

Madalpingelised aparaadikoosted. Osa 6: Lattliinid

**Low-voltage switchgear and controlgear assemblies -
Part 6: Busbar trunking systems (busways)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61439-6:2013 sisaldab Euroopa standardi EN 61439-6:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 61439-6:2013 consists of the English text of the European standard EN 61439-6:2012.
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English version

**Low-voltage switchgear and controlgear assemblies -
Part 6: Busbar trunking systems (busways)**
(IEC 61439-6:2012)

Ensembles d'appareillage
à basse tension -
Partie 6: Systèmes de canalisation
préfabriquée
(CEI 61439-6:2012)

Niederspannungs-
Schaltgerätekombinationen -
Teil 6: Schienenverteilersysteme
(busways)
(IEC 61439-6:2012)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 17D/452/FDIS, future edition 1 of IEC 61439-6, prepared by IEC/TC SC 17D "Low-voltage switchgear and controlgear assemblies" of IEC TC 17 "Switchgear and controlgear" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61439-6:2012.

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) 2013-03-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-06-27

This document supersedes EN 60439-2:2000 + A1:2005.

EN 61439-6:2012 includes the following significant technical changes with respect to EN 60439-2:2000 + A1:2005:

- alignment of the second edition of EN 61439-1:2011 regarding the structure and technical content, as applicable;
- introduction of new verifications, accordingly;
- correction of inconsistencies in resistance, reactance and impedance measurements and calculations;
- numerous editorial improvements.

This standard is to be read in conjunction with EN 61439-1:2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 61439-6:2012 was approved by CENELEC as a European Standard without any modification.

The Bibliography of EN 61439-1:2011 is applicable with the addition of the following notes for the standards indicated:

IEC 60570:2003	NOTE	Harmonised as EN 60570:2003 (modified).
IEC 60909-0:2001	NOTE	Harmonised as EN 60909-0:2001 (not modified).
IEC 61439 series	NOTE	Harmonised as EN 61439 series (partly modified).
IEC 61534 series	NOTE	Harmonised as EN 61534 series (not modified).

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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

This clause of EN 61439-1:2011 is applicable with the addition of the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60332-3-10	2000	Tests on electric and optical fibre cables under fire conditions - Part 3-10: Test for vertical flame spread of vertically-mounted bunched wires or cables - Apparatus	EN 60332-3-10 ¹⁾	2009
IEC 60439-2	2000	Low-voltage switchgear and controlgear assemblies - Part 2: Particular requirements for busbar trunking systems (busways)	EN 60439-2	2000
IEC 61439-1	2011	Low-voltage switchgear and controlgear assemblies - Part 1: General rules	EN 61439-1	2011
IEC 61786	1998	Measurement of low-frequency magnetic and electric fields with regard to exposure of human beings - Special requirements for instruments and guidance for measurement	-	-
ISO 834-1	1999	Fire-resistance tests - Elements of building construction - Part 1: General requirements	-	-

¹⁾ EN 60332-3-10 includes A1 to IEC 60332-3-10.

Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directive 2004/108/EC

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 1 of Annex I of the EU Directive 2004/108/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES –

Part 6: Busbar trunking systems (busways)

1 Scope

NOTE 1 Throughout this part, the abbreviation BTS is used for a busbar trunking system. Where reference to Part 1 is made, the term ASSEMBLY therefore reads as "BTS".

This part of IEC 61439 lays down the definitions and states the service conditions, construction requirements, technical characteristics and verification requirements for low voltage BTS (see 3.101) as follows:

- BTS for which the rated voltage does not exceed 1 000 V in case of a.c. or 1 500 V in case of d.c.;
- BTS intended for use in connection with the generation, transmission, distribution and conversion of electric energy, and for the control of electric energy consuming equipment;
- BTS designed for use under special service conditions, for example in ships, in rail vehicles, and for domestic applications (operated by unskilled persons), provided that the relevant specific requirements are complied with;

NOTE 2 Supplementary requirements for BTS in ships are covered by IEC 60092-302.

- BTS designed for electrical equipment of machines. Supplementary requirements for BTS forming part of a machine are covered by the IEC 60204 series.

This standard applies to all BTS whether they are designed, manufactured and verified on a one-off basis or fully standardized and manufactured in quantity.

The manufacture and/or assembly may be carried out by a manufacturer other than the original manufacturer (see 3.10.1 and 3.10.2 of Part 1).

This standard does not apply to individual devices and self-contained components, such as motor starters, fuse switches, electronic equipment, etc. which will comply with the relevant product standard.

This standard does not apply to the specific types of ASSEMBLIES covered by other parts of the IEC 61439 series, to supply track systems in accordance with IEC 60570, to cable trunking and ducting systems in accordance with the IEC 61084 series, nor to power track systems in accordance with the IEC 61534 series.

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

IEC 60332-3-10:2000, *Tests on electric and optical fibre cables under fire conditions – Part 3-10: Test for vertical flame spread of vertically-mounted bunched wires or cables – Apparatus*

IEC 60439-2:2000, *Low-voltage switchgear and controlgear assemblies – Part 2: Particular requirements for busbar trunking systems (busways)*

IEC 61439-1:2011, *Low-voltage switchgear and controlgear assemblies – Part 1: General rules*

IEC 61786:1998, *Measurement of low-frequency magnetic and electric fields with regard to exposure of human beings – Special requirements for instruments and guidance for measurements*

ISO 834-1:1999, *Fire-resistance tests – Elements of building construction – Part 1: General requirements*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

Additional definitions:

3.101

busbar trunking system

BTS

busway

enclosed ASSEMBLY used to distribute and control electrical energy for all types of loads, intended for industrial, commercial and similar applications, in the form of a conductor system comprising busbars which are spaced and supported by insulating material in a duct, trough or similar enclosure

[SOURCE: IEC 60050-441:1984, 441-12-07 modified]

Note 1 to entry: See 3.1.1 of Part 1 for the definition of ASSEMBLY.

Note 2 to entry: The BTS may consist of a full range of mechanical and electrical components such as:

- busbar trunking units with or without tap-off facilities;
- phase transposition, expansion, flexible, feeder and adapter units;
- tap-off units;
- additional conductors for communication and/or control.

Note 3 to entry: The term "busbar" does not presuppose the geometrical shape, size and dimensions of the conductor.

3.102

busbar trunking unit

BTU

unit of a BTS complete with busbars, their supports and insulation, external enclosure and any fixing and connecting means to other units, with or without tap-off facilities

Note 1 to entry: BTUs may have different geometrical shapes such as straight length, elbow, tee or cross.

3.103

busbar trunking run

BT run

number of BTUs connected together to form the BTS, excluding the tap-off units

3.104

busbar trunking unit with tap-off facilities

BTU with tap-off facilities

BTU designed to enable tap-off units to be installed at one or more points as predetermined by the original manufacturer