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JUHTIMISAHELATE APARAADID JA  
LÜLITUSELEMENDID. KOLMEPOSITSIONILISED  
LÜLITID

Low-voltage switchgear and controlgear - Part 5-8:  
Control circuit devices and switching elements -  
Three-position enabling switches

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60947-5-8:2021 sisaldab Euroopa standardi EN IEC 60947-5-8:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60947-5-8:2021 consists of the English text of the European standard EN IEC 60947-5-8:2021.
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EUROPEAN STANDARD

**EN IEC 60947-5-8**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2021

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Supersedes EN 60947-5-8:2006 and all of its  
amendments and corrigenda (if any)

English Version

**Low-voltage switchgear and controlgear - Part 5-8: Control  
circuit devices and switching elements - Three-position enabling  
switches  
(IEC 60947-5-8:2020)**

Appareillage à basse tension - Partie 5-8: Appareils et  
éléments de commutation pour circuits de commande -  
Interrupteurs de commande de validation à trois positions  
(IEC 60947-5-8:2020)

Niederspannungsschaltgeräte - Teil 5-8: Steuergeräte und  
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## European foreword

The text of document 121A/358/FDIS, future edition 2 of IEC 60947-5-8, prepared by SC 121A "Low-voltage switchgear and controlgear" of IEC/TC 121 "Switchgear and controlgear and their assemblies for low voltage" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60947-5-8:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-10-02 level by publication of an identical national standard or by endorsement
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60204-1:2016	NOTE	Harmonized as EN 60204-1:2018 (modified)
IEC 60695-2-10:2013	NOTE	Harmonized as EN 60695-2-10:2013 (not modified)
IEC 60695-2-11:2014	NOTE	Harmonized as EN 60695-2-11:2014 (not modified)
IEC 60695-2-12:2010	NOTE	Harmonized as EN 60695-2-12:2010 (not modified)
IEC 60695-2-12:2010/A1:2014	NOTE	Harmonized as EN 60695-2-12:2010/A1:2014 (not modified)
IEC 60947-5-5:1997	NOTE	Harmonized as EN 60947-5-5:1997 (not modified)
IEC 60947-5-5:1997/A1:2005	NOTE	Harmonized as EN 60947-5-5:1997/A1:2005 (not modified)
IEC 60947-5-5:1997/A2:2016	NOTE	Harmonized as EN 60947-5-5:1997/A2:2017 (not modified)

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Low-voltage switchgear and controlgear –  
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enabling switches**

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Interrupteurs de commande de validation à trois positions**



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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Low-voltage switchgear and controlgear –  
Part 5-8: Control circuit devices and switching elements – Three-position  
enabling switches**

**Appareillage à basse tension –  
Partie 5-8: Appareils et éléments de commutation pour circuits de commande –  
Interrupteurs de commande de validation à trois positions**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –****Part 5-8: Control circuit devices and switching elements –  
Three-position enabling switches**

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International Standard IEC 60947-5-8 has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) due to the increasing range of useful applications of three-position enabling switches, note of scope, operational characteristics and tests are reviewed;
- b) figures for example of devices incorporating enabling switch are added in Annex A;
- c) new Annex B for procedure to determine reliability data for the switch used in functional safety applications is added.

The text of this document is based on the following documents:

FDIS	Report on voting
121A/358/FDIS	121A/369/RVD

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

This document should be used in conjunction with IEC 60947-1:2020 and IEC 60947-5-1:2016.

The provisions of the general rules, IEC 60947-1, are applicable to this standard, where specifically called for. General rules clauses and subclauses thus applicable, as well as tables, figures and annexes are identified by a reference to IEC 60947-1, for example 1.2.3 or Annex A of IEC 60947-1:2020.

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

A list of all parts in the IEC 60947 series, under the general title *Low-voltage switchgear and controlgear*, 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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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## LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

### Part 5-8: Control circuit devices and switching elements – Three-position enabling switches

#### 1 Scope

This part of IEC 60947 series specifies requirements for three-position enabling switches.

These switches are used as components of enabling devices to provide signals that,

- a) when activated, allow machine operation to be initiated by a separate start control, and
- b) when de-activated,
  - initiate a stop function, and
  - prevent initiation of machine operation.

NOTE 1 The enabling control function is described in 9.2.3.9 of IEC 60204-1:2016 but the application of three-position enabling switches is not limited to a component of the enabling device described in IEC 60204-1.

NOTE 2 This document does not deal with enabling devices.

These switches are intended to be connected to circuits which rated voltage does not exceed 250 V AC 50 Hz/60 Hz or 300 V DC.

EXAMPLE Devices incorporating three-position enabling switches are:

- push-button enabling devices;
- grip actuated enabling devices;
- foot actuated enabling devices.

See Annex A for more typical examples.

This document does not apply to:

- three-position enabling switches for non-electrical control circuits, for example hydraulic, pneumatic;
- enabling switches without three-position mechanism;
- emergency stop devices (see IEC 60947-5-5).

#### 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 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60947-1:2020, *Low-voltage switchgear and controlgear – Part 1: General rules*

IEC 60947-5-1:2016, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in Clause 3 of IEC 60947-1:2020 and Clause 2 of IEC 60947-5-1:2016, and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### *Alphabetical index of definitions*

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#### **3.1 enabling device**

manually operated control device used in conjunction with a start control and which, when continuously actuated, allows a machine operation

#### **3.2 three-position enabling switch**

three-position switch having enabling contact(s)

#### **3.3 actuating system**

<three-position enabling switch> all the mechanical parts which transmit the actuating force to the contact elements

[SOURCE: IEC 60050-441:2000, 441-15-21, modified – "all the operating means of a control switch" replaced by "all the mechanical parts", note to entry deleted.]

#### **3.4 actuator**

<three-position enabling switch> part of the actuating system which is actuated by a part of the human body