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Irish Standard
I.S. EN 61158-1:2014

Industrial communication networks - Fieldbus specifications - Part 1: Overview and guidance for the IEC 61158 and IEC 61784 series

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The text of document 65C/757/FDIS, future edition 1 of IEC 61158-1, prepared by SC 65C “Industrial networks” of IEC/TC 65 “Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61158-1:2014.

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INDUSTRIAL COMMUNICATION NETWORKS – FIELDBUS SPECIFICATIONS –

Part 1: Overview and guidance for the IEC 61158 and IEC 61784 series

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Attention is drawn to the fact that the use of some of the associated protocol types is restricted by their intellectual-property-right holders. In all cases, the commitment to limited release of intellectual-property-rights made by the holders of those rights permits a layer protocol type to be used with other layer protocols of the same type, or in other type combinations explicitly authorized by their respective intellectual property right holders.

NOTE Combinations of protocol types are specified in IEC 61784-1 and IEC 61784-2.

International Standard IEC 61158-1 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This first edition cancels and replaces the third edition of IEC/TR 61158-1 published in 2010. This edition constitutes a technical revision.

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This first edition includes the following significant changes with respect to the previous Technical Report:

- updates of the references to and information about the IEC 61158 series, IEC 61784-1, IEC 61784-3, IEC 61784-5 series and IEC 61918 throughout the document;
- new Type 23 for profile family 8;
- new Type 24 and the related profile family CPF 19;
- new Subclause 7.7 Communication profiles for wireless communication networks;
- new Clause 11 Fieldbus system requirements;
- new Annex B Media selection for fieldbus systems.

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

FDIS	Report on voting
65C/757/FDIS	65C/767/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.

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

A list of all the parts of the IEC 61158 series, published under the general title *Industrial communication networks – Fieldbus specifications*, can be found on the IEC web site.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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INDUSTRIAL COMMUNICATION NETWORKS – FIELDBUS SPECIFICATIONS –

Part 1: Overview and guidance for the IEC 61158 and IEC 61784 series

1 Scope

This document specifies the generic concept of fieldbuses.

This document also presents an overview and guidance for the IEC 61158 series by:

- explaining the structure and content of the IEC 61158 series;
- relating the structure of the IEC 61158 series to the ISO/IEC 7498-1 OSI Basic Reference Model;
- showing the logical structure of the IEC 61784 series;
- showing how to use parts of the IEC 61158 series in combination with the IEC 61784 series;
- providing explanations of some aspects of the IEC 61158 series that are common to the type specific parts of the IEC 61158-5 including the application layer service description concepts and the generic fieldbus data types.

2 Normative references

None.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
communication system
arrangement of hardware, software and propagation media to allow the transfer of messages from one application to another

3.1.2
fieldbus
communication system based on serial data transfer as typically used in industrial automation and process control applications

3.1.3
fieldbus system
system using a fieldbus with connected devices

3.1.4
message
ordered series of octets intended to convey information

[SOURCE: ISO/IEC 2382-16:1996, 16.02.01, modified]

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