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BSI Standards Publication

Industrial communication networks - Profiles

Part 5-3: Installation of fieldbuses - Installation profiles for CPF 3

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National foreword

This British Standard is the UK implementation of EN IEC 61784-5-3:2018. It is identical to IEC 61784-5-3:2018. It supersedes BS EN 61784-5-3:2013, which will be withdrawn on 4 October 2021.

The UK participation in its preparation was entrusted to Technical Committee GEL/65, Measurement and control.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Industrial communication networks - Profiles - Part 5-3:
Installation of fieldbuses - Installation profiles for CPF 3
(IEC 61784-5-3:2018)**

Réseaux de communication industriels - Profils - Partie 5-3:
Installation des bus de terrain - Profils d'installation pour
CPF 3
(IEC 61784-5-3:2018)

Industrielle Kommunikationsnetze - Profile - Teil 5-3:
Feldbusinstallation - Installationsprofile für die
Kommunikationsprofilfamilie 3
(IEC 61784-5-3:2018)

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European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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

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European foreword

The text of document 65C/924/FDIS, future edition 4 of IEC 61784-5-3, 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 61784-5-3:2018.

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) 2019-07-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-10-04

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(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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61918	2018	Industrial communication networks - Installation of communication networks in industrial premises	EN IEC 61918	2018

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CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	10
3 Terms, definitions and abbreviated terms	10
4 CPF 3: Overview of installation profiles	10
5 Installation profile conventions	11
6 Conformance to installation profiles.....	11
Annex A (normative) CP 3/1 (PROFIBUS) 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.....	14
A.3.3 Conventions for installation profiles	14
A.4 Installation planning	14
A.4.1 General.....	14
A.4.2 Planning requirements	14
A.4.3 Network capabilities.....	16
A.4.4 Selection and use of cabling components	18
A.4.5 Cabling planning documentation	28
A.4.6 Verification of cabling planning specification.....	28
A.5 Installation implementation	28
A.5.1 General requirements	28
A.5.2 Cable installation	28
A.5.3 Connector installation	30
A.5.4 Terminator installation	34
A.5.5 Device installation.....	34
A.5.6 Coding and labelling	34
A.5.7 Earthing and bonding of equipment and device and shielded cabling	35
A.5.8 As-implemented cabling documentation	36
A.6 Installation verification and installation acceptance test.....	36
A.6.1 General.....	36
A.6.2 Installation verification	36
A.6.3 Installation acceptance test.....	38
A.7 Installation administration.....	43
A.8 Installation maintenance and installation troubleshooting.....	43
Annex B (normative) CP 3/2 (PROFIBUS) specific installation profile.....	44
B.1 Installation profile scope.....	44
B.2 Normative references	44
B.3 Installation profile terms, definitions, and abbreviated terms.....	44
B.3.1 Terms and definitions.....	44
B.3.2 Abbreviated terms.....	45
B.3.3 Conventions for installation profiles	45

This is a preview of "BS EN IEC 61784-5-3:....". [Click here to purchase the full version from the ANSI store.](#)

B.4	Installation planning	46
B.4.1	General.....	46
B.4.2	Planning requirements	47
B.4.3	Network capabilities.....	54
B.4.4	Selection and use of cabling components	60
B.4.5	Cabling planning documentation	75
B.4.6	Verification of cabling planning specification	75
B.5	Installation implementation	75
B.5.1	General requirements	75
B.5.2	Cable installation	75
B.5.3	Connector installation	76
B.5.4	Terminator installation	77
B.5.5	Device installation.....	77
B.5.6	Coding and labelling	77
B.5.7	Earthing and bonding of equipment and device and shielded cabling	77
B.5.8	As-implemented cabling documentation	77
B.6	Installation verification and installation acceptance test.....	77
B.6.1	General.....	77
B.6.2	Installation verification	78
B.6.3	Installation acceptance test.....	78
B.7	Installation administration.....	79
B.8	Installation maintenance and installation troubleshooting.....	79
Annex C (normative)	CP 3/3, CP 3/4, CP 3/5, CP 3/6 (PROFINET) specific installation profile	80
C.1	Installation profile scope	80
C.2	Normative references	80
C.3	Installation profile terms, definitions, and abbreviated terms	80
C.3.1	Terms and definitions.....	80
C.3.2	Abbreviated terms.....	80
C.3.3	Conventions for installation profiles	80
C.4	Installation planning	81
C.4.1	General.....	81
C.4.2	Planning requirements	81
C.4.3	Network capabilities.....	81
C.4.4	Selection and use of cabling components	84
C.4.5	Cabling planning documentation	106
C.4.6	Verification of cabling planning specification	106
C.5	Installation implementation	106
C.5.1	General requirements	106
C.5.2	Cable installation	106
C.5.3	Connector installation	108
C.5.4	Terminator installation	110
C.5.5	Device installation.....	110
C.5.6	Coding and labelling	110
C.5.7	Earthing and bonding of equipment and device and shielded cabling	111
C.5.8	As-implemented cabling documentation	112
C.6	Installation verification and installation acceptance test.....	112
C.6.1	General.....	112

This is a preview of "BS EN IEC 61784-5-3:....". [Click here to purchase the full version from the ANSI store.](#)

C.6.2	Installation verification	112
C.6.3	Installation acceptance test.....	113
C.7	Installation administration.....	114
C.8	Installation maintenance and installation troubleshooting.....	114
	Bibliography.....	115
Figure 1	– Standards relationships.....	9
Figure A.1	– Recommended combination of shielding and earthing for CP 3/1 networks with RS 485-IS.....	26
Figure A.2	– Sub-D connector pin numberings (front view).....	31
Figure A.3	– 5-pin M12 female socket.....	32
Figure A.4	– 5-pin M12 male plug for CP 3/1.....	33
Figure A.5	– Test circuit A – Resistance measurement of data line B and shield.....	39
Figure A.6	– Test circuit B – Resistance measurement of data line A and shield.....	39
Figure A.7	– Test circuit C – Resistance measurement of data line A, data line B, and shield.....	39
Figure A.8	– Test circuit D – Resistance measurement between data line A and B.....	40
Figure A.9	– Resistance measurement without 9-pin Sub-D plug.....	40
Figure A.10	– Loop core resistance (cable type A).....	41
Figure A.11	– Action and resolution tree for measurement 1 (RS 485 and RS 485-IS).....	41
Figure A.12	– Action and resolution tree for measurement 2 (RS 485 and RS 485-IS).....	42
Figure A.13	– Action and resolution tree for measurement 3 (RS 485 and RS 485-IS).....	42
Figure B.1	– Connection of CP 3/1 networks.....	47
Figure B.2	– Typical fieldbus architecture.....	50
Figure B.3	– Fieldbus with stations supplied by auxiliary power sources.....	50
Figure B.4	– Fieldbus model.....	53
Figure B.5	– Current modulation (Manchester II code).....	53
Figure B.6	– Tree topology.....	55
Figure B.7	– Bus topology.....	55
Figure B.8	– Combination of the tree topology and the bus topology.....	56
Figure B.9	– Fieldbus extension.....	56
Figure B.10	– Recommended combination of shielding and earthing.....	70
Figure B.11	– Ideal combination of shielding and earthing.....	71
Figure B.12	– Capacitive earthing.....	72
Figure B.13	– Galvanic isolated field device.....	73
Figure B.14	– Pin assignment of the male and female connectors IEC 60947-5-2 (A-coding).....	77
Figure C.1	– Definition of End-to-end link.....	101
Figure C.2	– End-to-end link without interconnections.....	101
Figure C.3	– Assembled End-to-end link.....	101
Figure C.4	– Connectionless optical fibre link.....	102
Figure C.5	– Assembled optical fibre link.....	102
Figure C.6	– Shielded connectors for CP 3/3, CP 3/4, CP 3/5 and CP 3/6 fieldbus networks.....	108
Figure C.7	– Pin-assignment for a straight cable.....	109

This is a preview of "BS EN IEC 61784-5-3:....". [Click here to purchase the full version from the ANSI store.](#)

Table A.1 – Excerpt of MICE definition.....	16
Table A.2 – Basic network characteristics for balanced cabling not based on Ethernet (ISO/IEC 8802-3).....	17
Table A.3 – Network characteristics for optical fibre cabling.....	18
Table A.4 – Information relevant to copper cable: fixed cables.....	19
Table A.5 – Information relevant to optical fibre cables.....	20
Table A.6 – Connectors for copper cabling CPs not based on Ethernet.....	21
Table A.7 – Optical fibre connecting hardware.....	21
Table A.8 – Relationship between FOC and fibre types (CP 3/1).....	21
Table A.9 – Parameters for balanced cables.....	29
Table A.10 – Parameters for silica optical fibre cables.....	29
Table A.11 – Parameters for POF optical fibre cables.....	29
Table A.12 – Parameters for hard clad silica optical fibre cables.....	30
Table A.13 – Use of 9 pin Sub-D connector pins (RS 485).....	31
Table A.14 – Use of 9 pin Sub-D connector pins (RS 485-IS).....	32
Table A.15 – Use of M12 connector pins (RS 485).....	33
Table A.16 – Use of M12 connector pins (RS 485-IS).....	34
Table A.17 – Maximum fibre channel attenuation for CP 3/1 (PROFIBUS).....	43
Table B.1 – Valid parameter range of the FISCO model for use as EEx ib IIC / IIB.....	51
Table B.2 – Valid parameter range of the FISCO model for use as EEx ia IIC.....	52
Table B.3 – Power supply (operational values).....	58
Table B.4 – Line lengths which can be achieved.....	58
Table B.5 – Limit values for distortion, reflection and signal delay.....	59
Table B.6 – Recommended maximum cable lengths including spurs.....	59
Table B.7 – Recommended length of the spurs.....	60
Table B.8 – Maximum length of the splices.....	60
Table B.9 – Information relevant to copper cable: fixed cables.....	61
Table B.10 – Safety limit values for the fieldbus cable.....	62
Table B.11 – Connectors for copper cabling CPs not based on Ethernet.....	63
Table B.12 – Mixing devices from different categories.....	65
Table B.13 – Electrical characteristics of fieldbus interfaces.....	66
Table B.14 – Recommended data sheet specifications for CP 3/2 devices.....	67
Table B.15 – Parameters for balanced cables.....	75
Table B.16 – Contact assignments for the external connector for harsh industrial environments.....	76
Table C.1 – General transmission media selection information.....	82
Table C.2 – Network characteristics for balanced cabling based on Ethernet (ISO/IEC 8802-3).....	83
Table C.3 – Network characteristics for optical fibre cabling.....	83
Table C.4 – Information relevant to copper cable: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 type A fixed cables.....	85
Table C.5 – Information relevant to copper cable: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 type B flexible cables.....	86

This is a preview of "BS EN IEC 61784-5-3:....". [Click here to purchase the full version from the ANSI store.](#)

Table C.6 – Information relevant to copper cable: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 type C special cables	87
Table C.7 – Information relevant to copper cable: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 of cabinet cord sets	88
Table C.8 – Requirement data cable inside and outside cabinet: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 type B flexible cables	89
Table C.9 – Requirement to copper cable inside and outside cabinet: CP 3/3, CP 3/4, CP 3/5 and CP 3/6 type B flexible cables	90
Table C.10 – Information relevant to optical fibre cables	91
Table C.11 – Requirements for plastic and hard clad silica optical fibre cables	91
Table C.12 – Requirements for glass multimode optical fibre cables	93
Table C.13 – Requirements for glass singlemode optical fibre cables	94
Table C.14 – Requirements of industrial FO-cord sets	95
Table C.15 – Standard of test of industrial FO-cord sets	96
Table C.16 – Information relevant to hybrid cables (application type B)	96
Table C.17 – Information relevant to hybrid cables (application type C)	97
Table C.18 – Connectors for balanced cabling CPs based on Ethernet	99
Table C.19 – Connectors for balanced cabling CPs not based on Ethernet	99
Table C.20 – Connectors for balanced cabling CPs based on Ethernet	99
Table C.21 – Optical fibre connecting hardware	100
Table C.22 – Relationship between FOC and fibre types (CP 3/3, CP 3/4, CP 3/5, CP3/6)	100
Table C.23 – Typical fibre channels common for industrial applications.	103
Table C.24 – Parameters for balanced cables	107
Table C.25 – Parameters for silica optical fibre cables	107
Table C.26 – Parameters for POF optical fibre cables	107
Table C.27 – Parameters for hard clad silica optical fibre cables	108
Table C.28 – Colour coding of 2 pair cabling for CP 3/3, CP 3/4, CP 3/5 and CP 3/6 connectors	109
Table C.29 – Colour coding of 4 pair cabling for CP 3/3, CP 3/4, CP 3/5 and CP 3/6 connectors	109
Table C.30 – Contact arrangement M12 2 pair to M12 4 pair for CP 3/3, CP 3/4, CP 3/5 and CP 3/6 connectors	110
Table C.31 – Maximum fibre channel attenuation for CP 3/3, CP 3/4, CP 3/5 and CP 3/6 (PROFINET)	114

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –
PROFILES –**

**Part 5-3: Installation of fieldbuses –
Installation profiles for CPF 3**

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 61784-5-3 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

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) an addition of 4-pair cabling (see C.4.4.1.2.1 and C.5.3.2);
- b) an addition of the connector M12 X-Coding (see C.4.4.2.2);
- c) an addition of the definition of End-to-end links (see C.4.4.3.1);

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- d) a revision of Table C.17 (see C.5.2.1);
- e) a formula for the NEXT limits of End-to-end links (see C.6.3.2.1.2).

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

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

FDIS	Report on voting
65C/924/FDIS	65C/925/RVD

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

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

A list of all 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 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 document. At this date, the document will be

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

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

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

IEC 61918:2018 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 61784-5-3 for CPF 3), allows readers to work with standards of a convenient size.

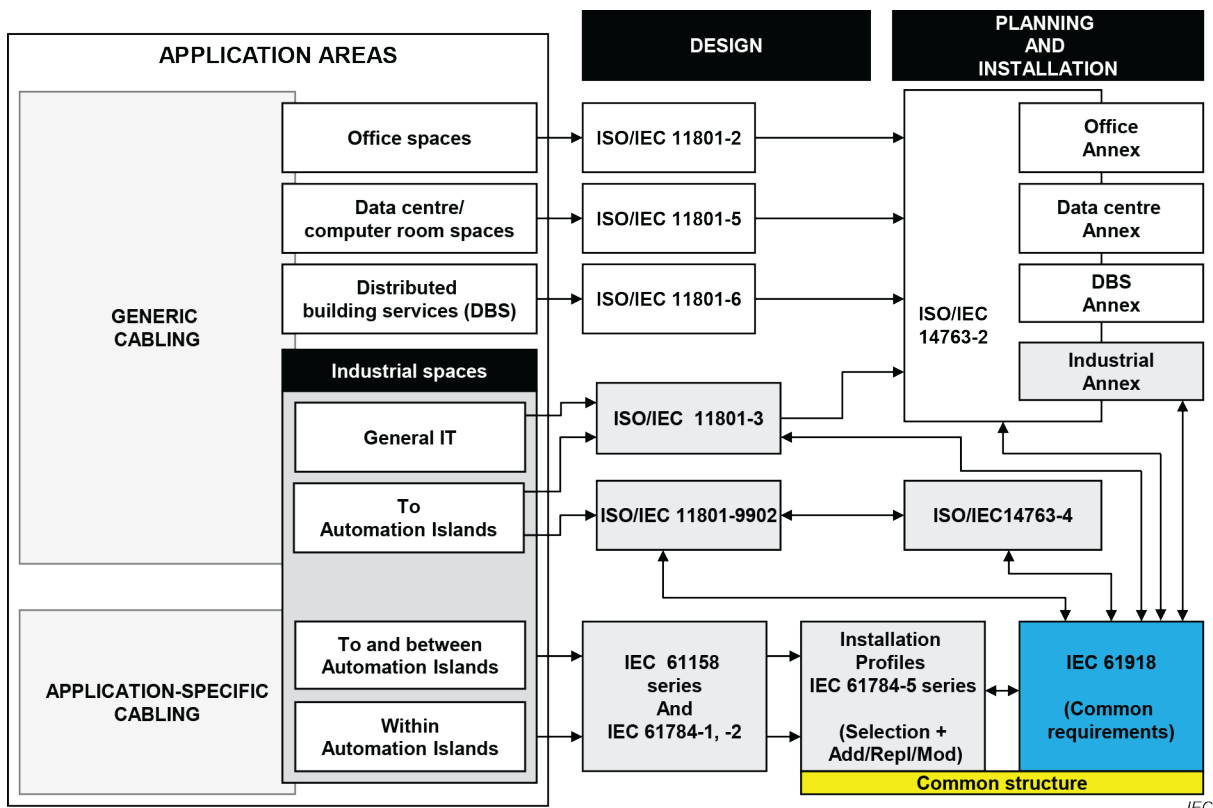


Figure 1 – Standards relationships

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INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-3: Installation of fieldbuses – Installation profiles for CPF 3

1 Scope

This part of IEC 61784-5 specifies the installation profiles for CPF 3 (PROFIBUS/PROFINET)¹.

The installation profiles are specified in the annexes. These annexes are read in conjunction with IEC 61918:2018.

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 61918:2018, *Industrial communication networks – Installation of communication networks in industrial premises*

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

NOTE For profile specific normative references, see Clause(s) A.2, B.2 and C.2.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms, definitions and abbreviated terms of IEC 61918:2018, Clause 3, 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 Clause(s) A.3, B.3 and C.3.

4 CPF 3: Overview of installation profiles

CPF 3 consists of six communication profiles as specified in IEC 61784-1 and IEC 61784-2.

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