



**SLOVENSKI STANDARD**  
**SIST EN 60335-2-76:2005/oprAE:2011**  
**01-julij-2011**

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**Gospodinjski in podobni električni aparati - Varnost - 2-76. del: Posebne zahteve za generatorje impulzov za električne ograje (IEC 60335-2-76:2002) - Dodatek AE**

Household and similar electrical appliances - Safety - Part 2-76: Particular requirements for electric fence energizers

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-76: Besondere Anforderungen für Elektrozaungeräte

Appareils électrodomestiques et analogues - Sécurité - Partie 2-76: Règles particulières pour les électrificateurs de clôtures

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**Ta slovenski standard je istoveten z: EN 60335-2-76:2005/prAE:2011**

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**ICS:**

65.040.10	Poslopja, naprave in oprema za živino	Livestock buildings, installations and equipment
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**SIST EN 60335-2-76:2005/oprAE:2011 en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**EN 60335-2-76**  
**prAE**  
April 2011

ICS 65.040.99

English version

**Household and similar electrical appliances - Safety -  
Part 2-76: Particular requirements for electric fence energizers**

Appareils électrodomestiques et  
analogues - Sécurité -  
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Sicherheit elektrischer Geräte für den  
Hausgebrauch und ähnliche Zwecke -  
Teil 2-76: Besondere Anforderungen für  
Elektrozaungeräte

This draft amendment prAE, if approved, will modify the European Standard EN 60335-2-76:2005; it is submitted to CENELEC members for CENELEC enquiry. Deadline for CENELEC: 2011-09-30.

It has been drawn up by CLC/TC 61.

If this draft becomes an amendment, 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.

This draft amendment was established by CENELEC 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.

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

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# CENELEC

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

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## Foreword

2 This draft amendment to the European Standard EN 60335-2-76:2005 was prepared by the Technical  
3 Committee CENELEC TC 61, Safety of household and similar electrical appliances. It is submitted to  
4 the CENELEC enquiry as decided during the Brussels meeting of CENELEC TC 61 in June 2010.

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6 **Text of prAE to EN 60335-2-76:2005**

7 **Annexes**

8 **Annex ZAA (normative) Time delayed electric fence energizers**

9 At the end of 7.12, **add** the following:

10 The instructions for **energizers** marked “**time delayed electric fence energizer**”, or with the  
11 corresponding symbol, shall contain the substance following warning:

12 **WARNING:** In case of alarm, immediately go round the fence to verify the cause:  
13 a human being may be entangled in the fence, e.g. a person under the  
14 influence of alcohol, and may need help to release him from the fence.

15

16 Under 22.108, **replace** the first dotted item by “the **delay time** shall be between 60 s and 75 s”.

17 **Add** to the fifth dotted item "and the peak current in the non inductive resistor R1 of the **standard load**  
18 shall not exceed 20 A for more than 50 µs."

19 **Replace** in the seventh dotted item “175 Ω” by “100 Ω”.

20 **Replace** in the third dashed item “175 Ω” by “100 Ω”.

21

22 **Add** the following new Annex.

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23 **Annex ZBB**  
 24 (normative)

25  
 26 **Additional requirements for cascading intelligent electric fence energizers**

27 **3 Definitions**

28 **3.ZBB.1**

29 **cascading intelligent electric fence energizer**

30 **electric fence energizer** having one or more **measurement terminals** in addition to its output  
 31 terminals

32 **3.ZBB.2**

33 **measurement terminal**

34 in a **cascading intelligent electric fence energizer** supplying its own **fence** with its own output  
 35 terminals, additional terminal intended to be connected for monitoring reasons to a neighbouring other  
 36 **fence**, that latter **fence** being supplied by its own energizer

37 NOTE 1 The **measurement terminal** only monitors the magnitude of the pulse on the neighbouring **fence**. It never supplies  
 38 any impulse.

39 NOTE 2 Several **cascading intelligent fence energizers** can be linked via their **measurement terminal** to monitor the whole  
 40 cascade.

41 **7 Marking and instructions**

42 **7.12 Addition:**

43 Instructions for **cascading intelligent electric fence energizer** shall indicate the substance of the  
 44 following:

45 The connection from the **measurement terminals** to neighbouring **fences** shall only be made with the  
 46 provided high voltage insulated **connecting leads** so that inadvertent contact cannot be made  
 47 simultaneously with two independent **fences**.

48 *Compliance is checked by inspection.*

49 **16 Leakage current and electric strength**

50 **16.3 Addition:**

51 A test voltage at  $2 U_0$  but not less than 10 000 V is applied between the contact part of each  
 52 **measurement terminals** and the **fence circuit**.

53 In addition, for **main-operated energizers** or for **battery-operated energizers suitable for**  
 54 **connection to the mains**, a test voltage at  $2 U_0$  but not less than 10 000 V is applied between the  
 55 contact part of each **measurement terminals** and the supply circuit.

56 **22 Construction**

57 **22.1 Addition:**

58 The **measurement terminals** shall not supply any impulse.

59 *Compliance is checked by measuring the voltage between each measurement terminals and, in turn,*  
 60 *each output terminal. The measured peak voltage shall not exceed the **SELV** values.*

61 **22.2 Addition:**

62 **Cascading intelligent electric fence energizers** shall be provided with a high voltage insulated  
63 **connecting lead** for every **measurement terminal**. Each **connecting lead** shall have a length of at  
64 least 2 m. The insulation of the **connecting lead** shall withstand the electrical stress likely to occur in  
65 normal use.

66 *Compliance is checked by inspection and the following test. A voltage of 20 000 V is applied for*  
67 *15 min between the conductor and a metal foil wrapped around the insulation. There shall be no*  
68 *breakdown.*

69 **22.3 Addition:**

70 **Measurement terminals** shall be constructed or enclosed so that when the high voltage **connecting**  
71 **lead** is connected to it according to the instructions for use, no electric path off the measurement  
72 terminal or the connecting lead shall be accessible.

73 *Compliance is checked by inspection using the test probe B of EN 61032.*

74 **22.4 Addition:**

75 **Measurement terminals** shall be located on a façade of the energizer opposite to the façade where  
76 the output terminals are positioned. The geometric shape and colour of the **measurement terminals**  
77 shall be different from the shape and colour of the output terminals.

78 *Compliance is checked by inspection.*

79 **22.5 Addition:**

80 If incoming electric pulses from another energizer abnormally arrive to any one of the output terminals  
81 of a functioning **cascading intelligent electric fence energizer**, then the **cascading intelligent**  
82 **electric fence energizers** shall stop immediately emitting its own pulses. It may eventually later  
83 resume emission of new pulses but only after at least 10 s have passed since the end of the incident.

84 *Compliance is checked, successively for each of the output terminals of a functioning **cascading***  
85 ***intelligent electric fence energizer** connected to an impedance  $X$  representing a fence, by sending*  
86 *to that output terminal a train of six consecutive abnormal pulses. The time period between each of the*  
87 *six abnormal pulses shall be 1,5 s, with a relative tolerance of  $\pm 10\%$ . The voltage of the abnormal*  
88 *pulses shall be 2 000 V, with a relative tolerance of  $\pm 10\%$ . The energy content of the abnormal*  
89 *pulses shall be 0,1 J, with a relative tolerance of  $\pm 10\%$ . During the whole period starting with the first*  
90 *abnormal pulse of the train and ending 10 s after the end of the train, no impulses emitted by the*  
91 ***cascading intelligent electric fence energizer** shall be observed. This verification is repeated for the*  
92 *following values:*

93 –  $X = 100\ \Omega$ ;

94 –  $X = 1\ 000\ \Omega$ ;

95 –  $X = 10\ 000\ \Omega$ ;

96 – a value for  $X$  randomly selected in the range between  $10\ \Omega$  and  $100\ 000\ \Omega$ .

97