

TECHNICAL REPORT

**IEC
TR
61158-1**

First edition
2003-04

**Digital data communications
for measurement and control –
Fieldbus for use in industrial
control systems –**

**Part 1:
Overview and guidance for the
IEC 61158 series**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DIGITAL DATA COMMUNICATIONS FOR MEASUREMENT AND CONTROL –
FIELDBUS FOR USE IN INDUSTRIAL CONTROL SYSTEMS –**

Part 1: Overview and guidance for the IEC 61158 series

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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Technical reports do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful by the maintenance team.

IEC 61158-1, which is a Technical Report, has been prepared by subcommittee 65C: Digital communications, of IEC technical committee 65: Industrial-process measurement and control.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
65C/267/DTR	65C/277/RVC

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

This publication has been drafted in accordance with ISO/IEC Directives, Part 2.

IEC 61158 consists of the following parts, under the general title *Digital data communications for measurement and control – Fieldbus for use in industrial control systems*:

Part 1: Overview and guidance for the IEC 61158 series

Part 2: Physical Layer specification and service definition

Part 3: Data Link Service definition

Part 4: Data Link protocol specification

Part 5: Application Layer Service definition

Part 6: Application Layer protocol specification

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date the publication will be

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

NOTE When revised, this report will be synchronized with the other parts of the IEC 61158 series.

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DIGITAL DATA COMMUNICATIONS FOR MEASUREMENT AND CONTROL – FIELDBUS FOR USE IN INDUSTRIAL CONTROL SYSTEMS –

Part 1: Overview and guidance for the IEC 61158 series

1 Scope

This Technical Report presents an overview and guidance for the IEC 61158 series. It explains the structure and content of IEC 61158, shows how to use it in combination with IEC 61784, and relates the structure to the ISO/IEC 7498 OSI Basic Reference Model.

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 61158-2, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Part 2: Physical Layer specification and service definition*

IEC 61158-3, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Part 3: Data Link Service definition*

IEC 61158-4, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Part 4: Data Link protocol specification*

IEC 61158-5, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Part 5: Application Layer service definition*

IEC 61158-6, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Part 6: Application Layer protocol specification*

IEC 61784, *Digital data communications for measurement and control — Fieldbus for use in industrial control systems – Profile sets for continuous and discrete manufacturing*

ISO/IEC 7498-1, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model*

3 Definitions and abbreviations

This part of IEC 61158 is based partially on the concepts developed in ISO/IEC 7498-1 and makes use of the following definitions and abbreviations derived from that standard: