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Australian Standard™

Communication networks and systems in substations
Part 3: General requirements

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Australia

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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 users and manufacturers of substation automation equipment with general requirements for the communication network.

This Standard is identical with, and has been reproduced from IEC/TR 61850-3, Ed.1 (2002), *Communication networks and systems in substations – Part 3: General requirements*.

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

Part 1: Introduction and overview

Part 2: Glossary

Part 3: General requirements (this Standard)

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 and object

This part of IEC 61850 applies to substation automation systems (SAS). It defines the communication between intelligent electronic devices (IEDs) in the substation and the related system requirements.

The specifications of this part pertain to the general requirements of the communication network, with emphasis on the quality requirements. It also deals with guidelines for environmental conditions and auxiliary services, with recommendations on the relevance of specific requirements from other standards and specifications.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61850. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61850 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

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 60654-4:1987, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

~~IEC 60694:1996, *Common specifications for high-voltage switchgear and controlgear standards*~~

AS 2650, *Common specifications for high-voltage switchgear and controlgear standards*

~~IEC 60870-2-1:1995, *Telecontrol equipment and systems – Part 2: Operating conditions – Section 1: Power supply and electromagnetic compatibility*~~

AS 60870.2.1, *Telecontrol equipment and systems,* Part 2.1: *Operating conditions—Power supply and electromagnetic compatibility* (identical to IEC 60870-2-1)

IEC 60870-2-2:1996, *Telecontrol equipment and systems – Part 2: Operating conditions – Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)*

~~IEC 60870-4:1990, *Telecontrol equipment and systems – Part 4: Performance requirements*~~

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