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Communication networks and systems for power utility automation

Part 80-4: Translation from the COSEM object model (IEC 62056) to the IEC 61850 data model

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The UK participation in its preparation was entrusted to Technical Committee PEL/57, Power systems management and associated information exchange.

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

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Published by BSI Standards Limited 2016

ISBN 978 0 580 88992 9
ICS 33.200

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 March 2016.

Amendments/corrigenda issued since publication

Date	Text affected

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IEC TS 61850-80-4

Edition 1.0 2016-03

TECHNICAL SPECIFICATION

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.200

ISBN 978-2-8322-3222-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 61850-80-4, which is a technical specification, has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

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The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
57/1602/DTS	57/1659/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The content of this part of IEC 61850 is based on existing or emerging standards and applications.

A list of all parts of the IEC 61850 series, published under the general title *Communication networks and systems for power utility automation*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

IEC 61850 defines communication networks and systems for power utility automation, and more specifically the communication architecture for subsystems such as substation automation systems, feeder automation systems and SCADA for distributed energy resources. In essence, IEC 61850 is a description of the communication architecture for the overall power system management when the combined total of the above mentioned subsystems are considered.

The devices in the electricity grid are becoming more intelligent with an increasing number of elements and increasing complexity of data to be processed in a distributed environment. Introduction of comprehensive data models simplifies the handling and management of the data drastically since the models can be re-used once standardized. By defining a number of standardized hierarchical names, it can drastically reduce errors in the field. The names in the standard can be directly used for the configuration of devices and the communication between devices.

This part of IEC 61850, which is a technical specification, defines the one-to-one relationship of IEC 62056 OBIS codes to IEC 61850 Logical Nodes. The purpose is to increase the availability of revenue meter information to other applications defined within the IEC 61850 framework. This increased visibility will contribute to information available for smart grid applications.

The other benefit of defining these relationships is in regards to the design of protocol converters. With a clear specification, test cases can be developed as well as end user understanding of the quantities is unambiguous. Finally, end user configuration is simplified by limiting the options for translation.

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