

# SLOVENSKI STANDARD

## SIST EN 61158-6-12:2015

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Nadomešča:

SIST EN 61158-6-12:2012

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**Industrijska komunikacijska omrežja - Specifikacije za procesna vodila - 6-12. del: Specifikacija protokola na aplikacijski ravni - Elementi tipa 12 (IEC 61158-6-12:2014)**

Industrial communication networks - Fieldbus specifications - Part 6-12: Application layer protocol specification - Type 12 elements (IEC 61158-6-12:2014)

**iTeh STANDARD PREVIEW**

Industrielle Kommunikationsnetze - Feldbusse - Teil 6-12: Protokollspezifikation des Application Layer (Anwendungsschicht) - Typ 12-Elemente (IEC 61158-6-12:2014)

[SIST EN 61158-6-12:2015](#)

Réseaux de communication industriels - Spécifications des bus de terrain - Partie 6-12: Spécification du protocole de la couche application - Elements de type 12 (CEI 61158-6-12:2014)

**Ta slovenski standard je istoveten z: EN 61158-6-12:2014**

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**ICS:**

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.100.70	Uporabniški sloj	Application layer
35.110	Omreževanje	Networking

**SIST EN 61158-6-12:2015**

**en,fr,de**

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EUROPEAN STANDARD

**EN 61158-6-12**

NORME EUROPÉENNE

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October 2014

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Supersedes EN 61158-6-12:2012

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**Industrial communication networks - Fieldbus specifications -  
Part 6-12: Application layer protocol specification - Type 12  
elements  
(IEC 61158-6-12:2014)**

Réseaux de communication industriels - Spécifications des  
bus de terrain - Partie 6-12: Spécification du protocole de la  
couche application - Eléments de type 12  
(CEI 61158-6-12:2014)

Industrielle Kommunikationsnetze - Feldbusse - Teil 6-12:  
Protokollspezifikation des Application Layer  
(Anwendungsschicht) - Typ 12-Elemente  
(IEC 61158-6-12:2014)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of document 65C/764/FDIS, future edition 3 of IEC 61158-6-12, 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 61158-6-12:2014.

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) 2015-06-23
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-09-23

This document supersedes EN 61158-6-12:2012.

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The text of the International Standard IEC 61158-6-12:2014 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 61131-3	NOTE	Harmonized as EN 61131-3.
IEC 61158-1:2014	NOTE	Harmonized as EN 61158-1:2014 (not modified).
IEC 61158-4-12	NOTE	Harmonized as EN 61158-4-12.
IEC 61784-1	NOTE	Harmonized as EN 61784-1.
IEC 61784-2	NOTE	Harmonized as EN 61784-2.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 When 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61158-3-12	-	Industrial communication networks - Fieldbus specifications - Part 3-12: Data-link layer service definition - Type 12 elements	EN 61158-3-12	-
IEC 61158-5-12	-	Industrial communication networks - Fieldbus specifications - Part 5-12: Application layer service definition - Type 12 elements	EN 61158-5-12	-
IEC 61158-6	series	Industrial communication networks - Fieldbus specifications - Part 6: Application layer protocol specification	EN 61158-6	series
ISO/IEC 7498-1	-	Information technology - Open Systems Interconnection - Basic Reference Model: The Basic Model	-	-
ISO/IEC 7498-3	-	Information technology - Open Systems Interconnection - Basic Reference Model: Naming and addressing	-	-
ISO/IEC 8802-3	-	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 9545	-	Information technology - Open Systems Interconnection - Application layer structure	-	-
ISO/IEC 9899	-	Information technology - Programming languages - C	-	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC 10731	-	Information technology - Open Systems Interconnection - Basic Reference Model - Conventions for the definition of OSI services	-	-
ISO/IEC/IEEE 60559	-	Information technology - Microprocessor Systems - Floating-Point arithmetic	-	-
IEEE 802.1D	-	IEEE Standard for local and metropolitan area networks - Media Access Control (MAC) Bridges	-	-
IEEE 802.1Q	-	IEEE Standard for Local and metropolitan area networks - Media Access Control (MAC) Bridges and Virtual Bridges	-	-
IETF RFC 768	-	User Datagram Protocol	-	-
IETF RFC 791	-	Internet Protocol - DARPA Internet Program Protocol Specification	-	-
IETF RFC 826	-	Ethernet Address Resolution Protocol: Or Converting Network Protocol Addresses to 48.bit Ethernet Address for Transmission on Ethernet Hardware	-	-

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IEC 61158-6-12

Edition 3.0 2014-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Industrial communication networks – Fieldbus specifications –  
Part 6-12: Application layer protocol specification – Type 12 elements**

**Réseaux de communication industriels – Spécifications des bus de terrain –  
Partie 6-12: Spécification du protocole de la couche application – Éléments  
de type 12**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**INDUSTRIAL COMMUNICATION NETWORKS –  
FIELDBUS SPECIFICATIONS –**
**Part 6-12: Application layer protocol specification –  
Type 12 elements**

## 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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NOTE Combinations of protocol types are specified in IEC 61784-1 and IEC 61784-2.

International Standard IEC 61158-6-12 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2010. This edition constitutes a technical revision. The main changes with respect to the previous edition are listed below:

- bug fixes;
- editorial improvements;
- support of Explicit Device Identification added in ESM (Clause 6).

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

FDIS	Report on voting
65C/764/FDIS	65C/774/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.

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

A list of all parts of the IEC 61158 series, published under the general title *Industrial communication networks – Fieldbus specifications*, can be found on the IEC web site.

The committee has decided that the contents of this publication 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.

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## INTRODUCTION

This part of IEC 61158 is one of a series produced to facilitate the interconnection of automation system components. It is related to other standards in the set as defined by the “three-layer” fieldbus reference model described in IEC 61158-1.

The application protocol provides the application service by making use of the services available from the data-link or other immediately lower layer. The primary aim of this standard is to provide a set of rules for communication expressed in terms of the procedures to be carried out by peer application entities (AEs) at the time of communication. These rules for communication are intended to provide a sound basis for development in order to serve a variety of purposes:

- as a guide for implementors and designers;
- for use in the testing and procurement of equipment;
- as part of an agreement for the admittance of systems into the open systems environment;
- as a refinement to the understanding of time-critical communications within OSI.

This standard is concerned, in particular, with the communication and interworking of sensors, effectors and other automation devices. By using this standard together with other standards positioned within the OSI or fieldbus reference models, otherwise incompatible systems may work together in any combination.

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