

Measuring relays and protection equipment — Protection communication interfacing Part 1. General

The European Standard EN 61733-1 : 1996 has the status of a
British Standard

ICS 29.120.70; 35.200

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PEL/95, Measuring relays and protection equipment, upon which the following bodies were represented:

- Association of Consulting Engineers
- Electricity Association
- Federation of the Electronics Industry
- Transmission and Distribution Association (BEAMA Ltd.)

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 July 1996

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National foreword

This British Standard has been prepared by Technical Committee PEL/95 and is the English language version of EN 61733-1 : 1996 *Measuring relays and protection equipment – Protection communication interfacing Part 1: General*, published by the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC 1733-1 : 1995 published by the International Electrotechnical Commission (IEC).

This standard was intended to be the first of a series from TC 95. However, as TC 57, Telecontrol, protection and associated telecommunications for electric power systems, also has an interest in this field the work will be continued on a joint basis between the two technical committees. Administration and publication, however, will be undertaken by TC 57.

Cross-references

Publication referred to	Corresponding British Standard
IEC 255-1 : 1975	BS 5992 <i>Electrical relays</i> Part 2 : 1980 <i>Specification for all-or-nothing electrical relays</i>
ISO 7498 : 1984	BS 6568 <i>Reference model of open systems inteconnection</i> Part 1 : 1988 <i>Basic reference model (incorporating connectionless-mode transmission)</i>

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

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Descriptors: Measuring relays, protection equipment, communication interfacing

English version

**Measuring relays and protection equipment
Protection communication interfacing
Part 1: General**

(IEC 1733-1 : 1995)

Relais de mesure et dispositifs de protection
Interface de communication des protections
Partie 1: Généralités
(CEI 1733-1 : 1995)

Meßrelais und Schutzeinrichtungen
Schutz-Kommunikations-Schnittstelle
Teil 1: Allgemeines
(IEC 1733-1 : 1995)

This European Standard was approved by CENELEC on 1995-11-28. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 95/17/FDIS, future edition 1 of IEC 1733-1, prepared by IEC TC 95, Measuring relays and protection equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61733-1 on 1995-11-28.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-09-01

Annexes designated 'normative' are part of the body of the standard. In this standard, annex ZA is normative. Annex ZA has been added by CENELEC.

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INTRODUCTION

This International Standard is Part 1 of a series of standards covering protection communication interfacing.

This standard presents the general overview of the structure of communication-based, hierarchical control and monitoring systems in electrical installations. The overview outlines the architectures, protocol profiles, and other design features presented in prospective additional parts.

Today the availability of low-cost microprocessors, with increased capability, supports the concept of electrical installations in which distributed devices, built by different manufacturers, can be used in an open system. In an open system the microprocessor provides the base element of distributed functional units that allows the exchange of information inside the system via communication links.

The above concept will only be achieved in practice after an IEC standard is made available that clearly defines the communication criteria among distributed and centralised devices, the interoperability rules and the responsibility of different digital devices (protection, monitoring and control) that operate together in the same open system.

The following subjects have been included in this part of IEC 1733:

- a) typical hierarchical structure of an electrical installation;
- b) typical information interchange in an electrical installation;
- c) needs for communication between digital protection equipment and related monitoring and control devices;
- d) the transmission media.

The main links between other IEC committees and TC 95 are shown in the following block diagram.