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Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 4: EDD interpretation

Les dispositifs et leur intégration dans les systèmes de l'entreprise – Blocs fonctionnels (FB) pour les procédés industriels et le langage de description électronique de produit (EDDL) – Partie 4: Interprétation EDD



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CONTENTS

FOREWORD.....	8
INTRODUCTION.....	11
1 Scope.....	12
2 Normative references	12
3 Terms, definitions, abbreviated terms acronyms and conventions.....	12
3.1 General terms and definitions	12
3.2 Terms and definitions related to modular devices.....	13
3.3 Abbreviated terms and acronyms	14
3.4 Conventions.....	14
4 EDDL user interface description	15
4.1 Overview.....	15
4.2 Menu conventions for handheld applications	15
4.3 Menu conventions for PC-based applications	16
4.3.1 Overview	16
4.3.2 Online root menus	16
4.3.3 Offline root menu	17
4.3.4 Example of EDD menu structure	17
4.3.5 User interface	22
4.4 Label concatenation for indirect variable references.....	25
4.4.1 General	25
4.4.2 Simple variable references	26
4.4.3 Complex variable references.....	26
4.5 Help concatenation	28
4.5.1 General	28
4.5.2 Simple variable references	28
4.5.3 Complex variable references	29
4.6 Containers and contained items	30
4.6.1 Overview	30
4.6.2 Permitted and default STYLES	30
4.6.3 Containers	32
4.6.4 Contained items.....	34
4.7 Layout rules	40
4.7.1 Overview	40
4.7.2 Controlling the layout by LAYOUT_TYPE attribute	41
4.7.3 Layout rules for WIDTH and HEIGHT	45
4.7.4 Layout rules for COLUMNBREAK and ROWBREAK.....	48
4.7.5 Layout examples	54
4.7.6 Conditional user interface	69
4.8 Graphical elements	75
5 EDDL data description.....	79
5.1 EDDL application stored device data.....	79
5.1.1 Overview	79
5.1.2 FILE	79
5.1.3 LIST	81
5.2 Exposing data items outside the EDD application.....	88
5.3 Initialization of EDD instances.....	88

5.3.1	Overview	88
5.3.2	Initialization support	88
5.3.3	TEMPLATE.....	88
5.4	Device model mapping.....	89
5.4.1	BLOCK_A.....	89
5.4.2	BLOCK_B.....	89
6	EDDL METHOD programming and usage of builtins	90
6.1	Method environment	90
6.1.1	General	90
6.1.2	Security	90
6.1.3	Device data	90
6.1.4	Method TYPE and parameters	91
6.1.5	Abort processing.....	91
6.2	Implementation requirements.....	92
6.3	Builtin MenuDisplay	92
6.4	Division by zero and undetermined floating values	95
6.4.1	Integer and unsigned integer values	95
6.4.2	Floating-point values	95
7	Modular devices	96
7.1	Overview.....	96
7.2	EDD identification.....	96
7.3	Instance object model.....	96
7.4	Offline configuration.....	97
7.5	Online configuration.....	97
7.6	Simple modular device example.....	97
7.6.1	General	97
7.6.2	Separate EDD file example with direct EDD referencing	98
7.6.3	Separate EDD file example with classification EDD referencing and interfaces	100
7.6.4	One EDD file example	102
7.6.5	Combination of single and separate modular device example	104
7.7	Upload and download for modular devices	104
7.8	Diagnostic.....	104
7.9	Reading modular device topology	105
7.9.1	SCAN	105
7.9.2	Detect module type.....	107
7.10	Configuration check	107
8	Session management	108
8.1	Overview.....	108
8.2	Data management.....	108
8.2.1	Overview	108
8.2.2	Caching for online session.....	109
8.2.3	Caching for offline session.....	110
8.2.4	Caching for dialogs and windows.....	111
8.2.5	Caching for METHODS	112
8.3	UI aspects of editing sessions.....	115
8.4	User roles	116
9	Offline and online configuration	116
9.1	Overview.....	116

9.2	Offline dataset	116
9.3	Offline configuration.....	116
9.4	Online dataset	116
9.5	Online configuration.....	116
9.6	Upload and download	117
9.6.1	Overview	117
9.6.2	Error recovery.....	118
9.6.3	Upload procedure	118
9.6.4	Download procedure.....	120
10	EDDL communication description	122
10.1	General.....	122
10.2	Parsing data received from the device	123
10.3	Parsing complex data items	123
10.4	Foundation Fieldbus	123
10.5	ISA100_Wireless communication model.....	127
Annex A (normative) Device simulation.....		131
Annex B (informative) Predefined identifiers		132
Annex C (informative) Description of EDDL profiles		135
C.1	Communication Server (CS).....	135
C.2	Foundation Fieldbus (FF).....	135
C.3	Generic Protocol Extension (GPE).....	135
C.4	HART.....	135
C.5	ISA100.....	135
C.6	PROFIBUS (PB).....	135
C.7	PROFINET (PN).....	136
Annex D (normative) Upload/download caching model.....		137
Bibliography.....		139
Figure 1 – EDD example of root menus.....		22
Figure 2 – Example of an EDD application for diagnostics		22
Figure 3 – Example of an EDD application for process variables.....		23
Figure 4 – Example of an EDD application for primary variables		23
Figure 5 – Example of an EDD application for process-related device features		24
Figure 6 – Example of an EDD application for device features		24
Figure 7 – Example of an EDD application for maintenance features		25
Figure 8 – Usage of COLLECTION MEMBERS in MENUs of STYLE GROUP.....		33
Figure 9 – Displaying single bits of BIT_ENUMERATED		35
Figure 10 – Displaying multiple bits of BIT_ENUMERATED.....		36
Figure 11 – Example of an EDD application for a variable of type BIT_ENUMERATED		36
Figure 12 – EDD example with a "write-only" variable (HANDLING WRITE).....		37
Figure 13 – Basic layout elements		40
Figure 14 – Example of layout with equal column width.....		42
Figure 15 – Example of layout with optimized column width		42
Figure 16 – Cell body in a layout with optimized column width (label to the left).....		43
Figure 17 – Cell body in a layout with optimized column width (label on top).....		43
Figure 18 – EDD source code for a layout with VARIABLEs spanning columns		47

Figure 19 – Layout with VARIABLES spanning multiple columns	47
Figure 20 – EDD source code for layout for protruding elements example.....	49
Figure 21 – Layout for protruding elements	49
Figure 22 – EDD source code for layout for partially filled rows example.....	50
Figure 23 – Layout for partially filled rows	50
Figure 24 – EDD source code for layout for partially filled rows example.....	51
Figure 25 – Layout for partially filled rows	51
Figure 26 – EDD source code for layout for oversized elements example.....	52
Figure 27 – Oversized element in a layout with equal column width	52
Figure 28 – Oversized element in a layout with optimized column width.....	52
Figure 29 – EDD source code example for a layout for columns in stacked group	53
Figure 30 – Layout for columns in stacked group	53
Figure 31 – EDD source code for layout for columns with GRAPHS in stacked group example	54
Figure 32 – Layout for columns with GRAPHS in stacked group	54
Figure 33 – Example of an EDD for an overview menu.....	55
Figure 34 – Example of an EDD application for an overview window	55
Figure 35 – EDD source code for a layout with menu items spanning a single column	55
Figure 36 – Example of a layout with menu items spanning a single column	56
Figure 37 – Example of an EDD using COLUMNBREAK	56
Figure 38 – Example of an EDD application for an overview window	57
Figure 39 – EDD example for an overview window	57
Figure 40 – Example of an EDD application for an overview window	58
Figure 41 – EDD source code for a layout with small in-line images.....	58
Figure 42 – Example of a layout with small in-line images.....	59
Figure 43 – EDD source code for a multi-column layout with GROUP	60
Figure 44 – Example of a multi-column layout with GROUP	61
Figure 45 – Example of an EDD for in-line graphs and charts	61
Figure 46 – Example of an EDD application for an in-line graph.....	62
Figure 47 – Example of an EDD for full-width graphs and charts	62
Figure 48 – Example of an EDD application for a full-width graph in a layout with equal column width.....	63
Figure 49 – Example of an EDD application for a full-width graph in a layout with optimized column width.....	64
Figure 50 – Example of an EDD for nested containers	65
Figure 51 – Example of an EDD application for nested containers	65
Figure 52 – Example of an EDD for EDIT_DISPLAYS	66
Figure 53 – Example of an EDD application for EDIT_DISPLAYS.....	67
Figure 54 – Example of an EDD for images.....	67
Figure 55 – Example of an EDD application for images.....	68
Figure 56 – Example of an EDD for large inline-images	68
Figure 57 – Example of layout with a large inline-image.....	69
Figure 58 – EDD example for VALIDITY in online session.....	70
Figure 59 – Example of an EDD application for a gauge with limit regions	76

Figure 60 – Example of an EDD for a gauge with limit regions	78
Figure 61 – Example of a file declaration	80
Figure 62 – Example of comparing valve signatures.....	81
Figure 63 – Example of more complex file declaration	82
Figure 64 – Example of reviewing the stored radar signals.....	83
Figure 65 – Example of an EDD that inserts, replaces, or compares radar signals	88
Figure 66 – Example of a BLOCK_A	89
Figure 67 – Example of a wizard	94
Figure 68 – The different relations of a module	97
Figure 69 – Components and possible configuration of the modular devices	98
Figure 70 – Separate EDD file example with direct EDD referencing.....	99
Figure 71 – EDD example for module1.....	99
Figure 72 – EDD example for module2.....	100
Figure 73 – EDD example for modular device	101
Figure 74 – EDD example for module1.....	102
Figure 75 – EDD example for module2.....	102
Figure 76 – EDD example for module2.....	103
Figure 77 – Upload/download order of a modular device.....	104
Figure 78 – Example of a SCAN METHOD.....	106
Figure 79 – Example of a DETECT METHOD.....	107
Figure 80 – Example of a CHECK_CONFIGURATION METHOD	108
Figure 81 – Data caching for an online session.....	110
Figure 82 – Data caching for an offline session.....	111
Figure 83 – Sub dialogs or windows using a shared edit cache	111
Figure 84 – Sub dialogs or windows using separate edit caches	112
Figure 85 – Data caching for nested METHODS	112
Figure 86 – Data caching for a METHOD invoked within a dialog or window	113
Figure 87 – Data caching for a METHOD invoking a dialog using an edit cache	113
Figure 88 – Data caching for a METHOD invoking a dialog	113
Figure 89 – Data flow for download to the device	117
Figure 90 – Data flow for upload from the device	118
Figure 91 – Example device with 2 unique BLOCK_A definitions.....	124
Figure 92 – Example EDD for a device with 2 unique BLOCK_A definitions	125
Figure 93 – BLOCK_A example with PARAMETER_LISTS.....	126
Figure 94 – Example EDD for a BLOCK_A with PARAMETER_LISTS	127
Figure 95 – Example ISA100_Wireless device objects representation.....	128
Figure 96 – Example EDD for a ISA100_Wireless device with 2 unique BLOCK_A definitions	129
Figure 97 – BLOCK_A example with PARAMETER_LISTS.....	129
Figure 98 – Example EDD for a BLOCK_A with PARAMETER_LISTS	130
Figure D.1 – Upload caching model	137
Figure D.2 – Download caching model	138
Table 1 – List of defined root menu identifiers for handhelds.....	15

Table 2 – List of defined root menu identifiers for PC-based devices	16
Table 3 – Fall back alternatives for online root menus.....	16
Table 4 – Fall back alternatives for offline root menus	17
Table 5 – Label rule summary for simple variable references	26
Table 6 – Label rule summary for simple variable references	26
Table 7 – Prefix rule summary for complex variable references.....	27
Table 8 – Prefix rule summary for complex variable references.....	27
Table 9 – Body rule summary for complex variable references	27
Table 10 – Body rule summary for complex variable references	27
Table 11 – Suffix rule summary for complex variable references	28
Table 12 – Suffix rule summary for complex variable references	28
Table 13 – Help rule summary for simple variable references	28
Table 14 – Help rule summary for simple variable references	28
Table 15 – Help prefix rule summary for complex variable references	29
Table 16 – Help prefix rule summary for complex variable references	29
Table 17 – Help suffix rule summary for complex variable references	29
Table 18 – Help suffix rule summary for complex variable references	29
Table 19 – Permitted contained items and default STYLES.....	31
Table 20 – Uninitialized state of VARIABLES on user interface	34
Table 21 – Example of "write-only" variable in an online dialog	38
Table 22 – Description of layout content	41
Table 23 – Minimum and maximum width for input fields spanning one column	43
Table 24 – WIDTH and HEIGHT span and applicability	45
Table 25 – Example 1 VALIDITY in an online session	71
Table 26 – Example 2 VALIDITY in an online session	72
Table 27 – Example 3 VALIDITY in an online session	73
Table 28 – Example 4 VALIDITY in an online session	74
Table 29 – Examples of floating-point results	95
Table 30 – Usages of COMPONENT_PATH.....	96
Table 31 – Diagnostic classifications	105
Table 32 – Terminology for session management	108
Table 33 – Terminology used in data management	109
Table 34 – Builtins for method cache controlling	114
Table 35 – List of defined upload menu identifiers	118
Table 36 – List of defined download menu identifiers	120
Table B.1 – ARRAY predefined identifiers.....	132
Table B.2 – COLLECTION predefined identifiers.....	132
Table B.3 – COMMAND predefined identifiers.....	132
Table B.4 – IMAGE predefined identifiers	133
Table B.5 – MENU predefined identifiers	133
Table B.6 – METHOD predefined identifiers.....	134
Table B.7 – VARIABLE predefined identifiers.....	134

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS –
FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND
ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –****Part 4: EDD interpretation**

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This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition was developed by merging material from multiple variants of existing EDDL specifications including those from FieldComm Group (Foundation™ Fieldbus¹, HART®²), PROFIBUS™³ Nutzerorganisation e.V. (PNO), and ISA100_Wireless™⁴ Compliance Institute (ISA100 WCI). When a profile deviation exists, it is now indicated in the context where the related deviation is found. As a result, the formatting and numbering of this edition may be different from any of the individual specifications from which this edition was derived.

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

- communication profiles ISA100 and GPE were added;
- description of rules for optimized-column-width layout have been added;
- description of the concatenation of labels and help was added;
- color banding for meter type charts was added.

The text of this International Standard is based on the following documents:

CDV	Report on voting
65E/633/CDV	65E/690/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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A list of all parts in the IEC 61804 series, published under the general title *Devices and integration in enterprise systems – Function blocks (FB) for process control and Electronic Device Description Language (EDDL)*, can be found on the IEC website. <https://www.iteh.ai/standards/iec/61804-4-2020>

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INTRODUCTION

This part of IEC 61804

- contains an overview of the use of EDDL;
- provides examples demonstrating the use of the EDDL constructs;
- shows how the use cases are fulfilled; and
- shows the proper EDD application interpretation for each example.

This part of IEC 61804 is not an EDDL tutorial and is not intended to replace the EDDL specification.

Instructions are provided for the EDD application, which describe what will be performed without prescribing the technology used in the host implementation. For example, the FILE construct describes data that is stored by the EDD application on behalf of the EDD. The FILE construct does not specify how the data is stored. The EDD application can use a database, a flat file, or any other implementation it chooses.

EDDL features are limited by profile for each of the communication technologies. The descriptions in this part of IEC 61804 refer to these features in a general sense and not all communication technologies will support all of the features described. The profile definitions in IEC 61804-3 are referred to in order to understand the features supported by each communication technology.

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DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS – FUNCTION BLOCKS (FB) FOR PROCESS CONTROL AND ELECTRONIC DEVICE DESCRIPTION LANGUAGE (EDDL) –

Part 4: EDD interpretation

1 Scope

This part of IEC 61804 specifies EDD interpretation for EDD applications and EDDs to support EDD interoperability. This document is intended to ensure that field device developers use the EDDL constructs consistently and that the EDD applications have the same interpretations of the EDD. It supplements the EDDL specification to promote EDDL application interoperability and improve EDD portability between EDDL applications.

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 61784-1, *Industrial communication networks – Profiles – Part 1: Fieldbus profiles*

IEC 61784-2, *Industrial communication networks – Profiles – Part 2: Additional fieldbus profiles for real-time networks based on ISO/IEC/IEEE 8802-3*

IEC 61804-3, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 3: EDDL syntax and semantics*

IEC 61804-5, *Devices and integration in enterprise systems – Function blocks (FB) for process control and electronic device description language (EDDL) – Part 5: EDDL Built-in library*

IEC 62734, *Industrial networks – Wireless communication network and communication profiles – ISA 100.11a*

IEC 62769-4⁵, *Field Device Integration (FDI) – Part 4: FDI Packages*

IEC 62769-7⁶, *Field Device Integration (FDI) – Part 7: FDI Communication devices*

3 Terms, definitions, abbreviated terms acronyms and conventions

3.1 General terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61804-3 and the following apply.

⁵ Under preparation. Stage at the time of publication: IEC RFDIS 62769-4:2020.

⁶ Under preparation. Stage at the time of publication: IEC RFDIS 62769-7:2020.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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3.1.1

EDD developer

individual or team that develops an EDD

3.1.2

container

user interface elements that contain other user interface elements

Note 1 to entry: Containers can include menus, windows, dialogs, tables, pages, groups, and other containers.

3.1.3

contained item

user interface elements that can be contained in containers

Note 1 to entry: Contained items can include variables, methods, graphs, charts, images, static text.

3.1.4

device developer

individual or team that develops a device and an EDD that describes the device

3.1.5

handheld

device with limited display resolution that restricts EDD applications user interface

<https://standards.iteh.ai/catalog/standards/sist/e5234d1f-443f-b84e-606386ea/87a/iec-61804-4-2020>

3.2 Terms and definitions related to modular devices

3.2.1

channel

connection to a process that is being measured or controlled

3.2.2

component

software or hardware item contained within the modular device concept

Note 1 to entry: A component cannot function separately from a modular device hosting it. A component may support one or more types of modular devices.

3.2.3

interface

basic declarations of basic constructs

Note 1 to entry: An interface defines all public parts that components may use.

3.2.4

modal window

child window that requires users to interact with it before they can return to operating the parent application, thus preventing the workflow on the application main window

3.2.5

modular device

device that can contain a variety of software and/or hardware components