PD IEC TS 63236-3:2021

BSI Standards Publication

# Direct current (DC) appliance couplers for information and communication technology (ICT) equipment installed in data centres and telecom central offices

Part 3: AC/DC appliance inlet

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

# National foreword

This Published Document is the UK implementation of IEC TS 63236-3:2021.

The UK participation in its preparation was entrusted to Technical Committee PEL/23, Electrical accessories.

A list of organizations represented on this committee can be obtained on request to its committee manager.

**Contractual and legal considerations**

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication is not to be regarded as a British Standard.

© The British Standards Institution 2021
Published by BSI Standards Limited 2021

ISBN 978 0 539 04461 4

ICS 29.120.01; 29.120.30

**Compliance with a Published Document cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 July 2021.

**Amendments/corrigenda issued since publication**

| Date | Text affected |
|---|---|

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

# IEC TS 63236-3

Edition 1.0 2021-06

# TECHNICAL SPECIFICATION

## Direct current (DC) appliance couplers for information and communication technology (ICT) equipment installed in data centres and telecom central offices –
## Part 3: AC/DC appliance inlet

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.120.01, 29.120.30

ISBN 978-2-8322-9929-6

**Warning! Make sure that you obtained this publication from an authorized distributor.**

® Registered trademark of the International Electrotechnical Commission

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

CONTENTS

FOREWORD ..... 4
1 Scope ..... 6
2 Normative references ..... 6
3 Terms and definitions ..... 6
4 General requirements ..... 7
5 General notes on tests ..... 7
6 Standard ratings ..... 7
7 Classification of appliance couplers ..... 7
8 Marking ..... 7
8.1 General ..... 7
8.2 Additional markings ..... 7
8.3 Symbols or alphanumeric notations ..... 8
8.4 Legibility of markings ..... 8
8.5 Terminal markings and wiring instructions ..... 8
9 Dimensions and compatibility ..... 8
10 Protection against electric shock ..... 8
11 Provision for earthing ..... 8
12 Terminals and terminations ..... 8
13 Construction ..... 8
14 Insulation resistance and electric strength ..... 8
15 Forces necessary to insert and to withdraw the connector ..... 9
16 Operation of contacts ..... 9
17 Resistance to heating of appliance couplers ..... 9
18 Breaking capacity ..... 9
19 Normal operation ..... 9
20 Temperature rise ..... 9
21 Cables and their connection ..... 9
22 Mechanical strength ..... 9
23 Resistance to heat and ageing ..... 9
24 Screws, current-carrying parts and connections ..... 9
25 Creepage distances, clearances and distances through sealing compound ..... 9
26 Resistance of insulating material to heat, fire and tracking ..... 9
27 Resistance to rusting ..... 10
28 Electromagnetic compatibility (EMC) requirements ..... 10
Annex A (normative) Safety-related routine tests for factory-wired accessories (protection against electric shock and correct polarity) ..... 11
Annex B (normative) Test schedule ..... 12
Annex C (informative) Alternative gripping tests ..... 14

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

Annex D (normative) Standard sheets and gauges ..... 15
D.1 Standard sheets ..... 15
D.2 Gauges ..... 18
D.2.1 Distance to the point of first contact ..... 18
D.2.2 "GO" gauges for appliance inlets according to standard sheet 1 (Figure D.1) ..... 18
Bibliography ..... 21

Figure D.1 – Hybrid appliance inlet ..... 17
Figure D.2 – Positioning of the “+” and “−” pins ..... 18
Figure D.3 – "GO" gauges for appliance inlets according to standard sheet 1 (Figure D.1) ..... 19
Figure D.4 – "GO" gauge for appliance inlets according to standard sheets 1 (Figure D.1) ..... 20

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

INTERNATIONAL ELECTROTECHNICAL COMMISSION

# DIRECT CURRENT (DC) APPLIANCE COUPLERS FOR INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) EQUIPMENT INSTALLED IN DATA CENTRES AND TELECOM CENTRAL OFFICES –

## Part 3: AC/DC appliance inlet

## FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC TS 63236-3 has been prepared by IEC technical committee 23: Electrical accessories. It is a Technical Specification.

The text of this Technical Specification is based on the following documents:

| DTS | Report on voting |
|---|---|
| 23/917/DTS | 23/959A/RVDTS |

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

The language used for the development of this Technical Specification is English.

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This Part 3 is to be used in conjunction with IEC TS 63236-1:2021.

The clauses of this document supplement or modify the corresponding clauses in IEC 63236-1. When a particular subclause or annex of Part 1 is not mentioned in this Part 3, the subclause or annex of IEC 63236-1 applies as far as is reasonable. Where this document states “addition”, “amendment” or “replacement”, the relevant requirement, test specification or explanatory matter in IEC 63236-1 is to be adapted accordingly.

Clauses or subclauses which are additional to those in Part 1 are numbered starting from 101.

A list of all the parts in the IEC 63236 series, published under the general title *Direct current (DC) appliance couplers for information and communication technology (ICT) equipment installed in data centres and telecom central offices*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021

# DIRECT CURRENT (DC) APPLIANCE COUPLERS FOR INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) EQUIPMENT INSTALLED IN DATA CENTRES AND TELECOM CENTRAL OFFICES –

## Part 3: AC/DC appliance inlet

## 1 Scope

This part of IEC 63236, which is a Technical Specification, sets the additional requirements for appliance inlets used for information and communication technology (ICT) equipment installed in data centres and telecom central offices and which are suitable for both alternating current and direct current.

The accessories according to this document are intended to be used by ordinary persons in data centres only where the value of the voltage distribution system is defined as follows:

- for a DC voltage distribution system the values defined in IEC TS 63236-1:2021, Clause 1, apply;
- for an AC voltage distribution system the voltage does not exceed 250 V (AC) and the rated current according to the standard sheets.

Appliance couplers complying with this document are suitable for normal use at ambient air temperatures not normally exceeding +60 °C, with a lower limit of the ambient air temperature of -5 °C.

This document is valid for appliance couplers for protection class I equipment.

Appliance couplers are not suitable for

- use in place of plug and socket-outlet systems according to the IEC TS 62735 series,
- use in place of plug and socket-outlet systems according to the IEC 60884 series,
- use in place of devices for connecting luminaires (DCLs) according to IEC 61995 (all parts) or luminaire supporting couplers (LSCs).

## 2 Normative references

This clause of IEC TS 63236-1:2021 applies.

## 3 Terms and definitions

This clause of IEC TS 63236-1:2021 applies except as follows:

*Addition:*

**3.101**
**hybrid appliance inlet**
appliance inlet designed to mate standardized connectors for alternating current according to IEC 60320-3 and direct current according to IEC TS 63236-1

Documents
Document Sharing Hub

Full document details: PD IEC TS 63236-3:2021