



SLOVENSKI STANDARD SIST HD 384.4.473 S1:2000

01-februar-2000

9`Y_f] bY]býHJUMY`j `n[fUXVU `È("XY. `JUfbcgfbY'nU HJ Y`È(+"dc[`Uj `Y.
I dcfUVUnUý]fb] `i_fYdcj `È(+' "dcXdc[`Uj `Y. `BUXlc_cj bUnUý]HJf97 * \$' *((!
(+' .% ++žgdfYa Yb`YbŁ

Electrical installations of buildings -- Part 4: Protection for safety -- Chapter 47:
Application of protective measures for safety - Section 473: Measures of protection
against overcurrent

iTeh STANDARD PREVIEW

Elektrische Anlagen von Gebäuden -- Teil 4: Schutzmaßnahmen -- Kapitel 47:
Anwendung der Schutzmaßnahmen - Hauptabschnitt 473: Schutzmaßnahmen gegen
Überstrom

<https://standards.iteh.ai/catalog/standards/sist/e7096b65-335e-49eb-951c-311201010000/sist-hd-384-4-473-2000>

Installations électriques des bâtiments -- Partie 4: Protection pour assurer la sécurité --
Chapitre 47: Application des mesures de protection pour assurer la sécurité - Section
473: Mesures de protection contre les surintensités

Ta slovenski standard je istoveten z: HD 384.4.473 S1:1980

ICS:

29.120.50	Xæ[çæ\ ^Á Ái\ * æ { ^áç \ [ç} æÁ æz ææ	Fuses and other overcurrent protection devices
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST HD 384.4.473 S1:2000 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST HD 384.4.473 S1:2000](https://standards.iteh.ai/catalog/standards/sist/e7096b65-335e-49eb-951c-ef042b7ee1e3/sist-hd-384-4-473-s1-2000)

<https://standards.iteh.ai/catalog/standards/sist/e7096b65-335e-49eb-951c-ef042b7ee1e3/sist-hd-384-4-473-s1-2000>

HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 384.4.473
February 1980
Date of approval: 1978-09-28

UDC: 621.316.17.016.34-756.001.25 614.825

Keywords: Electrical circuits - overload currents - short-circuit currents
phase conductors - neutral conductor - wiring systems.

ENGLISH VERSION

ELECTRICAL INSTALLATIONS OF BUILDINGS
PART 4: PROTECTION FOR SAFETY
CHAPTER 47: APPLICATION OF PROTECTIVE MEASURES
SECTION 473: PROTECTION AGAINST OVERCURRENT

INSTALLATIONS ELECTRIQUES DES BATIMENTS
PARTIE 4: PROTECTION POUR ASSURER LA SECURITE
CHAPITRE 47: APPLICATION DES MESURES DE PROTECTION
SECTION 473: PROTECTION CONTRE LES SURINTENSITES

iTeh STANDARD PREVIEW
(standards.iteh.ai)
ELEKTRISCHE ANLAGEN VON GEBÄUDEN
TEIL 4: SCHUTZMASSNAHMEN
KAPITEL 47: ANWENDUNG DER SCHUTZMASSNAHMEN
ABSCHNITT 473: ÜBERSTROMSCHUTZ

<https://standards.iteh.ai/catalog/standards/sist/e7096b65-335e-49eb-951c-cf042b7cc1e3/sist-hd-384-4-473-s1-2000>

This document the final draft of which bore the reference
CENELEC/TC 64B (SEC) 2076 was prepared by the Sub-Committee
CENELEC/TC 64B.

=====
C E N E L E C
=====

EUROPEAN COMMITTEE FOR ELECTROTECHNICAL STANDARDIZATION
COMITE EUROPEEN DE NORMALISATION ELECTROTECHNIQUE
EUROPÄISCHES KOMITEE FÜR ELEKTROTECHNISCHE NORMUNG

GENERAL SECRETARIAT: 2, rue Bréderode, Boîte No. 5
1000 Brussels, Belgium

Copyright © reserved to national member organizations

C O N T E N T S

	<u>Page</u>
PREFACE	3
Chapter 47.- APPLICATION OF PROTECTIVE MEASURES FOR SAFETY	4
Section 473.- MEASURES OF PROTECTION AGAINST OVERCURRENT	4
473.1.- Protection against overload current	4
473.2.- Protection against short circuit current	5
473.3.- Requirements according to the nature of circuits	7

APPENDICES

I. CENELEC modifications	10
II. Explanatory notes	11

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ADDENDUM: Temporary national deviations from HD 384.4.473

SIST HD 384.4.473 S1:2000
<https://standards.iteh.ai/catalog/standards/sist/e7096b65-335e-49eb-951c-ef042b7ee1e3/sist-hd-384-4-473-s1-2000>

PREFACE1. Reference Document

The Reference Document for this Harmonization Document is the International Electrotechnical Commission Standard IEC:364-4-473, First Edition, 1977, prepared by IEC Technical Committee n° 64: Electrical installations of buildings.

IEC Publication 364: Electrical installations of buildings, is a composite publication of a number of Parts, each dealing with a particular aspect of electrical installations. Part 4 is concerned with protection for safety and within that Part, Chapter 47 deal with the application of protective measures against overcurrent.

Other parts of the publication will deal with the selection and co-ordination of measures for protection against overcurrent, for the selection and erection of the appropriate electrical equipment, and for the verification of installations.

2. Scope

The Scope of this Harmonization Document is CENELEC Harmonization Document HD.384.1.

3. CENELEC Common Modifications

CENELEC Common Modifications of the Reference Document are numbered and indicated by marginal side-lining. Justifications for the common modifications are stated in Appendix I.

4. Explanations of certain requirements

Some explanations considered to be useful for interpretation of some requirements of the Reference Document text are given in Appendix II.

5. Informations given in the Preface and in Appendices do not form part of the Harmonization Document. The addendum to HD 384.4.473 is published separately.

CHAPTER 47
APPLICATION OF PROTECTIVE MEASURES FOR SAFETY
SECTION 473
MEASURES OF PROTECTION AGAINST OVERCURRENT

- - - - -

Note. - The requirements of this section do not take account of external influences. For the application of measures of protection in relation to external influences, see document HD (*)

- - - - -

473.1.- PROTECTION AGAINST OVERLOAD CURRENT

473.1.1.- Position of devices for overload protection

473.1.1.1.- A device assuring protection against overload shall be placed at the point where a change such as a change in cross-sectional area, nature, method of installation or in constitution, causes a reduction in the value of current carrying capacity of the conductors, with the exceptions mentioned in Sub-clauses 473.1.1.2 and 473.1.2.

473.1.1.2.- The device protecting wiring against overload may be placed along the run of that wiring if the part of the wiring between the point where a change occurs (in cross-sectional area, nature, manner of laying, or constitution) and the position of the protective device, has neither branch circuits nor socket-outlets and fulfills one of the following two conditions:

a) It is protected against short circuit current in accordance with the requirements of Section 474;

b) Its length does not exceed 3 m, it is carried out in such a manner as to reduce the risk of short circuit to a minimum, and it is not placed near combustible material (see Sub-clause 473.2.2.1).

473.1.2.- Omission of devices for protection against overload

The various cases stated in this sub-clause shall not be applied to installations situated in locations presenting a fire risk or risk of explosion and where special rules for certain locations specify different conditions.

(1) Note - The special rules are stated in document HD (*)

(*) under consideration

Devices for protection against overload need not be provided for:

- a) wiring situated on the load side of a change in cross-sectional area, nature, manner of laying or in constitution, and effectively protected against overload by a protective device placed on the supply side.
- b) wiring which is not likely to carry overload current, on condition that this wiring shall be protected against short circuit current in accordance with the requirements of Section 434 and that it has neither branch circuits nor socket-outlets;
- c) installations for telecommunications, control, signalling, and the like.

Note.- The conditions for protection against overloads in the installations mentioned in item c) are under consideration.

473.1.3.- Position or omission of devices for protection against overload in the IT system

The provisions in Sub-clauses 473.1.1.2 and 473.1.2 for alternative position or omission of devices for protection against overload are not applicable to IT installations unless each circuit not protected against overload is protected by a residual current-operated protective device, or all the equipment supplied by such a circuit - including the wiring - is carried out according to the protective measure described in Clause 413.2. (see document HD 384.4.41).

473.1.4.- Cases where omission of devices for protection against overload is recommended for safety reasons

The omission of devices for protection against overload is recommended for circuits supplying current using equipment where unexpected opening of the circuit could cause danger.

Examples of such cases are:

- exciter circuits of rotating machines,
- supply circuits of lifting magnets,
- secondary circuits of current transformers,
- circuits which supply fire extinguishing devices.

(2) |

Note.- In such cases consideration should be given to the provision of an overload alarm.

473.2.- PROTECTION AGAINST SHORT CIRCUIT CURRENT

473.2.1.- Position of devices for short circuit protection

A device assuring protection against short circuit shall be placed at a point where a reduction in the cross-sectional area of the conductors or another change causes modification of the characteristics specified in Sub-clause 473.1.1.1. except where sub-clause 473.2.2. or 473.2.3. applies.

473.2.2.- Alternative position of devices for short circuit protection

The various cases stated in this sub-clause shall not be applied to installations situated in locations presenting a fire risk or risk of explosion and where special rules for certain locations specify different conditions.

(3) Note - The special rules are stated in document HD (*)

It is permitted to provide devices for protection against short circuit at a place other than that specified in Sub-clause 473.2.1, in the conditions stated in Sub-clause 473.2.2.1 or 473.2.2.2.

473.2.2.1.- The part of the wiring between the point of reduction of cross-sectional area or other change, and the position of the protective device fulfills simultaneously the three following conditions:

- a) its length does not exceed 3 m.
- b) it is carried out in such a manner as to reduce the risk of a short circuit to a minimum.

Note.- This condition may be obtained for example by reinforcing the protection of the wiring against external influences.

(4) c) it is installed in such a manner as to reduce to a minimum the risk of fire or danger to persons.

473.2.2.2.- A protective device placed on the supply side of the reduced cross-sectional area or other change possesses an operating characteristic such that it protects against short circuit in accordance with the rule of Sub-clause 434.3.2, the wiring situated on the load side.

473.2.3.- Omission of devices for short circuit protection

Devices for protection against short circuit need not be provided for:

- conductors connecting generators, transformers, rectifiers, accumulator batteries to their associated control panels, the protective devices being placed on those panels,

- circuits where disconnection could cause danger for the operation of the installations concerned, such as those quoted in Sub-clause 473.1.4,

(*) under consideration

- certain measuring circuits,

provided that the two following conditions are simultaneously fulfilled:

a) the wiring is carried out in such a way as to reduce the risk of a short-circuit to a minimum (see Sub-clause 473.2.2.1 b),

b) the wiring shall not be placed close to combustible material.

(5) | 473.2.4 (transferred).

473.3.- REQUIREMENTS ACCORDING TO THE NATURE OF CIRCUITS

473.3.1.- Protection of phase conductors

473.3.1.1.- Detection of overcurrent shall be provided for all phase conductors; it shall cause the disconnection of the conductor in which the overcurrent is detected, but not necessarily the disconnection of other live conductors, except where Sub-clause 473.3.2. applies.

473.3.1.2.- In TT systems, for circuits supplied between phases and in which the neutral conductor is not distributed, overcurrent detection need not be provided for one of the phase conductors, provided that the following conditions are simultaneously fulfilled:

a) there exists, in the same circuit or on the supply side, differential protection intended to cause disconnection of all the phase conductors,

b) the neutral conductor is not distributed from an artificial neutral point of the circuits situated on the load side of the differential protective device mentioned in a).

Common note to sub-clauses 473.3.1.1 and 473.3.1.2.- If disconnection of a single phase may cause danger, for example in the case of three-phase motors, appropriate precautions shall be taken.

473.3.2.- Protection of the neutral conductor

473.3.2.1.- TT or TN systems

a) Where the cross-sectional area of the neutral conductor is at least equal or equivalent to that of the phase conductors it is not necessary to provide overcurrent detection for the neutral conductor or a disconnecting device for that conductor.

b) Where the cross-sectional area of the neutral conductor is less than that of the phase conductors, it is necessary to provide overcurrent detection for the neutral conductor, appropriate to the cross-sectional area of that conductor: this detection shall cause the disconnection of the phase conductors, but not necessarily of the neutral conductor.