SLOVENSKI STANDARD
SIST EN 62747:2014

01-november-2014

Terminologija za napetostne pretvornike (VSC) za visokonapetostne enosmerne sisteme (IEC 62747:2014)

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

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

Ta slovenski standard je istoveten z: **EN 62747:2014**

ICS:

01.040.29	Elektrotehnika (Slovarji)	Electrical engineering (Vocabularies)
29.200	Usmerniki. Pretvorniki. Stabilizirano električno napajanje	Rectifiers. Convertors. Stabilized power supply

SIST EN 62747:2014 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62747

September 2014

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
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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– latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-08-21

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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 [1)].
IEC 62751-2	NOTE	Harmonized as EN 62751-2 [1)].

1) To be published.

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.

Publication	Year	Title	EN/HD	Year
IEC 60027	series	Letter symbols to be used in electrical technology	EN 60027	series
IEC 60617	-	Graphical symbols for diagrams	-	-

IEC 62747

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INTERNATIONAL STANDARD

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colour inside

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

FOREWORD

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International Standard IEC 62747 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 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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication 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.

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

U_{Le} line-to-earth voltage on line side of interface transformer, r.m.s. value including harmonics

U_{LN} rated value of U_L

U_v line-to-line voltage on valve side of interface transformer, r.m.s. value including harmonics

U_{ve} line-to-earth voltage on valve side of interface transformer, r.m.s. value including harmonics

U_c line-to-line converter voltage, r.m.s. value including harmonics

NOTE U_c is equal to U_v minus the voltage drop across the phase and valve reactors. However, U_c has only a clear meaning during balanced conditions (steady state).

U_{ce} line-to-earth converter voltage , r.m.s. value including harmonics

U_{valve} voltage between terminals of a valve (any defined value)

I_d direct current (any defined value)

I_{dN} rated direct current

I_L current on line side of interface transformer, r.m.s. value including harmonics

I_{LN} rated value of I_L

I_v current on valve side of interface transformer, r.m.s. value including harmonics

I_{valve} current through a valve

3.2 List of subscripts

0 (zero) at no load

e earth

p pole

N rated value or at rated load

d direct current or voltage

L line side of interface transformer

c converter

v valve side of interface transformer

valve through or across one valve

max maximum

min minimum

n pertaining to harmonic component of order n