

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1 AMENDEMENT 1

**Low-voltage switchgear and controlgear –
Part 5-4: Control circuit devices and switching elements – Method of assessing
the performance of low-energy contacts – Special tests**

**Appareillage à basse tension –
Partie 5-4: Appareils et éléments de commutation pour circuits de commande –
Méthode d'évaluation des performances des contacts à basse énergie – Essais
spéciaux**

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FOREWORD

This amendment 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.

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

FDIS	Report on voting
121A/284/FDIS	121A/301/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

INTRODUCTION

Replace the existing first paragraph by the following:

General usage of control switches may not be suitable for use at very low voltages and therefore it is recommended to seek the advice of the manufacturer concerning any application with a low value of operational voltage, for example, below 100 V a.c. or d.c. (see IEC 60947-5-1:2016, note of 4.3.2.2).

Add, at the end of existing introduction, the following two new paragraphs:

The objective of this document is to ensure the availability of contacts used in this area, including normally-open contacts.

This document shall be used as a complement of IEC 60947-5-1 for low-energy contacts applications.

1 Scope and object

Replace the existing first sentence of second paragraph, without modifying items a) and b), by the following:

This standard takes into consideration two typical rated voltage areas:

Replace the existing third paragraph by the following:

This standard does not apply to contacts used in:

- functional safety area. In case of contacts used in functional safety area, Annex N of IEC 60947-5-1:2016 applies;
- very low energy area of measurement, for example, sensor or thermocouple systems.

2 Normative references

Replace the following existing references (including footnotes) by the following updated references:

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60605-6:2007, *Equipment reliability testing – Part 6: Tests for the validity and estimation of the constant failure rate and constant failure intensity*

IEC 60947-1:2007, *Low-voltage switchgear and controlgear – Part 1: General rules*
Amendment 1 (2010)
Amendment 2 (2014)

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

Delete the existing reference to IEC 61131-2.

6.3.3.2 Input of programmable controller (PC system as defined in IEC 61131-2)

Replace the existing title by the following new title:

6.3.3.2 Digital input of programmable controller (as defined in S.3.2.2.3 of IEC 60947-1:2007)

6.4 Characteristics of operation

Replace the existing first paragraph by the following:

The operating cycle shall be chosen following 4.3.4.3 of IEC 60947-1:2007, appropriate to the device and load under test.

Replace the existing last paragraph by the following:

Operating conditions of the machine shall be as defined in 8.3.2.1 of IEC 60947-5-1:2016.

8.1 Normal conditions

Replace the existing text of this subclause by the following:

They are defined in Table 2 of IEC 60068-1:2013.

Annex A – Information to be supplied by the manufacturer

Replace the existing last item of first table “Contacts under tests” by the following:

Form of contacts (see Figure 4 of IEC 60947-5-1:2016):

Replace the existing first item of the third table “Environment”, by the following:

Normal (Table 2 of IEC 60068-1:2013): yes – no

Replace the existing third item, first column of fifth table “Electrical characteristics” by the following:

4.3.4.3 of IEC 60947-1:2007

Replace the existing item in first column of sixth table “Mechanical characteristics” by the following:

8.3.2.1 of IEC 60947-5-1:2016

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