SLOVENSKI STANDARD

SIST EN 61804-2:2007

01-december-2007

Nadomeġļ a:

SIST EN 61804-2:2004

Funkcijski bloki (FB) za nadzor procesov - 2. del: Specifikacije koncepta FB (IEC 61804-2:2006)

Function blocks (FB) for process control - Part 2: Specification of FB concept

Funktionsbausteine für die Prozessautomation - Teil 2: Festlegung des Funktionsbausteinkonzepts

Blocs fonction pour les processus industriels - Partie 2: Spécification du concept de bloc fonction

Ta slovenski standard je istoveten z: **EN 61804-2:2007**

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry

SIST EN 61804-2:2007 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61804-2

June 2007

ICS 25.040.40; 35.240.50

Partially supersedes EN 61804-2:2004

English version

Function blocks (FB) for process control - Part 2: Specification of FB concept
(IEC 61804-2:2006)

Blocs fonction
pour les processus industriels -
Partie 2: Spécification du concept
de bloc fonction
(CEI 61804-2:2006)

Funktionsbausteine
für die Prozessautomation -
Teil 2: Festlegung
des Funktionsbausteinkonzepts
(IEC 61804-2:2006)

This European Standard was approved by CENELEC on 2007-05-01. 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, 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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61804-2:2007 E

Foreword

The text of the International Standard IEC 61804-2:2006, prepared by SC 65C, Industrial networks, of IEC TC 65, Industrial-process measurement and control, was submitted to the formal vote and was approved by CENELEC as EN 61804-2 on 2007-05-01 without any modification.

This European Standard, together with EN 61804-3:2007, supersedes EN 61804-2:2004.

EN 61804-2:2007 includes the following significant technical changes with respect to EN 61804-2:2004:

– transfer of the EDDL-specific clauses to EN 61804-3;

– the FB-specific subclauses 4.1 and 4.2 as well as Clauses 5, 6, 7 and 8 are unchanged.

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)	2008-05-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-05-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this document may involve the use of patents

U.S. Patent No. 5,333,114

U.S. Patent No. 5,485,400

U.S. Patent No. 5,825,664

U.S. Patent No. 5,909,368

U.S. Patent Pending No. 08/916,178

Australian Patent No. 638507

Canadian Patent No. 2,066,743

European Patent No. 0495001

Validated in:

UK – Patent No. 0495001

France – Patent No. 0495001

Germany – Patent No. 69032954.7

Netherlands – Patent No. 0495001

Japan Patent No. 3137643

The IEC and CENELEC take no position concerning the evidence, validity and scope of this patent right. The holder of this patent right has assured the IEC that he is willing to negotiate licenses under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

Fieldbus Foundation,

9390 Research Boulevard, Suite II-250,

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Attention: President.

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

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61804-2:2006 was approved by CENELEC as a European Standard without any modification.

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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 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-351	1998	International Electrotechnical Vocabulary (IEV) – Part 351: Automatic control	-	-
IEC 60584-1	- [1)]	Thermocouples – Part 1: Reference tables	EN 60584-1	1995 [2)]
IEC 61131-3	2003	Programmable controllers – Part 3: Programming languages	EN 61131-3	2003
IEC 61158	Series	Digital data communications for measurement and control - Fieldbus for use in industrial control systems	EN 61158	Series
IEC 61499-1	2005	Function blocks – Part 1: Architecture	EN 61499-1	2005
IEC 61499-2	2005	Function blocks – Part 2: Software tools requirements	EN 61499-2	2005
IEC/TS 61804-1	2003	Function blocks (FB) for process control – Part 1: Overview of system aspects	-	-
ISO/IEC 7498-1	1994	Information technology - Open systems interconnection - Basic reference model – Part 1: The basic model	EN ISO/IEC 7498-1	1995
ISO/IEC 9899	- [1)]	Programming languages - C	-	-
ISO/IEC 10646-1	- [1)]	Information technology - Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane	-	-

[1)] Undated reference.
[2)] Valid edition at date of issue.

INTERNATIONAL STANDARD

IEC 61804-2

Second edition
2006-09

Function blocks (FB) for process control –

Part 2: Specification of FB concept

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE XA

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUNCTION BLOCKS (FB) FOR PROCESS CONTROL –

Part 2: Specification of FB concept

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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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

This International Standard has been prepared by subcommittee 65C: Digital communications, of IEC technical committee 65: Industrial-process measurement and control.

This second edition, together with the first edition of IEC 61804-3, cancels and replaces the first edition of IEC 61804-2 published in 2004. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) transfer of the EDDL-specific clauses to IEC 61804-3;
b) the FB-specific subclauses 4.1 and 4.2 as well as Clauses 5, 6, 7 and 8 are unchanged.

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

CDV	Report on voting
65C/405/CDV	65C/420/RVC

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.

The list of all parts of the IEC 61804 series, under the general title *Function Blocks (FB) for process control*, 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

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

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This part of IEC 61804 provides conceptual Function Block specifications, which can be mapped to specific communication systems, and their accompanying definitions by industrial groups.

The EDDL fills the gap between the conceptual FB specification of IEC 61804-2 and a product implementation. Figure 1 shows these aspects.

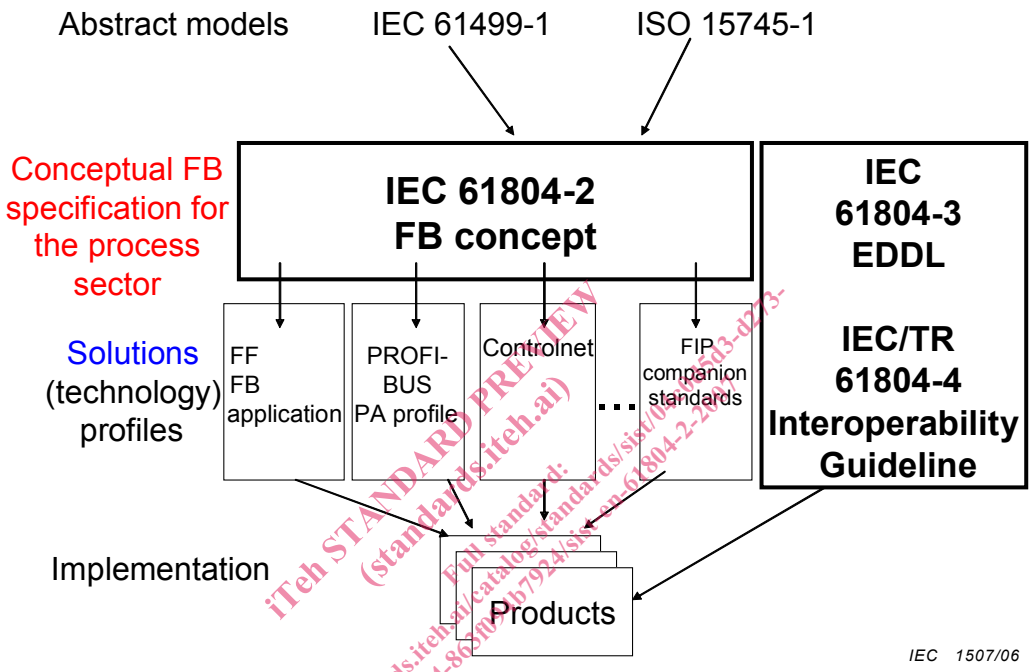

Figure 1 – Position of the IEC 61804 series related to other standards and products

FUNCTION BLOCKS (FB) FOR PROCESS CONTROL –

Part 2: Specification of FB concept

1 Scope

This part of IEC 61804 is applicable to Function Blocks (FB) for process control.

This standard specifies FB by using the result of harmonization work as regards several elements:

c) the device model which defines the components of an IEC 61804-2 conformant device;

d) conceptual specifications of FBs for measurement, actuation and processing. This includes general rules for the essential features to support control, whilst avoiding details which stop innovation as well as specialization for different industrial sectors.

This standard defines a subset of the requirements of IEC 61804-1 (hereafter referred to as Part 1) only, while Part 1 describes requirements for a distributed system.

The conformance statement in Annex B, which covers the conformance declaration, is related to this standard only. Requirements of Part 1 are not part of these conformance declarations.

The standardization work for FB was carried out by harmonizing the description of concepts of existing technologies. It results in an abstract level that allowed the definition of the common features in a unique way. This abstract vision is called here the conceptual FB specification and mapped to specific communication systems and their accompanying definitions by the industrial groups. This standard is also based on the abstract definitions of IEC 61499-1.

NOTE This standard can be mapped to ISO 15745-1.

There are solutions on the market today, which fulfil the requirements of this standard and show how the conceptual specification is implemented in a given technology. New technologies will need to find equivalent solutions (see Figure 4).

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 60050-351:1998, *International Electrotechnical Vocabulary (IEV) – Part 351: Automatic control*

IEC 60584-1, *Thermocouples – Part 1: Reference tables*

IEC 61131-3:2003, *Programmable controllers – Part 3: Programming languages*

IEC 61158 (all parts), *Digital data communications for measurement and control – Fieldbus for use in industrial control systems*

IEC 61499-1:2005, *Function blocks – Part 1: Architecture*

IEC 61499-2:2005, *Function blocks – Part 2: Software tools requirements*