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## System och nät för kommunikation i stationer och ställverk – Del 7-3: Grundläggande kommunikationsstruktur – Gemensamma dataklasser

*Communication networks and systems for power utility automation –  
Part 7-3: Basic communication structure –  
Common data classes*

Som svensk standard gäller europastandarden EN 61850-7-3:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61850-7-3:2011.

### Nationellt förord

Europastandarden EN 61850-7-3:2011

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61850-7-3, Second edition, 2010 - Communication networks and systems for power utility automation - Part 7-3: Basic communication structure - Common data classes**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61850-7-3, utgåva 1, 2004, gäller ej fr o m 2014-01-20.

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English version

**Communication networks and systems for power utility automation -  
Part 7-3: Basic communication structure -  
Common data classes  
(IEC 61850-7-3:2010)**

Réseaux et systèmes de communication  
pour l'automatisation des systèmes  
électriques -  
Partie 7-3: Structure de communication de  
base -  
Classes de données communes  
(CEI 61850-7-3:2010)

Kommunikationsnetze und -systeme für  
die Automatisierung in der elektrischen  
Energieversorgung -  
Teil 7-3: Grundlegende  
Kommunikationsstruktur -  
Gemeinsame Datenklassen  
(IEC 61850-7-3:2010)

This European Standard was approved by CENELEC on 2011-01-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 57/1087/FDIS, future edition 2 of IEC 61850-7-3, prepared by IEC TC 57, Power systems management and associated information exchange, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61850-7-3 on 2011-01-20.

This European Standard supersedes EN 61850-7-3:2003.

Compared to EN 61850-7-3:2003, this edition:

- defines new common data classes used for new standards defining object models for other domains based on EN 61850 and for the representation of statistical and historical data;
- provides clarifications and corrections to EN 61850-7-3:2003.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2011-10-20
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2014-01-20

Annex ZA has been added by CENELEC.

ANM – (sv anm) Uppgifter om andra, felaktiga datum har tidigare cirkulerat i CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61850-7-3:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- IEC 61850-8 series    NOTE    Harmonized in EN 61850-8 series (not modified).
  - IEC 61850-9 series    NOTE    Harmonized EN 61850-9 series (not modified).
-

## Annex ZA (normative)

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

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| <u>Publication</u> | <u>Year</u> | <u>Title</u>   | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|--------------|-------------|
| IEC/TS 61850-2     | -           | Communication networks and systems in substations -<br>Part 2: Glossary  | -            | -           |
| IEC 61850-7-1      | -           | Communication networks and systems in substations -<br>Part 7-1: Basic communication structure for substation and feeder equipment - Principles and models                     | EN 61850-7-1 | -           |
| IEC 61850-7-2      | -           | Communication networks and systems for power utility automation -<br>Part 7-2: Basic information and communication structure - Abstract communication service interface (ACSI) | EN 61850-7-2 | -           |
| IEC 61850-7-4      | -           | Communication networks and systems for power utility automation -<br>Part 7-4: Basic communication structure - Compatible logical node classes and data object classes         | EN 61850-7-4 | -           |
| ISO 4217           | -           | Codes for the representation of currencies and funds   | -            | -           |
| IEEE C37.118       | 2005        | IEEE Standard for Synchrophasors for Power Systems   | -            | -           |

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## INTRODUCTION

This document is part of a set of specifications, which details layered substation communication architecture. This architecture has been chosen to provide abstract definitions of classes and services such that the specifications are independent of specific protocol stacks and objects. The mapping of these abstract classes and services to communication stacks is outside the scope of IEC 61850-7-x and may be found in IEC 61850-8-x (station bus) and IEC 61850-9-x (process bus).

IEC 61850-7-1 gives an overview of this communication architecture. This part of IEC 61850 defines constructed attributed classes and common data classes related to applications in the power system using IEC 61850 modeling concepts like substations, hydro power or distributed energy resources. These common data classes are used in IEC 61850-7-4 to define compatible dataObject classes. The SubDataObjects, DataAttributes or SubAttributes of the instances of dataObject are accessed using services defined in IEC 61850-7-2.

This part of IEC 61850 is used to specify the abstract common data class and constructed attribute class definitions. These abstract definitions are mapped into concrete object definitions that are to be used for a particular protocol (for example MMS, ISO 9506 series).

Note that there are common data classes used for service tracking, that are defined in IEC 61850-7-2.

# COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

## Part 7-3: Basic communication structure – Common data classes

### 1 Scope

This part of IEC 61850 specifies constructed attribute classes and common data classes related to substation applications. In particular, it specifies:

- common data classes for status information,
- common data classes for measured information,
- common data classes for control,
- common data classes for status settings,
- common data classes for analogue settings and
- attribute types used in these common data classes.

This International Standard is applicable to the description of device models and functions of substations and feeder equipment.

This International Standard may also be applied, for example, to describe device models and functions for:

- substation to substation information exchange,
- substation to control centre information exchange,
- power plant to control centre information exchange,
- information exchange for distributed generation, or
- information exchange for metering.

### 2 Normative references

The following referenced documents are indispensable for the application 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/TS 61850-2, *Communication networks and systems in substations – Part 2: Glossary*

IEC 61850-7-1, *Communication networks and systems for power utility automation – Part 7-1: Basic communication structure – Principles and models*<sup>1</sup>

IEC 61850-7-2, *Communication networks and systems for power utility automation – Part 7-2: Basic information and communication structure – Abstract communication service interface (ACSI)*

IEC 61850-7-4, *Communication networks and systems for power utility automation – Part 7-4: Basic communication structure – Compatible logical node classes and data object classes*

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<sup>1</sup> To be published.

IEEE C37.118:2005, *IEEE Standard for Synchrophasors for Power Systems*

ISO 4217, *Codes for the representation of currencies and funds*