

**PINGEMUUNDURITEGA ALALISVOOLUSÜSTEEMIDE  
TERMINOLOOGIA**

**Terminology for voltage-sourced converters (VSC) for  
high-voltage direct current (HVDC) systems  
(IEC 62747:2014 + IEC 62747:2014/A1:2019)**

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

<p>See Eesti standard EVS-EN 62747:2014+A1:2019 sisaldab Euroopa standardi EN 62747:2014 ja selle muudatuse A1:2019 ja paranduse AC:2015 ingliskeelset teksti.</p>	<p>This Estonian standard EVS-EN 62747:2014+A1:2019 consists of the English text of the European standard EN 62747:2014 and its amendment A1:2019 and its corrigendum AC:2015.</p>
<p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.09.2014, muudatus A1 22.03.2019.</p>	<p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.</p> <p>Date of Availability of the European standard is 19.09.2014, for A1 22.03.2019.</p>
<p>Parandusega AC lisatud või muudetud teksti algus ja lõpp on tekstis ära märgitud märgenditega <b>AC</b> <b>AC</b>.</p> <p>Sellesse standardisse on muudatus A1 sisse viidud ja tehtud muudatused tähistatud topeltpüst-kriipsuga lehe välisveerisel.</p> <p>Selles standardis on rahvusvahelise standardi ühismuudatused tähistatud püst-kriipsuga teksti välimisel veerisel.</p> <p>Standard on kättesaadav Eesti Standardikeskusest.</p>	<p>The start and finish of text introduced or altered by amendment AC is indicated in the text by symbols <b>AC</b> <b>AC</b>.</p> <p>The amendment A1 has been incorporated into this standard and changes have been marked by a double vertical line on the outer row of the page.</p> <p>Common modifications have been incorporated into this international standard and changes have been marked by a vertical line on the outer row of the page.</p> <p>The standard is available from the Estonian Centre for Standardisation.</p>

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English Version

Terminology for voltage-sourced converters (VSC) for high-voltage direct current (HVDC) systems  
(IEC 62747:2014 + IEC 62747:2014/A1:2019)

Terminologie relative aux convertisseurs de source de tension (VSC) des systèmes en courant continu à haute tension (CCHT)  
(CEI 62747:2014 + IEC 62747:2014/A1:2019)

Terminologie für Spannungszwischenkreis-Stromrichter (VSC) für Hochspannungsgleichstrom(HGÜ)-Systeme  
(IEC 62747:2014 + IEC 62747:2014/A1:2019)

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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

## Foreword

The text of document 22F/301/CDV, future edition 1 of IEC 62747, prepared by SC 22F "Power electronics for electrical transmission and distribution systems", of IEC/TC 22 "Power electronic systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62747:2014.

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) 2015-05-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-08-21

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The text of the International Standard IEC 62747:2014 was approved by CENELEC as a European Standard without any modification.

### Amendment A1 European foreword

The text of document 22F/481/CDV, future IEC 62747/A1, prepared by SC 22F "Power electronics for electrical transmission and distribution systems" of IEC/TC 22 "Power electronic systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62747:2014/A1:2019.

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## CONTENTS

FOREWORD.....	3
AMENDMENT A1 FOREWORD.....	4
1 Scope.....	5
2 Normative references .....	5
3 Symbols and abbreviations .....	5
3.1 List of letter symbols.....	5
3.2 List of subscripts.....	6
3.3 List of abbreviations.....	7
4 Graphical symbols.....	8
5 General terms related to converter circuits .....	9
6 VSC topologies.....	10
7 Converter units and valves .....	10
8 Converter operating conditions .....	16
9 HVDC systems and substations.....	20
10 HVDC substation equipment.....	23
11 Modes of control.....	26
12 Control systems.....	27
Annex ZA (normative) Normative references to international publications with their corresponding European publications .....	30
Bibliography.....	31
Figure 1 – Converter symbol identifications.....	7
Figure 2 – Graphical symbols.....	8
Figure 3 – Voltage-sourced converter unit.....	11
Figure 4 – Phase unit of the modular multi-level converter (MMC) in basic half-bridge, two-level arrangement, with submodules.....	13
Figure 5 – Phase unit of the cascaded two-level converter (CTL) in half-bridge form.....	14
Figure 6 – Phasor diagram showing a.c. system voltage, converter a.c. voltage and converter a.c. current.....	18
Figure 7 – Example of bipolar VSC transmission with earth return .....	21
Figure 8 – VSC transmission with a symmetrical monopole illustrated with capacitive earthing on the d.c. side .....	22
Figure 9 – VSC transmission with an asymmetrical monopole with metallic return .....	22
Figure 10 – VSC transmission with an asymmetrical monopole with earth return.....	22
Figure 11 – Major components that may be found in a VSC substation .....	25
Figure 12 – Hierarchical structure of an HVDC control system .....	29

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## TERMINOLOGY FOR VOLTAGE-SOURCED CONVERTERS (VSC) FOR HIGH-VOLTAGE DIRECT CURRENT (HVDC) SYSTEMS

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The text of this standard is based on the following documents:

CDV	Report on voting
22F/301/CDV	22F/317A/RVC

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

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## AMENDMENT A1 FOREWORD

This amendment has been prepared by subcommittee 22F: Power electronics for electrical transmission and distribution systems, of IEC technical committee 22: Power electronic systems and equipment.

The text of this amendment is based on the following documents:

CDV	Report on voting
22F/481/CDV	22F/489/RVC

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# TERMINOLOGY FOR VOLTAGE-SOURCED CONVERTERS (VSC) FOR HIGH-VOLTAGE DIRECT CURRENT (HVDC) SYSTEMS

## 1 Scope

This International Standard defines terms for the subject of self-commutated voltage-sourced converters used for transmission of power by high voltage direct current (HVDC).

The standard is written mainly for the case of application of insulated gate bipolar transistors (IGBTs) in voltage sourced converters (VSC) but may also be used for guidance in the event that other types of semiconductor devices which can both be turned on and turned off by control action are used.

Line-commutated and current-sourced converters for high-voltage direct current (HVDC) power transmission systems are specifically excluded from this standard.

## 2 Normative references

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.

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60617, *Graphical symbols for diagrams*

IEC 60633, *Terminology for high-voltage direct current (HVDC) transmission*

## 3 Symbols and abbreviations

### 3.1 List of letter symbols

Essential terms and definitions necessary for the understanding of this standard are given here; other terminology is as per relevant parts of IEC 60747, and as per IEC 60633 for certain specialized types of equipment which are found mainly on line-commutated HVDC schemes but may occasionally be included in VSC HVDC schemes.

The list covers only the most frequently used symbols (see Figure 1). IEC 60027 shall be used for a more complete list of the symbols which have been adopted for static converters. See also other standards listed in the normative references and the bibliography.

$U_d$	direct voltage
$U_{dc}$	converter d.c. voltage
$U_{dpe}$	pole-to-earth direct voltage
$U_{dpp}$	pole-to-pole direct voltage
$U_{dppN}$	rated pole-to-pole direct voltage