

<b>STN</b>	<b>Funkčné bloky (FB) na riadenie procesov a jazyk opisu elektronických zariadení (EDDL) Časť 2: Špecifikácia ponímania funkčných blokov</b>	<b>STN EN IEC 61804-2</b>  01 3756
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Function blocks (FB) for process control and electronic device description language (EDDL) - Part 2: Specification of FB concept

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/19

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English Version

Function blocks (FB) for process control and electronic device  
description language (EDDL) - Part 2: Specification of FB  
concept  
(IEC 61804-2:2018)

Blocs fonctionnels (FB) pour les procédés industriels et le  
langage de description électronique du produit (EDDL) -  
Partie 2: Spécification du concept de FB  
(IEC 61804-2:2018)

Funktionsbausteine für die Prozessautomation und  
elektronische Gerätebeschreibungssprache - Teil 2:  
Festlegung des Funktionsbausteinkonzepts  
(IEC 61804-2:2018)

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**EN IEC 61804-2:2018 (E)****European foreword**

The text of document 65E/567/FDIS, future edition 3 of IEC 61804-2, prepared by IEC/SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61804-2:2018.

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) 2018-11-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-02-14

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

IEC 60854-1	NOTE	Harmonized as EN 60854-1.
IEC 61131-3	NOTE	Harmonized as EN 61131-3.
IEC 61804 series	NOTE	Harmonized as EN 61804 series.
IEC 61804-3	NOTE	Harmonized as EN 61804-3.
IEC 61804-5	NOTE	Harmonized as EN 61804-5.

## **Annex ZA** (normative)

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

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NOTE 1 Where 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>series</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u> <u>series</u>
IEC 61158		Industrial communication networks - Fieldbus specifications - Part 1: Overview and guidance for the IEC 61158 and IEC 61784 series	EN 61158	
IEC 61499-1	2012	Function blocks -- Part 1: Architecture	EN 61499-1	2013
ISO/IEC 7498-1	-	Information technology - Open Systems Interconnection - Basic Reference Model: The Basic Model	-	-



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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Function blocks (FB) for process control and electronic device description  
language (EDDL) –  
Part 2: Specification of FB concept**

**Blocs fonctionnels (FB) pour les procédés industriels et langage de description  
electronique de produit (EDDL) –  
Partie 2: Spécification du concept de FB**



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Edition 3.0 2018-01

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Function blocks (FB) for process control and electronic device description  
language (EDDL) –  
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Partie 2: Spécification du concept de FB**

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## CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references .....	9
3 Terms, definitions, abbreviated terms and conventions .....	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	18
3.3 Conventions for lexical structures .....	19
4 General function block (FB) definition and EDD model.....	20
4.1 Device structure (device model).....	20
4.1.1 Device model description .....	20
4.1.2 FB type.....	23
4.1.3 FB execution.....	25
4.1.4 Reference between IEC 61499 and IEC 61804 models .....	26
4.1.5 UML specification of the device model .....	26
4.1.6 Classification of the algorithms .....	28
4.1.7 Algorithm description .....	29
4.1.8 Input and output variables and parameter definition .....	29
4.1.9 Choice of variables and parameters .....	30
4.1.10 Mode, Status and Diagnosis .....	30
4.2 Block combinations .....	30
4.2.1 Measurement channel.....	30
4.2.2 Actuation channel .....	31
4.2.3 Application.....	32
4.3 EDD and EDDL model.....	32
4.3.1 Overview of EDD and EDDL .....	32
4.3.2 EDD architecture .....	33
4.3.3 Concepts of EDD .....	33
4.3.4 Principles of the EDD development process .....	33
4.3.5 Interrelations between the lexical structure and formal definitions .....	34
4.3.6 Builtins .....	35
4.3.7 Profiles .....	35
5 Detailed block definition .....	35
5.1 General.....	35
5.2 Application FBs.....	35
5.2.1 Analog Input FB.....	35
5.2.2 Analog Output FB .....	37
5.2.3 Discrete Input FB .....	38
5.2.4 On/Off Actuation FB Discrete Output FB .....	40
5.2.5 Calculation FB .....	41
5.2.6 Control FB .....	42
5.3 Component FBs .....	44
5.4 Technology Block.....	44
5.4.1 Temperature Technology Block.....	44
5.4.2 Pressure Technology Block.....	47
5.4.3 Modulating Actuation Technology Block.....	49



5.4.4	On/Off Actuation Technology Block.....	51
5.5	Device (Resource) Block.....	54
5.5.1	Identification .....	54
5.5.2	Device state.....	54
5.5.3	Message .....	56
5.5.4	Initialisation .....	56
5.6	Algorithms common to all blocks .....	56
5.6.1	Data Input/Data Output status.....	56
5.6.2	Validity .....	57
5.6.3	Restart Initialisation .....	57
5.6.4	Fail-safe .....	57
5.6.5	Remote Cascade Initialisation.....	58
6	FB Environment.....	58
7	Mapping to System Management.....	58
8	Mapping to Communication .....	59
	Annex A (informative) Parameter description .....	62
	Annex B (informative) Compatibility levels .....	68
B.1	General.....	68
B.2	Compatibility .....	69
B.3	Incompatibility.....	69
B.4	Coexistence .....	70
B.5	Interconnectability.....	70
B.6	Interworkability .....	70
B.7	Interoperability.....	70
B.8	Interchangeability .....	71
	Annex C (informative) Proxy concept and its use in FB applications.....	72
C.1	General proxy concept .....	72
C.2	Use of the proxy concept in FB applications.....	73
	Bibliography.....	75
	Figure 1 – Position of IEC 61804-2 related to other standards and products .....	7
	Figure 2 – FB structure is derived out of the process (P&ID view) .....	20
	Figure 3 – FB structure may be distributed between devices (according to IEC 61499-1) .....	21
	Figure 4 – IEC 61804 FBs can be implemented in different devices .....	22
	Figure 5 – General components of devices .....	22
	Figure 6 – Block types of IEC 61804 (all parts) .....	23
	Figure 7 – IEC 61804 block overview (graphical representation not normative).....	24
	Figure 8 – UML class diagram of the device model .....	27
	Figure 9 – Measurement process signal flow.....	31
	Figure 10 – Actuation process signal flow .....	31
	Figure 11 – Application process signal flow.....	32
	Figure 12 – EDD generation process .....	34
	Figure 13 – Analog Input FB .....	36
	Figure 14 – Analog Output FB.....	37
	Figure 15 – Discrete input FB .....	39

Figure 16 – Discrete Output FB.....	40
Figure 17 – Calculation FB.....	42
Figure 18 – Control FB.....	43
Figure 19 – Temperature Technology Block.....	44
Figure 20 – Pressure Technology Block.....	48
Figure 21 – Modulating Actuation Technology Block.....	50
Figure 22 – On/Off Actuation Technology Block.....	52
Figure 23 – Harel state chart.....	55
Figure 24 – Application structure of ISO OSI Reference Model.....	59
Figure 25 – Client/Server relationship in terms of OSI Reference Model.....	60
Figure 26 – Mapping of IEC 61804 FBs to APOs.....	60
Figure B.1 – Levels of functional device compatibility.....	68
Figure C.1 – Proxy model class diagram.....	72
Figure C.2 – Proxy integration in DCS.....	73
Table 1 – Field attribute descriptions.....	19
Table 2 – Equivalences between IEC 61804 and IEC 61499 model elements.....	26
Table 3 – Variables and parameter description template.....	29
Table 4 – Example of temperature sensors of Sensor_Type.....	46
Table 5 – Device status state table.....	54
Table 6 – Device status transition table.....	56
Table A.1 – Parameter description.....	62
Table B.1 – Functionality features.....	69

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### **FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –**

#### **Part 2: Specification of FB concept**

#### **FOREWORD**

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This third edition cancels and replaces the second edition published in 2006 and integrates parts of IEC 61804-1 which was withdrawn in January 2013. This edition constitutes a technical revision.

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

- a) added command communication mapping in Clause 8;
- b) moved and reword compatibility level definition from IEC 62804-1 to new Annex B and terms and definitions;

c) added proxy concept in new Annex C.

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

FDIS	Report on voting
65E/567/FDIS	65E/576/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 the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61804 series, published under the general title *Function blocks (FB) for process control and electronic device description language (EDDL)*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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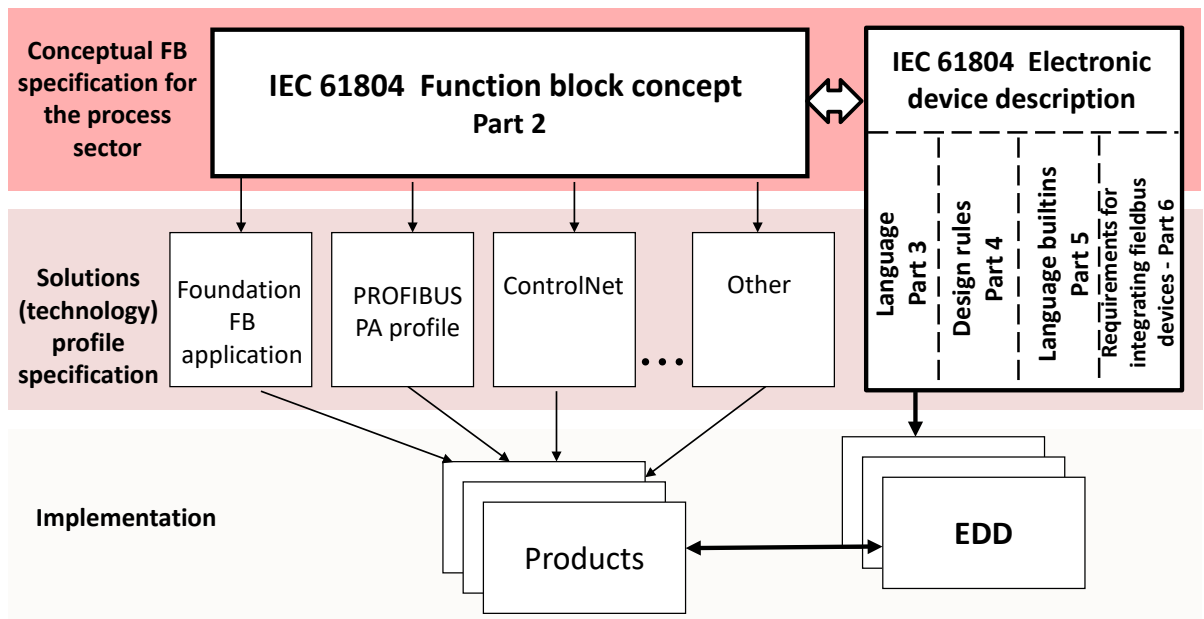
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## INTRODUCTION

This part of IEC 61804 provides a conceptual function block (FB) specification, 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 this document and a product implementation. Figure 1 shows these aspects.



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**Figure 1 – Position of IEC 61804-2 related to other standards and products**

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- 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
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The IEC 61804 series has the general title "Function blocks (FB) for process control and electronic device description language (EDDL)" and consists of the following parts:

Part 2: FB concept

Part 3: Electronic device description language (EDDL)

Part 4: EDD design rules

Part 5: EDDL Builtin library

Part 6: Meeting the requirements for integrating fieldbus devices in engineering tools for field devices

# FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –

## Part 2: Specification of FB concept

### 1 Scope

This part of IEC 61804 is applicable to function blocks (FB) for process control.

This document specifies FB by using the result of a harmonization work as regards several elements.

- a) The device model which defines the components of an IEC 61804-2 conformant device.
- b) 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.
- c) The electronic device description (EDD) technology, which enables the integration of real product details using the tools of the engineering life cycle.

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 is mapped to specific communication systems and their accompanying definitions by the industrial groups.

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

There are solutions on the market today, which fulfil the requirements of this document 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 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 61158 (all parts), *Industrial communication networks – Fieldbus specifications*

IEC 61499-1:2012, *Function blocks – Part 1: Architecture*

ISO/IEC 7498-1, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model*

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