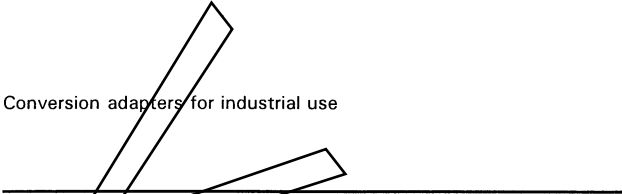


## Overgangscontactdozen voor industrieel gebruik

Conversion adapters for industrial use



september 1998

ICS 29.120.20; 31.220.10

Vervangt NEN-EN 50250:1996 Ontw.

Als Nederlandse norm is aanvaard:  
- EN 50250:1998

Copyright  
Preview

Nederlands Elektrotechnisch Comité (NEC)  
Normcommissie NEC 23 "Elektrotechnisch installatiematerieel"

Auteursrecht voorbehouden. Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Nederlands Normalisatie-instituut niets uit deze uitgave worden veeleelvoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor veeleelvoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdende met toepassing van door het Nederlands Normalisatie-instituut gepubliceerde uitgaven.

## Nederlands Voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>Vermelde norm</u>	<u>Nederlandse norm</u>	<u>Titel</u>
EN 60309-1:1997	NEN-EN-IEC 60309-1:1998	Stopcontacten voor industrieel gebruik - Deel 1: Algemene eisen
EN 60309-2:1998	NEN-EN-IEC 60309-2:1998	Stopcontacten voor industrieel gebruik - Deel 2: Maateisen ten aanzien van het passen van pen-en-buscontactstoppen en -dozen

voorbeeld  
Preview

ICS 29.120.20

Descriptors: Electrical equipment, industrial facilities, low voltage, connecting equipment, conversion adapters, definitions, specifications, characteristics, tests

English version

**Conversion adapters for industrial use**

Adaptateurs de conversion pour usages  
industriels

Übergangsadapter für industrielle  
Anwendung

This European Standard was approved by CENELEC on 1998-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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, Czech Republic, 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

This European Standard was prepared by the CENELEC BTWG 79-1, Conversion adapters for industrial use.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50250 on 1998-04-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1999-02-01

This European Standard is to be used in conjunction with EN 60309-1. The clauses in this European Standard amend or replace the clauses of EN 60309-1.

Subclauses, tables and figures which are additional to those in EN 60309-1 are numbered starting with 101. Additional annexes are lettered AA, BB, etc.


Preview

EN 50250

## Contents

Introduction .....	4
1 Scope.....	4
2 Definitions .....	4
3 Normative references .....	5
4 General.....	5
5 Standard ratings.....	6
6 Classification.....	6
7 Marking.....	6
8 Dimensions .....	8
9 Protection against electric shock .....	10
10 Provision for earthing.....	11
11 Terminals.....	12
12 Retaining devices.....	14
13 Resistance to ageing of rubber and thermoplastic material.....	14
14 General construction.....	14
15 Construction of socket-outlets.....	14
16 Construction of adaptors.....	15
17 Construction of appliance inlets.....	16
18 Degrees of protection.....	16
19 Insulation resistance and dielectric strength.....	17
20 Breaking capacity.....	17
21 Normal operation.....	17
22 Temperature rise.....	18
23 Flexible cables and their connection.....	19
24 Mechanical strength.....	19
25 Screws, current-carrying parts and connections.....	19
26 Creepage distances, clearances and distances through sealing compound.....	20
27 Resistance to heat, fire and tracking.....	21
28 Resistance to rusting.....	21
Annexes	
AA National Standards for socket-outlets for household and similar use.....	26
BB A-deviations.....	27
CC Special national conditions.....	27


## Introduction

This standard applies to conversion adaptors, hereinafter referred to as adaptors, for industrial use comprising a housing incorporating a plug and socket-outlets which can be used to connect one or two plugs of the domestic type to an industrial 2P +  16 A, 250 V~, 6 h, type socket-outlet.

This standard shall be used jointly with standards EN 60309-1 "Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements", EN 60309-2 "Plugs, socket-outlets and couplers for industrial purposes - Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories of harmonised configurations" and with the relevant National Standards for socket-outlets for household and similar use (listed in annex AA). The clauses in this standard amend or replace the clauses of the above mentioned standard EN 60309-1.

## 1 Scope

### *Replacement:*

This standard applies to conversion adaptors intended mainly for industrial use, comprising a housing of insulating material which incorporates an industrial 2P +  16 A, 6 h 250 V~ type plug part (table 104 in EN 60309-2) and one or two socket-outlets in accordance with the relevant National Standards for socket-outlets for household and similar use, with a rated current up to 16 A, intended mainly for industrial use either indoors or outdoors.

NOTE: Adaptors with three socket-outlets or a different type of plug part, according to EN 60309-2, are under consideration.

This standard applies to all applications where the ambient temperature does not normally exceed 40 °C.

The use of these adaptors on building sites, for agricultural, commercial and domestic applications is not precluded but care should be taken in considering protecting devices in use.

Adaptors are for temporary use only.

In locations where special conditions prevail, for example on board ship or where explosions are liable to occur, additional requirements may be necessary.

## 2 Definitions

This clause of EN 60309-1 is applicable with the following additions:

### 2.101

#### **adaptor**

Portable accessory which allows the connection of one or more types of plug to a socket-outlet not designed to accept such plugs.

#### 2.101.1

##### **single adaptor**

Adaptor having a single plug function and a single socket-outlet function.

#### 2.101.2

##### **double adaptor**

Adaptor having a single plug function and two socket-outlet functions. The two socket-outlets may or may not comply with the same dimensional requirements.

## 2.102

### rated current of an adaptor

The rated current of an adaptor is:

- the rated current of the plug part of the adaptor;
- the sum of the rated currents of the plugs that can be inserted into the adaptor,

whichever the lower.

## 2.103

### serviceable adaptor

An adaptor which can be disassembled, using ordinary tools (e.g. screwdrivers, etc.) for replacement or maintenance.

## 2.104

### non-serviceable adaptor

An adaptor which cannot be disassembled using ordinary tools (e.g. screwdrivers, etc.) without rendering it permanently useless.

## 3 Normative references

This clause of EN 60309-1 is applicable with the following additions:

EN 60309-1:1997, *Plugs, socket outlets and couplers for industrial purposes -- Part 1: General requirements* (IEC 60309-1:1997)

EN 60309-2:1998, *Plugs, socket-outlets and couplers for industrial purposes -- Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories* (IEC 60309-2:1997 + corrigendum 1998)

NOTE: See annex AA for National Standards for domestic socket-outlets.

## 4 General

This clause of EN 60309-1 is applicable except as follows:

### 4.1 General requirements

*Replacement:*

Adaptors shall be so designed and constructed that in normal use their performance is reliable and without danger to the user or surroundings.

*In general compliance is checked by carrying out all the tests specified.*

### 4.2 General notes on tests

#### 4.2.1 *Replacement:*

Tests according to this standard are type tests.

The parts of adaptors are tested, unless otherwise specified, in accordance with the requirements of the relevant standard, as applicable; e.g. plug part is tested according to EN 60309-2 and socket-outlet parts are tested according to the relevant National Standards.

#### 4.2.4 *Replacement:*

Unless otherwise specified, one set of three specimens shall be subjected to all the tests.

#### 4.2.5 *Replace the first paragraph of the note by:*

NOTE: In general, it will only be necessary to repeat the tests which caused the failure, unless the specimens fail in test of clause 21, in which case tests shall be repeated from clause 20 onwards.

*Addition:*

4.2.101 If gauges are used, these shall be of hardened steel, and all corners shall be slightly rounded-off with a maximum radius of 0,1 mm and the surface-finish for all measurement-surfaces shall be  $\sqrt[NS]{\text{min}}$ , unless otherwise specified.

## 5 Standard ratings

*Replacement:*

### 5.1 Rated voltage:

The recommended rated voltage is 250 V ~.

### 5.2 Rated current:

Rated current: 10 A, 13 A, 15 A and 16 A.

## 6 Classification

*Replacement:*

### 6.1 Adaptors are classified:

6.1.1 According to the degree of protection against harmful ingress of water in accordance with EN 60529:

- IPX0 (non-protected);
- IP  $\geq$  X4 (protected)

NOTE: The degree of protection of the socket-outlets for industrial use, when used in conjunction with an adaptor, will revert to the protection rating of the adaptor if this is less than that of the socket-outlet.

6.1.2 According to the type of construction:

- serviceable adaptors;
- non-serviceable adaptors.

## 7 Marking

*Replacement:*

7.1 Adaptors shall be marked with:

- rated current in amperes;
- rated operating voltage or range in volts;
- symbol for nature of supply.
- either the name or trade mark of the manufacturer or of the responsible vendor;
- type reference, which may be a catalogue number;
- symbol for degree of protection (IP code);
- symbol indicating the position of the earthing contact (plug part side);
- wording "FOR TEMPORARY USE ONLY".



For adaptors with degree of protection IPX0 is required a leaflet indicating to be aware in use of it because it reduces the degree of protection of the industrial socket-outlet in which will be inserted and that it shall not be used in environment with an explosion hazards.

NOTE 1: This wording shall be written in the official language of the country of intended use.

*Compliance is checked by inspection.*

NOTE 2: Marking 10/16 shall be accepted as indication for socket-outlet parts in accordance with standard CEE 7.

The symbol indicating the position of the earthing contact shall be placed before or above the figure indicating the rated operating voltage, and separated from it by a line.


These markings shall be placed after that for rated current, separated from it by a dash, if an oblique line separates the symbol indicating the position of the earthing contact from the figure for the rated operating voltage.

If a symbol for nature of supply is used, it shall be placed next to or below the marking for rated operating voltage.

The marking for rated current, position of the earthing contact, rated operating voltage(s) and the nature of the supply may accordingly be as follows:

16A - 6h/250 V~, or 16 - 6h/250~, or 16 -  $\frac{6h}{250}$ ~

7.2 When symbols are used, they shall be as follows:

- |   |       |  |
|---|-------|--|
| A   | ..... | amperes                                    |
| V   | ..... | volts                                      |
| ~   | ..... | alternating current                        |
|  | ..... | earth                                      |
| IPXX  | ..... | degree of protection according to EN 60529 |

For marking of rated current(s) and rated operating voltage(s) or range(s), figures may be used alone.


*Compliance is checked by inspection.*

7.3 The marking specified in 7.1 shall be readily visible when the adaptor is equipped and ready for use, with the exception of the wording "FOR TEMPORARY USE ONLY" which shall also be visible when the adaptor is in use.

NOTE 1: The term "ready for use" does not imply that the adaptor is in engagement with its complementary accessory.

NOTE 2: The marking for rated current, nature of supply, rated operating voltage and the name, trade mark of the manufacturer or the responsible vendor, may be repeated on the lid, if any.

*Compliance is checked by inspection.*

7.4 In serviceable adaptors the earthing contacts shall be indicated by the symbol . This symbol shall be placed close to the corresponding terminals, and should not be placed on screws, washers or other removable parts.

# Bestelformulier

# NEN

## Stuur naar:

NEN Standards Products & Services  
t.a.v. afdeling Klantenservice  
Antwoordnummer 10214  
2600 WB Delft

## NEN Standards Products & Services

Postbus 5059  
2600 GB Delft

Vlinderweg 6  
2623 AX Delft

T (015) 2 690 390  
F (015) 2 690 271

[www.nen.nl/normshop](http://www.nen.nl/normshop)

## Ja, ik bestel

\_\_\_ ex. NEN-EN 50250:1998 en Overgangcontactdozen voor industrieel gebruik € 61.30

**Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via [www.nen.nl/normshop](http://www.nen.nl/normshop)**

### Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. [www.nen.nl/nieuwsbrieven](http://www.nen.nl/nieuwsbrieven)

### Retourneren

Fax: (015) 2 690 271  
E-mail: [klantenservice@nen.nl](mailto:klantenservice@nen.nl)  
Post: NEN Standards Products & Services,  
t.a.v. afdeling Klantenservice  
Antwoordnummer 10214,  
2600 WB Delft  
(geen postzegel nodig).

## Gegevens

Bedrijf / Instelling \_\_\_\_\_

T.a.v. \_\_\_\_\_ O M O V

E-mail \_\_\_\_\_

Klantnummer NEN \_\_\_\_\_

Uw ordernummer \_\_\_\_\_

BTW nummer \_\_\_\_\_

Postbus / Adres \_\_\_\_\_

Postcode \_\_\_\_\_

Plaats \_\_\_\_\_

Telefoon \_\_\_\_\_

Fax \_\_\_\_\_

**Factuuradres** (indien dit afwijkt van bovenstaand adres)

Postbus / Adres \_\_\_\_\_

Postcode \_\_\_\_\_

Plaats \_\_\_\_\_

Datum \_\_\_\_\_

Handtekening \_\_\_\_\_

### Voorwaarden

- De prijzen zijn geldig tot 31 december 2016, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon (015) 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typfouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: [www.nen.nl/leveringsvoorwaarden](http://www.nen.nl/leveringsvoorwaarden).