PD IEC TS 63384-1:2023

BSI Standards Publication

Power system stability control

Part 1: Guideline for framework design of power system stability control

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The UK participation in its preparation was entrusted to Technical Committee GEL/8, Systems Aspects for Electrical Energy Supply.

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

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Published by BSI Standards Limited 2023

ISBN 978 0 539 14694

ICS 33.200

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 April 2023.

Amendments/corrigenda issued since publication

Date	Text affected

IEC TS 63384-1

Edition 1.0 2023-03

TECHNICAL SPECIFICATION

Power system stability control –
Part 1: Guideline for framework design of power system stability control

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.200

ISBN 978-2-8322-6629-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC TS 63384-1 has been prepared by subcommittee 8C, Network management in interconnected electric power systems, of IEC technical committee 8: System aspects of electrical energy supply. It is a Technical Specification.

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

Draft	Report on voting
8C/47/DTS	8C/61/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/publications.

A list of all parts in the IEC 63384 series, published under the general title *Power system stability control*, 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.

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POWER SYSTEM STABILITY CONTROL –

Part 1: Guideline for framework design of power system stability control

1 Scope

This part of IEC 63384 provides guidance for power system stability control framework design. It covers the uniform use of terms and definitions, general objectives and principles for power system stability control, the classification of power system stability control, and the framework combining several types of stability controls in a coordinated and cost-effective (risk based) manner.

In accordance with this guideline, the framework is designed to cope with disturbances of different probabilities of occurrence and impact on power system security and stability. Effective control approaches are designed to prevent or minimize the scope of future blackouts.

2 Normative references

There are no normative references in this document

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
power system stability control
< electric power system> control in a power system which prevents system insecurity, instability and collapse caused by disturbances and minimizes further loss of power supply

Note 1 to entry: Remedial action Scheme, System Integrity Protection Schemes (SIPS), Special Protection System and System Protection Scheme are typical examples of stability control implementation.

3.2
power system stability control framework
<electric power system> framework designed to describe the fundamental principles of power system stability control, composed of a contingency list, the objective of control, the types of stability control, methods of control decision planning and control activation

Note 1 to entry: Usually, several types of stability control are combined to prevent system insecurity, instability, collapse, and blackouts upon occurrence of contingencies, so that the adaptability of each type of stability control can be enhanced and the coordination of different types of stability controls can be facilitated.

3.3
normal state
<electric power system> state wherein all system variables are within the normal range and no equipment is overloaded, and power system operates in a secure manner and is able to withstand predefined contingencies without violating any of the constraints