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Telecontrol equipment and systems –

Part 6-802:

Telecontrol protocols compatible with ISO standards and ITU-T recommendations – TASE.2 Object models

Matériels et systèmes de téléconduite –

Partie 6-802:

*Protocoles de téléconduite compatibles avec les
normes ISO et les recommandations de l'UIT-T –
Modèles d'objets TASE.2*

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TELECONTROL EQUIPMENT AND SYSTEMS –

**Part 6-802: Telecontrol protocols compatible with
ISO standards and ITU-T recommendations –
TASE.2 Object models**

FOREWORD

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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60870-6-802 has been prepared by IEC technical committee 57: Power system control and associated communications.

This second edition cancels and replaces the first edition published in 1997 and constitutes a technical revision.

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

FDIS	Report on voting
57/575/FDIS	57/583/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

Annex A is for information only.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be:

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

The primary purpose of Telecontrol Application Service Element (TASE.2) is to transfer data between control systems and to initiate control actions. Data is represented by object instances. This part of IEC 60870 proposes object models from which to define object instances. The object models represent objects for transfer. The local system may not maintain a copy of every attribute of an object instance.

The object models presented herein are specific to "control centre" or "utility" operations and applications; objects required to implement the TASE.2 protocol and services are found in IEC 60870-6-503. Since needs will vary, the object models presented here provide only a base; extensions or additional models may be necessary for two systems to exchange data not defined within this standard.

It is by definition that the attribute values (i.e. data) are managed by the owner (i.e. source) of an object instance. The method of acquiring the values are implementation dependent; therefore accuracy is a local matter.

The notation of the object modelling used for the objects specified in clause 5 is defined in IEC 60870-6-503. It should be noted that this part of IEC 60870 is based on the TASE.2 services and protocol. To understand the modelling and semantics of this standard, some basic knowledge of IEC 60870-6-503 is recommended.

Clause 5 describes the control centre-specific object models and their application. They are intended to provide information to explain the function of the data.

Clause 6 defines a set of MMS type descriptions for use in exchanging the values of instances of the defined object models. It is important to note that not all attributes of the object models are mapped to types. Some attributes are described simply to define the processing required by the owner of the data and are never exchanged between control centres. Other attributes are used to determine the specific types of MMS variables used for the mapping, and therefore do not appear as exchanged values themselves. A single object model may also be mapped onto several distinct MMS variables, based on the type of access and the TASE.2 services required.

Clause 7 describes the mapping of instances of each object type MMS variables and named variable lists for implementing the exchange.

Clause 8 describes device-specific codes and semantics to be used with the general objects.

An informative annex is included which describes some typical interchange scheduling scenarios, along with the use of TASE.2 objects to implement the schedule exchange.

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1 Scope

This part of IEC 60870 specifies a method of exchanging time-critical control centre data through wide-area and local-area networks using a full ISO compliant protocol stack. It contains provisions for supporting both centralized and distributed architectures. The standard includes the exchange of real-time data indications, control operations, time series data, scheduling and accounting information, remote program control and event notification.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60870-5-101:1995, *Telecontrol equipment and systems – Part 5: Transmission protocols – Section 101: Companion standard for basic telecontrol tasks*

IEC 60870-6-503:2002, *Telecontrol equipment and systems – Part 6: Telecontrol protocols compatible with ISO standards and ITU-T recommendations – Section 503: TASE.2 Services and protocol*

ISO 9506-1:2000, *Industrial automation systems – Manufacturing message specification – Part 1: Service definition*

ISO 9506-2:2000, *Industrial automation systems – Manufacturing message specification – Part 2: Protocol specification*