase utilisé avec un VDIS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 13.260; 29.130.10; 29.240.20

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 215: Phase comparator used with VDIS

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.
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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 62271-215 has been prepared by sub-committee SC17C: Assemblies, of IEC technical committee 17: High-voltage switchgear and controlgear in liaison with IEC TC 78: Live working.

This first edition cancels and replaces the first edition of IEC 61243-5 published in 1997 and the first edition of IEC 62271-206 published in 2011. This edition constitutes a merging of the content of IEC 61243-5 and IEC 62271-206.

This edition includes the following significant technical changes with respect to the previous editions of IEC 61243-5 and IEC 62271-206:

a) the document does not include the specific *phase comparators* (SPCs) as defined in IEC 61243-5, which was specific to manufacturers, and takes back the technical principles of the universal phase comparator (UPC) for *VDIS* of all manufacturers;
b) the phase comparator for sequential connected operation is introduced to facilitate the operation of phase comparation of large MV panels.

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

FDIS	Report on voting
17C/788/FDIS	17C/795/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This International Standard is to be used in conjunction with IEC 62271-213:2021.

In this document, the following print types are used:

- Terms defined in Clause 3: *in italic type*.

A list of all parts in the IEC 62271 series, published under the general title *High-voltage switchgear and controlgear*, 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 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 document 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 part of IEC 62271 has been prepared based on IEC 62271-1 and is linked to IEC 62271-213 for its functionality.

The products designed and manufactured in accordance with this document contribute to the safety of the users, provided they are used by skilled or instructed persons, in accordance with safe methods of work and the instructions for use.

The product covered by this document can have an impact on the environment during some or all stages of its life cycle. These impacts can range from slight to significant, be of short-term or long-term duration, and occur at the global, regional or local level.

The principle of phase comparison is compatible with the one developed by IEC TC 78 in the standard IEC 61481-1.

HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 215: Phase comparator used with VDIS

1 Scope

This part of IEC 62271 is applicable to *phase comparators* designed to be plugged into the *testing points* of a *voltage detecting and indicating system* (*VDIS*) according to IEC 62271-213, to give an indication of the result of a phase comparison.

The main usage is to provide clear evidence of the phase relationship between two energized parts of a high-voltage network, at the same *nominal voltage* and frequency before coupling them.

This document or parts of the document can also be applied to the phase comparison function of other devices connected to the *VDIS* upon agreement between manufacturer and user.

This document does not cover *phase comparators* to be used directly on bare parts of live electrical installation at the *nominal voltage* of the networks. These *phase comparators* are covered by IEC 61481-1 and IEC 61481-2.

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 60060-1, *High-voltage test techniques – Part 1: General definitions and requirements*

IEC 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-31, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60068-2-38, *Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60417, *Graphical symbols for use on equipment*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 62262, *degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62271-1, *High-voltage switchgear and controlgear – Part 1: Common specifications*

IEC 62271-213, *High-voltage switchgear and controlgear – Part 213: Voltage detecting and indicating system*