ICS 25.040.40, 33.020,
35.240.50

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August 2014

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Industrial communication networks - Installation of communication networks in industrial premises

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Obsahuje: EN 61918:2013, EN 61918:2013/AC May:2014, IEC 61918:2013

Oznámením tejto normy sa od 02.10.2016 ruší
STN EN 61918 (18 4020) z februára 2009

119249

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61918

December 2013

ICS 25.040.40; 33.020; 35.240.50

Supersedes EN 61918:2008

English version

Industrial communication networks - Installation of communication networks in industrial premises

(IEC 61918:2013, modified)

Réseaux de communication industriels - Installation de réseaux de communication dans des locaux industriels
(CEI 61918:2013, modifiée)

Industrielle Kommunikationsnetze – Installation von Kommunikationsnetzen in Industrieanlagen
(IEC 61918:2013, modifiziert)

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61918:2013 E

Foreword

The text of document 65C/737/FDIS, future edition 3 of IEC 61918, 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 61918:2013.

A draft amendment, which covers common modifications to IEC 61918:2013, was prepared by CLC/TC 65X "Industrial-process measurement, control and automation" and approved by CENELEC.

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-10-02
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2016-10-02

This document supersedes EN 61918:2008.

EN 61918:2013 includes the following significant technical changes with respect to EN 61918:2008:

– some terms and abbreviated terms have been added to Clause 3;

– Subclauses 4.4.3.4.1, 4.4.7.2.1, and 4.4.7.3 have been updated;

– Subclause 5.7.4.3 has been updated as result of the revision of the installation profiles;

– Subclause 6.2.3.1 has been updated;

– Subclause 8.1 has been updated;

– Figure 2, Figure 13, Figure 15, Figure 29, Figure H.1, Table 3, Table 6, Table 7, Table 14, Table B.3 and Table B.5 have been updated;

– a new Figure 35 has been added;

– a new Table 10 has been added;

– Annex D and Annex M have been extended to cover additional communication profile families;

– Annex F has been extended to cover conductor sizes in electrical cables;

– Annex H has been made normative; some common requirements are extended as result of the revision of the installation profiles;

– a new informative Annex O has been added.

This standard is to be used in conjunction with the EN 61784-5 series with regard to the installation of communication profiles (CPs). This standard is to be used in conjunction with ISO/IEC 14763-2 with regard to the installation of generic cabling in accordance with EN 50173-3.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61918:2013 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

- **Introduction**

Replace the last paragraph before Figure 2 by:

For the installation of generic cabling this standard is to be used in conjunction with EN 50174 (see Figure 2).

- **Figure 2 – Standards relationships**

Replace the original figure by the following one, which shows the standards relationships at European level:

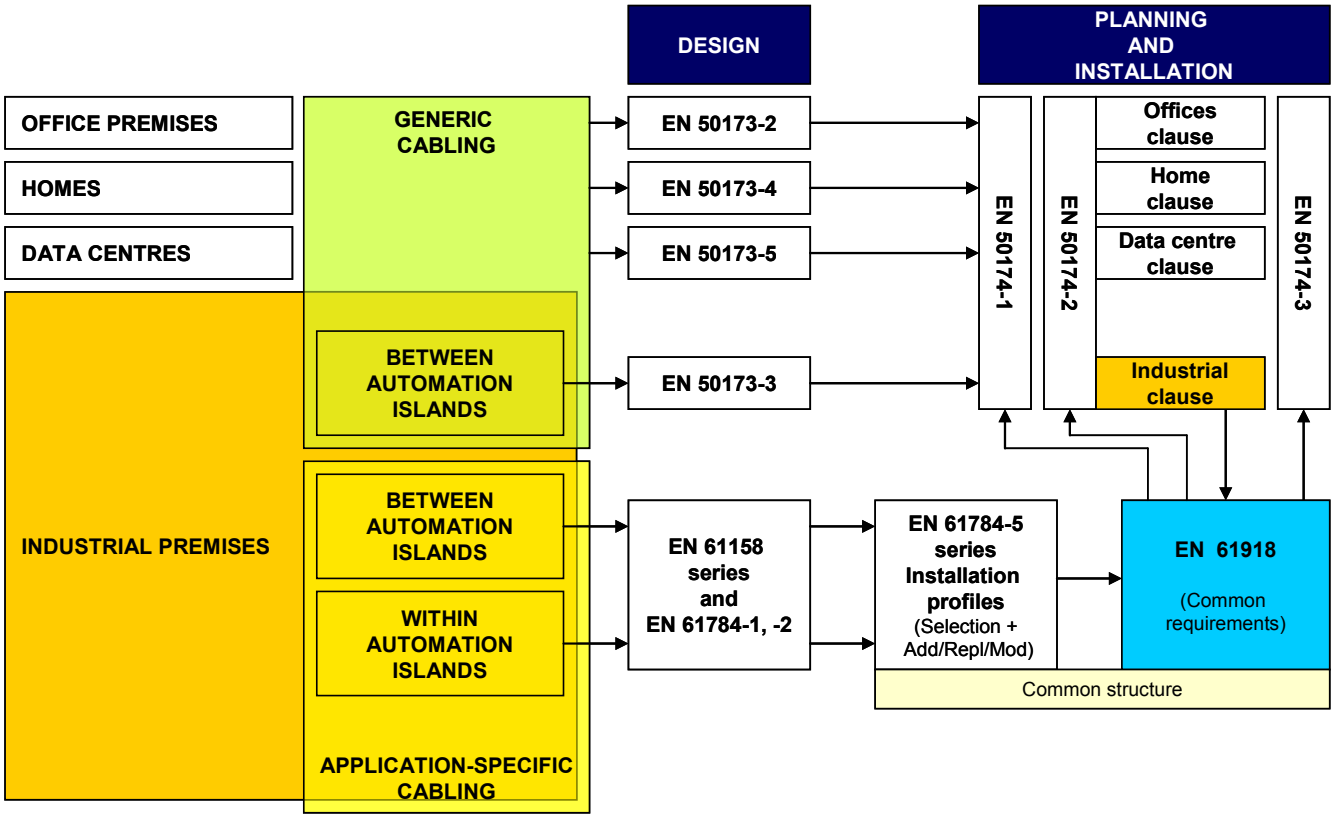

Figure 2 - Network installation: Standards relationships at European level

- **2 Normative references**

In EN 61918 the normative references shall be modified as follows: EN 50288 replaces IEC 61156 and HD 60364 replaces IEC 60364.

- In IEC 61918 the generic cabling is intended as ‘in accordance with ISO/IEC 24702’.

In EN 61918 the generic cabling shall be intended as ‘in accordance with EN 50173-3’.

- In the Bibliography, **add** the following notes for the standards indicated:

IEC 60060-1	NOTE	Harmonized as EN 60060-1.
IEC 60079-11:2011	NOTE	Harmonized as EN 60079-11:2012 (not modified).
IEC 60079-14	NOTE	Harmonized as EN 60079-14.
IEC 60228	NOTE	Harmonized as EN 60228.
IEC 60332-1 series	NOTE	Harmonized in EN 60332-1 series.
IEC 60364 series	NOTE	Harmonized in EN/HD 60364 series.
IEC 60512-4 series	NOTE	Harmonized in EN 60512-4 series.
IEC 60664-1	NOTE	Harmonized as EN 60664-1.
IEC 60670-1:2002	NOTE	Harmonized as EN 60670-1:2005 (modified).
IEC 60950-21	NOTE	Harmonized as EN 60950-21.
IEC 61000-4-4	NOTE	Harmonized as EN 61000-4-4.
IEC 61000-6-2	NOTE	Harmonized as EN 61000-6-2.
IEC 61000-6-4	NOTE	Harmonized as EN 61000-6-4.
IEC 61010-1	NOTE	Harmonized as EN 61010-1.
IEC 61131-2:2007	NOTE	Harmonized as EN 61131-2:2007 (not modified).
IEC 61508-4	NOTE	Harmonized as EN 61508-4.
IEC 61984:2008	NOTE	Harmonized as EN 61984:2009 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
-	-	Multi-element metallic cables used in analogue and digital communication and control	EN 50288	Series
-	-	Application of equipotential bonding and earthing in buildings with information technology equipment	EN 50310	-
IEC 60364-1 (mod) + corr. August	2005 2009	Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	HD 60364-1	2008
IEC 60364-4-41	-	Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41	-
IEC 60364-4-44	-	Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-442	-
IEC 60364-5-54	-	Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors	HD 60364-5-54	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60603	Series	Connectors for frequencies below 3 MHz for use with printed boards	EN 60603	Series
IEC 60603-7	Series	Connectors for electronic equipment - Part 7: Detail specification for 8-way, shielded, free and fixed connectors	EN 60603-7	Series
IEC 60757	-	Code for designation of colours	HD 457 S1	-
IEC 60793	Series	Optical fibres	EN 60793	Series
IEC 60793-2-10	-	Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres	EN 60793-2-10	-
IEC 60794	Series	Optical fibre cables	EN 60794	Series
IEC 60807-2	-	Rectangular connectors for frequencies below 3-MHz - Part 2: Detail specification for a range of connectors, with assesed quality, with trapezoidal shaped metal shells and round contacts - Fixed solder contact types		-

Publication	Year	Title	EN/HD	Year
IEC 60807-3	-	Rectangular connectors for frequencies below 3-MHz - Part 3: Detail specification for a range of connectors with trapezoidal shaped metal shells and round contacts - Removable crimp types with closed crimp barrels, rear insertion/rear extraction		-
IEC 60825-2	-	Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2	-
IEC 60950-1	-	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	-
IEC 61076-2-101	-	Connectors for electronic equipment - Product requirements - Part 2-101: Circular connectors - Detail specification for M12 connectors with screw-locking	EN 61076-2-101	-
IEC/PAS 61076-2-109	-	Connectors for electronic equipment - Product requirements - Part 2-109: Circular connectors - Detail specification for connectors M12 x 1 with screw-locking, for data transmissions with frequencies up to 500 MHz	-	-
IEC 61076-3-106	-	Connectors for electronic equipment - Product requirements - Part 3-106: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface	EN 61076-3-106	-
IEC 61076-3-117	-	Connectors for electronic equipment - Product requirements - Part 3-117: Rectangular connectors - Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface - Variant 14 related to IEC 61076-3-106 - Push pull coupling	EN 61076-3-117	-
IEC 61158	Series	Industrial communication networks - Fieldbus specifications	EN 61158	Series
IEC 61158-2	201X[1)]	Industrial communication networks - Fieldbus specifications - Part 2: Physical layer specification and service definition	EN 61158-2	201X[1)]
IEC 61169-8	-	Radio-frequency connectors - Part 8: Sectional specification - RF coaxial connectors with inner diameter of outer conductor 6,5 mm (0,256 in) with bayonet lock - Characteristics impedance 50 ohms (type BNC)	EN 61169-8	-
IEC 61753	Series	Fibre optic interconnecting devices and passive components performance standard	EN 61753	Series

[1)] To be published.

Publication	Year	Title	EN/HD	Year
IEC 61754-2	-	Fibre optic connector interfaces - Part 2: Type BFOC/2,5 connector family	EN 61754-2	-
IEC 61754-4	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 4: Type SC connector family	EN 61754-4	-
IEC 61754-20	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 20: Type LC connector family	EN 61754-20	-
IEC 61754-22	-	Fibre optic connector interfaces - Part 22: Type F-SMA connector family	EN 61754-22	-
IEC 61754-24	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 24: Type SC-RJ connector family	EN 61754-24	-
IEC 61784	Series	Industrial communication networks - Profiles	EN 61784	Series
IEC 61784-1	-	Industrial communication networks - Profiles - Part 1: Fieldbus profiles	EN 61784-1	-
IEC 61784-2	201X[1)]	Industrial communication networks - Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC 8802-3	EN 61784-2	201X[1)]
IEC 61784-3	-	Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions	EN 61784-3	-
IEC 61784-5	Series	Industrial communication networks - Profiles - Part 5-2: Installation of fieldbuses - Installation profiles for CPF 2	EN 61784-5	Series
IEC 61935-1 (mod) + corr. October	2009 2010	Specification for the testing of balanced and coaxial information technology cabling - Part 1: Installed balanced cabling as specified in ISO/IEC 11801 and related standards	EN 61935-1	2009
IEC 61935-2	-	Specification for the testing of balanced and coaxial information technology cabling - Part 2: Cords as specified in ISO/IEC 11801 and related standards	EN 61935-2	-
IEC 62026-3	-	Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 3: DeviceNet	EN 62026-3	-
IEC 62439	Series	Industrial communication networks - High availability automation networks	EN 62439	Series
IEC 62443	Series	Industrial communication networks - Network and system security	-	-
ISO/IEC 8802-3	-	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications	-	-
ISO/IEC 11801 + corr. October + corr. December + A1 + A2	2002 2002 2002 2008 2010	Information technology - Generic cabling for customer premises	-	-

Publication	Year	Title	EN/HD	Year
ISO/IEC 14763-2	2012	Information technology - Implementation and operation of customer premises cabling - Part 2: Planning and installation	-	-
ISO/IEC 14763-3	-	Information technology - Implementation and operation of customer premises cabling - Part 3: Testing of optical fibre cabling	-	-
ISO/IEC 24702 +A1	2006 2009	Information technology - Generic cabling - Industrial premises	-	-
IEEE 802.3	-	Standard for Information Technology – Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications	-	-
IEEE 802.3at	-	Standard for Information Technology – Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks - Specific Requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications - Amendment 3: Data Terminal Equipment (DTE) Power Via the Media Dependent Interface (MDI) Enhancements	-	-
ANSI/NFPA T3.5.29 R1	2007	Fluid power systems and components - Electrically-controlled industrial valves - Interface dimensions for electrical connectors	-	-

EN 61918:2013/AC:2014

Corrigendum to EN 61918:2013

English version

Foreword:

The sentence: "This standard is to be used in conjunction with ISO/IEC 14763-2 with regard to the installation of generic cabling in accordance with EN 50173-3."

is to be replaced by:

"This standard is to be used in conjunction with 50174 series, in particular with EN 50174-2, with regard to the installation of generic cabling."

Common Modifications:

In the Introduction, the sentence: "For the installation of generic cabling this standard is to be used in conjunction with EN 50174 (see Figure 2)"

is to be replaced by:

"For the installation of generic cabling this standard is to be used in conjunction with EN 50174 series, in particular with EN 50174-2 (see Figure 2)"

May 2014

IEC 61918

Edition 3.0 2013-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Industrial communication networks – Installation of communication networks in industrial premises

Réseaux de communication industriels – Installation de réseaux de communication dans des locaux industriels

IEC 61918:2013

IEC 61918

Edition 3.0 2013-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Industrial communication networks – Installation of communication networks in industrial premises

Réseaux de communication industriels – Installation de réseaux de communication dans des locaux industriels

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

INDUSTRIAL COMMUNICATION NETWORKS –

Installation of communication networks in industrial premises

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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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International Standard IEC 61918 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2010. This edition constitutes a technical revision.

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

– some terms and abbreviated terms have been added to Clause 3;
– Subclauses 4.4.3.4.1 and 4.4.7.3 have been updated;
– Subclause 8.1 has been updated;
– Figure 13, Figure 29, Figure H.1, Table 3, Table 6, Table 7 and Table B.5 have been updated;
– Annex D and Annex M have been extended to cover additional communication profile families;

– a new informative Annex O has been added.

This standard is to be used in conjunction with the IEC 61784-5 series with regard to the installation of communication profiles (CPs). This standard is to be used in conjunction with ISO/IEC 14763-2 with regard to the installation of generic cabling in accordance with ISO/IEC 24702.

NOTE For further information, see the Introduction.

This standard was developed in cooperation with ISO/IEC JTC1/SC25 which is responsible for ISO/IEC 24702.

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

FDIS	Report on voting
65C/737/FDIS	65C/742/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.

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.

INTRODUCTION

Process and factory automation are increasingly relying on communication networks and fieldbuses that are inherently designed to cope with the specific environmental conditions of the industrial premises. The networks and fieldbuses provide for an effective integration of applications among the several functional units of the plant/factory. One of the benefits of integrating field-generated data with higher-level management systems is to reduce production costs. At the same time, integrated data helps maintain or even increase the quantity and quality of production. A correct network installation is an important prerequisite for communications availability, reliability, and performance. This requires proper consideration of safety and security conditions and environmental aspects such as mechanical, liquid, particulate, climatic, chemicals and electromagnetic interference.

The specifications of these communication networks are provided in the following standards.

ISO/IEC 24702 specifies design of generic telecommunications infrastructures within industrial premises and provides the foundations for some of the transmission performance specifications of this standard. ISO/IEC 24702 specifies only the raw bandwidth capability of a channel; it does not specify useful data transfer rate for a specific network using that channel or expected errors after taking account of interference during the communication process.

IEC 61158 fieldbus standard and IEC 62026-3 and their companion standard IEC 61784-1 and IEC 61784-2 jointly specify several CPs suitable for industrial automation. These CPs specify a raw bandwidth capability and in addition, they specify bit modulation and encoding rules for their fieldbus. Some profiles also specify target levels for useful data transfer rate, and maximum values for errors caused by interference during the communication process.

This standard provides a consistent set of installation rules for industrial premises concerning both generic cabling (of the telecommunication infrastructures) and fieldbuses. In addition, it offers support for the definition and installation of the interfaces between automation island networks and generic cabling. One of the problems it seeks to solve is the situation created when different parts of a large automation site are provided by suppliers that use non-homogeneous installation guidelines having different structures and contents. This lack of consistency greatly increases the potential for errors and mismatch situations liable to compromise the communication system.

This standard was developed by harmonising the approaches of several user groups and industrial consortia.

This standard provides a common point of reference for the installation of the media of most used industrial communication networks for most industrial sites. The standard covers the life cycle of an installation in the following clauses (see the map of the standard in Figure 1):

- Clause 4: Installation planning;
- Clause 5: Installation implementation;
- Clause 6: Installation verification and acceptance test;
- Clause 7: Installation administration;
- Clause 8: Installation maintenance and installation troubleshooting.

The methods described in these clauses are written in such a way as to provide installation guidance for a wide range of technician skills.

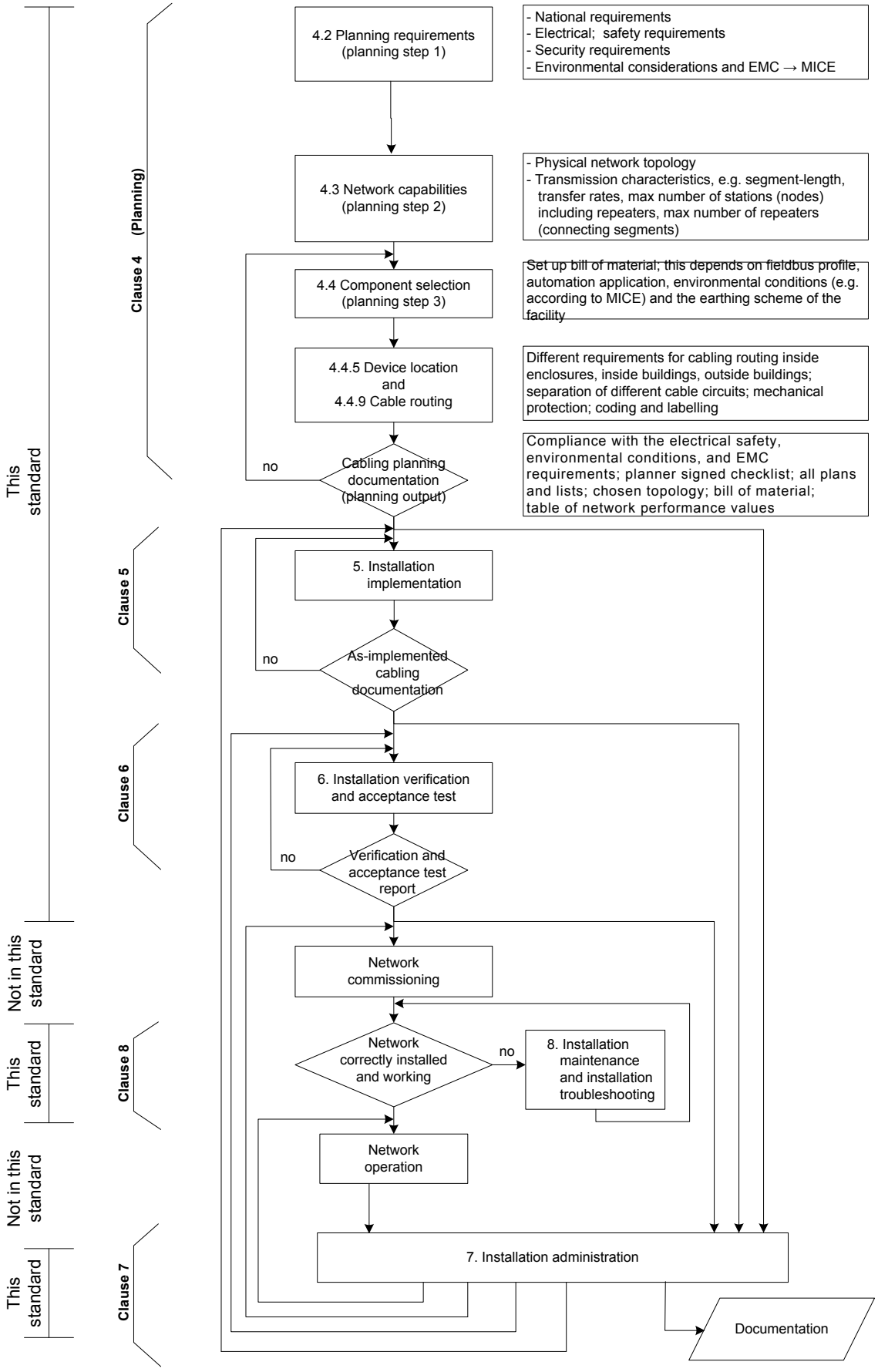

Figure 1 – Industrial network installation life cycle

The installation of a communication system is supported by this standard used in conjunction with the relevant installation profile. The installation profile establishes the technology-specific requirements in terms of which requirements apply as they are in this standard, or which have been extended, modified, or replaced.

For the fieldbuses that are defined in the IEC 61784 series as communication profiles (CPs) of the communication profile families (CPF), the installation is specified in the installation profiles that are available in the IEC 61784-5-n series, where n is the CPF number. IEC 61158-1 describes the relationship between the fieldbus and the CPs and the relevant installation profiles (see Figure 2).

For the installation of generic cabling, this standard is to be used in conjunction with ISO/IEC 14763-2 (see Figure 2).

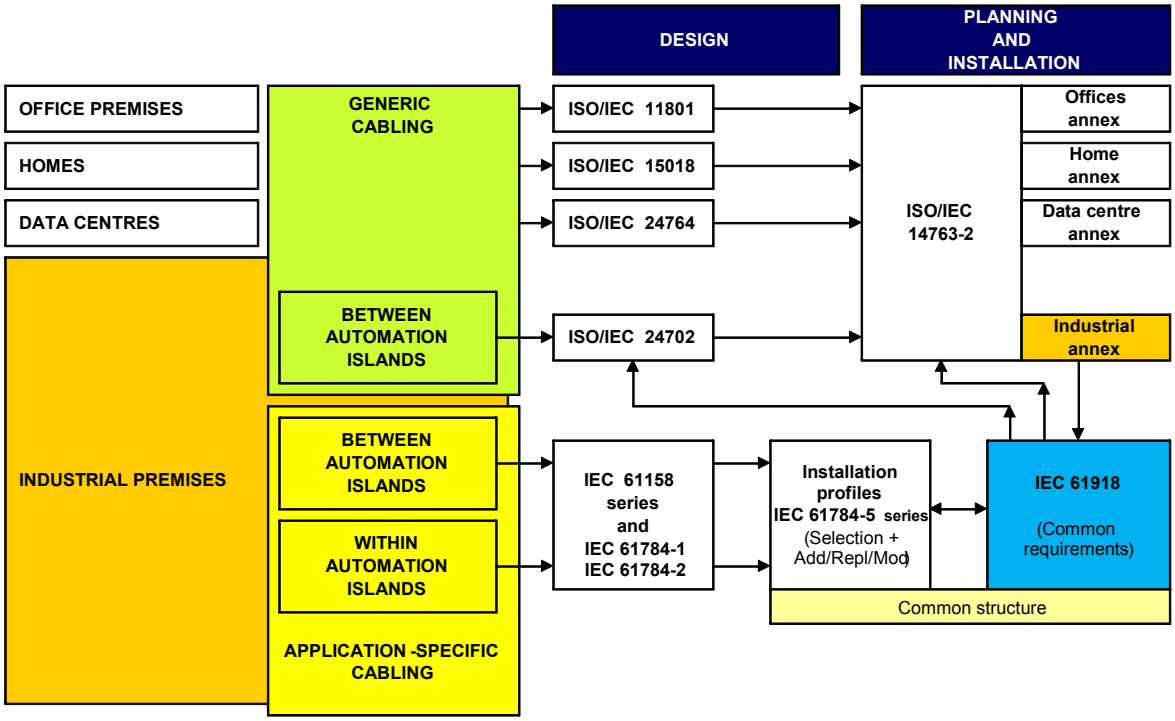

Figure 2 – Standards relationships

One of the advantages of this structure is that the users of a network know which installation requirements are common to most networks and which are specific to a particular network.

Every single plant/factory has its own installation needs in accordance with the specific critical conditions that apply to the specific application. This standard and its companion standards described above provide a set of mandatory installation requirements ("shalls") and a number of recommendations ("shoulds"). It is up to the owner of the specific industrial enterprise to explicitly request that the cabling installation be implemented in accordance with these standards and to list all recommendations that shall be considered as mandatory requirements for the specific case.

INDUSTRIAL COMMUNICATION NETWORKS –

Installation of communication networks in industrial premises

1 Scope

This International Standard specifies basic requirements for the installation of media for communication networks in industrial premises and within and between the automation islands, of industrial sites. This standard covers balanced and optical fibre cabling. It also covers the cabling infrastructure for wireless media, but not the wireless media itself. Additional media are covered in the IEC 61784-5 series.

This standard is a companion standard to the communication networks of the industrial automation islands and especially to the communication networks specified in the IEC 61158 series and the IEC 61784 series. In addition, this standard covers:

- the installation of generic telecommunication cabling for industrial premises as specified in ISO/IEC 24702;
- the connection between the generic telecommunications cabling specified in ISO/IEC 24702 and the specific communication cabling of an automation island, where an automation outlet (AO) replaces the telecommunication outlet (TO) of ISO/IEC 24702.

NOTE If the interface used at the AO does not conform to that specified for the TO of ISO/IEC 24702, the cabling no longer conforms to ISO/IEC 24702 although certain features, including performance, of generic cabling may be retained.

This standard provides guidelines that cope with the critical aspects of the industrial automation area (safety, security and environmental aspects such as mechanical, liquid, particulate, climatic, chemicals and electromagnetic interference).

This standard does not recognise implementations of power distribution through Ethernet balanced cabling systems that are not specified in IEEE 802.3 and in IEEE 802.3at.

This standard deals with the roles of planner, installer, verifier, and acceptance test personnel, administration and maintenance personnel and specifies the relevant responsibilities and/or gives guidance.

2 Normative references

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

IEC 60364-1:2005, *Low-voltage electrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions*

IEC 60364-4-41, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-44, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-54, *Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements, protective conductors and protective bonding conductors*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60603 (all parts), *Connectors for electronic equipment*

IEC 60603-7 (all subparts), *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

IEC 60757, *Code for designation of colours*

IEC 60793 (all parts), *Optical fibres*

IEC 60793-2-10, *Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres*

IEC 60794 (all parts), *Optical fibre cables*

IEC 60807-2, *Rectangular connectors for frequencies below 3 MHz – Part 2: Detail specification for a range of connectors, with assessed quality, with trapezoidal shaped metal shells and round contacts – Fixed solder contact types*

IEC 60807-3, *Rectangular connectors for frequencies below 3 MHz – Part 3: Detail specification for a range of connectors with trapezoidal shaped metal shells and round contacts – Removable crimp contact types with closed crimp barrels, rear insertion/rear extraction*

IEC 60825-2, *Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCS)*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 61076-2-101, *Connectors for electronic equipment – Product requirements - Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking*

IEC/PAS 61076-2-109, *Connectors for electronic equipment – Product requirements – Part 2-109: Circular connectors – Detail specification for connectors M12 x 1 with screw-locking, for data transmissions with frequencies up to 500 MHz*

IEC 61076-3-106, *Connectors for electronic equipment – Product requirements – Part 3-106: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating the IEC 60603-7 series interface*

IEC 61076-3-117, *Connectors for electronic equipment – Product requirements – Part 3-117: Rectangular connectors – Detail specification for protective housings for use with 8-way shielded and unshielded connectors for industrial environments incorporating IEC 60603-7 series interface – Variant 14 related to IEC 61076-3-106 – Push-pull coupling*

IEC 61156 (all parts), *Multicore and symmetrical pair/quad cables for digital communications*

IEC 61158 (all parts), *Industrial communication networks – Fieldbus specifications*

IEC 61158-2:___, *Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition*[1]

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1 To be published.

2 To be published.

3 Check http://webstore.iec.ch for the published parts. Other parts are under consideration.

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4 There exists a consolidated edition 2.2 (2011) comprising ISO/IEC 11801:2002, its Amendment 1:2008 and its Amendment 2:2010.