



MALAYSIAN STANDARD

MS IEC 60870-5-2:2013

**Telecontrol equipment and systems -
Part 5: Transmission protocols -
Section 2: Link transmission procedures
(IEC 870-5-2:1992, IDT)**

ICS: 33.200

Descriptors: telecontrol equipment and systems, transmission protocols, link transmission procedures

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Committee representation

The Industry Standards Committee on Generation, Transmission and Distribution of Energy (ISC E) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia
Atomic Energy Licensing Board
Department of Standards Malaysia
Federation of Malaysian Manufacturers
Jabatan Kerja Raya Malaysia
Malaysian Association of Standards Users
Malaysian Cable Manufacturers Association
Malaysian Electrical Appliances and Distributors Association
Malaysian Green Technology Corporation
Ministry of Domestic Trade, Co-operatives and Consumerism
Ministry of International Trade and Industry
Persatuan Kontraktor Elektrikal dan Mekanikal Melayu Malaysia
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd
Suruhanjaya Komunikasi dan Multimedia Malaysia
Suruhanjaya Tenaga
Tenaga Nasional Berhad
The Electrical and Electronics Association of Malaysia
The Institution of Engineers, Malaysia
Universiti Teknologi Malaysia

The Technical Committee on High Voltage Power Transmission which supervised the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

Federation of Malaysian Manufacturers
Malaysian National Committee of CIGRE
SIRIM Berhad (Secretariat)
Suruhanjaya Tenaga
Syarikat SESCO Berhad
Tenaga Nasional Berhad (Bahagian Penghantaran)
The Electrical and Electronics Association of Malaysia
The Institution of Engineers, Malaysia
Universiti Teknologi Malaysia

The Working Group on Power Systems Management and Associated Information Exchange which recommended the adoption of the IEC Standard as Malaysian Standard consists of representatives from the following organisations:

ABB Malaysia Sdn Bhd
Petroleum Nasional Berhad
Prestigious Discovery Sdn Bhd
PSI InControl Sdn Bhd
SIRIM Berhad (Secretariat)
Suruhanjaya Tenaga
Tenaga Nasional Berhad (Bahagian Penghantaran)
The Institution of Engineers, Malaysia
TNB Research Sdn Bhd
Universiti Tenaga Nasional

National foreword

The adoption of the IEC Standard as a Malaysian Standard was recommended by the Working Group on Power Systems Management and Associated Information Exchange under the authority of the Industry Standards Committee on Generation, Transmission and Distribution of Energy.

This Malaysian Standard is identical with IEC 870-5-2:1992, *Telecontrol equipment and systems - Part 5: Transmission protocol - Section 2: Link transmission procedures*, published by the International Electrotechnical Commission (IEC). However, for the purposes of this Malaysian Standard, the following apply:

- a) in the source text, "this International Standard" should read "this Malaysian Standard";
- b) the comma which is used as a decimal sign (if any), to read as a point;
- c) the basis IEC 870-5-1 is printed in English and French version. However, only the English version is retained for this Malaysian Standard; and
- d) reference to International Standards should be replaced by corresponding Malaysian Standards as follows:

Referenced International Standards

Corresponding Malaysian Standards

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

MS IEC 60870-5-1, *Telecontrol equipment and systems - Part 5: Transmission protocols - Section One - Transmission frame formats*

MS IEC 60870-5 consists of the following sections, under the general title *Telecontrol equipment and systems - Part 5: Transmission protocols*:

Section One - Transmission frame formats

Section 2: Link transmission procedures

Section 3: General structure of application data

Section 4: Definition and coding of application information elements

Section 5: Basic application functions

In 1997, the IEC introduced a new numbering system for all of its International Standards, guides and technical reports. The new number for the IEC Standard is IEC 60870-5-2.

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

TELECONTROL EQUIPMENT AND SYSTEMS

Part 5: Transmission protocols

Section 2: Link transmission procedures

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

This section of International Standard IEC 870-5 has been prepared by IEC Technical Committee No. 57: Telecontrol, teleprotection and associated telecommunications for electric power systems.

The text of this section is based on the following documents:

DIS	Report on Voting
57(CO)57	57(CO)60

Full information on the voting for the approval of this section can be found in the Voting Report indicated in the above table.

Annex A is an integral part of this section.

INTRODUCTION

This section of IEC 870-5 is part of a series which highlights specific requirements and conditions for data transmission in telecontrol systems and describes ways to meet those requirements.

In terms of the OSI (Open System Interconnection) reference model of ISO-CCITT, which subdivides communication into seven layers, this section is concerned with the procedures required by the second layer: the link layer.

Section 1 covers the two bottom layers: the physical layer and the link layer, the latter being explained in terms of admissible frame formats and rules for frame synchronization. This section specifies standard link transmission procedures which operate on the link layer.