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Industrial communication networks – Profiles – Part 5-21: Installation of fieldbuses – Installation profiles for CPF 21

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-21: Installation of fieldbuses – Installation profiles for CPF 21

FOREWORD

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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 61784-5-21 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.

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

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

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INTRODUCTION

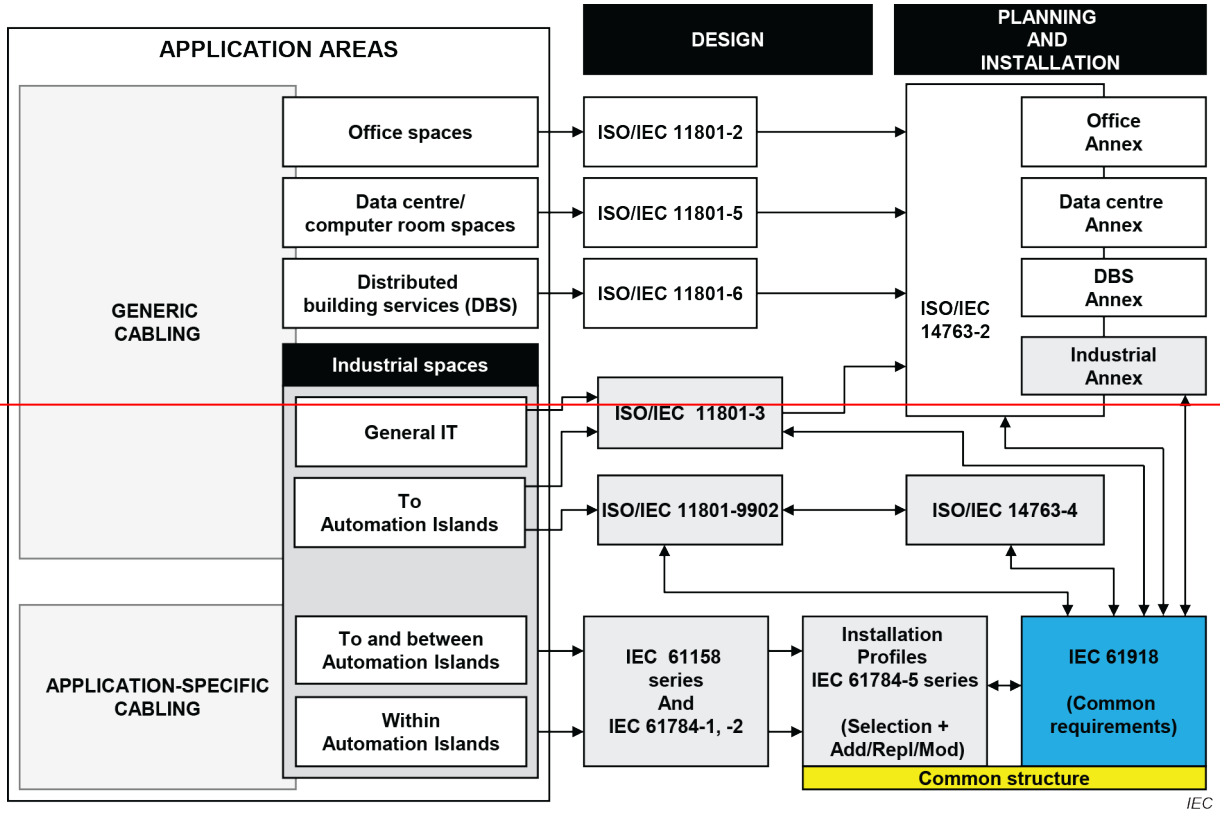
This ~~International Standard~~ document is one of a series produced to facilitate the use of communication networks in industrial control systems.

IEC 61918:2018, IEC 61918:2018/AMD1:2022 and IEC 61918:2018/AMD2:2024 provide~~s~~ the common requirements for the installation of communication networks in industrial control systems. This installation profile document 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 document for each CPF (for example IEC 61784-5-21 for CPF 21)~~,~~ allows readers to work with documents of a convenient size.



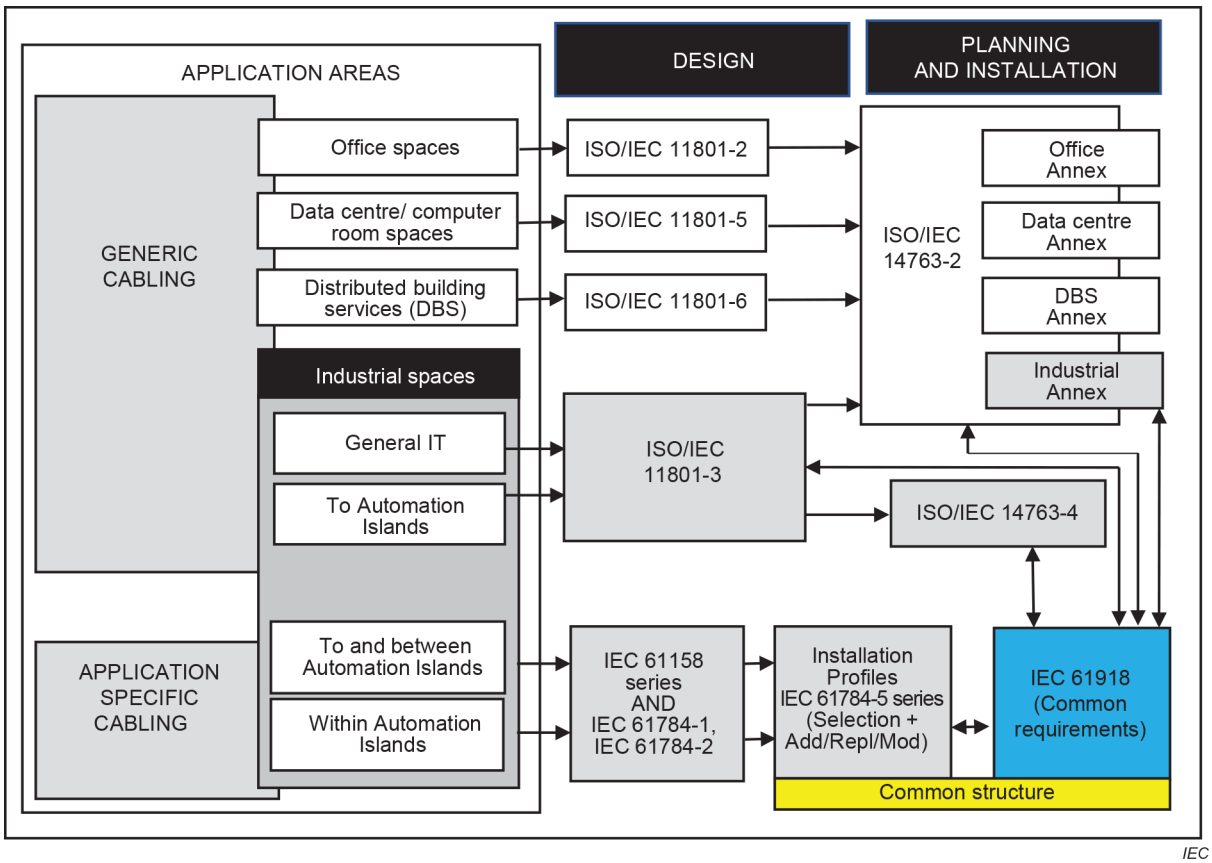


Figure 1 – Standards relationships

INTRODUCTION to Amendment 1

This Amendment 1 includes the following significant technical changes with respect to IEC 61784-5-21:2018:

a) in A.4.3.2.3, Table A.1:
   - 1 000 (Mbit/s) is added to "Supported data rates (Mbit/s)",
   - Category 5e is added to "Cable category per ISO/IEC 11801-3",
   - Category 5e is added to "Connecting HW category per ISO/IEC 11801-3";

b) in A.4.3.2.4, Table A.2, Single mode silica:
   - "Bandwidth (MHz) or equivalent at λ (nm)" is changed to 120 and 1 500,
   - "Maximum channel Insertion loss/optical power budget (dB)" is changed to 10,5.

INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-21: Installation of fieldbuses – Installation profiles for CPF 21

1 Scope

This part of IEC 61784 specifies the installation profile for CPF 21 (FL-net[1]).

The installation profile is specified in ~~Annex A~~ the annex. The annex is 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 61918:2018 [2], *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 Clause A.2.

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1 FL-net is the trade name of JEMA/FL-net: The Japan Electrical Manufacturers' Association / the Factory Automation Link network. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the trademark holder or any of its products. Compliance does not require use of the trade name. Use of the trade name requires permission of the trade name holder.

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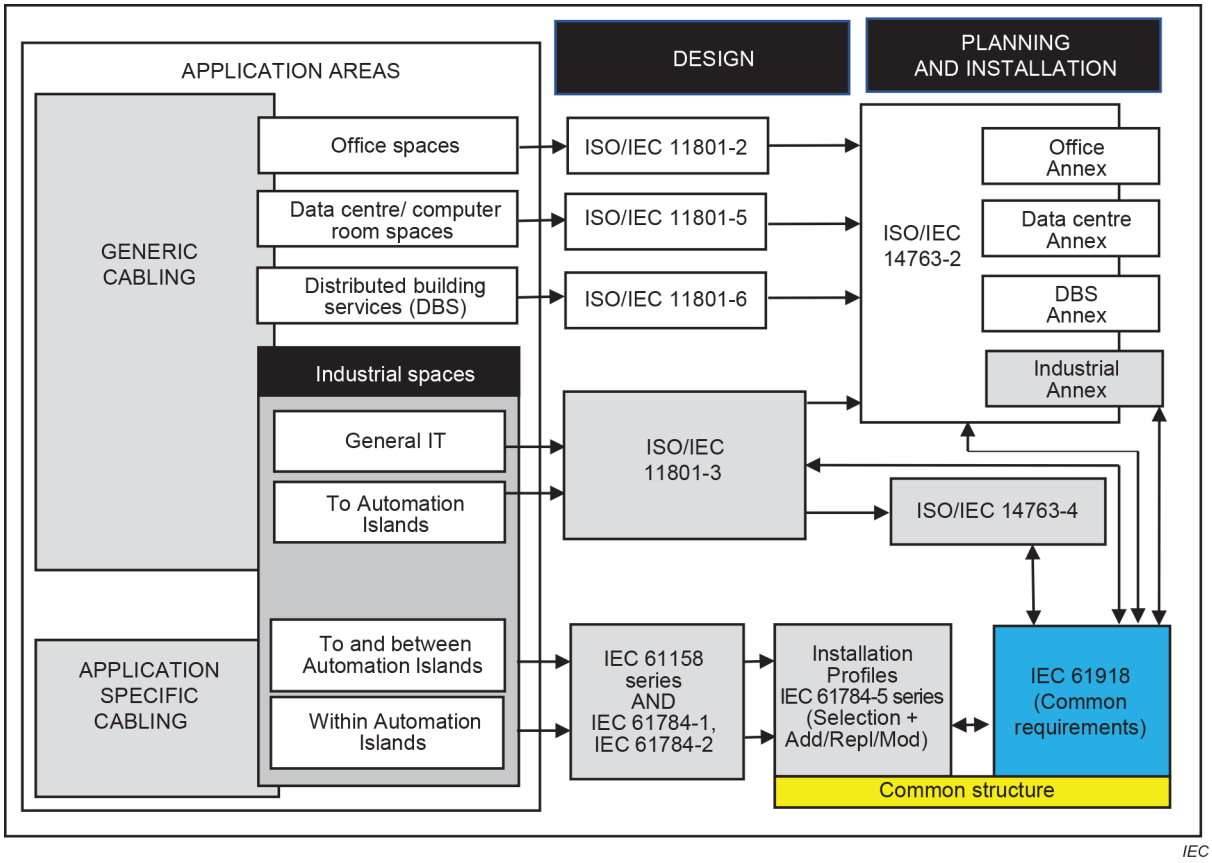

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