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Australian Standard®

Telecontrol equipment and systems

Part 5.2: Transmission protocols—Link transmission procedures

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Part 5.2: Transmission protocols—Link transmission procedures

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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 60870-5-2:1992, *Telecontrol equipment and systems*, Part 5: *Transmission protocols*, Section 2: *Link transmission procedures*.

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 of link transmission procedure protocols 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 term 'normative' has been used in this Standard to define the application of the annex to which it applies. A 'normative' annex is an integral part of a Standard.

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 (IEV)
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: General considerations—General principles
870-5-1	Part 5: Transmission protocols Section One: Transmission frame formats	60870.5.1	Part 5: General considerations—Transmission frame formats

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NOTES

AUSTRALIAN STANDARD

Telecontrol equipment and systems

Part 5.2:
Transmission protocols—Link transmission procedures

1 Scope and object

1.1 *Scope*

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.

The defined link procedures are restricted to message transmission sequences operating with size 1 windows. This means that the link layer of the primary station (station that initiates a message transfer) accepts a request for a new message transfer only when a previously accepted request for a message transfer is terminated either successfully or with an error indication. The procedures are applicable to balanced and unbalanced transmission in telecontrol systems using half duplex or duplex transmission channels.

1.2 *Object*

The standard transmission procedures defined by this section are applicable to point-to-point, multiple point-to-point, multipoint-star, multipoint-partyline and multipoint-ring configurations as described in 4.4 of IEC 870-1-1.

The data transmission functions in these systems are composed of three basic types of link transmission services, namely:

1. SEND/NO REPLY 2. SEND/CONFIRM 3. REQUEST/RESPOND

The two services SEND/CONFIRM and REQUEST/RESPOND consist of a sequence of non-separable dialogue elements between requesting stations and responding stations.

The protocol defined in this section accepts and processes only a single link transmission service at a time in each direction of a bidirectional communication system. Each transmission service is terminated either successfully or with error reports before the next transmission service begins. This means that the window size for successive packet transfers is 1 and the specified error recovery for the transmission services SEND/CONFIRM and REQUEST/RESPOND utilize the stop-and-wait method for automatic repeat requests (ARQ).