AS 60870.5.5—1998
IEC 60870-5-5:1995

Australian Standard®

Telecontrol equipment and systems

Part 5.5: Transmission protocols—Basic application functions

[IEC title: Telecontrol equipment and systems, Part 5: Transmission protocols—Section 5: Basic application functions]

This Australian Standard was prepared by Committee IT/24, Supervisory Control and Data Acquisition. It was approved on behalf of the Council of Standards Australia on 5 January 1998 and published on 5 April 1998.

The following interests are represented on Committee IT/24:

Association of Consulting Engineers Australia

Australasian Railway Association

Australian Communications Authority

Australian Electrical and Electronic Manufacturers Association

Australian Fire Authorities Council

Australian Gas Association

Australian Pipeline Industry Association

Australian Security Industry Association

AUSTROADS

CIGRE AP35

Electricity Supply Association of Australia

Fire Protection Association of Australia

Institution of Engineers Australia

Telstra Corporation

Water Services Association of Australia

This Standard was issued in draft form for comment as DR 97155.

Australian Standard®

Telecontrol equipment and systems

Part 5.5: Transmission protocols—Basic application functions

First published as AS 60870.5.5—1998.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7337 1857 4

PREFACE

This Standard was prepared by the Standards Australia Committee IT/24, Supervisory Control and Data Acquisition.

The Standard is identical with and has been reproduced from IEC 60870-5-5:1995, *Telecontrol equipment and systems*, Part 5: *Transmission protocols*, Section 5: *Basic application functions*.

IEC has decided to apply a new numbering system, the 60000 series, to all its existing and future publications, including amendments to existing Standards. As a consequence, IEC has modified the bibliographic references in its databases to accord with the new numbering system. All IEC publications issued since the beginning of 1997 will carry references in terms of the 60000 series numbering. Publications printed earlier than 1997 will continue to carry the old series of numbers. For example, a reference to the IEC 60870 series of Standards will be to IEC 870 if the current edition of the Standard was printed prior to 1997.

This Standard is identical with a pre-1997 document therefore it uses the old series of numbers.

The objective of this Standard is to provide manufacturers and users of telecontrol equipment and systems with a specification for basic application functions in order to achieve system interoperability within Australia.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

The references to international Standards should be replaced by references to the following Australian Standards:

Reference to International Standard or other publication		*Australian Standard*	
IEC		AS	
50	International Electrotechnical Vocabulary (IEV)	1852	International electrotechnical vocabulary
50(371)	Chapter 371: Telecontrol	1852.371	Part 371: Telecontrol
870	Telecontrol equipment and systems	60870	Telecontrol equipment and systems
870-1-1	Part 1: General considerations—Section One: General principles	60870.1.1	Part 1.1: General considerations—General principles
870-5-1	Part 5: Transmission protocols—Section One: Transmission frame formats	60870.5.1	Part 5.1: Transmission protocols—Transmission frame formats
870-5-2	Part 5: Transmission protocols—Section 2: Link transmission procedures	60870.5.2	Part 5.2: Transmission protocols—Link transmission procedures
870-5-3	Part 5: Transmission protocols—Section 3: General structure of application data	60870.5.3	Part 5.3: Transmission protocols—General structure of application data
870-5-4	Part 5: Transmission protocols—Section 4: Definition and coding of application information elements	60870.5.4	Part 5.4: Transmission protocols—Definition and coding of application information elements

ISO		AS	
7498	Information processing systems— Open Systems Interconnection— Basic Reference Model	2777	Information processing systems— Open Systems Interconnection— Basic reference model

CONTENTS

AUSTRALIAN STANDARD

Telecontrol equipment and systems

Part 5.5:
Transmission protocols—Basic application functions

1 Scope and object

This section of IEC 870-5 applies to telecontrol equipment and systems with coded bit serial data transmission for monitoring and controlling geographically widespread processes. It defines basic application functions that perform standard procedures for telecontrol systems. Basic application functions are application procedures that reside beyond layer 7 (application layer) of the ISO reference model for open communication systems. The defined application procedures utilize standard services of the application layer. The specifications of this section serve as basic standards for different companion standards that will be elaborated in detail for specific telecontrol tasks. Each companion standard may use a specific selection of the defined functions. Basic application functions, which are not in this section but are found necessary for defining tele control companion standards, should be specified in these companion standards. Only the definition of companion standards will enable interoperability among compatible telecontrol equipment.

The general structure of application service data units (ASDUs) used by procedures specified in this section are defined in IEC 870-5-3.

Standards specified in this section are compatible with standards defined in sections 1 to 4 of IEC 870-5 (see clause 2).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 870-5. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 870-5 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 50 (371): 1984, *International Electrotechnical Vocabulary (IEV) — Chapter 371: Telecontrol*

IEC 870-1-1: 1988, *Telecontrol equipment and systems — Part 1: General considerations — Section One: General principles*

IEC 870-5-1: 1990, *Telecontrol equipment and systems — Part 5: Transmission protocols — Section One: Transmission frame formats*