



BSI Standards Publication

Robotics for electricity generation, transmission, and distribution systems

Part 1-1: Terminology for electric power robots

National foreword

This British Standard is the UK implementation of EN IEC 63439-1-1:2025. It is identical to IEC 63439-1-1:2025.

The UK participation in its preparation was entrusted to Technical Committee AMT/10, Robotics.

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

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(IEC 63439-1-1:2025)

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les robots électriques
(IEC 63439-1-1:2025)

Robotik für Systeme zur Stromerzeugung, -übertragung und
-verteilung - Teil 1-1: Terminologie
(IEC 63439-1-1:2025)

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European foreword

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The following dates are fixed:

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ISO 10218-2:2011 NOTE Approved as EN ISO 10218-2:2011 (not modified)

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ROBOTICS FOR ELECTRICITY GENERATION,
TRANSMISSION AND DISTRIBUTION SYSTEMS –****Part 1-1: Terminology for electric power robots****FOREWORD**

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IEC 63439-1-1 has been prepared by IEC technical committee 129: Robotics for electricity generation, transmission and distribution systems. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
129/35/FDIS	129/44/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 International Standard 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/publications.

A list of all parts in the IEC 63439 series, published under the general title *Robotics for electricity generation, transmission and distribution systems*, 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, or
- revised.

ROBOTICS FOR ELECTRICITY GENERATION, TRANSMISSION AND DISTRIBUTION SYSTEMS –

Part 1-1: Terminology for electric power robots

1 Scope

This part of IEC 63439 defines terms relating to electric power robot. It defines terms used for describing classification, constitution, function, performance, safety, working environment and other topics relating to electric power robot.

This document applies to the design, production, testing, sales, application, maintenance, management, scientific research of electric power robot.

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.

ISO 8373:2021, *Robotics – Vocabulary*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO 8373 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 General terms related to EPR

3.1.1

electric power robot

EPR

robot applied in electric power systems, such as power plants, substations, transmission and distribution lines

3.1.2

unmanned aircraft power robot

UAVPR

unmanned aircraft power robot that can move itself in all three dimensions

3.1.3

diving electric power robot

DEPR

EPR that can move in liquids such as water and oil

3.1.4

electric power robot system

EPRS

system comprising the EPR, task equipment, human-robot interaction equipment, and any ancillary facilities supporting the robot performing its task

3.1.5

patrol

activity done by the EPR which involves the collection, storage, transmission and background display of the images, videos, audios and other information about the status of equipment and facilities and environment

3.1.6

inspection

action comprising patrol and check of the electrical equipment and facilities along the route through manual remote control or autonomous operation

EXAMPLE Appearance inspection equipment based on visual images, equipment temperature detection based on infrared images, etc.

3.1.7

electrical operation

action in which the EPR operates electrical equipment in accordance with the intended task and applicable standards

EXAMPLE Switching opening and closing, etc.

3.1.8

electrical maintenance

action in which the EPR replaces or assists a human in order to retain the electrical equipment in, or restore it to, a state in which it can perform as required

EXAMPLE Cleaning of an electrical insulator.

3.1.9

live part

conductive part intended to be energized under normal operating conditions, including the neutral conductor and mid-point conductor, but excluding the protective earthing neutral conductor, protective earthing mid point conductor and protective earthing line conductor

[SOURCE: IEC 60050-195:2021, 195-02-19]

3.1.10

work environment

factors affecting the work of the EPR in its workspace

3.1.11

numbering rules

instructions for assigning a serial number to each EPR

Note 1 to entry: EPRs can be numbered with enterprise codes, functions, movement modes and design codes.

Note 2 to entry: An enterprise code can be the name of a company or a standard number.

3.2 Terms and definitions related to EPR classification

3.2.1

inspection electric power robot

IEPR

EPR that can complete inspection tasks according to preset programs or instructions