

# INTERNATIONAL STANDARD

AMENDMENT 1

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**Low-voltage electrical installations -  
Part 8-82: Functional aspects - Prosumer's low-voltage electrical installations**

Sample Document

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Low-voltage electrical installations -  
Part 8-82: Functional aspects -  
Prosumer's low-voltage electrical installations**

**AMENDMENT 1**

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Amendment 1 to IEC 60364-8-82:2022 has been prepared by IEC technical committee 64: Electrical installations and protection against electrical shock, IEC technical committee 8: System aspects of electrical energy supply and its subcommittee 8B: Decentralized electrical energy systems.

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

Draft	Report on voting
64/2815/FDIS	64/2858/RVD

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 Amendment 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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications/](http://www.iec.ch/publications/).

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## INTRODUCTION to Amendment 1

The purpose of this amendment is to add a dedicated annex for PEIs with a DC system and distributed sources with isolated interlink converter.

### 82.2 Normative references

*In the fourth reference, replace “IEC 60364-4-42:2010” with “IEC 60364-4-42:2024”.*

*In the fifth reference, replace “IEC 60364-4-43:2008” with “IEC 60364-4-43:2023”.*

*Add the following new references at the end of the list:*

IEC 60947-10, *Low-voltage switchgear and controlgear - Part 10: Semiconductor circuit-breakers*

IEC 62477-1:2022, *Safety requirements for power electronic converter systems and equipment - Part 1: General*

IEC TS 63053, *General requirements for residual current operated protective devices for DC system*

### 82.3 Terms and definitions

*Add the following terms and definitions at the end of the list:*

#### 82.3.20

##### **interlink converter**

##### **ILC**

power electronic converter system (PECS) interconnecting two circuits of an electrical installation that can have different voltages and frequencies allowing transfer of energy between these circuits

Note 1 to entry: An International Standard specifying safety and performance requirements for interlink converters is under development (IEC 63532).

Note 2 to entry: Different types of PECS can be defined depending on the nature of the installation – AC/DC or DC/DC or AC/AC, unidirectional or bidirectional – but without energy storage capability.

Note 3 to entry: Safety requirements for PECS are defined in the group safety publication IEC 62477-1.

#### 82.3.21

##### **isolated interlink converter**

##### **IILC**

interlink converter (ILC) that provides at least a basic insulation between the two different circuits of an electrical installation and allows different types of electric system for these circuits

Note 1 to entry: See item 18 in Figure F.1, Figure F.2 and Figure F.3.

#### 82.3.22

##### **pre-charging**

energizing the capacitances of a DC circuit with a limited current

#### 82.3.23

##### **intertripping**

tripping of protective devices initiated from tripping of another protective device

#### 82.8.2.2.1 General

*Add the following at the end of the third paragraph:*

Annex F provides requirements for PEIs with distributed sources in the case of a DC system with isolated interlink converter.

#### 82.8.2.2.7 Island mode in IT

*In Note 1, replace “IEC 60364-4-43:2008” with “IEC 60364-4-43:2023”.*

**Annex E**  
(informative)**List of notes concerning certain countries**

*Add the following country note at the end of the list:*

Country	Clause N°	Text
DE	F.5.1.1	In Germany the short time withstand current $I_{cw}$ does not apply.

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Add the following new annex after Annex E:

## **Annex F** (normative)

### **PEIs with a DC system and distributed sources with isolated interlink converter**

#### **F.1 General**

Introduction of local power supplies based on renewable energy sources and local electrical energy storage (EES) system is usually carried out using a DC system and a power electronic converter. Loads can also be controlled by power electronic converters and operate in DC: information technology, LED lighting, electric vehicles, etc.

NOTE 1 An electric vehicle can also be a non-permanently connected local storage unit.

An important aspect of prosumer's electrical installations (PEIs) is that sources can be decentralized. Clause 82.8 describes PEIs with local supplies connected to the main distribution board. Alternative architectures, e.g. based on a DC backbone interconnecting sources and loads, with specific protective measures to comply with 82.8.2.2.1, may be used.

This Annex F applies to PEIs with a DC system connected to the distribution network through an isolated interlink converter (IILC) with local sources interconnected through converters to a DC distribution system; see, for example, Figure F.1.

NOTE 2 Annex F can apply also to stand-alone PEIs.

NOTE 3 The isolated interlink converter can be made of several units in parallel.

NOTE 4 PEI with non-isolated interlink converter is under consideration.