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Industrial communication networks – Profiles – Part 5-12: Installation of fieldbuses – Installation profiles for CPF 12

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-12: Installation of fieldbuses – Installation profiles for CPF 12

FOREWORD

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This Consolidated version of IEC 61784-5-12 bears the edition number 1.1. It consists of the first edition (2010-07) [documents 65C/602/FDIS and 65C/616/RVD] and its amendment 1 (2015-06) [documents 65C/768/CDV and 65C/800/RVC]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 61784-5-12 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 61918:2013.

This bilingual version (2012-02) corresponds to the monolingual English version, published in 2010-07.

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, published 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 the base publication and its amendment 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 publication. At this date, the publication will be

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- withdrawn,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

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

IEC 61918:2013 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 (for example IEC 61784-5-12 for CPF 12), allows readers to work with standards of a convenient size.

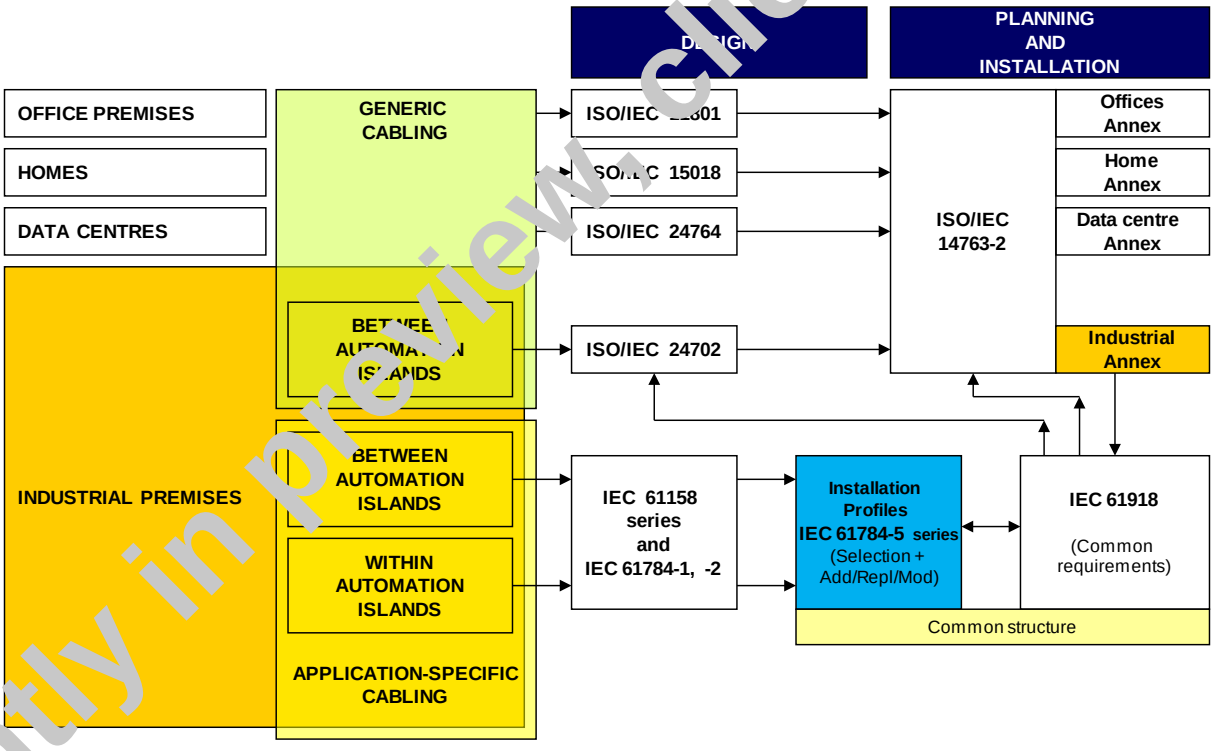

Figure 1 – Standards relationships

Attention is drawn to the fact that the document IEC 61918 specifies all the installation requirements that apply to large part of the industrial communication networks and that these requirements automatically apply to each single network with the exception of those requirements that in the relevant document of the IEC 61784-5 series are explicitly defined as modified or replaced.

All the additions to the latest edition of the IEC 61918 apply to the networks of CPF 12. Nevertheless, the fact that a few tables of IEC 61918 have been restructured to better define the technical content requires that the document IEC 61784-5-12 Ed.1 be amended to fully match the IEC 61918 revised structure.

INDUSTRIAL COMMUNICATION NETWORKS – PROFILES –

Part 5-12: Installation of fieldbuses – Installation profiles for CPF 12

1 Scope

This part of IEC 61784 specifies the installation profiles for CPF 12 (EtherCAT™)[1].

The installation profiles are specified in the annex. This annex is read in conjunction with IEC 61918:2013.

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 60603-7-3, *Connectors for electronic equipment – Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz*

IEC 60793-2 (all subparts), *Optical fibres – Part 2: Product specifications*

IEC 61918:2013 *Industrial communication networks – Installation of communication networks in industrial premises*

The normative references of IEC 61918:2013, Clause 2, apply. For profile specific normative references, see Clause A.2.

3 Terms, definitions and abbreviated terms

For the purposes of this document, the terms, definitions and abbreviated terms of IEC 61918:2013, Clause 3, apply.

4 CPF 12: Overview of installation profiles

CPF 12 consists of two communication profiles as specified in IEC 61784-2.

The installation requirements for CP 12/1 (simple EtherCAT™ I/O devices) and CP 12/2 (EtherCAT™ devices with mailbox capabilities) are identical and are specified in Annex A.

5 Installation profile conventions

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

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[1] EtherCAT™ is a trade name of Beckhoff, Verl. 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. Use of the trade name requires permission of the trade name holder.