

This document is a preview generated by EVS

Industrial networks - Profiles - Part 5-19: Installation of fieldbuses - Installation profiles for CPF 19

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN IEC 61784-5-19:2024 sisaldab Euroopa standardi EN IEC 61784-5-19:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.05.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN IEC 61784-5-19:2024 consists of the English text of the European standard EN IEC 61784-5-19:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 24.05.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
--	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 25.040.40, 35.100.40

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Industrial networks - Profiles - Part 5-19: Installation of fieldbuses - Installation profiles for CPF 19 (IEC 61784-5-19:2024)

Réseaux industriels - Profils - Partie 5-19: Installation des
bus de terrain - Profils d'installation pour CPF 19
(IEC 61784-5-19:2024)

Industrielle Kommunikationsnetze - Profile - Teil 5-19:
Feldbusinstallation - Installationsprofile für die
Kommunikationsprofilfamilie 19
(IEC 61784-5-19:2024)

This European Standard was approved by CENELEC on 2024-05-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

European foreword

The text of document 65C/1281/FDIS, future edition 2 of IEC 61784-5-19, 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 61784-5-19:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-02-08 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-05-08 document have to be withdrawn

This document supersedes EN 61784-5-19:2013 and all of its amendments and corrigenda (if any).

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.

This document is read in conjunction with EN IEC 61918:2018, EN IEC 61918:2018/A11:2019, EN IEC 61918:2018/AC:2019-03, EN IEC 61918:2018/A1:2022, EN IEC 61918:2018/A12:2023, and EN IEC 61918:2018/A2:2024.

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

The text of the International Standard IEC 61784-5-19:2024 was approved by CENELEC as a European Standard without any modification.

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Industrial networks – Profiles –
Part 5-19: Installation of fieldbuses – Installation profiles for CPF 19**

**Réseaux industriels – Profils –
Partie 5-19: Installation des bus de terrain – Profils d'installation pour CPF 19**



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2024 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -

webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications, symboles graphiques et le glossaire. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 500 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 25 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Industrial networks – Profiles –
Part 5-19: Installation of fieldbuses – Installation profiles for CPF 19**

**Réseaux industriels – Profils –
Partie 5-19: Installation des bus de terrain – Profils d'installation pour CPF 19**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040.40, 35.100.40

ISBN 978-2-8322-8351-6

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	10
3 Terms, definitions and abbreviated terms	10
4 CPF19: Overview of installation profiles	10
5 Installation profile conventions.....	11
6 Conformance to installation profiles.....	12
Annex A (normative) CP 19/1 (MECHATROLINK™-II) specific installation profile.....	13
A.1 Installation profile scope	13
A.2 Normative references.....	13
A.3 Installation profile terms, definitions, and abbreviated terms	13
A.3.1 Terms and definitions	13
A.3.2 Abbreviated terms	13
A.3.3 Conventions for installation profiles	13
A.4 Installation planning.....	14
A.4.1 General	14
A.4.2 Planning requirements.....	14
A.4.3 Network capabilities.....	14
A.4.4 Selection and use of cabling components	16
4.4.3.3.1 Common description	21
A.4.5 Cabling planning documentation.....	24
A.4.6 Verification of cabling planning specification.....	24
A.5 Installation implementation.....	24
A.5.1 General requirements	24
A.5.2 Cable installation	24
A.5.3 Connector installation	26
A.5.4 Terminator installation	27
A.5.5 Device installation	27
A.5.6 Coding and labelling	27
A.5.7 Earthing and bonding of equipment and devices and shield cabling.....	27
A.5.8 As-implemented cabling documentation.....	27
A.6 Installation verification and installation acceptance test	28
A.6.1 General	28
A.6.2 Installation verification.....	28
A.6.3 Installation acceptance test	29
A.7 Installation administration	29
A.8 Installation maintenance and installation troubleshooting.....	30
A.8.1 General	30
A.8.2 Maintenance.....	30
A.8.3 Troubleshooting.....	30
A.8.4 Specific requirements for maintenance and troubleshooting.....	30
Annex B (normative) CP 19/2 (MECHATROLINK™-III) specific installation profile.....	32
B.1 Installation profile scope	32
B.2 Normative references.....	32
B.3 Installation profile terms, definitions, and abbreviated terms	32

B.3.1	Terms and definitions	32
B.3.2	Abbreviated terms	32
B.3.3	Conventions for installation profiles	32
B.4	Installation planning	32
B.4.1	General	32
B.4.2	Planning requirements	32
B.4.3	Network capabilities	33
B.4.4	Selection and use of cabling components	34
B.4.5	Cabling planning documentation	39
B.4.6	Verification of cabling planning specification	39
B.5	Installation implementation	39
B.5.1	General requirements	39
B.5.2	Cable installation	39
B.5.3	Connector installation	40
B.5.4	Terminator installation	41
B.5.5	Device installation	41
B.5.6	Coding and labelling	41
B.5.7	Earthing and bonding of equipment and devices and shield cabling	41
B.5.8	As-implemented cabling documentation	41
B.6	Installation verification and installation acceptance test	42
B.6.1	General	42
B.6.2	Installation verification	42
B.6.3	Installation acceptance test	43
B.7	Installation administration	43
B.8	Installation maintenance and installation troubleshooting	43
Annex C (normative)	CP19/3 (Σ-LINK™ II) specific installation profile	44
C.1	Installation profile scope	44
C.2	Normative references	44
C.3	Installation profile terms, definitions, and abbreviated terms	44
C.3.1	Terms and definitions	44
C.3.2	Abbreviated terms	44
C.3.3	Conventions for installation profiles	44
C.4	Installation planning	44
C.4.1	General	44
C.4.2	Planning requirements	44
C.4.3	Network capabilities	45
C.4.4	Selection and use of cabling components	46
C.4.5	Cabling planning documentation	58
C.4.6	Verification of cabling planning specification	58
C.5	Installation implementation	58
C.5.1	General requirements	58
C.5.2	Cable installation	59
C.5.3	Connector installation	60
C.5.4	Terminator installation	61
C.5.5	Device installation	61
C.5.6	Coding and labelling	61
C.5.7	Earthing and bonding of equipment and devices and shield cabling	61
C.5.8	As-implemented cabling documentation	61
C.6	Installation verification and installation acceptance test	61

C.6.1	General	61
C.6.2	Installation verification	61
C.6.3	Installation acceptance test	62
C.7	Installation administration	63
C.8	Installation maintenance and installation troubleshooting	63
Annex D (normative)	CP 19/4 (MECHATROLINK™-4) specific installation profile.....	64
D.1	Installation profile scope	64
D.2	Normative references.....	64
D.3	Installation profile terms, definitions, and abbreviated terms	64
D.3.1	Terms and definitions	64
D.3.2	Abbreviated terms	64
D.3.3	Conventions for installation profiles	64
D.4	Installation planning.....	64
D.4.1	General	64
D.4.2	Planning requirements	64
D.4.3	Network capabilities.....	65
D.4.4	Selection and use of cabling components	66
D.4.5	Cabling planning documentation	72
D.4.6	Verification of cabling planning specification.....	72
D.5	Installation implementation.....	72
D.5.1	General requirements	72
D.5.2	Cable installation	72
D.5.3	Connector installation	74
D.5.4	Terminator installation	75
D.5.5	Device installation	75
D.5.6	Coding and labelling	75
D.5.7	Earthing and bonding of equipment and devices and shield cabling	75
D.5.8	As-implemented cabling documentation.....	75
D.6	Installation verification and installation acceptance test	75
D.6.1	General	75
D.6.2	Installation verification	75
D.6.3	Installation acceptance test	76
D.7	Installation administration	77
D.8	Installation maintenance and installation troubleshooting	77
Bibliography.....		78
Figure 1 – Standards relationships.....		9
Figure A.1 – Topology of CP 19/1 network		15
Figure A.2 – Network expansion using repeater		15
Figure A.3 – Structure of cable		18
Figure A.4 – Dimensions of single port device connector		19
Figure A.5 – Dimensions of dual ports device connector		20
Figure A.6 – Dimensions of cable connector		20
Figure A.7 – Cable connector with inductors		21
Figure A.8 – Terminator connection in cable connector housing.....		22
Figure A.9 – Wiring example		26
Figure A.10 – Terminator installed in M-II cable connector.....		27

Figure A.11 – Division of network segment by changing terminator location	31
Figure C.1 – Topology of CP 19/3 combination of linear and T-branch network	45
Figure C.2 – Topology of CP 19/3 network example with Power adaptor	46
Figure C.3 – Structure of 6-conductor cable	49
Figure C.4 – Structure of 8-conductor cable	49
Figure C.5 – Connection for linear network	50
Figure C.6 – Dimensions of device 6 pin connector	51
Figure C.7 – Dimensions of device 6 pin connector	51
Figure C.8 – Dimensions of device 6 pin connector	52
Figure C.9 – Dimensions of device 8 pin male connector	52
Figure C.10 – Dimensions of ejector for device 8 pin male connector	53
Figure C.11 – Dimensions of device 8 pin female connector	53
Figure C.12 – Dimensions of cable 6 pin male connector	54
Figure C.13 – Dimensions of cable 6 pin female connector	54
Figure C.14 – Dimensions of cable 8 pin male connector	54
Figure C.15 – Dimensions of cable 8 pin female connector	55
Table A.1 – Basic network characteristics for balanced cabling not based on Ethernet	16
Table A.2 – Number of devices and maximum segment length	16
Table A.3 – Information relevant to copper cable: fixed cables	17
Table A.4 – Additional cable specifications	17
Table A.5 – Connectors for copper cabling CPs not based on Ethernet	18
Table A.6 – Parameters for balanced cables	25
Table A.7 – Pin assignment and wire colour coding for CP 19/1 connector	26
Table A.8 – Typical problems in a network with balanced cabling	30
Table B.1 – Network characteristics for balanced cabling based on Ethernet	34
Table B.2 – Information relevant to copper cable: fixed cables	35
Table B.3 – Information relevant to copper cable: cords	35
Table B.4 – Connectors for balanced cabling CPs based on Ethernet	36
Table B.5 – Parameters for balanced cables	39
Table B.6 – Pin assignment and wire colour coding for CP 19/2 modular and IMI connector	41
Table B.7 – Pin assignment and wire colour coding for CP 19/2 M12 connector	41
Table C.1 – Basic network characteristics for balanced cabling not based on Ethernet	46
Table C.2 – Information relevant to 6-conductor copper cable	47
Table C.3 – Information relevant to 8-conductor copper cable	48
Table C.4 – Additional cable specifications	48
Table C.5 – Connectors for copper cabling CPs not based on Ethernet	50
Table C.6 – Electric characteristics of 6pin connector	55
Table C.7 – Electric characteristics of 8pin connector	55
Table C.8 – Parameters for balanced cables	59
Table C.9 – Pin assignment and wire colour coding for CP 19/3 6 pin connector	60
Table C.10 – Pin assignment and wire colour coding for CP 19/3 8 pin connector	60

Table D.1 – Network characteristics for balanced cabling based on Ethernet 66

Table D.2 – Information relevant to copper cable: CP 19/4 type A fixed cables 67

Table D.3 – Information relevant to copper cable: CP 19/4 type B fixed cables 67

Table D.4 – Information relevant to copper cable: CP 19/4 type A fixed cords 68

Table D.5 – Information relevant to copper cable: CP 19/4 type B fixed cords 68

Table D.6 – Connectors for balanced cabling CPs based on Ethernet 69

Table D.7 – Parameters for balanced cables 73

Table D.8 – Pin assignment and wire colour coding for CP 19/4 modular and IMI connector 74

Table D.9 – Pin assignment and wire colour coding for CP 19/4 M12-4 connector 74

Table D.10 – Pin assignment and wire colour coding for CP 19/4 M12-8 connector 74

This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL NETWORKS –
PROFILES –****Part 5-19: Installation of fieldbuses –
Installation profiles for CPF 19****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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of a patent. IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of a patent, which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 61784-5-19 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation. It is an International Standard.

This document is to be used in conjunction with IEC 61918:2018, IEC 61918:2018/AMD1:2022 and IEC 61918:2018/AMD2:2024.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

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

- a) addition of new installation profiles CP19/3 and CP19/4 in Clause 4;
- b) In Annex B, Table B.4 has been changed and Figure B.1 and Figure B.2 have been deleted;
- c) Annex C is new installation profiles for CP19/3 and related references have been added;
- d) Annex D is new installation profiles for CP19/4 and related references have been added.

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

Draft	Report on voting
65C/1281/FDIS	65C/1296/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 International Standard 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/publications.

A list of all parts of IEC 61784-5 series, published under the general title *Industrial networks – Profiles – Installation of fieldbuses*, can be found on the IEC website.

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, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document 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

This document is one of a series produced to facilitate the use of communication networks in industrial control systems.

IEC 61918:2018 and IEC 61918:2018/AMD1:2022 and IEC 61918/AMD2:2024 provide the common requirements for the installation of communication networks in industrial control systems. This installation profile standard provides the installation profiles of the communication profiles (CP) of a specific communication profile family (CPF) by stating which requirements of IEC 61918 fully apply and, where necessary, by supplementing, modifying, or replacing the other requirements (see Figure 1).

For general background on fieldbuses, their profiles, and relationship between the installation profiles specified in this document, see IEC 61158-1.

Each CP installation profile is specified in a separate annex of this document. Each annex is structured exactly as the reference standard IEC 61918 for the benefit of the persons representing the roles in the fieldbus installation process as defined in IEC 61918 (planner, installer, verification personnel, validation personnel, maintenance personnel, administration personnel). By reading the installation profile in conjunction with IEC 61918, these persons immediately know which requirements are common for the installation of all CPs and which are modified or replaced. The conventions used to draft this document are defined in Clause 5.

The provision of the installation profiles in one standard for each CPF (for example IEC 61784-5-19 for CPF 19) allows readers to work with standards of a convenient size.

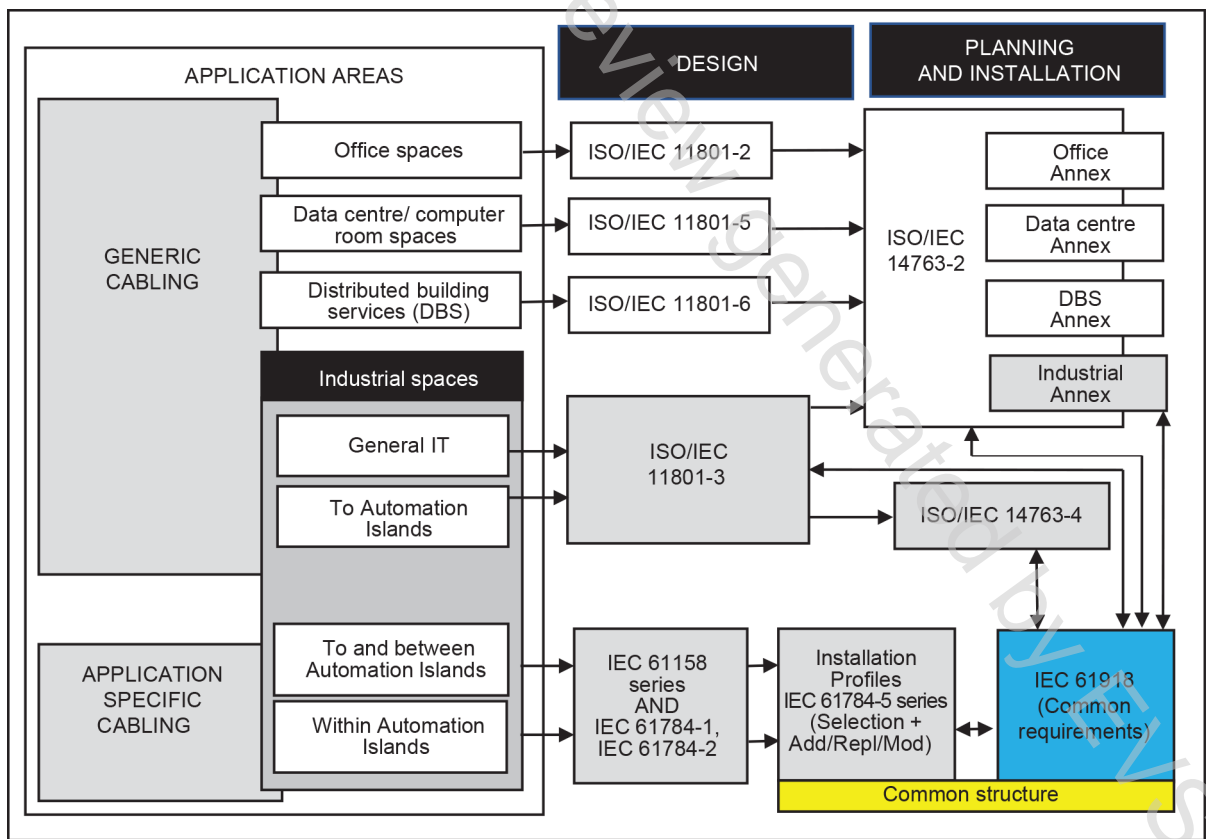


Figure 1 – Standards relationships

INDUSTRIAL NETWORKS – PROFILES –

Part 5-19: Installation of fieldbuses – Installation profiles for CPF 19

1 Scope

This part of IEC 61784-5 specifies the installation profile for CPF 19 (MECHATROLINK™¹).

The installation profiles are specified in the annexes. These annexes are read in conjunction with IEC 61918:2018, IEC 61918:2018/AMD1:2022 and IEC 61918:2018/AMD2:2024.

2 Normative references

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.

IEC 61918:2018², *Industrial communication networks – Installation of communication networks in industrial premises*
IEC 61918:2018/AMD1:2022
IEC 61918:2018/AMD2:2024

NOTE For profile specific normative references, see Clauses A.2, B.2, C.2, D.2.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms, definitions and abbreviated terms given in IEC 61918:2018, Clause 3, IEC 61918:2018/AMD1:2022, Clause 3 and Clauses A.3, B.3, C.3, and D.3, apply.

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

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

4 CPF19: Overview of installation profiles

CPF 19 consists of four communication profiles as specified in IEC 61784-1 and IEC 61784-2.

The installation requirements for CP 19/1 (MECHATROLINK™-II) are specified in Annex A.

¹ MECHATROLINK™ and Σ-LINK™ II are trade names of YASKAWA ELECTRIC CORPORATION. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trade names holder or any of its products. Compliance to this profile does not require use of the trade names. Use of the trade name requires permission of the trade name holder.

² The normative references of IEC 61918:2018, Clause 2, IEC 61918:2018/AMD1:2022, Clause 2 and IEC 61918:2018/AMD2:2024, Clause 2, apply.