

INTERNATIONAL STANDARD

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**Industrial communication networks – Profiles –
Part 5-6: Installation of fieldbuses – Installation profiles for CPF 6**

**Réseaux de communication industriels – Profils –
Partie 5-6: Installation des bus de terrain – Profils d'installation pour CPF 6**

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

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

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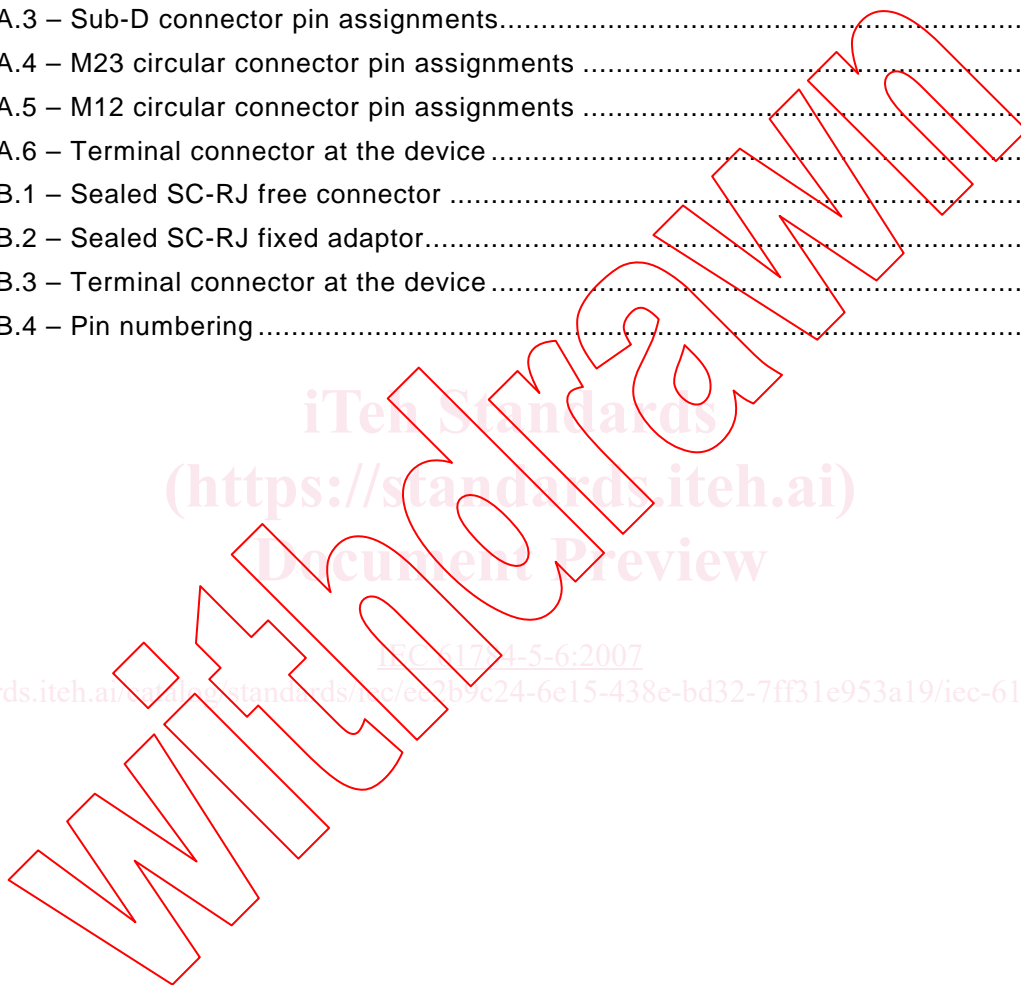
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INDUSTRIAL COMMUNICATION NETWORKS – PROFILES

Part 5-6: Installation of fieldbuses – Installation profiles for CPF 6

FOREWORD

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International Standard IEC 61784-5-6 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This standard is to be used in conjunction with IEC 61918:2007.

This bilingual version (2014-12) corresponds to the English version, published in 2007-12.

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

FDIS	Report on voting
65C/471/FDIS	65C/482/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.

The French version of this standard has not been voted upon.

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

A list of all parts of the 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 publication will remain unchanged until the maintenance result 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

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WITHDRAWN

INTRODUCTION

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

IEC 61918:2007 (Ed. 1.0) 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 standard, see IEC/TR 61158-1.

Each CP installation profile is specified in a separate annex of this standard. 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 standard are defined in Clause 5.

The provision of the installation profiles in one standard for each CPF (e.g. IEC 61784-5-6 for CPF 6), allows readers to work with standards of a convenient size.

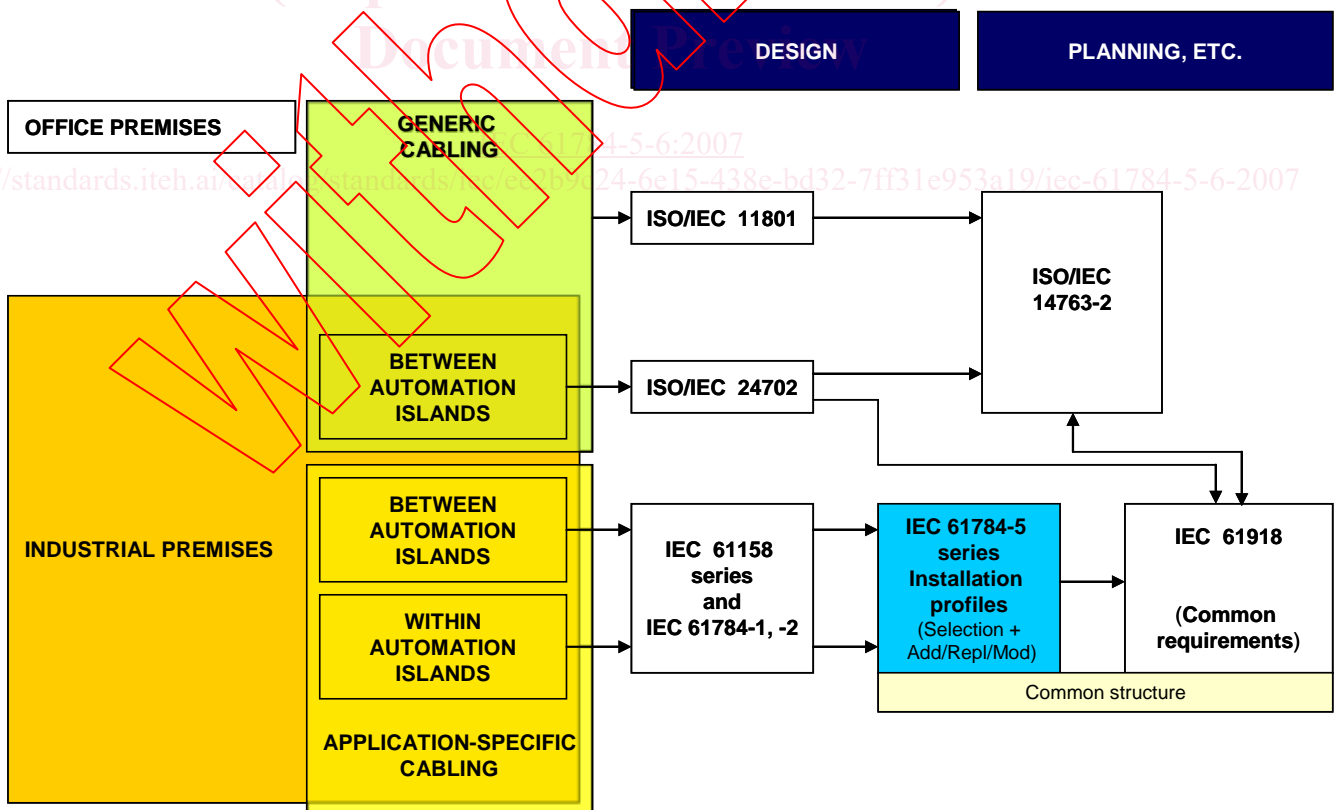


Figure 1 – Standards relationships

INDUSTRIAL COMMUNICATION NETWORKS – PROFILES

Part 5-6: Installation of fieldbuses – Installation profiles for CPF 6

1 Scope

This part of IEC 61784 specifies the installation profiles for the media specified in CPF 6 (INTERBUS)¹.

The installation profiles are specified in the annexes. These annexes are read in conjunction with IEC 61918:2007.

2 Normative references

The following referenced documents are indispensable for the application 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 61918:2007, *Industrial communication networks – Installation of communication networks in industrial premises*

The normative references of IEC 61918:2007, Clause 2, apply. For profile specific normative references see A.2, and B.2.

3 Terms, definitions and abbreviated terms

For the purpose of this document, the terms, definitions and abbreviated terms of IEC 61918:2007, Clause 3, apply. For profile specific terms, definitions and abbreviated terms see A.3 and B.3.

4 CPF 6: Overview of installation profiles

CPF 6 consists of seven CPs (see IEC 61784-1 for CP 6/1, CP 6/2, CP 6/3, see 61784-2 for CP 6/4, CP 6/5, CP 6/6, see 61784-3-6 for FSCP 6/7).

The CPF 6 Type 8 network (non Ethernet based) installation profile is specified in Annex A.

The CP 6/2 Ethernet specific installation profile file is specified in Annex B.

5 Installation profile conventions

The numbering of the clauses and subclauses in the annexes of this standard corresponds to the numbering of IEC 61918:2007 main clauses and subclauses.

The annex clauses and subclauses of this standard supplement, modify, or replace the respective clauses and subclauses in IEC 61918:2007.

¹ INTERBUS is a trade name of INTERBUS Club, an independent organisation of users and vendors of INTERBUS products. This information is given for the convenience of users of this International Standard and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance to this profile does not require use of the trade name INTERBUS. Use of the trade name INTERBUS requires permission of the trade name holder.

Where there is no corresponding subclause of IEC 61918:2007 in the normative annexes in this standard, the subclause of IEC 61918:2007 applies without modification.

The annex heading letter represents the installation profile assigned in Clause 4. The annex heading number shall represent the corresponding numbering of IEC 61918:2007.

EXAMPLE "Annex A.4.4" in IEC 61784-5-6 means that the installation profile for the Type 8 network profiles specifies the Subclause 4.4 of IEC 61918:2007.

All main clauses of IEC 61918:2007 are cited and apply in full unless otherwise stated in each normative installation profile annex.

If all subclauses of a (sub)clause are omitted, then the corresponding IEC 61918 (sub)clause applies.

If in a (sub)clause it is written "Not applicable", then the corresponding IEC 61918 (sub)clause does not apply.

If in a (sub)clause it is written "Addition", then the corresponding IEC 61918 (sub)clause applies with the additions written in the profile.

If in a (sub)clause it is written "Replacement", then the text provided in the profile replaces the text of the corresponding IEC 61918 (sub)clause.

NOTE A replacement can also comprise additions.

If in a (sub)clause it is written "Modification", then the corresponding IEC 61918 (sub)clause applies with the modifications written in the profile.

If all (sub)clauses of a (sub)clause are omitted but in this (sub)clause it is written "(sub)clause x has "Addition" (or "Replacement") or is "Not applicable"", then (sub)clause x becomes valid as declared and all the other corresponding IEC 61918 (sub)clauses apply.

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6 Conformance to installation profiles

Each installation profile within this standard includes part of IEC 61918:2007. It may also include defined additional specifications.

A statement of compliance to the installation profile specified in Annex A shall be stated² as

Compliance to IEC 61784-5-6:2007 for CPF 6 Type 8 Network <Name>

where the name within the angle brackets < > is optional and the angle brackets are not to be included.

NOTE The name may be the name of the profile, e.g. INTERBUS.

If the name is a trade name then the permission of the trade name holder shall be required.

A statement of compliance to the installation profile specified in Annex B shall be stated² as

Compliance to IEC 61784-5-6:2007 for CP 6/2 Ethernet Network

Product standards shall not include any conformity assessment aspects (including quality management provisions), neither normative nor informative, other than provisions for product testing (evaluation and examination).

² In accordance with ISO/IEC Directives.

Annex A (normative)

CPF 6 Type 8 network specific installation profile

A.1 Installation profile scope

Addition:

This annex specifies the installation profile for Type 8 networks and the related Communication Profiles:

- CP 6/1, CP 6/2, CP 6/3 - specified in IEC 61784-1;
- CP 6/4, CP 6/5, CP 6/6 - specified in IEC 61784-2;
- FSCP 6/7 - specified in IEC 61784-3-6.

A.2 Normative references

Addition:

IEC 60794-1-2:2003, *Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures*

IEC 61156-1 (Ed. 2.0), *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-5 (Ed. 1.0), *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 600 MHz – Horizontal floor wiring – Sectional specification*

NOTE EN 50377-6-1 is under consideration as IEC 61754-24.

A.3 Installation profile terms, definitions, and abbreviated terms

A.3.1 Terms and definitions

Addition:

A.3.1.1 bus coupler

a device that divides the Type 8 network into segments by opening the ring and integrating another ring at this point

A.3.1.2 local bus

a ring segment of a Type 8 network with alternate media specifications, which is coupled to a remote bus via a bus coupler

A.3.1.3 local bus device

device that operates as a slave on a local bus

A.3.1.4

master

device that controls the data transfer on the Type 8 network and initiates the media access of the slaves by sending messages and that constitutes the interface to the control system

A.3.1.5

remote bus

a ring segment of a network

A.3.1.6

remote bus

device operating as a slave on a remote bus

A.3.1.7

remote bus link

connection of two remote bus devices

A.3.1.8

ring segment

one section of a Type 8 network

A.3.1.9

slave

a device that accesses the medium only after it has been initiated by the preceding slave or master

A.3.2 Abbreviated terms

Addition:

BC	Bus coupler
COM	Ground line
/DI	Incoming interface: send data line – Outgoing interface: receive data line –
DI	Incoming interface: send data line + Outgoing interface: receive data line +
/DO	Incoming interface: receive data line – Outgoing interface: send data line -
DO	Incoming interface: receive data line + Outgoing interface: send data line +
PELV	Protective Extra Low Voltage
POF	Plastic Optical Fibre
SELV	Safety Extra Low Voltage

A.3.3 Conventions for installation profiles

Not applicable.