

INTERNATIONAL STANDARD



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



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IEC 61158-1

Edition 2.0 2019-04

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 25.040.40; 33.040.40; 35.100.05

ISBN 978-2-8322-6723-3

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references	8
3 Terms, definitions and abbreviated terms	8
3.1 Terms and definitions.....	8
3.2 Abbreviations.....	9
4 Guidelines for implementers and users	9
4.1 Background and purpose	9
4.2 Supported options.....	10
4.3 Benefits from using a common and formal style	10
5 Concept of the IEC 61158 series	11
6 Mapping onto the OSI Basic Reference Model	13
6.1 Overview.....	13
6.2 Physical layer service and protocol	14
6.3 Data-link layer service	14
6.4 Data-link layer protocol	15
6.5 Application layer service	15
6.6 Application layer protocol.....	16
7 Structure of IEC 61158 and IEC 61784 series.....	17
7.1 The IEC 61158 physical layer	17
7.2 The IEC 61158 data-link layer.....	17
7.3 The IEC 61158 application layer	18
7.4 IEC 61784-1 and IEC 61784-2 fieldbus profiles.....	18
7.5 IEC 61784-3 functional safety communication profiles.....	22
7.5.1 General	22
7.5.2 General concepts and technology-specific profiles.....	22
7.5.3 Assessment Guideline	24
7.6 IEC 61784-5 installation profiles	24
7.7 Communication profiles for wireless communication networks.....	26
8 Brief summary of the characteristics of service and protocol for each fieldbus type	27
8.1 Summary of the physical layer service and protocol characteristics.....	27
8.1.1 Type 1: media.....	27
8.1.2 Type 2: Coaxial wire and optical media.....	27
8.1.3 Type 3: Twisted-pair wire and optical media	27
8.1.4 Type 4: Wire medium.....	28
8.1.5 Type 5: Wire and optical media.....	28
8.1.6 Type 6: Void	28
8.1.7 Type 7: Wire and optical media.....	28
8.1.8 Type 8: Twisted-pair wire and optical media	28
8.1.9 Type 9: Wire and optical media.....	28
8.1.10 Type 10: Wire, optical media and wireless	28
8.1.11 Type 11: Wire and optical media.....	28
8.1.12 Type 12: Wire and optical media.....	28
8.1.13 Type 13: Wire and optical media.....	28
8.1.14 Type 14: Wire and optical media.....	28
8.1.15 Type 15: Wire and optical media.....	29

8.1.16	Type 16: Optical media	29
8.1.17	Type 17: Wire and optical media	29
8.1.18	Type 18: Media	29
8.1.19	Type 19: Wire and optical media	29
8.1.20	Type 20	29
8.1.21	Type 21: Wire and optical media	29
8.1.22	Type 22: Wire and optical media	29
8.1.23	Type 23: Wire and optical media	29
8.1.24	Type 24: Twisted-pair wire media	29
8.1.25	Type 25:	29
8.1.26	Type 26: Wire and optical media	29
8.2	Summary of data-link layer service characteristics	30
8.3	Summary of data-link layer protocol characteristics	31
8.4	Summary of application layer service characteristics	33
8.5	Summary of application layer protocol characteristics	34
9	Application layer service description concepts	37
9.1	Overview	37
9.2	Architectural relationships	37
9.2.1	Relationship to the application layer of the OSI Basic Reference Model	37
9.2.2	Relationships to other fieldbus entities	38
9.3	Fieldbus application layer structure	39
9.3.1	Overview	39
9.3.2	Fundamental concepts	40
9.3.3	Fieldbus application processes	40
9.3.4	Application process objects	44
9.3.5	Application entities	46
9.3.6	Fieldbus application service elements	46
9.3.7	Application relationships	50
9.4	Fieldbus application layer naming and addressing	52
9.4.1	General	52
9.4.2	Identifying objects accessed through the FAL	52
9.4.3	Addressing APs accessed through the FAL	53
9.5	Architecture summary	53
9.6	Notional FAL service procedures	54
9.6.1	Notional FAL confirmed service procedures	54
9.6.2	Notional FAL unconfirmed service procedures	54
9.7	Common FAL attributes	55
9.8	Common FAL service parameters	55
9.9	APDU size	56
10	Data type ASE	56
10.1	Overview	56
10.1.1	General	56
10.1.2	Overview of basic types	57
10.1.3	Overview of fixed-length types	58
10.1.4	Overview of constructed types	58
10.1.5	Specification of user-defined data types	58
10.1.6	Transfer of user data	58
10.2	Formal definition of data type objects	59
10.2.1	Data type class	59

11	Fieldbus system requirements	60
11.1	General.....	60
11.2	Industrial control network	61
11.3	Communication between industrial control networks and other networks	61
11.4	Quality of service features of an industrial control network	61
11.4.1	General	61
11.4.2	Control data transfer mechanisms	62
11.5	Special requirements for wireless networks.....	63
Annex A	(informative) Trade name declarations	64
Annex B	(informative) Media selection for fieldbus systems	67
B.1	General.....	67
B.2	Cabled media.....	67
B.3	Wireless media	67
B.4	Media needing special consideration.....	67
B.5	Performance characteristics of open and public networks	67
B.5.1	Public network types.....	67
B.5.2	Performance characteristics of public networks	68
Bibliography		69
Figure 1	– Example of a fieldbus system	11
Figure 2	– Concept of DL/AL to separate service and protocol parts	12
Figure 3	– Basic fieldbus reference model	13
Figure 4	– General model of physical layer	14
Figure 5	– Relationship of the Data-link layer to other fieldbus layers and to users of the fieldbus data-link service.....	15
Figure 6	– Relationship of the fieldbus Application layer to other fieldbus layers and to users of the fieldbus application service.....	16
Figure 7	– Structure of communication profile families	19
Figure 8	– Example of a CPF structure	20
Figure 9	– Document structure of IEC 61918 and the CPF specific part of IEC 61784-5	26
Figure 10	– Relationship to the OSI Basic Reference Model	38
Figure 11	– Architectural positioning of the fieldbus application layer.....	38
Figure 12	– Client/server interactions.....	41
Figure 13	– Pull model interactions	42
Figure 14	– Push model interactions	43
Figure 15	– APOs services conveyed by the FAL	44
Figure 16	– Application entity structure	46
Figure 17	– Example FAL ASEs	48
Figure 18	– FAL management of objects	48
Figure 19	– ASE service conveyance	49
Figure 20	– Defined and established AREPs	52
Figure 21	– FAL architectural components	53
Figure 22	– Data-type class hierarchy example	57

Table 1 – OSI and IEC 61158 layers	13
Table 2 – CPF, CP, and type relations	21
Table 3 – Types of timeliness defined for publisher/subscriber interactions.....	43
Table A.1 – Trade names of CPFs and CPs	64

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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 second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

- 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 25 and the related profile family CPF 20;
- new Type 26 and the related profile family CPF 21.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
65C/944/FDIS	65C/953/RVD

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

This document 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 document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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- replaced by a revised edition, or
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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 part of IEC 61158 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

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

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