

TECHNICAL SPECIFICATION

**Direct current (DC) appliance couplers for information and communication technology (ICT) equipment installed in data centres and telecom central offices –
Part 1: 2,6 kW system**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: 2,6 kW system

FOREWORD

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IEC TS 63236-1 has been prepared by IEC technical committee 23: Electrical accessories. It is a Technical Specification.

IEC TS 63236-1 is to be used in conjunction with the other parts of the IEC 63236 series, if applicable.

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

DTS	Report on voting
23/915/DTS	23/957A/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

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.

In this document, the following print types are used:

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

A list of all 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- withdrawn,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.

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

Part 1: 2,6 kW system

1 Scope

This part of IEC 63236, which is a Technical Specification, applies to DC appliance couplers for class I equipment with two active contacts plus an earthing contact, a rated power of 2,6 kW and a rated voltage range from 294 V to 400 V DC. They are intended to power DC information and communication technology equipment only, as specified in IEC 62368-1.

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

- 380 V with a tolerance of ± 20 V for installations with no backup battery or with a voltage regulation system;
- 380 V with a voltage range of 294 V to 400 V for installations with a backup battery where voltage regulation is not guaranteed;
- the voltage value between each live conductor and earth does not exceed 200 V DC during normal operation;
- there are two abnormal voltage ranges (duration below 10 min):
 - 260 V up to 294 V, and
 - above 400 V to 410 V.

The maximum current of the appliance couplers is

- 6,5 A when the voltage between live contacts is 400 V DC,
- 8,8 A when the voltage between live contacts is 294 V DC,

and can rise up to 10 A when the voltage between live contacts decreases to 260 V DC for 10 min maximum.

The voltage between live conductors can fall down to 260 V DC when the voltage discharge value of the battery reaches the disconnecting level. The consequence is that the current increases accordingly.

The accessories according to this document do not require maintenance.

The accessories according to this document are intended for use in circuits where

- basic protection,
- an overcurrent protection (of 8,8 A or less for each socket-outlet or multiple socket-outlet),
- the fault protection (indirect contact protection), and
- additional protection

are already assured.

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

Appliance couplers are not suitable for use in place of plug and socket-outlet systems according to the IEC TS 62735 series.

Appliance couplers according to this document are not intended to be used in portable accessories covered by IEC TC 23.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-31, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60068-2-60, *Environmental testing – Part 2-60: Tests – Test Ke: Flowing mixed gas corrosion test*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60417, *Graphical symbols for use on equipment* (available at: <http://www.graphicalsymbols.info/equipment>)

IEC 60695-2-11, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

IEC 60695-10-2, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method*

IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

IEC 61032, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 62368-1, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

IEC TS 63236-3, *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*

ISO/IEC GUIDE 51, *Safety aspects – Guidelines for their inclusion in standards*

ISO 1456, *Metallic coatings and other inorganic coatings – Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium*