Australian Standard™

Communication networks and systems in substations
Part 1: Introduction and overview

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Australian Electrical and Electronic Manufacturers Association
Commerce Queensland
Energy Networks Association
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PREFACE

This Standard was prepared by the Standards Australia Committee EL-050, Power System Control and Communication.

The objective of this Standard is to provide manufacturers and users of substation automation equipment and systems with an explanation of their structural elements, configurations and basic functions in order to provide an introduction to the more detailed standards of the series to be adopted in Australia.

This Standard is identical with, and has been reproduced from IEC/TR 61850-1, Ed.1 (2003), *Communication networks and systems in substations – Part 1: Introduction and overview*.

This Standard is Part of *Communication networks and systems in substations*. The series consists of the following:

Part 1: Introduction and overview (this Standard)

Part 2: Glossary

Part 3: General requirements

Part 4: System and project management

Part 5: Communication requirements for functions and device models

Part 6: Configuration description language for communication in electrical substations related to IEDs

Part 7.1: Basic communication structure for substation and feeder equipment—Principles and models

Part 7.2: Basic communication structure for substation and feeder equipment—Abstract communication service interface (ACSI)

Part 7.3: Basic communication structure for substation and feeder equipment—Common data classes

Part 7.4: Basic communication structure for substation and feeder equipment—Compatible logical node classes and data classes

Part 8.1: Specific communication service mapping (SCSM)—Mappings to MMS (ISO/IEC 9506-1 and ISO/IEC 9506-2) and to ISO/IEC 8802-3

Part 9.1: Specific communication service mapping (SCSM)—Sampled values over serial unidirectional multidrop point to point link

Part 9.2: Specific communication service mapping (SCSM)—Sampled values over ISO/IEC 8802-3

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1 Scope

This technical report is applicable to substation automation systems (SAS). It defines the communication between intelligent electronic devices (IEDs) in the substation and the related system requirements.

This part gives an introduction and overview of the IEC 61850 standard series. It refers to and includes text and Figures from other parts of the IEC 61850 standard series.

2 Reference documents

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

IEC 60870-5-103:1997, *Telecontrol equipment and systems – Part 5-103: Transmission protocols – Companion standard for the informative interface of protection equipment*

~~IEC 61850-3: *Communication networks and systems in substations – Part 3: General requirements*~~

AS 61850.3, *Communication networks and systems in substations, Part 3: General requirements* (identical to IEC 61850-3)

~~IEC 61850-5: *Communication networks and systems in substations – Part 5: Communication requirements for functions and device models*~~

AS 61850.5, *Communication networks and systems in substations, Part 5: Communication requirements for functions and device models* (identical to IEC 61850-5)

~~IEC 61850-7-1: *Communication networks and systems in substations – Part 7-1: Basic communication structure for substation and feeder equipment – Principles and models*~~

AS 61850.7.1, *Communication networks and systems in substations, Part 7.1: Basic communication structure for substation and feeder equipment—Principles and models* (identical to IEC 61850-7-1)

~~IEC 61850-7-2: *Communication networks and systems in substations – Part 7-2: Basic communication structure for substation and feeder equipment – Abstract communication service interface (ACSI)*~~

AS 61850.7.2, *Communication networks and systems in substations, Part 7.2: Basic communication structure for substation and feeder equipment—Abstract communication service interface (ACSI)* (identical to IEC 61850-7-2)

