

Australian Standard[®]

Telecontrol equipment and systems

**Part 1.2: General considerations—
Guide for specifications**

[IEC title: Telecontrol equipment and systems, Part 1: General considerations, Section 2—Guide for specifications]

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 23 September 1997 and published on 5 January 1998.

The following interests are represented on Committee IT/24:

Association of Consulting Engineers Australia
AUSTEL
Australasian Railway Association
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

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition and any amendments thereto.

All details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 97094.

Australian Standard[®]

Telecontrol equipment and systems

**Part 1.2: General considerations—
Guide for specifications**

First published as AS 60870.1.2—1998.

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 60870-1-2:1989, *Telecontrol equipment and systems, Part 1: General considerations, Section 2—Guide for specifications*.

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 to 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 guidelines for establishing their specifications in order to ensure their consistency with other such standards to be adopted in 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.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
INTRODUCTION	1
Clause	
1. Scope	1
2. Object	1
3. Description of the telecontrol system and its functions	2
3.1 Description of the telecontrolled (or telemonitored) process	2
3.2 Functions of telecontrol systems	2
3.3 Data quantities	5
3.4 Man-machine interface	8
3.5 Characteristics of the data flow	8
4. Specification of the data transmission network	8
4.1 Data network configuration	8
4.2 Specification of telecontrol data transmission	9
4.3 Representation of the planned data network in a block diagram	10
5. Equipment specifications	10
5.1 Overview of the equipment of telecontrol systems	10
5.2 Specifications of the environmental conditions	11
5.3 Specifications of interfaces between the different equipment of telecontrol systems	12
5.4 Specification of the power supply equipment	13
5.5 Mechanical specifications	13
5.6 Specifications of transport conditions	14
5.7 System tests and commissioning procedures	14
5.8 Operational conditions, guarantees	14
5.9 Documentation (under consideration)	14
Figure	
Block diagram of the data flow (example)	15

Currently in preview, click buy full version

AUSTRALIAN STANDARD

Telecontrol equipment and systemsPart 1.2:
General considerations—Guide for specifications

INTRODUCTION

Planning of telecontrol systems and defining the specifications of a system and of its equipment are complex and demand a large amount of detailed information. There are not only application functions of the system to be defined but also the operational parameters, the local environmental conditions and the data transmission paths available as well as their characteristics. The interfaces between the components of the system and other equipment facilities such as power supply requirements shall also be specified.

Many aspects of this field are covered by standards within the IEC 870 series on telecontrol equipment and systems but many decisions are still left to the engineers who have to plan a system and establish the specifications.

1. Scope

This series of standards applies to telecontrol equipment and systems with coded bit serial data transmission for monitoring and control of geographically widespread processes.

2. Object

This section presents guidelines but not standards for establishing specifications for telecontrol systems and equipment following the other IEC standards on telecontrol systems and other relevant international standards and recommendations such as CCITT recommendations. It also facilitates the comparison of equipment of different manufacturers.

1. Planning of telecontrol systems should be subdivided into clearly defined steps:
 - The first step involves a consideration of the operational requirements of telecontrol systems (clause 3 of this section).
 - In the second step, the conditions and limitations of the data transmission network are considered and the most suitable utilization is specified (clause 4 of this section).