SLOVENSKI STANDARD
oSIST prEN IEC 60947-5-5:2025

01-maj-2025

Nizkonapetostne stikalne in krmilne naprave - 5-5. del: Krmilne naprave in stikalni elementi - Električna (varnostna) naprava za zaustavitev v sili z mehansko zaporo

Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function

Niederspannungsschaltgeräte - Teil 5-5: Steuergeräte und Schaltelemente - Elektrisches NOT-AUS-Gerät mit mechanischer Verrastfunktion

Appareillage à basse tension - Partie 5-5: Appareils et éléments de commutation pour circuits de commande - Appareil d'arrêt d'urgence électrique à accrochage mécanique

Ta slovenski standard je istoveten z: **prEN IEC 60947-5-5:2025**

ICS:

29.120.99	Druga električna dodatna oprema	Other electrical accessories
29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear

oSIST prEN IEC 60947-5-5:2025 **en**

121A/644A*/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 60947-5-5 ED2**	
DATE OF CIRCULATION: **2025-03-07** (2025-02-28)	CLOSING DATE FOR VOTING: **2025-05-02** (2025-04-25)
SUPERSEDES DOCUMENTS: **121A/612/CDV, 121A/636A/RVC, 121A/644/CDV**	

IEC SC 121A : LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR

SECRETARIAT: France	SECRETARY: Mr Michaël LAHEURTE
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 44	HORIZONTAL FUNCTION(S):
ASPECTS CONCERNED: Electromagnetic Compatibility, Safety	
☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any relevant “In Some Countries” clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

Low-voltage switchgear and controlgear – Part 5-5: Control circuit devices and switching elements – Electrical emergency stop device with mechanical latching function

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

***Note to this replacement document:**

Any reference to the terms “footswitch” and “footswitches”, including full paragraphs referring to, have been removed. This is the only change from the previous 121A/644/CDV.

SC121A officers are supporting IEC 60947-5-5 ED2 2ndCDV.

Experts are kindly requested to refer to line numbers when commenting.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 5-5: Control circuit devices and switching elements – Electrical emergency stop device with mechanical latching function

FOREWORD

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IEC 60947-5-5 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. It is an International Standard.

This second edition cancels and replaces the first edition published in 1997. This edition constitutes a technical revision.

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

a) re-shaping document with the clause numbers and names to be in line with other documents of the IEC 60947 series;
b) review of the test method to reasonably determine that the latch mechanism meets the requirements of the standard;

c) new Annex B for special requirements for illuminated push-button type emergency stop devices, including the reference to a function to distinguish between “active and inactive” by changing the color of the push-button depending on the illumination.

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

Draft	Report on voting
121A/XX/FDIS	121A/XX/RVD

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.

This International Standard is to be used in conjunction with IEC 60947-1:2020 and with IEC 60947-5-1:2024.

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.

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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

Introduction

The present document deals specifically with electrical emergency stop devices with mechanical latching function and gives additional electrical and mechanical requirements to those given in the following international standards:

– ISO 13850 giving requirements for the emergency stop function of a machine, whatever be the energy used;

– IEC 60204-1 giving additional requirements for an emergency stop function realized by the electrical equipment of a machine;

– IEC 60947-5-1 specifying electrical characteristics of electromechanical control circuit devices.

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 5-5: Control circuit devices and switching elements – Electrical emergency stop device with mechanical latching function

1 Scope

This part of IEC 60947-5 provides detailed specifications relating to the electrical and mechanical construction of emergency stop devices with mechanical latching function and to their testing.

This document is applicable to electrical control circuit devices and switching elements which are used to initiate an emergency stop signal. Such devices can be provided with their own enclosure and will be installed according to the product documentation.

This document does not apply to:

– emergency stop devices for non-electrical control applications, for example hydraulic or pneumatic;

– emergency stop devices without mechanical latching function.

An emergency stop device conforming to this document can also be used as part of an emergency switching off means in compliance with IEC 60364-5-53.

NOTE See also IEC 60204-1:2016 and IEC 60204-1:2016/AMD1:2021, 9.2.3.4.

This document does not deal with any specific requirements on acoustic noise as the noise emission of electrical emergency stop devices with mechanical latching function is not considered to be a relevant hazard.

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

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

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

IEC 60068-2-11, *Environmental testing – Part 2: Tests – Test Ka: Salt mist*

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

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60417-DB[1], *Graphical symbols for use on equipment,* available at http://www.graphical-symbols.info/equipment

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

IEC 60947-5-1:2024, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

ISO 13850:2015, *Safety of machinery – Emergency stop function – Principles for design*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60947-1 and in IEC 60947-5-1 and the following apply.

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

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

3.1
emergency stop function
function which is intended to:

– avert or to reduce hazards to persons, damage to machinery or to work in progress; and

– be initiated by a single human action.

[SOURCE: ISO 12100:2010, 3.40, modified – the first preferred term "emergency stop" has been removed.]

3.2
emergency stop device
manually operated control circuit device used to initiate an emergency stop function

Note 1 to entry: An emergency stop device can also provide auxiliary functions, for example for redundancy or for signaling through additional contact element(s), or both. Such additional contact(s) can be normally open or normally closed, or both.

3.3
emergency stop signal
signal, which is generated by an emergency stop device contact, used to initiate an emergency stop function

3.4
actuating system
<of an emergency stop device> mechanical parts which transmit the actuating force to the contact elements

[IEC 60050-441:1984, 441-15-21, modified – restricted to electromechanical emergency stop devices; the note is not relevant anymore.]

[1] "DB" refers to the IEC on-line database, available at: http://www.graphical-symbols.info/equipment.