

**Terminology for voltage-sourced converters (VSC) for  
high-voltage direct current (HVDC) systems**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 62747:2014 sisaldab Euroopa standardi EN 62747:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 62747:2014 consists of the English text of the European standard EN 62747:2014.
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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ICS 29.200, 29.240

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ICS 29.200; 29.240

English Version

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

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

Terminologie für Spannungszwischenkreis-Stromrichter (VSC) für Hochspannungsgleichstrom(HGÜ)-Systeme  
(IEC 62747:2014)

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European Committee for Electrotechnical Standardization  
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## 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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-08-21

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## Endorsement notice

The text of the International Standard IEC 62747:2014 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 60146-1-1	NOTE	Harmonized as EN 60146-1-1.
IEC 60146-2	NOTE	Harmonized as EN 60146-2.
IEC 60747	NOTE	Harmonized in EN 60747 series.
IEC 60633	NOTE	Harmonized as EN 60633.
IEC 62501	NOTE	Harmonized as EN 62501.
IEC 62751-1	NOTE	Harmonized as EN 62751-1 <sup>1)</sup> .
IEC 62751-2	NOTE	Harmonized as EN 62751-2 <sup>1)</sup> .

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1) To be published.

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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*

## 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.

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
$U_{dpeN}$	rated pole-to-earth direct voltage
$U_L$	line-to-line voltage on line side of interface transformer, r.m.s. value including harmonics