

CONSOLIDATED VERSION

VERSION CONSOLIDÉE



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

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



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

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.

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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
U_{dpeN}	rated pole-to-earth direct voltage