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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

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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.

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English Version

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

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

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

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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.

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Europäisches Komitee für Elektrotechnische Normung

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-08-03

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	-

EN IEC 62271-215:2021 (E)

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

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**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
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CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	10
4 Normal and special service conditions	13
4.1 Normal service conditions	13
4.2 Special service conditions.....	13
5 Ratings.....	13
6 Design and construction	13
6.1 General.....	13
6.2 Parts of <i>phase comparator</i>	13
6.3 <i>Phase comparator</i> description.....	14
6.3.1 General	14
6.3.2 <i>Phase comparator</i> for simultaneous connected operation	14
6.3.3 <i>Phase comparator</i> for sequential connected operation.....	15
6.4 Connection to <i>VDIS</i>	15
6.5 Indication and perceptibility	16
6.5.1 General	16
6.5.2 <i>Phase comparator</i> providing only one <i>active signal</i>	17
6.5.3 <i>Phase comparator</i> providing two or more <i>active signals</i>	17
6.5.4 Indication of <i>phase comparator</i> with built-in power supply.....	17
6.5.5 Indication of sequential <i>phase comparators</i>	17
6.5.6 <i>Response time</i> of indication.....	17
6.5.7 Perceptibility.....	18
6.6 <i>Phase comparator</i> with built-in power supply	18
6.7 <i>Testing element</i>	18
6.8 Additional functions.....	18
6.9 <i>Probes</i>	18
6.10 Settings	19
6.11 Tolerance of rated frequency	20
6.12 Frequency shift of <i>phase comparators</i> with sequential operation.....	20
6.13 Degree of protection (IP code)	20
6.14 Climatic requirements	20
6.14.1 General	20
6.14.2 Temperature.....	20
6.14.3 Composite temperature/humidity	20
6.15 Mechanical requirements	20
6.15.1 General	20
6.15.2 Assembly.....	20
6.15.3 Vibrations	20
6.15.4 Mechanical impact (IK code).....	21
6.15.5 Fall.....	21
6.16 Electromagnetic compatibility.....	21
6.16.1 General	21
6.16.2 Electrostatic discharge	21

6.16.3	Immunity against radiated electromagnetic fields	21
6.17	Dielectric strength	21
6.17.1	General	21
6.17.2	Lightning impulse withstand voltage	21
6.17.3	Power-frequency withstand voltage	21
6.17.4	Insulation withstand voltage	22
6.18	Marking	22
7	Type tests	22
7.1	General	22
7.1.1	Information to be included in the <i>type test</i> report	22
7.1.2	Test conditions	22
7.1.3	List of tests	23
7.2	Test values	24
7.3	Inspection	24
7.4	Dielectric tests	24
7.4.1	General	24
7.4.2	Lightning impulse voltage test	24
7.4.3	Power-frequency voltage test	25
7.4.4	Voltage withstand test of the <i>phase comparator</i>	25
7.5	Indication and perceptibility	25
7.5.1	Test set-up and procedure for clear indication	25
7.5.2	Test for correct phase relationship	26
7.5.3	Test for incorrect phase relationship	27
7.5.4	Absence of voltage on one <i>VDIS</i>	27
7.5.5	Absence of voltage on both <i>VDIS</i>	27
7.5.6	Test of impedance of the <i>phase comparator</i>	27
7.6	Test for maximum phase rotation	28
7.6.1	Test set-up for maximum phase rotation with capacitive coupling element	28
7.6.2	Test set-up for maximum phase rotation with resistive coupling element	28
7.6.3	Test result for maximum phase rotation	29
7.7	Tolerance of rated frequency	29
7.7.1	Test set-up	29
7.7.2	Test procedure	30
7.8	Frequency shift for sequential operation <i>phase comparator</i>	30
7.8.1	Test set-up	30
7.8.2	Test procedure	30
7.9	<i>Response time</i>	30
7.9.1	Test set-up	30
7.9.2	Procedure	31
7.10	Clear perceptibility of visual indication	31
7.10.1	General	31
7.10.2	Test set-up	31
7.10.3	Procedure	32
7.11	Test for frequency selection (where relevant)	32
7.12	Temperature dependence of indication	32
7.13	Composite temperature/humidity cyclic test	33
7.14	Degree of protection (IP code)	33
7.15	Vibrations	33

7.16	Mechanical impact (IK code)	33
7.17	Fall	33
7.18	Electrostatic discharge.....	33
7.19	Radiated electromagnetic fields	34
7.20	<i>Phase comparator</i> when built-in power supply is exhausted.....	34
7.20.1	Preparation.....	34
7.20.2	Operation	34
7.21	Efficiency of <i>testing element</i>	34
7.21.1	Preparation.....	34
7.21.2	Operation	34
7.22	Durability of marking	35
8	<i>Routine tests</i>	35
9	Guide to the selection of <i>phase comparator</i> (informative)	35
10	Information to be given with enquiries, tenders and orders (informative).....	35
10.1	General.....	35
10.2	Information with enquiries and orders	35
10.3	Information with tenders.....	36
11	Transport, storage, installation, operation, maintenance and instructions for use.....	36
11.1	General.....	36
11.2	Instructions for use	36
11.3	Maintenance	37
11.3.1	General	37
11.3.2	Maintenance period	37
11.3.3	Maintenance by testing.....	37
12	Safety.....	37
13	Influence of the <i>phase comparator</i> on the environment.....	37
Annex A (informative)	Example of design.....	38
A.1	General.....	38
A.2	Wireless connection.....	38
Annex B (informative)	Example of use	39
Bibliography	40
Figure 1	– Example of typical structure of simultaneous operating <i>phase comparator</i>	14
Figure 2	– Simultaneous connected operation with two earth connections	14
Figure 3	– Simultaneous connected operation with one earth connection.....	15
Figure 4	– Example of typical structure of sequential operating <i>phase comparator</i>	15
Figure 5	– Sequential connected operation	15
Figure 6	– Classes of <i>phase comparators</i> with only positive angle values shown	16
Figure 7	– <i>Plug</i> size and design without insulation shield.....	19
Figure 8	– <i>Plug</i> size and design with insulation shield.....	19
Figure 9	– Connection of test set-up for clear indication.....	26
Figure 10	– Connection of test set-up for clear indication for sequential operation	26
Figure 11	– Connection of test set-up for phase rotation	28
Figure 12	– Connection of test set-up for phase rotation for sequential operation	28
Figure 13	– Connection of test set-up for phase rotation	29
Figure 14	– Connection of test set-up for phase rotation for sequential operation	29

Figure 15 – Test set-up for perceptibility of visual indication	32
Figure A.1 – <i>Phase comparator</i> with a wireless connection	38
Table 1 – Sequence of <i>type tests</i>	23
Table 2 – List of <i>type tests</i> without sequence	24
Table 3 – List of <i>routine tests</i>	35
Table B.1 – Results and conclusions of a cable checking	39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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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 comparison 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*