

# SLOVENSKI STANDARD

## SIST EN 60439-3:1998/A1:1998

01-februar-1998

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**Sestavi nizkonapetostnih stikalnih in krmilnih naprav – 3. del: Posebne zahteve za sestave nizkonapetostnih stikalnih naprav, predvidene za vgraditev na mestih, do katerih imajo dostop nestrokovne osebe – Razdelilniki – Dopolnilo A1**

Low-voltage switchgear and controlgear assemblies -- Part 3: Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards

Niederspannung-Schaltgerätekombinationen -- Teil 3: Besondere Anforderungen an Niederspannung-Schaltgerätekombinationen zu deren Bedienung Laien Zutritt haben - Installationsverteiler

Ensembles d'appareillage à basse tension -- Partie 3: Règles particulières pour ensembles d'appareillage à basse tension destinés à être installés en des lieux accessibles à des personnes non qualifiées pendant leur utilisation - Tableaux de répartition

**Ta slovenski standard je istoveten z: EN 60439-3:1991/A1:1994**

**ICS:**

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear
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EUROPEAN STANDARD

EN 60439-3/A1

NORME EUROPEENNE

EUROPÄISCHE NORM

April 1994

UDC 621.316.54:621.3.027.2:620.1:614.8

Descriptors: Low voltage switchgear, assemblies, unskilled persons

## Amendment A1 to the English version of EN 60439-3

Low-voltage switchgear and controlgear assemblies  
 Part 3: Particular requirements for low-voltage  
 switchgear and controlgear assemblies intended to  
 be installed in places where unskilled persons  
 have access for their use - Distribution boards  
 (IEC 439-3:1990/A1:1993)

Ensembles d'appareillage à basse  
 tension

Troisième partie: Règles  
 particulières pour ensembles  
 d'appareillage BT destinés à  
 être installés en des lieux  
 accessibles à des personnes non  
 qualifiées pendant leur  
 utilisation - Tableaux de  
 répartition  
 (IEC 439-3:1990/A1:1993)

Niederspannung-Schaltgeräte-  
 kombinationen

Teil 3: Besondere Anforderungen an  
 Niederspannung-Schaltgeräte-  
 kombinationen, zu deren Bedienung  
 Laien Zutritt haben  
 Installationsverteiler

(IEC 439-3:1990/A1:1993)

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This amendment A1 modifies the European Standard EN 60439-3:1991. It was approved by CENELEC on 1993-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

#### FOREWORD

The text of document 17D(CO)53, as prepared by Sub-Committee 17D: Low-voltage switchgear and controlgear assemblies, of IEC Technical Committee 17: Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote in September 1992.

The reference document was approved by CENELEC as amendment A1 to EN 60439-3 on 8 December 1993.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-12-01
- latest date of withdrawal of conflicting national standards (dow) 1994-12-01

For products which have complied with EN 60439-3:1991 before 1994-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-12-01.

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#### ENDORSEMENT NOTICE

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The text of amendment 1:1993 to the International Standard IEC 439-3:1990 was approved by CENELEC as an amendment to the European Standard without any modification.

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**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC  
439-3**

1990

AMENDEMENT 1  
AMENDMENT 1

1993-10

**Amendement 1**

**Ensembles d'appareillage à basse tension**

**Troisième partie:**

**Règles particulières pour ensembles d'appareillage BT destinés à être installés en des lieux accessibles à des personnes non qualifiées pendant leur utilisation – Tableaux de répartition**

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**Amendment 1**

**Low-voltage switchgear and controlgear assemblies**

**Part 3:**

**Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use – Distribution boards**

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## FOREWORD

This amendment has been prepared by sub-committee 17D: Low-voltage switchgear and controlgear assemblies, of IEC technical committee 17: Switchgear and controlgear.

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

Six Months' Rule	Report on voting
17D(CO)53	17D(CO)58

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

## INTRODUCTION

The clauses of the document supplement, modify or replace the corresponding clauses in IEC 439-3 – First edition (1990): Low voltage switchgear and controlgear assemblies – Part 3: Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use – Distribution boards.

Where there is no corresponding clause or subclause in this amendment, the clause or subclause of IEC 439-3: 1990 applies without modifications.

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### 1.1 Scope

*Delete the last sentence:* Requirements for assemblies for outdoor use are under consideration.

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### 5.1 Nameplates

*Add:*

*Replace "Information specified under items a) and b)..." by "Information specified under items a), b), c), d), e), l) and r)..."*

*Replace "Information specified under items c) to q)..." by "Information specified from the remaining items."*

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7.4.2.2.1 *Replace "external" by "accessible".*

*Insert the following subclause:*

7.4.2.2.3a) *Add the following text:*

If a key or tool is provided to prevent unauthorized access to fuses, lamps and similar devices (which need occasional handling) item d) shall apply.

## 8.1 Replace Table 7 by the following

Table 7 – List of type tests to be performed

	Characteristics to be checked	Subclause	Type test according to 8.1.1	Test order in sequence		
				A	B	C
a)	Temperature-rise limits	8.2.1	Verification of temperature-rise limits by test	3*		
b)	Dielectric properties	8.2.2	Verification of dielectric properties by test	4		2
c)	Short-circuit withstand strength	8.2.3	Verification of the short-circuit withstand strength			1*
d)	Effectiveness of the protective circuit	8.2.4				3*
	Effective connection between the exposed conductive parts of the assembly and the protective circuit	8.2.4.1	Verification of the effective connection between the exposed conductive parts of the assembly and the protective circuit by inspection or by resistance measurement			
	Short-circuit withstand strength of the protective circuit	8.2.4.2	Verification of the short-circuit withstand strength of the protective circuit by test			
e)	Clearances and creepage distances	8.2.5	Verification of clearances and creepage distances		2*	
f)	Mechanical operation	8.2.6	Verification of mechanical operation		1	
g)	Degree of protection	8.2.7	Verification of degree of protection	6*		
h)	Construction and marking	8.2.8	Verification of construction and marking	1*		
i)	Impact strength	8.2.9	Verification of impact strength	5		
j)	Resistance to rusting and to humidity	8.2.10 8.2.13	Verification of resistance to rusting and to humidity			4
k)	Resistance of insulating materials to heat	8.2.11	Verification of resistance of insulating materials to heat		4	
l)	Resistance of insulating materials to abnormal heat and to fire	8.2.12	Verification of resistance of insulating materials to abnormal heat and to fire due to internal electric effects		3	
m)	Mechanical strength of fastening means of enclosures	8.2.14	Verification of mechanical strength of fastening means of enclosures	2		

\* No failures by any samples.

Add Table 7b:

Table 7b – List of routine tests to be performed

	Characteristics to be checked	Subclauses	Routine test according to 8.1.2	
a)	Wiring, electrical operation	8.3.1	Inspection of the assembly including inspection of wiring and, if necessary, electrical operation test	
b)	Insulation	8.3.2	Dielectric test	
c)	Protective measures	8.3.3	Checking of protective measures and of the electrical continuity of the protective circuits	

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### 8.1.1 Type tests (see 8.2)

Replace this subclause by the following:

Type tests are intended to verify compliance with the requirements laid down in this standard for a given type of ASSEMBLY.

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Type tests shall be carried out on a sample of such an ASSEMBLY or on parts of ASSEMBLIES manufactured to the same or similar design. They shall be carried out on the initiative of the manufacturers.

Type tests include:

- |    |  |                  |
|----|--|------------------|
| a) | Verification of temperature-rise limits                              | 8.2.1            |
| b) | Verification of the dielectric properties                            | 8.2.2            |
| c) | Verification of the short-circuit strength                           | 8.2.3            |
| d) | Verification of the continuity of the protective circuit             | 8.2.4            |
| e) | Verification of clearances and creepage distances                    | 8.2.5            |
| f) | Verification of mechanical operation                                 | 8.2.6            |
| g) | Verification of the degree of protection                             | 8.2.7            |
| h) | Verification of construction and marking                             | 8.2.8            |
| i) | Verification of impact strength                                      | 8.2.9            |
| j) | Verification of resistance to rusting and to humidity                | 8.2.10<br>8.2.13 |
| k) | Verification of resistance of insulating materials to heat           | 8.2.11           |
| l) | Verification resistance to abnormal heat and to fire                 | 8.2.12           |
| m) | Verification of mechanical strength of fastening means of enclosures | 8.2.14           |



The type tests are arranged in three separate sequences as detailed in table 7a. A sample selected for testing to a given sequence shall complete all the test in that sequence in the order stated.

Table 7a – Sequence of type tests

Sequence reference	Type tests
A	h), m), a), b), i), g)
B	f), e), l), k)
C	c), b), d), j)

Four separate samples shall be provided for each test sequence. There shall be no failures by any samples during any of the tests a), c), d), e), g) or h). If the first sample submitted to a test sequence completes the sequence satisfactorily no further testing to that sequence is required. If, however, a sample submitted to a test according to b), f), i), j), k), l) or m) fails, the relevant test sequence has to be repeated on the remaining three samples and there shall be no failure.

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### 8.2.9 Verification of impact strength

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Replace "Under consideration" by the following:

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### 8.2.9 Verification of impact strength

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Compliance is checked on those exposed parts of the DBU which may be subjected to mechanical impact when mounted as in normal use.

8.2.9.1 The test shall be carried out by means of a spring hammer test apparatus as described in IEC 68-2-63: 1991, Test Eg: Impact, spring hammer. The test is made after the sample has been for 2 h at a temperature of  $-5\text{ °C} \pm 1\text{ K}$  and each blow shall have an impact of 0,7 J.

8.2.9.2 The sample with cover, or the enclosure, if any, shall be fixed as in normal use or placed against a rigid support.

Three blows shall be applied on separate places of each of the five accessible faces and door (if provided). They shall not be applied to knock-outs, built-in components complying with other standards, or other fastening means which are recessed below the surface so as not to be subject to impact.

Cable entries which are not provided with knock-outs shall be left open. If they are provided with knock-outs, two of them shall be opened.