

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Switches for household and similar fixed electrical installations –
Part 2-6: Particular requirements – Fireman's switches for exterior and interior
signs and luminaires
(standards.iteh.ai)

IEC 60669-2-6:2012
https://standards.iteh.ai/catalog/standards/sis/4626d67d-8783-4cd7-
particulieres-Interrupteurs pompiers pour enseignes
lumineuses et luminaires extérieurs et intérieurs



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Switches for household and similar fixed electrical installations –
Part 2-6: Particular requirements – Fireman's switches for exterior and interior
signs and luminaires**

**Interrupteurs pour installations électriques fixes domestiques et analogues –
Partie 2-6: Prescriptions particulières – Interrupteurs pompiers pour enseignes
lumineuses et luminaires extérieurs et intérieurs**

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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references.....	6
3 Definitions.....	6
4 General requirements.....	7
5 General notes on tests.....	7
6 Ratings.....	7
7 Classification.....	7
8 Marking.....	8
9 Checking of dimensions.....	8
10 Protection against electric shock.....	8
11 Provision for earthing.....	8
12 Terminals.....	8
13 Constructional requirements.....	12
14 Mechanism.....	14
15 Resistance to ageing, protection provided by enclosures of switches and resistance to humidity.....	15
16 Insulation resistance and electric strength.....	15
17 Temperature rise.....	16
18 Making and breaking capacity.....	16
19 Normal operation.....	16
20 Mechanical strength.....	17
21 Resistance to heat.....	17
22 Screws, current-carrying parts and connections.....	18
23 Creepage distances, clearances and distances through sealing compound.....	18
24 Resistance of insulating material to abnormal heat, to fire and to tracking.....	18
25 Resistance to rusting.....	18
26 EMC requirements.....	18
Bibliography.....	20
Figure 101 – Minimum area of visibility.....	14
Figure 102 – Sketches showing the application of blows.....	19
Table 2 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screw type terminals.....	9
Table 3 – Tightening torque for verification of the mechanical strength of screw-type terminals.....	10
Table 4 – Test values for flexion and pull-out for copper conductors.....	11
Table 5 – Test values for pull-out test.....	11
Table 6 – Composition of conductors.....	11
Table 7 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screwless terminals.....	12

Table 8 – Test current for the verification of electrical and thermal stresses in normal use of screwless terminals	12
Table 9 – Cross-sectional areas of rigid copper conductors for deflection test of screwless terminals	12
Table 10 – Deflection test forces.....	12
Table 101 – Test voltage across the open contacts for verifying the suitability for isolation, referred to the rated voltage of the fireman's switch and to the altitude where the test is carried out	16
Table 15 – Temperature-rise test currents and cross-sectional areas of copper conductors.....	16

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(standards.iteh.ai)

[IEC 60669-2-6:2012](https://standards.iteh.ai/catalog/standards/sist/4626d67d-b763-4cd7-8802-0d74a20afccd/iec-60669-2-6-2012)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SWITCHES FOR HOUSEHOLD AND SIMILAR
FIXED ELECTRICAL INSTALLATIONS –**

**Part 2-6: Particular requirements –
Fireman's switches for exterior
and interior signs and luminaires**

FOREWORD

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International Standard IEC 60669-2-6 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories.

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

CDV	Report on voting
23B/990/CDV	23B/1032/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part of IEC 60669 is to be used in conjunction with IEC 60669-1:1998, Amendment 1:1999 and Amendment 2:2006. It lists the changes necessary to convert that standard into a specific standard for fireman's switches.

In this publication, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

Subclauses, figures tables or notes which are additional to those in part 1 are numbered starting from 101.

A list of all the parts in the IEC 60669 series, published under the general title *Switches for household and similar fixed electrical installations*, can be found on the IEC website.

The following differing practices exist in the countries indicated below.

- Clause 1: in all CENELEC countries, the rated voltage for the signs and luminous-discharge-tube installations is higher than 1 kV but lower than 10 kV and these should be in accordance with EN 50107 series.
- Clause 1: in Italy, installation rules and/or laws may require different protection switching devices in order to comply with the function given in the scope of this standard.
- Subclause 13.108: in France, the enclosure of the fireman's switch and of the actuating handle could be of another colour than red if the fireman's switch is equipped with a red illuminated indicator according to 13.107. The colours yellow, green and blue are not allowed (according to ISO 3864-1:2002).

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site 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.

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-6: Particular requirements – Fireman's switches for exterior and interior signs and luminaires

1 Scope

This clause of Part 1 is applicable except as follows:

Replacement of the first paragraph by:

This part of IEC 60669 is applicable to fireman's switches used for the breaking of the low-voltage circuits for exterior and interior signs and luminaires e.g. neon signs for a.c. only with a rated voltage not exceeding 440 V and a rated current not exceeding 125 A.

NOTE 101 In the following countries, the rated voltage for the signs and luminous-discharge-tube installations is higher than 1 kV but lower than 10 kV and these should be in accordance with EN 50107 series: all CENELEC countries.

Replacement of the 6th paragraph and Note 6 by the following paragraph and new notes:

Fireman's switches complying with this standard are suitable for use between –25 °C and +70 °C.

[IEC 60669-2-6:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/4626d67d-b763-4cd7->

NOTE 102 Fireman's switches are designed for overvoltage category III and used in environment of pollution degree 2 according to IEC 60664-1.

NOTE 103 In the following country installation rules and/or laws may require different protection switching devices in order to comply with the function given in the scope of this standard: IT.

2 Normative references

This clause of Part 1 is applicable with the following additions:

IEC 60669-1:1998, *Switches for household and similar fixed electrical installations – Part 1: General requirements*

Amendment 1:1999

Amendment 2:2006

NOTE Any reference to IEC 60669-1 given in this text includes any changes to the base edition (1998) introduced by Amendment 1:1999 and Amendment 2:2006.

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

3 Terms and definitions

This clause of Part 1 is applicable with the following addition:

Addition:

3.101

fireman's switch

switch for emergency disconnection of lighting installations

4 General requirements

This clause of Part 1 is applicable.

5 General notes on tests

This clause of Part 1 is applicable.

6 Ratings

This clause of Part 1 is applicable with the following modifications:

6.2 *Deletion in the first paragraph of the values "6 A" and "10 A"*

Addition of the values "80 A, 100 A and 125 A."

7 Classification

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This clause of Part 1 is applicable except as follows:

7.1.1 *Addition after Note 2:*

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Fireman's switches shall be only of pattern number 2, 3 or 03.

7.1.2 This subclause of Part 1 is not applicable.

7.1.4 *Replacement:*

7.1.4 according to the degree of protection against harmful effects due to the ingress of water:

- IPX5: switches protected against water jets;
- IPX6: switches protected against powerful water jets.

NOTE For an explanation of IP codes, see IEC 60529.

7.1.5 *Replacement:*

7.1.5 according to the method of actuating the switch:

- tumbler.

NOTE No other actuating method is permitted.

7.1.6 *Replacement:*

7.1.6 according to the method of mounting the switch:

- surface-type;
- semi flush-type.

NOTE No other method of mounting is permitted.

7.1.9 Replacement:

7.1.9 according to the degree of protection against access to hazardous parts and against harmful effects due to the ingress of solid foreign objects:

- IP5X: switches protected against access to hazardous parts with a wire and dust-protected;
- IP6X: switches protected against access to hazardous parts with a wire and dust-tight.

7.2 Replacement in Table 1, first column, last row, of the values “16, 20, 25, 32, 40, and 63”:

equal to and above 16.

8 Marking

This clause of Part 1 is applicable except as follows.

8.1 Replacement of the first dash with:

- rated current in amperes (A);

Addition:

- symbols IEC 60417-5007 (2002-10) and IEC 60417-5008 (2002-10) respectively for open position (OFF) and closed position (ON);

8.3 Addition:

[IEC 60669-2-6:2012](https://standards.iteh.ai/catalog/standards/sist/4626d67d-b763-4cd7-82e2-8c1c1e1c1e1c/iec-60669-2-6:2012)

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The following information shall be distinctly and durably marked on the fireman's switch in a position where it can be clearly seen without opening the enclosure and when the switch is installed:

- 'I' and 'O' symbols not less than 10 mm high;
- letters reading NEON in letters not less than 15 mm high.

8.6 Deletion of Note 1.

9 Checking of dimensions

This clause of Part 1 is applicable.

10 Protection against electric shock

This clause of Part 1 is applicable.

11 Provision for earthing

This clause of Part 1 is applicable.

12 Terminals

This clause of Part 1 is applicable except as follows:

12.2.1 Replacement of Table 2 by the following new table:

Table 2 – Relationship between rated currents and connectable cross-sectional areas of copper conductors for screw type terminals

Ranges of rated currents A	Rigid conductors (solid or stranded) ^a	
	Nominal cross-sectional areas mm ²	Diameter of largest conductor mm
16 ^b	From 1,5 up to 4 inclusive	2,72
Above 16 up to and including 25	From 2,5 up to 6 inclusive	3,34
Above 25 up to and including 32	From 4 up to 10 inclusive	4,34
Above 32 up to and including 50	From 6 up to 16 inclusive	5,46
Above 50 up to and including 80	From 10 up to 25 inclusive	6,85
Above 80 up to and including 100	From 16 up to 35 inclusive	7,90
Above 100 up to and including 125	From 25 up to 50 inclusive	9,10

^a The use of flexible conductors is permitted.

^b Each supply terminal of fireman's switches, other than those of pattern numbers 3 and 03, shall allow the connection of two 2,5 mm² conductors. For fireman's switches having a rated voltage not exceeding 250 V a round hole is sufficient for the connection of two 2,5 mm² conductors.

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12.2.5 Replacement of Table 3 by the following new table:

Table 3 – Tightening torque for verification of the mechanical strength of screw-type terminals

Nominal diameter of thread mm	Torque Nm				
	1	2	3	4	5
Up to and including 1,6	0,05	–	0,1	0,1	–
Above 1,6 up to and including 2,0	0,1	–	0,2	0,2	–
Above 2,0 up to and including 2,8	0,2	–	0,4	0,4	–
Above 2,8 up to and including 3,0	0,25	–	0,5	0,5	–
Above 3,0 up to and including 3,2	0,3	–	0,6	0,6	–
Above 3,2 up to and including 3,6	0,4	–	0,8	0,8	–
Above 3,6 up to and including 4,1	0,7	1,2	1,2	1,2	1,2
Above 4,1 up to and including 4,7	0,8	1,2	1,8	1,8	1,8
Above 4,7 up to and including 5,3	0,8	1,4	2,0	2,0	2,0
Above 5,3 up to and including 6,0	1,2	1,8	2,5	3,0	3,0
Above 6,0 up to and including 8,0	2,5	2,5	3,5	6,0	4,0
Above 8,0 up to and including 10,0	–	3,5	4,0	10,0	6,0
Above 10,0 up to and including 12,0	–	4,0	–	–	8,0
Above 12,0 up to and including 15,0	–	5,0	–	–	10,0

NOTE 1 Column 1 applies to screws without heads if the screw when tightened does not protrude from the hole, and to other screws which cannot be tightened by means of a screwdriver with a blade wider than the diameter of the screw.

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Column 2 applies to nuts of mantle terminals which are tightened by means of a screwdriver.

Column 3 applies to other screws which are tightened by means of a screwdriver.

Column 4 applies to nuts of mantle terminals in which the nut is tightened by means other than a screwdriver.

Column 5 applies to screws or nuts, other than nuts of mantle terminals, which are tightened by means other than a screwdriver.

Where a screw has a hexagonal head with a slot for tightening with a screwdriver and the values of columns 3 and 5 are different, the test is made twice, first applying to the hexagonal head the torque specified in column 5 by means other than a screwdriver and then applying the torque specified in column 3 by means of a screwdriver. If the values of columns 3 and 5 are the same, only the test with the screwdriver is made.

NOTE 2 For mantle terminals the specified nominal diameter is that of the slotted stud.

NOTE 3 The shape of the blade of the test screwdriver should suit the head of the screw to be tested.

NOTE 4 The screws and nuts should not be tightened in jerks.

Replacement of Table 4 by the following new table:

Table 4 – Test values for flexion and pull-out for copper conductors

Conductor cross-sectional area mm ²	Diameter of bushing hole ^a mm	Height <i>H</i> ^b mm	Mass for conductor kg
1,5	6,5	260	0,4
2,5	9,5	280	0,7
4,0	9,5	280	0,9
6,0	9,5	280	1,4
10,0	9,5	280	2,0
16,0	13,0	300	2,9
25,0	13,0	300	4,5
35,0	14,5	320	6,8
50,0	16,0	340	9,5

^a If the bushing hole diameter is not large enough to accommodate the conductor without binding, a bushing having the next larger hole size may be used.

^b Tolerance for height *H* = ± 15 mm.

12.2.6 Replacement of Table 5 by the following new table:

Table 5 – Test values for pull-out test

Cross-sectional area of conductors accepted by the terminal mm ²	IEC 60669-2-6:2012 https://standards.iteh.ai/catalog/standards/sist/4626d67d-b763-4cd7-5802-fd74a40a1cc0/iec-60669-2-6:2012							
	From 1,5 up to 2,5 inclusive	From 2,5 up to 4 inclusive	From 4 up to 6 inclusive	From 6 up to 10 inclusive	From 10 up to 16 inclusive	From 16 up to 25 inclusive	From 25 up to 35 inclusive	From 35 up to 50 inclusive
Pull N	50	50	60	80	90	100	190	235

12.2.7 Replacement of Table 6 by the following new table:

Table 6 – Composition of conductors

Cross-sectional area mm ²	Number of wires and nominal diameter of wires mm	
	Solid conductor	Stranded conductor
1,5	1 × 1,38	7 × 0,52
2,5	1 × 1,78	7 × 0,67
4,0	1 × 2,25	7 × 0,86
6,0	1 × 2,76	7 × 1,05
10,0	1 × 3,57	7 × 1,35
16,0	–	7 × 1,70
25,0	–	7 × 2,14
35,0	–	7 × 2,53
50,0	–	19 × 1,83