

INTERNATIONAL STANDARD



**Industrial communication networks – Profiles –
Part 5-2: Installation of fieldbuses – Installation profiles for CPF 2**



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IEC 61784-5-2

Edition 4.1 2024-03
CONSOLIDATED VERSION

INTERNATIONAL STANDARD



**Industrial communication networks – Profiles –
Part 5-2: Installation of fieldbuses – Installation profiles for CPF 2**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 25.040.40; 35.100.40

ISBN 978-2-8322-8624-1

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CONTENTS

FOREWORD.....	10
INTRODUCTION.....	12
INTRODUCTION to Amendment 1	14
1 Scope.....	15
2 Normative references	15
3 Terms, definitions and abbreviated terms	15
4 CPF 2: Overview of installation profiles	16
5 Installation profile conventions	16
6 Conformance to installation profiles.....	17
Annex A (normative) CP 2/1 (ControlNet™) specific installation profile	18
A.1 Installation profile scope	18
A.2 Normative references.....	18
A.3 Installation profile terms, definitions, and abbreviated terms	18
A.3.1 Terms and definitions	18
A.3.2 Abbreviated terms	18
A.3.3 Conventions for installation profiles	18
A.4 Installation planning.....	19
A.4.1 General	19
A.4.2 Planning requirements.....	20
A.4.3 Network capabilities.....	21
A.4.4 Selection and use of cabling components	27
A.4.5 Cabling planning documentation	45
A.4.6 Verification of cabling planning specification.....	45
A.5 Installation implementation	45
A.5.1 General requirements	45
A.5.2 Cable installation.....	45
A.5.3 Connector installation.....	47
A.5.4 Terminator installation	56
A.5.5 Device installation	56
A.5.6 Coding and labelling	58
A.5.7 Earthing and bonding of equipment and devices and shield cabling	59
A.5.8 As-implemented cabling documentation	60
A.6 Installation verification and installation acceptance test	60
A.6.1 General	60
A.6.2 Installation verification	60
A.6.3 Installation acceptance test	63
A.7 Installation administration	65
A.8 Installation maintenance and installation troubleshooting	65
A.8.1 General	65
A.8.2 Maintenance.....	65
A.8.3 Troubleshooting.....	65
A.8.4 Specific requirements for maintenance and troubleshooting.....	70
Annex B (normative) CP 2/2 (EtherNet/IP™) specific installation profile.....	71
B.1 Installation profile scope	71
B.2 Normative references.....	71
B.3 Installation profile terms, definitions, and abbreviated terms	72

B.3.1	Terms and definitions	72
B.3.2	Abbreviated terms	72
B.3.3	Conventions for installation profiles	72
B.4	Installation planning	72
B.4.1	General	72
B.4.2	Planning requirements	73
B.4.3	Network capabilities	74
B.4.4	Selection and use of cabling components	80
B.4.5	Cabling planning documentation	97
B.4.6	Verification of cabling planning specification	97
B.5	Installation implementation	97
B.5.1	General requirements	97
B.5.2	Cable installation	97
B.5.3	Connector installation	98
B.5.4	Terminator installation	100
B.5.5	Device installation	100
B.5.6	Coding and labelling	100
B.5.7	Earthing and bonding of equipment and devices and shield cabling	100
B.5.8	As-implemented cabling documentation	102
B.6	Installation verification and installation acceptance test	102
B.6.1	General	102
B.6.2	Installation verification	102
B.6.3	Installation acceptance test	103
B.7	Installation administration	104
B.8	Installation maintenance and installation troubleshooting	105
Annex C (normative)	CP 2/3 (DeviceNet™) specific installation profile	106
C.1	Installation profile scope	106
C.2	Normative references	106
C.3	Installation profile terms, definitions, and abbreviated terms	106
C.3.1	Terms and definitions	106
C.3.2	Abbreviated terms	106
C.3.3	Conventions for installation profiles	106
C.4	Installation planning	107
C.4.1	General	107
C.4.2	Planning requirements	108
C.4.3	Network capabilities	109
C.4.4	Selection and use of cabling components	125
C.4.5	Cabling planning documentation	135
C.4.6	Verification of cabling planning specification	135
C.5	Installation implementation	135
C.5.1	General requirements	135
C.5.2	Cable installation	135
C.5.3	Connector installation	137
C.5.4	Terminator installation	150
C.5.5	Device installation	152
C.5.6	Coding and labelling	156
C.5.7	Earthing and bonding of equipment and devices and shield cabling	156
C.5.8	As-implemented cabling documentation	157
C.6	Installation verification and installation acceptance test	157

C.6.1	General	157
C.6.2	Installation verification	157
C.6.3	Installation acceptance test	160
C.7	Installation administration	161
C.8	Installation maintenance and installation troubleshooting	161
C.8.1	General	161
C.8.2	Maintenance	161
C.8.3	Troubleshooting	161
C.8.4	Specific requirements for maintenance and troubleshooting	161
Annex D (informative)	Additional information	165
D.1	Network validation check sheet for CP 2/3 (DeviceNet)	165
Bibliography		169
Figure 1	Standards relationships	13
Figure A.1	Interconnection of CPF 2 networks	19
Figure A.2	Overview of CPF 2/1 networks	20
Figure A.3	Drop cable requirements	22
Figure A.4	Placement of BNC/TNC plugs	22
Figure A.5	Placement of terminators	23
Figure A.6	Extending a network using repeaters	23
Figure A.7	Extending a network using active star topology	23
Figure A.8	Links	24
Figure A.9	Extending the network beyond 99 nodes	24
Figure A.10	Maximum allowable taps per segment	33
Figure A.11	Example of repeaters in star configuration	34
Figure A.12	Repeaters in parallel	35
Figure A.13	Repeaters in combination series and parallel	36
Figure A.14	Ring repeater	36
Figure A.15	Installing bulkheads	37
Figure A.16	Coaxial BNC and TNC terminators	38
Figure A.17	Terminator placement in a segment	38
Figure A.18	RC Shield Termination in Active Devices	40
Figure A.19	Redundant network icons	41
Figure A.20	Redundant coax media	41
Figure A.21	Redundant fibre media	41
Figure A.22	Repeaters in series versus length difference for coax media	42
Figure A.23	Repeaters in series versus length difference for fibre media	43
Figure A.24	Example of redundant coax network with repeaters	43
Figure A.25	Example of improper redundant node connection	44
Figure A.26	Example tool kit for installing BNC connectors	48
Figure A.27	Calibration of coaxial stripper	48
Figure A.28	Coax PVC strip length detail (informative)	49
Figure A.29	Memory cartridge and blade	50
Figure A.30	Cable position	50

Figure A.31 – Locking the cable	50
Figure A.32 – Stripping the cable	51
Figure A.33 – Install the crimp ferrule	51
Figure A.34 – Cable preparation for PVC type cables (informative)	52
Figure A.35 – Cable preparation for FEP type cables (informative)	52
Figure A.36 – Strip guides	52
Figure A.37 – Using the flare tool	53
Figure A.38 – Expanding the shields	53
Figure A.39 – Install the centre pin	53
Figure A.40 – Crimping the centre pin	54
Figure A.41 – Installing the connector body	54
Figure A.42 – Installing the ferrule	54
Figure A.43 – Crimp tool	55
Figure A.44 – Sealed IP65/67 cable	56
Figure A.45 – Terminator placement	56
Figure A.46 – Mounting the taps	57
Figure A.47 – Mounting the tap assembly using the universal mounting bracket	58
Figure A.48 – Mounting the tap using tie wraps or screws	58
Figure A.49 – Redundant network icons	59
Figure A.50 – Network test tool	61
Figure A.51 – Shorting the cable to test for continuity	62
Figure A.52 – Testing fibre segments	64
Figure A.53 – Multi-fibre backbone cable housing	66
Figure A.54 – Repeater adapter module	66
Figure A.55 – Short and medium distance fibre module LEDs	68
Figure A.56 – Long and extra long repeater module LEDs	69
Figure B.1 – Interconnection of GbE 2 networks	73
Figure B.2 – Redundant linear bus	74
Figure B.18 – Example of combination of basic active topologies	75
Figure B.3 – Peer-to-peer connections	75
Figure B.4 – Mated connections	78
Figure B.5 – The 4-way modular sealed jack & plug (plastic housing)	87
Figure B.6 – The 8-way modular sealed jack & plug (metal housing)	87
Figure B.7 – M12-4 connectors	88
Figure B.8 – Example of a metallic shell M12-8 X-coding connectors	89
Figure B.9 – Simplex LC connector	90
Figure B.10 – Duplex LC connector	90
Figure B.11 – IP65/67 sealed duplex LC connector	90
Figure B.12 – IP65/67 sealed duplex SC-RJ connector	91
Figure B.13 – M12-4 to 8-way modular bulkhead	93
Figure B.19 – Shield termination in star earthing arrangements	95
Figure B.20 – Shield termination in mesh earthing arrangements	95
Figure B.14 – The 8-way modular sealed jack & plug (plastic housing)	99

Figure B.15 – The 8-way modular sealed jack & plug (metal housing)	99
Figure B.16 – M12-4 connectors	99
Figure B.17 – Earthing of cable shield	101
Figure C.1 – Interconnection of CPF 2 networks	107
Figure C.2 – Connection to generic cabling.....	108
Figure C.3 – DeviceNet cable system uses a trunk/drop line topology.....	110
Figure C.4 – Measuring the trunk length	112
Figure C.5 – Measuring the trunk and drop length.....	112
Figure C.6 – Measuring drop cable in a network with multiports	113
Figure C.7 – Removable device using open-style connectors	113
Figure C.8 – Fixed connection using open-style connector.....	114
Figure C.9 – Open-style connector pin out	114
Figure C.10 – Open-style connector pin out 10 position	114
Figure C.11 – Power Bus Current derate as a function of temperature difference	117
Figure C.12 – Power supply sizing example	118
Figure C.13 – Current limit for thick cable for one power supply	119
Figure C.14 – Example of a continuous power bus.....	120
Figure C.15 – Current limit for thick cable and two power supplies common V+	121
Figure C.16 – Worst-case scenario	122
Figure C.17 – Example using the lookup method	122
Figure C.18 – One power supply end connected	124
Figure C.19 – Segmenting power in the power bus	125
Figure C.20 – Segmenting the power bus using power taps	125
Figure C.21 – Thick cable construction	136
Figure C.22 – Cable Type I construction	136
Figure C.23 – Thin cable construction	137
Figure C.24 – Flat cable construction.....	137
Figure C.25 – Cable preparation	138
Figure C.26 – Connector assembly	138
Figure C.28 – M12 connector pin assignment	139
Figure C.29 – Mini connector pin assignment.....	139
Figure C.30 – Preparation of cable end.....	140
Figure C.31 – Shrink wrap installation.....	140
Figure C.32 – Wire preparation	140
Figure C.33 – Open-style connector (female).....	141
Figure C.34 – Open-style (male plug)	141
Figure C.35 – Flat cable.....	142
Figure C.36 – Aligning the cable	142
Figure C.37 – Closing the assembly.....	143
Figure C.38 – Proper orientation of cable.....	143
Figure C.39 – Locking the assembly	143
Figure C.40 – Driving the IDC contacts in to the cable	144
Figure C.41 – End cap placement	144

Figure C.42 – End cap seated.....	145
Figure C.43 – End cap installation on alternate side of cable	145
Figure C.44 – Flat cable IDC connectors.....	146
Figure C.45 – Installing the connectors	146
Figure C.46 – Cable wiring to open-style terminals	147
Figure C.47 – Auxiliary power cable profile	147
Figure C.48 – Pin out auxiliary power connectors.....	148
Figure C.49 – Power supply cable length versus wire size	149
Figure C.50 – Sealed terminator	151
Figure C.51 – Open-style terminator	151
Figure C.52 – Open-style IDC terminator	151
Figure C.53 – Sealed terminator IDC cable	152
Figure C.54 – Direct connection to the trunk	153
Figure C.55 – Wiring of open-style connector.....	153
Figure C.56 – Wiring of open-style 10-position connector	153
Figure C.57 – Diagnostic temporary connections	154
Figure C.58 – Thick cable preterminated cables (cord sets).....	155
Figure C.59 – Thin cable preterminated cables (cord sets).....	155
Table A.1 – Basic network characteristics for balanced cabling not based on Ethernet	25
Table A.2 – Network characteristics for optical fibre cabling.....	26
Table A.3 – RG6 coaxial electrical properties.....	28
Table A.4 – RG6 coaxial physical parameters.....	28
Table A.5 – Cable type selection.....	29
Table A.6 – Information relevant to optical fibre cables	30
Table A.7 – Copper connectors for ControlNet.....	31
Table A.8 – Optical fibre connecting hardware	31
Table A.9 – Relationship between FOC and fibre types (CP 2/1).....	32
Table A.10 – Parameters for coaxial RG6 cables	46
Table A.11 – Bend radius for coaxial cables outside conduit	46
Table A.12 – Parameters for silica optical fibre cables	46
Table A.13 – Parameters for hard clad silica optical fibre.....	47
Table A.14 – Test matrix for BNC/TNC connectors.....	62
Table A.15 – Wavelength and fibre types	65
Table A.16 – LED status table.....	67
Table A.17 – Repeater adapter and module diagnostic	67
Table A.18 – Repeater adapter indicator diagnostic	67
Table A.19 – Repeater module indicator	68
Table A.20 – Short and medium distance troubleshooting chart	69
Table A.21 – Long and extra long troubleshooting chart.....	70
Table B.1 – Network characteristics for balanced cabling based on Ethernet	76
Table B.2 – Network characteristics for optical fibre cabling.....	77
Table B.3 – Fibre lengths for 1 mm POF A4a.2 POF 0.5 NA	77

Table B.4 – Fibre lengths for 1 mm POF A4d POF 0.3 NA	78
Table B.5 – Recognized fibre types.....	79
Table B.6 – Recognized fibre PMDs.....	79
Table B.7 – Information relevant to copper cable: fixed cables 10/100 MHz	80
Table B.8 – Information relevant to copper cable: fixed cables 1 000 MHz	81
Table B.9 – Information relevant to copper cable: cords 10/100 MHz	81
Table B.10 – TCL limits for unshielded twisted-pair cabling serving 10/100 Mb/s	81
Table B.11 – TCL limits for unshielded twisted-pair cabling serving 1 000 Mb/s	81
Table B.12 – ELTCTL limits for unshielded twisted-pair cabling serving 10/100 Mb/s	81
Table B.13 – ELTCTL limits for unshielded twisted-pair cabling serving 1 000 Mb/s	81
Table B.14 – Coupling attenuation limits for screened twisted-pair cabling	81
Table B.27 – Unbalance attenuation limits for unshielded twisted-pair cabling serving 10BASE-T and 100BASE-T applications	84
Table B.28 – Unbalance attenuation limits for unshielded twisted-pair cabling serving 1000BASE-T applications with enhanced components	84
Table B.29 – Unbalance attenuation limits for unshielded twisted-pair cabling serving 1000BASE-T applications with length derating	85
Table B.30 – Coupling attenuation limits for screened twisted-pair cabling.....	85
Table B.15 – Information relevant to optical fibre cables	85
Table B.16 – Connectors for balanced cabling CPs based on Ethernet	86
Table B.17 – TCL limits for connectors based on Ethernet serving 1 000 Mb/s	86
Table B.17 – Unbalance Attenuation limits for connectors based on Ethernet serving 1000BASE-T applications	87
Table B.18 – Industrial EtherNet/IP 8-way modular connector parameters	87
Table B.19 – Industrial EtherNet/IP M12-4 way coding connector parameters	88
Table B.20 – Industrial EtherNet/IP M12-8 way coding connector parameters.....	89
Table B.21 – Optical fibre connecting hardware	90
Table B.22 – Relationship between FOC and fibre types (CP2/2).....	91
Table B.23 – Connector insertion loss.....	91
Table B.24 – Parameters for balanced cables	98
Table B.25 – Parameters for silica optical fibre cables	98
Table B.26 – Parameters for POF optical fibre cables	98
Table C.1 – Basic network characteristics for copper cabling not based on Ethernet.....	110
Table C.2 – Cable trunk and drop lengths for CP 2/3	111
Table C.3 – Summary of available current for trunk cables (CP 2/3).....	115
Table C.4 – Permissible current for thin cable drop lines of various lengths	116
Table C.5 – Power supply specification for DeviceNet.....	116
Table C.6 – Power supply tolerance stack up for DeviceNet.....	117
Table C.7 – Current versus cable length for one power supply thick cable	120
Table C.8 – Current versus length for two power supplies.....	121
Table C.9 – Definition of equation variables	123
Table C.10 – Information relevant to copper cable: fixed cables.....	126
Table C.11 – Information relevant to copper cable: cords.....	126
Table C.12 – DeviceNet cables and connector support cross reference	127

Table C.13 – DeviceNet cable profiles	128
Table C.14 – Copper connectors for non-Ethernet based fieldbus	130
Table C.15 – Additional connectors for CP 2/3 (DeviceNet)	130
Table C.16 – Parameters for balanced cables.....	135
Table C.17 – Wire colour code and function.....	141
Table C.18 – Auxiliary power cable colour code	147
Table C.19 – Auxiliary power supply requirements	148
Table C.20 – Signal wire verification	158
Table C.21 – Shield to earth	158
Table C.22 – Connector pin out	160

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –
PROFILES –****Part 5-2: Installation of fieldbuses –
Installation profiles for CPF 2****FOREWORD**

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 61784-5-2 edition 4.1 contains the fourth edition (2018-08) [documents 65C/924/FDIS and 65C/925/RVD] and its amendment 1 (2024-03) [documents 65C/1283/FDIS and 65C/1297/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61784-5-2 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

This fourth edition cancels and replaces the third 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) references to ISO/IEC 24702 have been replaced with references to ISO/IEC 11801-3 in Table B.1;
- b) errors have been corrected;
- c) Tables B11 and B13 have been added in support of 1,000 Mb/s 4 Pair Ethernet;
- d) Clarification of dual power supplies for Annex C.

~~This standard is to be used in conjunction with IEC 61918:2018.~~

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

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

The committee has decided that the contents of this document and its amendment 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 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

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

IEC 61918:2018, IEC 61918:2018/AMD1:2022 and IEC 61918:2018/AMD2:2024 provides 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 61784-5-2 for CPF 2) allows readers to work with standards of a convenient size.

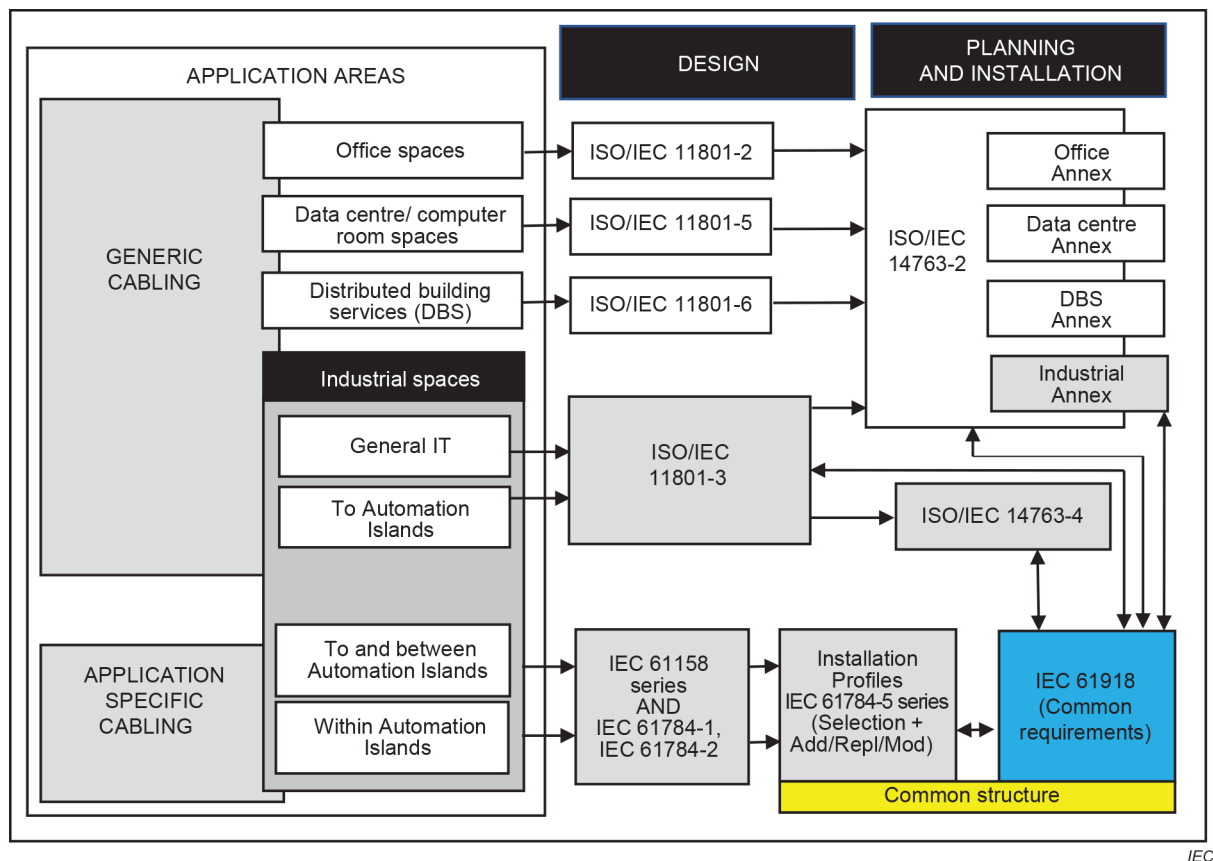
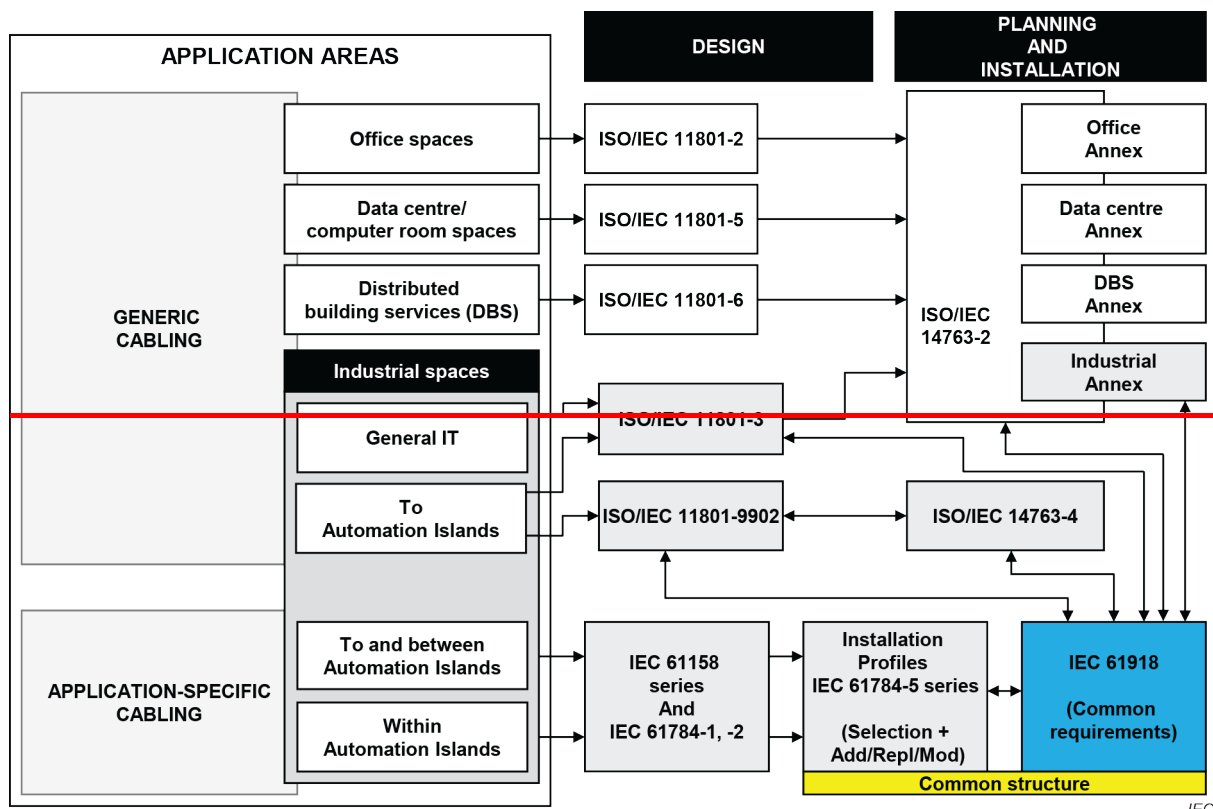


Figure 1 – Standards relationships

INTRODUCTION to Amendment 1

This Amendment 1 includes the following significant technical changes with respect to IEC 61784-5-2:2018:

- a) Updated references of IEC 61918:2018 to include additions of IEC 61918:2018/AMD1:2022 and IEC 61918:2018/AMD2:2024,
- b) Added references for consideration of security to Subclause B.4.2.2,
- c) Updated optical fiber specifications and references in Subclauses B.4.3.3.2 and B.4.4.1.4,
- d) Added definition of electromagnetic compatibility options for conformance to Subclause B.4.4.1.2.1,
- e) Added support of mesh bonding systems to Subclause B.4.4 and Clause B.5,
- f) Added acceptance of end-to-end link verification and certification testing to Clause B.6.

INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-2: Installation of fieldbuses – Installation profiles for CPF 2

1 Scope

This part of IEC 61784-5 specifies the installation profiles for CPF 2 (CIP™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, 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 61918:2018², *Industrial communication networks – Installation of communication networks in industrial premises*
IEC 61918:2018/AMD1:2022
IEC 61918:2018/AMD2:2024

~~The normative references of IEC 61918:2018, Clause 2, apply.~~

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

3 Terms, definitions and abbreviated terms

For the purpose 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 of this document, 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>

~~NOTE For profile specific terms, definitions and abbreviated terms, see Clauses A.3, B.3, and C.3.~~

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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.