IEC 60700-3

Edition 1.0 2022-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Thyristor valves for high voltage direct current (HVDC) power transmission – Part 3: Essential ratings (limiting values) and characteristics

Valves à thyristors pour le transport d'énergie en courant continu à haute tension (CCHT) – Partie 3: Valeurs assignées (valeurs limites) et caractéristiques essentielles

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 3: Essential ratings (limiting values) and characteristics

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IEC 60700-3 has been prepared by subcommittee 22F: Power electronics for electrical transmission and distribution systems, of IEC technical committee 22: Power electronic systems and equipment. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
22F/667/CDV	22F/686/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60700 series, published under the general title *Thyristor valves for high voltage direct current (HVDC) power transmission*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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- withdrawn,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

THYRISTOR VALVES FOR HIGH VOLTAGE DIRECT CURRENT (HVDC) POWER TRANSMISSION –

Part 3: Essential ratings (limiting values) and characteristics

1 Scope

This part of IEC 60700 specifies the service conditions, the definitions of essential ratings and characteristics of thyristor valves utilized in line commutated converters with three-phase bridge connections to realize the conversion from AC to DC and vice versa for high voltage direct current (HVDC) power transmission applications. It is applicable for air insulated, liquid cooled and indoor thyristor valves.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60071-1, *Insulation co-ordination – Part 1: Definitions, principles and rules*

IEC 60700-1:2015, *Thyristor valves for high voltage direct current (HVDC) power transmission – Part 1: Electrical testing*
IEC 60700-1:2015/AMD1:2021[1]

IEC 60700-2:2016, *Thyristor valves for high voltage direct current (HVDC) power transmission – Part 2: Terminology*

IEC 61803:2020, *Determination of power losses in high-voltage direct current (HVDC) converter stations with line-commutated converters*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
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[1] There exists a consolidated edition 1.1 (2021) that comprises IEC 60700-1:2015 and its Amendment 1:2021.