

**SLOVENSKI  
STANDARD**

**SIST EN 60947-  
3:2000/OprA2:2004**

april 2004

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Low-voltage switchgear and controlgear – Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

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# 17B/1328/CDV

## COMMITTEE DRAFT FOR VOTE (CDV) PROJET DE COMITÉ POUR VOTE (CDV)

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Titre du CE/SC: Appareillage à basse tension	TC/SC Title: Low-voltage switchgear and controlgear
Secretary: Mr. Marcel DELAPLACE (France) Secrétaire: E-mail: marcel_delaplace@mail.schneider.fr	
Also of interest to the following committees Intéresse également les comités suivants	Supersedes documents Remplace les documents 17B/1295/CD and 17B/1314A/CC
Functions concerned Fonctions concernées	
<input type="checkbox"/> Safety Sécurité	<input type="checkbox"/> EMC CEM
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Titre : Amendement 2 à la CEI 60947-3, Ed.2.0: Appareillage à basse tension - Partie 3: Interrupteurs, sectionneurs, interrupteurs-sectionneurs et combinés fusibles

Title : Amendment 2 to IEC 60947-3, Ed.2.0: Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

Note d'introduction

Introductory note

<b>ATTENTION</b>	<b>ATTENTION</b>
<b>CDV soumis en parallèle au vote (CEI) et à l'enquête (CENELEC)</b>	<b>Parallel IEC CDV/CENELEC Enquiry</b>

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## FOREWORD

This amendment has been prepared by subcommittee 17B: Low-voltage switchgear and controlgear, of IEC technical committee No. 17: Switchgear and controlgear.

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

FDIS	Report on voting
17B/XXXX/FDIS	17B/XXXX/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 the base publication and its amendments will remain unchanged until 2008. At this date, the publication will be:

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- withdrawn;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

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*Add the following:*

Annex C (normative) Individually operated single pole three pole switches .....

Table 12 – Temperature-rise limits for terminals and accessible parts .....

Page 11

### 1.1 Scope and object

*Insert, after the third paragraph, the following new paragraph:*

The requirements for individually operated single pole three pole switches are included in Annex C.

Page 13 and amendment 1, page 3

## 1.2 Normative references

*Replace the text of the first paragraph by the following:*

The following referenced documents are indispensable for the application 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.

*Add, after IEC 60050(441):1984, the following reference:*

Amendment 1 (2000)

*Insert, after IEC 60050(441), the following new reference:*

IEC 60269 (all parts), *Low-voltage fuses*

*Replace the reference to IEC 60417-2:1998 by the following:*

IEC 60417-DB:2002<sup>1</sup>, *Graphical symbols for use on equipment*

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*Replace the reference to IEC 60447:1993 by the following:*

IEC 60447:2004, *Basic and safety principles for man-machine interface, marking and identification – Actuating principles*

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*Replace the reference to IEC 60617-7:1996 by the following:*

IEC 60617-DB:20011, *Graphical symbols for diagrams*

*Add, after IEC 60947-1:1999, the following references:*

Amendment 1 (2000)

Amendment 2 (2001)

*Replace the reference to IEC 60947-2:1995 by the following:*

IEC 60947-2:2003, *Low-voltage switchgear and controlgear – Part 2: Circuit-breakers*

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<sup>1</sup> “DB” refers to the IEC on-line database.

Replace the reference to IEC 60947-4-1:1990 by the following:

IEC 60947-4-1:2000, *Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor-starters – Electromechanical contactors and motor-starters*  
Amendment 1 (2002)

Replace the reference to IEC 60947-5-1:1997 by the following:

IEC 60947-5-1:2003, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

Add, after IEC 61000-4-2:1995, the following references:

Amendment 1 (1998)  
Amendment 2 (2000)

Replace the reference to IEC 61000-4-3:1995 by the following:

IEC 61000-4-3:2002, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated radio-frequency electromagnetic field immunity test*  
Amendment 1 (2002)

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Add, after IEC 61000-4-4:1995, the following references:

Amendment 1 (2000) [SIST EN 60947-3:2000/A2:2006](https://standards.iteh.ai/catalog/standards/sist/12450b48-cc00-4620-b68c-fae911367acb/sist-en-60947-3-2000-a2-2006)  
Amendment 2 (2001) <https://standards.iteh.ai/catalog/standards/sist/12450b48-cc00-4620-b68c-fae911367acb/sist-en-60947-3-2000-a2-2006>

Add, after IEC 61000-4-5:1995, the following reference:

Amendment 1 (2000)

Replace the reference to IEC 61000-4-6:1996 by the following:

IEC 61000-4-6:2003, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

Replace the reference to CISPR 11:1997 by the following:

CISPR 11:2003, *Industrial, scientific and medical (ISM) radio-frequency equipment – Electromagnetic disturbance characteristics – Limits and methods of measurement*

Replace the reference to CISPR 22:1997 by the following:

CISPR 22:2003, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

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## 2 Definitions

Insert, after the first paragraph, the following alphabetical index of definitions:

	Reference
D	
Dependent manual operation (of a mechanical switching device) .....	2.13
Disconnecter .....	2.2
Disconnecter-fuse .....	2.7
F	
Fuse-combination unit .....	2.4
Fuse-disconnector .....	2.8
Fuse-switch .....	2.6
Fuse-switch-disconnector .....	2.10
I	
Independent manual operation (of a mechanical switching device) .....	2.14
Individually operated single pole three pole switch .....	2.11
M	
Multiple tip contact system .....	2.12
S	
Semi-independent manual operation .....	2.15
Stored energy operation (of a mechanical switching device) .....	2.16
Switch (mechanical) .....	2.1
Switch-disconnector .....	2.3
Switch-disconnector-fuse .....	2.9
Switch-fuse .....	2.5

Renumber, on page 17, definitions 2.11, 2.12, 2.13 and 2.14 as 2.13, 2.14, 2.15 and 2.16 respectively.

Insert, on page 17, after the definition 2.10, the following new definitions:

### 2.11

#### **individually operated single pole three pole switch**

device consisting of three individually operable single pole switch disconnecting devices according to this standard, rated as a complete unit for a use in a three-phase system

**2.12****multiple tip contact system**

a multiple tip contact system consists of more than one contact gap per pole, which can be switched, in series and/or in parallel

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**3.2 According to the method of operation of manually operated equipment**

*Replace “(see 2.11)”, “(see 2.12)” and “(see 2.13)” by “(see 2.13)”, “(see 2.14)” and “(see 2.15)” respectively.*

Amendment 1, page 7

**7.1.4 Actuator**

*Replace the existing text of this subclause by the following:*

Subclause 7.1.4 of IEC 60947-1 applies.

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**7.1.4.2 Direction of movement**

[SIST EN 60947-3:2000/A2:2006](#)

*Delete this subclause.* [standards.iteh.ai/catalog/standards/sist/12450b48-cc00-4620-b68c-fae911367acb/sist-en-60947-3-2000-a2-2006](#)

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**7.2.1.1 General**

*Replace, in the second paragraph, “see 2.11 and 2.13” by “see 2.13 and 2.15”.*

Page 45 and amendment 1, page 13

**8.1.3.1 General**

*Replace the existing text of this subclause by the following:*

The following tests apply:

- mechanical operation test (see 8.1.3.2)

operation of the switch, disconnecter, switch-disconnector or fuse-combination unit during manufacture and/or other routine test may take the place of the tests listed above, provided the same conditions apply and the number of operations is not less than that specified;



- dielectric test (see 8.1.3.3)

if, by the control of materials and manufacturing processes, the integrity of the dielectric properties has been proven, these tests may be replaced by sampling tests according to a recognized sampling plan (see IEC 60410).

### 8.1.3.3 Dielectric test

*Replace the first sentence of the first paragraph by the following:*

The test conditions shall be in accordance with 8.3.3.4.2 of IEC 60947-1. As an alternative, the combined test according to 8.3.3.4.2, item 3), of IEC 60947-1 is allowed.

Page 47 and amendment 1, page 15

### 8.2.5.1 Condition of equipment for tests

*Replace the first paragraph by the following:*

The test of the actuator mechanism and position indicating device shall be conducted as part of test sequence I (see 8.3.3 and Table 11).

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#### 8.2.5.2.1 Dependent and independent manual operation

*Replace the first paragraph by the following:*

The force necessary to operate the device to the open position shall be measured at the extremity of the actuator. The measured force  $F$  shall be equal to the average value of maximum force obtained from three consecutive operations, with the device in a clean and new condition. This force  $F$  shall then be used for the establishment of the test force in Table 8.

*Add, to the end of the second paragraph, the following sentences:*

In the case of multiple tip contact systems, the least number of contact tips shall be fixed together as necessary to hold the mechanism closed with the force  $3F$  applied. The appropriate means to keep the contact(s) closed, for example by welding, and the number of contacts sufficient to withstand the force  $3F$ , shall be specified by the manufacturer. The number of contacts and the method used to keep the contacts closed shall be stated in the report.