

**Live working - Phase comparators - Part 2: Resistive type to be used for voltages from 1 kV to 36 kV a.c.**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 61481-2:2014 sisaldab Euroopa standardi EN 61481-2:2014 ingliskeelset teksti.	This Estonian standard EVS-EN 61481-2:2014 consists of the English text of the European standard EN 61481-2:2014.
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ICS 13.260, 29.240.20, 29.260.99

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English Version

**Live working - Phase comparators - Part 2: Resistive type to be  
used for voltages from 1 kV to 36 kV a.c.  
(IEC 61481-2:2014)**

Travaux sous tension - Compérateurs de phase -  
Partie 2: Type résistif pour usage sur des tensions  
alternatives de 1 kV à 36 kV  
(CEI 61481-2:2014)

Arbeiten unter Spannung - Phasenvergleich -  
Teil 2: Resistive (ohmsche) Ausführung für  
Wechselspannungen über 1 kV bis 36 kV  
(IEC 61481-2:2014)

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of document 78/1052/FDIS, future edition 1 of IEC 61481-2, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61481-2:2014.

The following dates are fixed:

- latest date by which the document has to be (dop) 2015-08-28  
implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2017-11-28  
standards conflicting with the  
document have to be withdrawn

This document supersedes EN 61481:2001 (partially).

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

IEC 60038	NOTE	Harmonized as EN 60038.
IEC 60071-1:2006	NOTE	Harmonized as EN 60071-1:2006 (not modified).
IEC 60743:2013	NOTE	Harmonized as EN 60743:2013 (not modified).
IEC 61235:1993	NOTE	Harmonized as EN 61235:1995 (modified).
IEC 61936-1:2010	NOTE	Harmonized as EN 61936-1:2010 (modified).
ISO/IEC 17025	NOTE	Harmonized as EN ISO/IEC 17025 (not modified).

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
CISPR 11	-	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	-
IEC 60060-1	2010	High-voltage test techniques - Part 1: General definitions and test requirements	EN 60060-1	2010
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
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 60068-2-75	-	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	-
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60942	-	Electroacoustics - Sound calibrators	EN 60942	-
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 61000-4-3	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61260	-	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	-
IEC 61318	-	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	-
IEC 61326-1	-	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN 61326-1	-
IEC 61477	-	Live working - Minimum requirements for the utilization of tools, devices and equipment	EN 61477	-
IEC 61672-1	-	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	-
ISO 3744	2010	Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane	EN ISO 3744	2010
CIE 15	-	Colorimetry	-	-

## CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references .....	9
3 Terms and definitions .....	10
4 Requirements .....	14
4.1 Indication .....	14
4.2 Functional requirements.....	14
4.2.1 Clear indication .....	14
4.2.2 Clear perceptibility.....	16
4.2.3 Temperature and humidity dependence of the indication.....	16
4.2.4 Frequency dependence .....	16
4.2.5 Response time.....	17
4.2.6 Power source dependability.....	17
4.2.7 Testing element.....	17
4.2.8 Time rating .....	17
4.3 Electrical requirements .....	17
4.3.1 Insulating material .....	17
4.3.2 Protection against bridging .....	17
4.3.3 Resistance against sparking .....	17
4.3.4 Resistive element .....	18
4.3.5 Insulating element of phase comparator as a complete device.....	18
4.3.6 Circuit current.....	18
4.3.7 Indicator casing .....	18
4.3.8 Insulation of the connecting lead .....	18
4.4 Mechanical requirements .....	18
4.4.1 General .....	18
4.4.2 Design .....	18
4.4.3 Dimensions, construction.....	20
4.4.4 Grip force and deflection .....	21
4.4.5 Vibration resistance .....	22
4.4.6 Drop resistance .....	22
4.4.7 Shock resistance .....	22
4.5 Marking.....	22
4.6 Instructions for use .....	22
4.7 Requirements in the case of reasonably foreseeable misuse during live working.....	23
4.7.1 Voltage selection .....	23
4.7.2 Frequency selection .....	23
5 Tests .....	23
5.1 General.....	23
5.1.1 Testing provisions .....	23
5.1.2 Atmospheric conditions.....	23
5.1.3 Tests under wet conditions .....	23
5.1.4 Type test .....	24
5.1.5 Test methods.....	25

5.2	Function tests .....	25
5.2.1	Description of the test set-up and general pass criteria.....	25
5.2.2	Clear indication .....	31
5.2.3	Electromagnetic compatibility (EMC) .....	33
5.2.4	Influence of electric interference fields.....	33
5.2.5	Clear perceptibility.....	36
5.2.6	Frequency dependence .....	40
5.2.7	Response time.....	40
5.2.8	Power source dependability .....	40
5.2.9	Check of testing element .....	41
5.2.10	Time rating .....	41
5.3	Dielectric tests .....	42
5.3.1	Insulating material for tubes and rods .....	42
5.3.2	Protection against bridging for indoor/outdoor type phase comparator .....	42
5.3.3	Protection against bridging for outdoor type phase comparator .....	47
5.3.4	Spark resistance.....	48
5.3.5	Leakage current for phase comparator as a complete device .....	49
5.3.6	Dielectric strength of connecting lead .....	52
5.3.7	Maximum current in case of misuse .....	53
5.4	Mechanical tests .....	53
5.4.1	Visual and dimensional inspection .....	53
5.4.2	Grip force and deflection for phase comparator as a complete device .....	54
5.4.3	Robustness of connecting lead and connections .....	54
5.4.4	Vibration resistance .....	56
5.4.5	Drop resistance .....	56
5.4.6	Shock resistance .....	57
5.4.7	Climatic resistance .....	58
5.4.8	Durability of markings .....	59
5.5	Test for reasonably foreseeable misuse during live working .....	59
5.5.1	Voltage selection (where relevant).....	59
5.5.2	Frequency selection (where relevant) .....	59
6	Conformity assessment of phase comparators having completed the production phase .....	60
7	Modifications .....	60
	Annex A (normative) Instructions for use .....	61
	Annex B (normative) Suitable for live working; double triangle (IEC 60417 – 5216 (2002-10)).....	63
	Annex C (normative) Chronology of type tests .....	64
	Annex D (normative) Classification of defects and tests to be allocated .....	66
	Annex E (informative) Information and guidelines on the use of the limit mark and of a contact electrode extension .....	68
	E.1 General.....	68
	E.2 Situation when using a phase comparator as a complete device .....	68
	E.3 Situation when using a phase comparator as a separate device.....	71
	Annex F (informative) Rationale for the classification of defects.....	74
	Annex G (informative) In-service care .....	76
	Bibliography.....	77



Figure 1 – Illustration of different elements of a phase comparator .....	20
Figure 2 – Location of allowed conductive parts within the minimum length of the insulating element of a pole of a phase comparator as a complete device.....	21
Figure 3 – Test set-up for clear indication with the ball electrode in front of its ring electrode .....	27
Figure 4 – Test set-up for clear indication with the ball electrode behind its ring electrode .....	28
Figure 5 – Example of positioning of a pole of the phase comparator in relation to a ball and ring test arrangement .....	30
Figure 6 – Examples of suitable means for ensuring appropriate contact between a contact electrode and the ball electrode.....	30
Figure 7 – Test set-up for clear perceptibility of visual indication .....	37
Figure 8 – Test set-up for clear perceptibility of audible indication .....	39
Figure 9 – Test arrangements and dimensions of the bars for protection against bridging .....	43
Figure 10 – Electrical connection of the bars .....	44
Figure 11 – Surface stress test.....	44
Figure 12 – Radial and surface stress test.....	45
Figure 13 – Bridging test on the connecting lead.....	46
Figure 14 – Test arrangement for testing bridging protection of outdoor type phase comparator .....	48
Figure 15 – Arrangement for leakage current test under dry conditions for phase comparator as a complete device.....	50
Figure 16 – Arrangement for leakage current tests under wet conditions for phase comparator as a complete device.....	51
Figure 17 – Test set up for pressure load application.....	52
Figure 18 – Test for grip force.....	54
Figure 19 – Test set-up for the robustness of connecting lead and connections .....	55
Figure 20 – Drop resistance test – Diagonal position .....	57
Figure 21 – Curve of test cycle for climatic resistance.....	58
Figure E.1 – Insulation element of a pole of a phase comparator as a complete device .....	68
Figure E.2 – Example of positioning of a pole of a phase comparator in contact with a live part without obstacles from other live parts.....	69
Figure E.3 – Example of incorrect positioning of a pole of a phase comparator with the limit mark between two live parts .....	70
Figure E.4 – Usual ways of managing the selection or the use of the phase comparator for maintaining the insulation distance between the limit mark and the hand guard .....	71
Figure E.5 – Usual ways of managing the use of the phase comparator as a separate device for assuring the appropriate insulation for the worker.....	73
Table 1 – Climatic condition ranges .....	16
Table 2 – Minimum length of the insulating element ( $L_i$ ) of a phase comparator as a complete device.....	20
Table 3 – Dimensioning of the ball and ring test set-up.....	29
Table 4 – Test series and conditions for clear indication .....	32
Table 5 – Test series and conditions for influence of electric interference fields.....	35
Table 6 – Distance $d_1$ for the bridging test set-up .....	43

Table 7 – Dimensions for the concentric rings and band electrodes .....	47
Table C.1 – Sequential order for performing type tests <sup>a</sup> .....	64
Table C.2 – Type tests out of sequence .....	65
Table D.1 – Classification of defects and associated requirements and tests .....	66
Table E.1 – Recommended minimum lengths from the limit mark to the contact electrode ( $A_i$ ) .....	71
Table F.1 – Rationale for the classification of defects .....	74
Table G.1 – In-service testing .....	76

## INTRODUCTION

This International Standard has been prepared in accordance with the requirements of IEC 61477.

Taking into consideration the functioning principle of portable *phase comparators of resistive type* available on the market, the associated maximum a.c. *nominal voltage* is 36 kV.

The rationale for this maximum *nominal voltage* is:

- design of the *phase comparator* for operation by one person (see 4.4.2) – ergonomic consideration.  
With higher *nominal voltages*, the distance between phases of the installation increases and the positioning of the two poles of the *phase comparator* by one person becomes a limitation;
- correct performance of each component (including the connecting lead) under normal working conditions – performance consideration;
- possible contact of the connecting lead between the two poles of the *phase comparator* with a part of the installation at a phase or earth potential under normal working conditions.

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

In terms of environmental improvement, this standard includes neither requirements nor test provisions for the manufacturers of the product nor recommendations to the users of the product. However, all parties intervening in its design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.