SLOVENSKI STANDARD
SIST EN 61784-2:2010

01-december-2010

Nadomešča:
SIST EN 61784-2:2008

Industrijska komunikacijska omrežja - Profili - 2. del: Dodatni profili procesnih vodil za omrežja, ki delujejo v realnem času po ISO/IEC 8802-3 (IEC 61784-2:2010)

Industrial communication networks - Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC 8802-3 (IEC 61784-2:2010)

Industrielle Kommunikationsnetze - Profile - Teil 2: Zusätzliche Feldbusprofile für Echtzeitnetzwerke basierend auf ISO/IEC 8802-3 (IEC 61784-2:2010)

Réseaux de communication industriels - Profils - Partie 2: Profils supplémentaires des bus de terrain pour les réseaux temps réel basés sur l'ISO/CEI 8802-3 (CEI 61784-2:2010)

Ta slovenski standard je istoveten z: EN 61784-2:2010

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.100.05	Večslojne uporabniške rešitve	Multilayer applications

SIST EN 61784-2:2010   **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61784-2

October 2010

ICS 35.100.20; 35.240.50

Supersedes EN 61784-2:2008

English version

Industrial communication networks - Profiles - Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC 8802-3
(IEC 61784-2:2010)

Réseaux de communication industriels -
Profils -
Partie 2: Profils supplémentaires des bus
de terrain pour les réseaux temps réel
basés sur l'ISO/CEI 8802-3
(CEI 61784-2:2010)

Industrielle Kommunikationsnetze -
Profile -
Teil 2: Zusätzliche Feldbusprofile
für Echtzeitnetzwerke basierend
auf ISO/IEC 8802-3
(IEC 61784-2:2010)

This European Standard was approved by CENELEC on 2010-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61784-2:2010 E

Foreword

The text of document 65C/601/FDIS, future edition 2 of IEC 61784-2, 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 was approved by CENELEC as EN 61784-2 on 2010-09-01.

This European Standard supersedes EN 61784-2:2008.

The main changes with respect to EN 61784-2:2008 are listed below:

a) update of the dated references to the EN 61158 series, to EN 61784-1, to the EN 61784-3 series, to the EN 61784-5 series and to EN 61918 throughout the document;

b) update of selection tables for CPF 2, CPF 3, CPF 11 and CPF 14;

c) addition of a new profile CP 11/2 in 12.3;

d) addition of a new profile CP 14/3 in subclause 15.5;

e) addition of a new Communication Profile Family - CPF 17;

  – new subclause 3.3.12 (CPF 17 symbols);

  – new Clause 18 for CPF 17 with one profile;

f) addition of a new Communication Profile Family - CPF 18;

  – new subclause 3.3.13 (CPF 18 symbols);

  – new Clause 19 for CPF 18 with one profile;

  – specification changes for CPF3;

g) update of the requirements for all conformance classes;

h) added precise timing requirements for IP;

i) updated timing requirements for IO devices;

j) added precise timing requirements for PTCP;

k) increasing the amount of synchronized devices in line;

l) integrating the fast startup as additional feature.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented
  at national level by publication of an identical
  national standard or by endorsement   (dop)   2011-06-01

– latest date by which the national standards conflicting
  with the EN have to be withdrawn   (dow)   2013-09-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61784-2:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC/TR 61158-1:2010   NOTE   Harmonized as CLC/TR 61158-1:2010 (not modified).

IEC 61158-3-8:2007   NOTE   Harmonized as EN 61158-3-8:2008 (not modified).

IEC 61158-4-8:2007   NOTE   Harmonized as EN 61158-4-8:2008 (not modified).

IEC 61158-5-8:2007   NOTE   Harmonized as EN 61158-5-8:2008 (not modified).

IEC 61158-6-8:2007   NOTE   Harmonized as EN 61158-6-8:2008 (not modified).

ISO/IEC 9646 series   NOTE   Harmonized in EN ISO/IEC 9646 series (not modified).

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Annex ZA
(normative)

Normative references to international publications
with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61158-2	2010	Industrial communication networks - Fieldbus specifications - Part 2: Physical layer specification and service definition	EN 61158-2	2010
IEC 61158-3-2	2007	Industrial communication networks - Fieldbus specifications - Part 3-2: Data-link layer service definition - Type 2 elements	EN 61158-3-2	2008
IEC 61158-3-4	2007	Industrial communication networks - Fieldbus specifications - Part 3-4: Data-link layer service definition - Type 4 elements	EN 61158-3-4	2008
IEC 61158-3-7	2007	Industrial communication networks - Fieldbus specifications - Part 3-7: Data-link layer service definition - Type 7 elements	EN 61158-3-7	2008
IEC 61158-3-11	2007	Industrial communication networks - Fieldbus specifications - Part 3-11: Data-link layer service definition - Type 11 elements	EN 61158-3-11	2008
IEC 61158-3-12	2010	Industrial communication networks - Fieldbus specifications - Part 3-12: Data-link layer service definition - Type 12 elements	-	-
IEC 61158-3-13	2007	Industrial communication networks - Fieldbus specifications - Part 3-13: Data-link layer service definition - Type 13 elements	EN 61158-3-13	2008
IEC 61158-3-14	2010	Industrial communication networks - Fieldbus specifications - Part 3-14: Data-link layer service definition - Type 14 elements	-	-
IEC 61158-3-17	2007	Industrial communication networks - Fieldbus specifications - Part 3-17: Data-link layer service definition - Type 17 elements	EN 61158-3-17	2008

Publication	Year	Title	EN/HD	Year
IEC 61158-3-19	2010	Industrial communication networks - Fieldbus specifications - Part 3-19: Data-link layer service definition - Type 19 elements	-	-
IEC 61158-3-21	2010	Industrial communication networks - Fieldbus specifications - Part 3-21: Data-link layer service definition - Type 21 elements	-	-
IEC 61158-3-22	2010	Industrial communication networks - Fieldbus specifications - Part 3-22: Data-link layer service definition - Type 22 elements	-	-
IEC 61158-4-2	2010	Industrial communication networks - Fieldbus specifications - Part 4-2: Data-link layer protocol specification - Type 2 elements	-	-
IEC 61158-4-4	2007	Industrial communication networks - Fieldbus specifications - Part 4-4: Data-link layer protocol specification - Type 4 elements	EN 61158-4-4	2008
IEC 61158-4-11	2010	Industrial communication networks - Fieldbus specifications - Part 4-11: Data-link layer protocol specification - Type 11 elements	-	-
IEC 61158-4-12	2010	Industrial communication networks - Fieldbus specifications - Part 4-12: Data-link layer protocol specification - Type 12 elements	-	-
IEC 61158-4-13	2007	Industrial communication networks - Fieldbus specifications - Part 4-13: Data-link layer protocol specification - Type 13 elements	EN 61158-4-13	2008
IEC 61158-4-14	2010	Industrial communication networks - Fieldbus specifications - Part 4-14: Data-link layer protocol specification - Type 14 elements	-	-
IEC 61158-4-17	2007	Industrial communication networks - Fieldbus specifications - Part 4-17: Data-link layer protocol specification - Type 17 elements	EN 61158-4-17	2008
IEC 61158-4-19	2010	Industrial communication networks - Fieldbus specifications - Part 4-19: Data-link layer protocol specification - Type 19 elements	-	-
IEC 61158-4-21	2010	Industrial communication networks - Fieldbus specifications - Part 4-21: Data-link layer protocol specification - Type 21 elements	-	-
IEC 61158-4-22	2010	Industrial communication networks - Fieldbus specifications - Part 4-22: Data-link layer protocol specification - Type 22 elements	-	-

Publication	Year	Title	EN/HD	Year
IEC 61158-5-2	2010	Industrial communication networks - Fieldbus specifications - Part 5-2: Application layer service definition - Type 2 elements	-	-
IEC 61158-5-4	2007	Industrial communication networks - Fieldbus specifications - Part 5-4: Application layer service definition - Type 4 elements	EN 61158-5-4	2008
IEC 61158-5-9	2007	Industrial communication networks - Fieldbus specifications - Part 5-9: Application layer service definition - Type 9 elements	EN 61158-5-9	2008
IEC 61158-5-10	2010	Industrial communication networks - Fieldbus specifications - Part 5-10: Application layer service definition - Type 10 elements	-	-
IEC 61158-5-11	2007	Industrial communication networks - Fieldbus specifications - Part 5-11: Application layer service definition - Type 11 elements	EN 61158-5-11	2008
IEC 61158-5-12	2010	Industrial communication networks - Fieldbus specifications - Part 5-12: Application layer service definition - Type 12 elements	-	-
IEC 61158-5-13	2007	Industrial communication networks - Fieldbus specifications - Part 5-13: Application layer service definition - Type 13 elements	EN 61158-5-13	2008
IEC 61158-5-14	2010	Industrial communication networks - Fieldbus specifications - Part 5-14: Application layer service definition - Type 14 elements	-	-
IEC 61158-5-15	2010	Industrial communication networks - Fieldbus specifications - Part 5-15: Application layer service definition - Type 15 elements	-	-
IEC 61158-5-17	2007	Industrial communication networks - Fieldbus specifications - Part 5-17: Application layer service definition - Type 17 elements	EN 61158-5-17	2008
IEC 61158-5-19	2010	Industrial communication networks - Fieldbus specifications - Part 5-19: Application layer service definition - Type 19 elements	-	-
IEC 61158-5-21	2010	Industrial communication networks - Fieldbus specifications - Part 5-21: Application layer service definition - Type 21 elements	-	-
IEC 61158-5-22	2010	Industrial communication networks - Fieldbus specifications - Part 5-22: Application layer service definition - Type 22 elements	-	-

Publication	Year	Title	EN/HD	Year
IEC 61158-6-2	2010	Industrial communication networks - Fieldbus specifications - Part 6-2: Application layer protocol specification - Type 2 elements	-	-
IEC 61158-6-4	2007	Industrial communication networks - Fieldbus specifications - Part 6-4: Application layer protocol specification - Type 4 elements	EN 61158-6-4	2008
IEC 61158-6-10	2010	Industrial communication networks - Fieldbus specifications - Part 6-10: Application layer protocol specification - Type 10 elements	-	-
IEC 61158-6-11	2007	Industrial communication networks - Fieldbus specifications - Part 6-11: Application layer protocol specification - Type 11 elements	EN 61158-6-11	2008
IEC 61158-6-12	2010	Industrial communication networks - Fieldbus specifications - Part 6-12: Application layer protocol specification - Type 12 elements	-	-
IEC 61158-6-13	2007	Industrial communication networks - Fieldbus specifications - Part 6-13: Application layer protocol specification - Type 13 elements	EN 61158-6-13	2008
IEC 61158-6-14	2010	Industrial communication networks - Fieldbus specifications - Part 6-14: Application layer protocol specification - Type 14 elements	-	-
IEC 61158-6-15	2010	Industrial communication networks - Fieldbus specifications - Part 6-15: Application layer protocol specification - Type 15 elements	-	-
IEC 61158-6-17	2007	Industrial communication networks - Fieldbus specifications - Part 6-17: Application layer protocol specification - Type 17 elements	EN 61158-6-17	2008
IEC 61158-6-19	2010	Industrial communication networks - Fieldbus specifications - Part 6-19: Application layer protocol specification - Type 19 elements	-	-
IEC 61158-6-21	2010	Industrial communication networks - Fieldbus specifications - Part 6-21: Application layer protocol specification - Type 21 elements	-	-
IEC 61158-6-22	2010	Industrial communication networks - Fieldbus specifications - Part 6-22: Application layer protocol specification - Type 22 elements	-	-
IEC 61588	2009	Precision clock synchronization protocol for networked measurement and control systems	-	-
IEC 61784-1	2010	Industrial communication networks - Profiles - Part 1: Fieldbus profiles	EN 61784-1	2010

Publication	Year	Title	EN/HD	Year
IEC 61784-5-2	2010	Industrial communication networks - Profiles - Part 5-2: Installation of fieldbuses - Installation profiles for CPF 2	-	-
IEC 61784-5-3	2010	Industrial communication networks - Profiles - Part 5-3: Installation of fieldbuses - Installation profiles for CPF 3	-	-
IEC 61784-5-6	2010	Industrial communication networks - Profiles - Part 5-6: Installation of fieldbuses - Installation profiles for CPF 6	-	-
IEC 61784-5-11	2010	Industrial communication networks - Profiles - Part 5-11: Installation of fieldbuses - Installation profiles for CPF 11	-	-
IEC 61918 (mod)	2010	Industrial communication networks - Installation of communication networks in industrial premises	EN 61918	201X [1]
ISO/IEC 8802-2 + corr. October	1998 2000	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 2: Logical link control	-	-
ISO/IEC 8802-3	2000	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications	-	-
ISO/IEC 8802-11	-	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications	-	-
ISO 15745-3	-	Industrial automation systems and integration - Open systems application integration framework - Part 3: Reference description for IEC 61158 based control systems	-	-
ISO 15745-4 + A1	2003 2006	Industrial automation systems and integration - Open systems application integration framework - Part 4: Reference description for Ethernet-based control systems	-	-
IEEE 802.1AB	-	IEEE Standard for Local and metropolitan area networks Station and Media Access Control Connectivity Discovery	-	-
IEEE 802.1D	-	IEEE Standard for Local and Metropoitan Area Networks - Media Access Control (MAC) Bridges	-	-

[1] At draft stage.

Publication	Year	Title	EN/HD	Year
IEEE 802.1Q	-	IEEE Standard for Local and Metropolitan Area Networks - Virtual Bridged Local Area Networks	-	-
IEEE 802.3	2002	IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) - Acess Method and Physical Layer Specifications	-	-
IEEE 802.3ab	-	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) access method and physical layer specifications - Physical layer parameters and specifications for 1000 Mb/s operation over 4-pair of category 5 balanced copper cabling, type 1000BASE-T	-	-
IEEE 802.11e	-	IEEE Standard for Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications	-	-
IEEE 802.11g	-	IEEE Standard for Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications	-	-
IEEE 802.11h	-	IEEE Standard for Information technology – Telecommunications and Information Exchange Between Systems – LAN/MAN Specific Requirements – Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Spectrum and Transmit Power Management Extensions in the 5GHz band in Europe	-	-
IEEE 802.11i	-	IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications – Amendment 6: Medium Access Control (MAC) security enhancements	-	-

Publication	Year	Title	EN/HD	Year
IEEE Std 802.15.1	-	IEEE Standard for Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements. - Part 15.1: Wireless medium access control (MAC) and physical layer (PHY) specifications for wireless personal area networks (WPANs)	-	-
IETF RFC 768	-	User Datagram Protocol	-	-
IETF RFC 791	-	Internet Protocol	-	-
IETF RFC 792	-	Internet Control Message Protocol	-	-
IETF RFC 793	-	Transmission Control Protocol	-	-
IETF RFC 826	-	Ethernet Address Resolution Protocol	-	-
IETF RFC 894	-	Standard for the Transmission of IP Datagrams over Ethernet Networks	-	-
IETF RFC 1112	-	Host Extensions for IP Multicasting	-	-
IETF RFC 1122	-	Requirements for Internet Hosts - Communication Layers	-	-
IETF RFC 1123	-	Requirements for Internet Hosts - Application and Support	-	-
IETF RFC 1127	-	A Perspective on the Host Requirements RFCs	-	-
IETF RFC 1213	-	Management Information Base for Network Management of TCP/IP-based Internets: MIB-II	-	-
IETF RFC 1305	-	Network Time Protocol, Version 3 - Specification and Implementation	-	-
IETF RFC 2131	-	Dynamic Host Configuration Protocol	-	-
IETF RFC 2236	-	Internet Group Management Protocol	-	-
IETF RFC 2544	-	Benchmarking Methodology for Network Interconnect Devices	-	-
IETF RFC 2988	-	Computing TCP's Retransmission Timer	-	-

IEC 61784-2

Edition 2.0   2010-07

INTERNATIONAL
STANDARD

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**Industrial communication networks – Profiles –
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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE   **XK**

ICS 35.100.20, 35.240.50

ISBN 978-2-88912-053-6

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– 2 –   61784-2 © IEC:2010(E)

CONTENTS

61784-2 © IEC:2010(E) – 3 –