



SLOVENSKI STANDARD
SIST EN IEC 61918:2019/A1:2022
01-julij-2022

Industrijska komunikacijska omrežja - Namestitvev komunikacijskih omrežij v industrijskih okoljih - Dopnilo A1 (IEC 61918:2018/AMD1:2022)

Industrial communication networks - Installation of communication networks in industrial premises (IEC 61918:2018/AMD1:2022)

Industrielle Kommunikationsnetze - Installation von Kommunikationsnetzen in Industrieanlagen (IEC 61918:2018/AMD1:2022)

Réseaux de communication industriels - Installation de réseaux de communication dans des locaux industriels (IEC 61918:2018/AMD1:2022)

Ta slovenski standard je istoveten z: EN IEC 61918:2018/A1:2022

ICS:

| | | |
|-----------|------------------------------------------------|--------------------------------------------|
| 25.040.40 | Merjenje in krmiljenje industrijskih postopkov | Industrial process measurement and control |
| 35.110 | Omreževanje | Networking |

SIST EN IEC 61918:2019/A1:2022 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 61918:2018/A1

April 2022

ICS 25.040.40; 33.020; 35.240.50

English Version

**Industrial communication networks - Installation of
communication networks in industrial premises
(IEC 61918:2018/AMD1:2022)**

Réseaux de communication industriels - Installation de
réseaux de communication dans des locaux industriels
(IEC 61918:2018/AMD1:2022)

Industrielle Kommunikationsnetze - Installation von
Kommunikationsnetzen in Industrieanlagen
(IEC 61918:2018/AMD1:2022)

This amendment A1 modifies the European Standard EN IEC 61918:2018; it was approved by CENELEC on 2022-04-13. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 61918:2018/A1:2022 (E)**European foreword**

The text of document 65C/1141/FDIS, future IEC 61918/AMD1, 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 IEC 61918:2018/A1:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-01-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-04-13

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

iTeh STANDARD PREVIEW

The text of the International Standard IEC 61918:2018/AMD1:2022 was approved by CENELEC as a European Standard without any modification.

[SIST EN IEC 61918:2019/A1:2022](https://standards.iteh.ai/catalog/standards/sist/7bd028c5-7edf-4125-93f0-094edf942de1/sist-en-iec-61918-2019-a1-2022)

<https://standards.iteh.ai/catalog/standards/sist/7bd028c5-7edf-4125-93f0-094edf942de1/sist-en-iec-61918-2019-a1-2022>

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Delete the following references:

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|
| IEC 61935-1 | 2015 | 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 | - | - |
| 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 | - | - |
| + AMD1 | 2021 | | - | - |

Add the following references:

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|
| IEC 61000-4-4 | - | Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test | EN 61000-4-4 | - |
| IEC 61000-4-5 | - | Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test | EN 61000-4-5 | - |
| IEC 61010-2-201 | - | Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment | EN IEC 61010-2-201 | - |

EN IEC 61918:2018/A1:2022 (E)

| | | | | |
|----------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---|
| IEC 61010-2-203 | — ¹ | Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-203: Particular requirements for industrial communication circuits and communication port interconnection | - | - |
| IEC 61156-1 | - | Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification | - | - |
| IEC 61156-11 | - | Multicore and symmetrical pair/quad cables for digital communications - Part 11: Symmetrical single pair cables with transmission characteristics up to 600 MHz - Horizontal floor wiring - Sectional specification | - | - |
| IEC 61156-12 | - | Multicore and symmetrical pair/quad cables for digital communications - Part 12: Symmetrical single pair cables with transmission characteristics up to 600 MHz - Work area wiring - Sectional specification | - | - |
| IEC 61935-1 | 2019 | Specification for the testing of balanced and coaxial information technology cabling - Part 1: Installed balanced cabling as specified in ISO/IEC 11801-1 and related standards | - | - |
| IEC 61935-1-1 | 2019 | Specification for the testing of balanced and coaxial information technology cabling - Part 1-1: Additional requirements for the measurement of transverse conversion loss and equal level transverse conversion transfer loss | - | - |
| IEC 63171-6 | - | Connectors for electrical and electronic equipment - Part 6: Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for power and data transmission with frequencies up to 600 MHz. | EN IEC 63171-6 | - |
| ISO/IEC/IEEE 8802-3 | 2021 | Telecommunications and exchange between information technology systems - Requirements for local and metropolitan area networks - Part 3: Standard for Ethernet | - | - |
| ISO/IEC 11801-3: 2017/AMD1 | 2021 | Information technology - Generic cabling for customer premises - Part 3: Industrial premises | - | - |
| IEEE Std 802.3cg | - | IEEE Standard for Ethernet - Amendment 5: Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors | - | - |

¹ To be published. Stage at the time of publication: IEC/ACDV 61010-2-203:2021.



IEC 61918

Edition 4.0 2022-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



AMENDMENT 1
AMENDEMENT 1

Industrial communication networks – Installation of communication networks in industrial premises

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

<https://standards.iteh.ai/catalog/standards/sist/7bd028c5-7edf-4125-93f0-094edf942de1/sist-en-iec-61918-2019-a1-2022>

INTERNATIONAL
ELECTROTECHNICAL
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ICS 25.040.40; 33.020, 35.240.50

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS – INSTALLATION OF
COMMUNICATION NETWORKS IN INDUSTRIAL PREMISES****AMENDMENT 1****FOREWORD**

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Amendment 1 to IEC 61918:2018 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

| | |
|---------------|------------------|
| Draft | Report on voting |
| 65C/1141/FDIS | 65C/1162/RVD |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications/.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

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iTeh STANDARD PREVIEW (standards.iteh.ai)

INTRODUCTION to Amendment 1

This Amendment 1 describes the installation in the critical environment of industrial premises of balanced 1-pair networks that use cabling in connection with Ethernet specified in 1000BASE-T1 type A, which allows bidirectional signal transmission at 1 000 Mbit/s up to 15 m, 1000BASE-T1 type B for 1 000 Mbit/s up to 40 m, 100BASE-T1 for 100 Mbit/s up to 15 m, 10BASE-T1S for 10 Mbit/s up to 15 m, 10BASE-T1L for 10 Mbit/s up to 1 000 m.

These balanced 1-pair networks use the industrial versions of 1 000 Mbit/s and 100 Mbit/s ISO/IEC/IEEE 8802-3:2021, and 10 Mbit/s IEEE Std 802.3cg networks.

INTRODUCTION

Replace Figure 2 with the following updated figure.

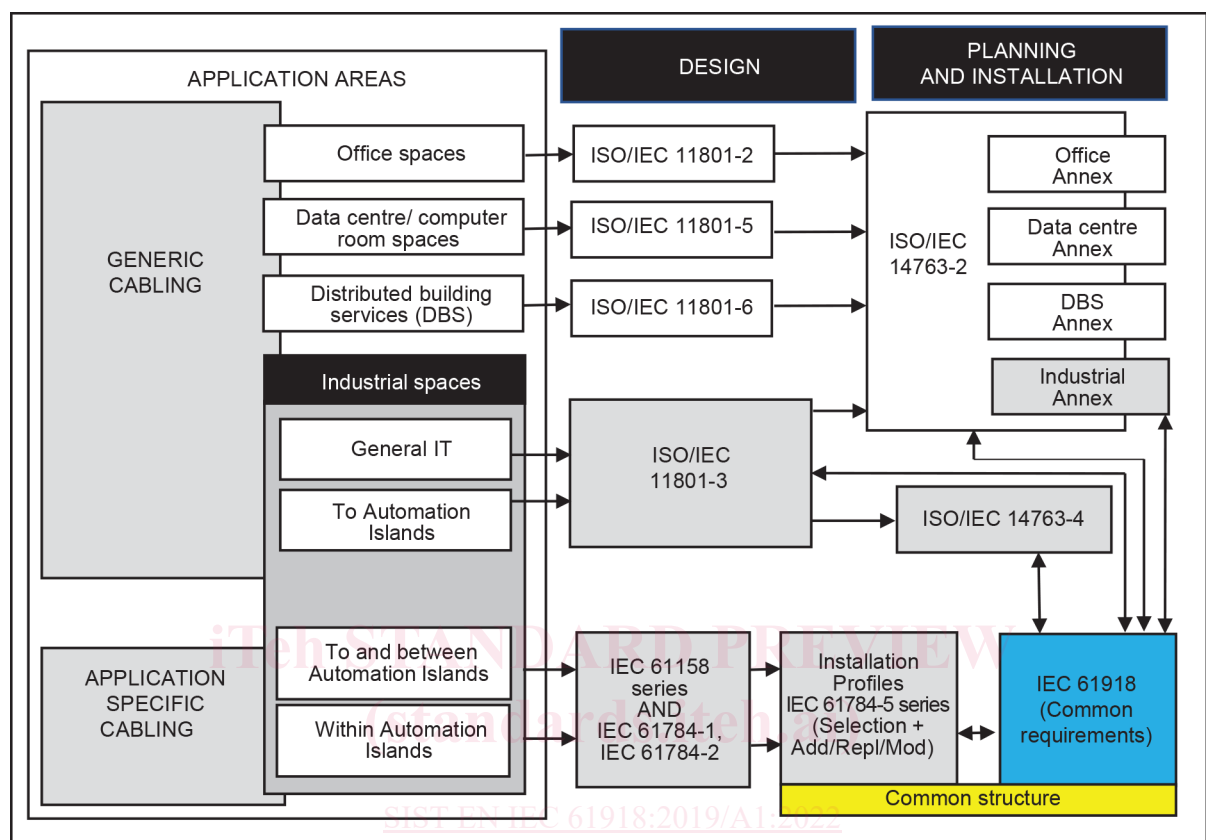


Figure 2 – Standards relationships

2 Normative references

Delete the following normative references:

IEC 61935-1:2015, *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*

ISO/IEC 8802-3, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 3: Standard for Ethernet*

Add the following normative references:

IEC 61000-4-4, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61010-2-201, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-201: Particular requirements for control equipment*

IEC 61010-2-203:—¹, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-203: Particular requirements for industrial communication circuits and communication port interconnection*

IEC 61156-1, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-11, *Multicore and symmetrical pair/quad cables for digital communications – Part 11: Symmetrical single pair cables with transmission characteristics up to 600 MHz – Horizontal floor wiring – Sectional specification*

IEC 61156-12, *Multicore and symmetrical pair/quad cables for digital communications – Part 12: Symmetrical single pair cables with transmission characteristics up to 600 MHz – Work area wiring – Sectional specification*

IEC 61935-1:2019, *Specification for the testing of balanced and coaxial information technology cabling – Part 1: Installed balanced cabling as specified in ISO/IEC 11801-1 and related standards*

IEC 61935-1-1:2019, *Specification for the testing of balanced and coaxial information technology cabling – Part 1-1: Additional requirements for the measurement of transverse conversion loss and equal level transverse conversion transfer loss*

IEC 63171-6, *Connectors for electrical and electronic equipment – Part 6: Detail specification for 2-way and 4-way (data/power), shielded, free and fixed connectors for power and data transmission with frequencies up to 600 MHz*

ISO/IEC/IEEE 8802-3:2021, *Telecommunications and exchange between information technology systems – Requirements for local and metropolitan area networks – Part 3: Standard for Ethernet*

ISO/IEC 11801-3:2017/AMD1:2021, *Amendment 1 – Information technology – Generic cabling for customer premises – Part 3: Industrial premises*

IEEE Std 802.3cg, *IEEE Standard for Ethernet – Amendment 5, Physical Layer Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors*

3 Terms, definitions, and abbreviated terms

3.1 Terms and definitions

Replace, in the boilerplate paragraph, "ISO/IEC 8802-3" with "ISO/IEC/IEEE 8802-3:2021".

Add the following new terms and definitions from 3.1.87 to 3.1.92:

3.1.87

balanced 1-pair cable

cable consisting of a single pair of conductors, optional screen, and overall jacket, primarily intended for use in differential-mode signal transmission and power delivery applications

[SOURCE: ISO/IEC TR 11801-9906:2020, 3.1.2]

¹ Under preparation. Stage at the time of publication: IEC/ACDV 61010-2-203:2021.