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Function blocks (FB) for process control –

Part 3: Electronic Device Description Language (EDDL)

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CONTENTS

FOREWORD.....	16
INTRODUCTION.....	18
1 Scope.....	19
2 Normative references.....	19
3 Terms, definitions, abbreviated terms and acronyms	20
4 Conformance statement.....	26
5 Conventions for lexical structures	27
6 EDD and EDDL model	28
6.1 Overview of EDD and EDDL.....	28
6.2 EDD architecture	28
6.3 Concepts of EDD.....	28
6.4 Principles of the EDD development process	29
6.5 Interrelations between the lexical structure and formal definitions.....	30
6.6 Builtins	30
6.7 Profiles.....	30
7 Electronic Device Description Language.....	30
7.1 Overview	30
7.2 EDD identification information.....	40
7.3 AXIS.....	43
7.4 BLOCK.....	44
7.5 CHART.....	53
7.6 COLLECTION.....	56
7.7 COMMAND.....	57
7.8 CONNECTION.....	63
7.9 DOMAIN.....	64
7.10 EDIT_DISPLAY	65
7.11 FILE	67
7.12 GRAPH	67
7.13 GRID.....	69
7.14 IMAGE	72
7.15 IMPORT	74
7.16 LIKE	85
7.17 LIST	86
7.18 MENU	87
7.19 METHOD.....	98
7.20 PROGRAM	100
7.21 RECORD.....	101
7.22 REFERENCE_ARRAY	101
7.23 Relations	102
7.24 RESPONSE_CODES	103
7.25 SOURCE	104
7.26 VALUE_ARRAY	107
7.27 VARIABLE	108
7.28 VARIABLE_LIST.....	123
7.29 WAVEFORM	124

7.30 Common attributes	131
7.31 Output redirection (OPEN and CLOSE)	134
7.32 Conditional expression	134
7.33 Referencing	135
7.34 Strings	141
7.35 Expression	143
7.36 Text dictionary	149
 Annex A (normative) EDDL formal definition	 150
Annex B (normative) EDDL Builtin Library	224
Annex C (informative) EDD Example	337
Annex D (normative) Profiles of EDDL and Builtins	350
Annex E (informative) Historical background	376
 Bibliography	 377
 Figure 1 – Position of the IEC 61804 series related to other standards and products	 18
Figure 2 – EDD generation process	29
Figure 3 – BLOCK_A	32
Figure 4 – CHART	32
Figure 5 – COLLECTION	33
Figure 6 – COMMAND	33
Figure 7 – DOMAIN	33
Figure 8 – EDIT_DISPLAY	34
Figure 9 – FILE	34
Figure 10 – GRAPH	34
Figure 11 – GRID	34
Figure 12 – IMAGE	35
Figure 13 – LIKE	35
Figure 14 – LIST	35
Figure 15 – MENU	36
Figure 16 – PROGRAM	36
Figure 17 – RECORD	36
Figure 18 – REFERENCE_ARRAY	37
Figure 19 – REFRESH	37
Figure 20 – UNIT	37
Figure 21 – WRITE_AS_ONE	37
Figure 22 – SOURCE	38
Figure 23 – VALUE_ARRAY	38
Figure 24 – VARIABLE	38
Figure 25 – VARIABLE_LIST	38
Figure 26 – WAVEFORM	39
Figure 27 – EDDL import mechanisms	74
Figure 28 – MENU activation (ACCESS OFFLINE)	94

Figure 29 – Action performed after a new value is entered	95
Figure 30 – Action performed after all VARIABLE inputs of the MENU are accepted (ACCESS OFFLINE)	95
Figure 31 – Method execution	95
Figure 32 – MENU activation (ACCESS ONLINE)	96
Figure 33 – Cyclic reading of dynamic VARIABLES (ACCESS ONLINE)	97
Figure 34 – Action performed after all VARIABLE inputs of the MENU are accepted (ACCESS ONLINE)	97
Figure 35 – Time for read-and-write operation	122
Figure C.1 – Example of an operator screen using EDD.....	337
Table 1 – Field attribute descriptions	27
Table 2 – DD_REVISION attribute	40
Table 3 – DEVICE_REVISION attribute	41
Table 4 – DEVICE_TYPE attribute.....	41
Table 5 – EDD_PROFILE attribute	41
Table 6 – EDD_VERSION attribute.....	42
Table 7 – MANUFACTURER attribute.....	42
Table 8 – MANUFACTURER_EXT attribute	42
Table 9 – AXIS attributes	43
Table 10 – MAX_VALUE, MIN_VALUE attribute.....	43
Table 11 – SCALING attribute	44
Table 12 – BLOCK_A attributes.....	45
Table 13 – CHARACTERISTIC attribute	45
Table 14 – PARAMETER attributes	46
Table 15 – AXIS_ITEMS attribute	46
Table 16 – CHART_ITEMS attribute	46
Table 17 – COLLECTION_ITEMS attribute	47
Table 18 – EDIT_DISPLAY_ITEMS attribute.....	47
Table 19 – FILE_ITEMS attribute.....	47
Table 20 – GRAPH_ITEMS attribute.....	48
Table 21 – GRID_ITEMS attribute	48
Table 22 – IMAGE_ITEMS attribute	48
Table 23 – LIST_ITEMS attribute.....	48
Table 24 – MENU_ITEMS attribute	49
Table 25 – METHOD_ITEMS attribute	49
Table 26 – PARAMETER_LISTS attributes	50
Table 27 – REFERENCE_ARRAY_ITEMS attribute.....	50
Table 28 – REFRESH_ITEMS attribute.....	50
Table 29 – SOURCE_ITEMS attribute	51
Table 30 – UNIT_ITEMS attribute.....	51
Table 31 – WAVEFORM_ITEMS attribute.....	51
Table 32 – WRITE_AS_ONE_ITEMS attribute	51
Table 33 – BLOCK_B attributes.....	52

Table 34 – NUMBER attributes	52
Table 35 – TYPE attributes	53
Table 36 – CHART attributes	53
Table 37 – CYCLE_TIME attribute	54
Table 38 – HEIGHT/WIDTH attribute	54
Table 39 – LENGTH attribute	55
Table 40 – TYPE attribute	55
Table 41 – COLLECTION attributes	56
Table 42 – item-type	56
Table 43 – COMMAND attributes	58
Table 44 – OPERATION attribute	58
Table 45 – TRANSACTION attributes	59
Table 46 – REPLY and REQUEST attributes	60
Table 47 – INDEX attribute	61
Table 48 – BLOCK_B attribute	61
Table 49 – NUMBER attribute	61
Table 50 – SLOT attribute	62
Table 51 – CONNECTION attribute	62
Table 52 – HEADER attribute	62
Table 53 – MODULE attribute	63
Table 54 – CONNECTION attribute	63
Table 55 – APPINSTANCE attribute	63
Table 56 – DOMAIN attributes	64
Table 57 – HANDLING attribute	64
Table 58 – EDIT_DISPLAY attributes	65
Table 59 – EDIT_ITEMS attribute	65
Table 60 – DISPLAY_ITEM attributes	66
Table 61 – POST_EDIT_ACTIONS, PRE_EDIT_ACTIONS attribute	67
Table 62 – FILE attributes	67
Table 63 – GRAPH attributes	68
Table 64 – HEIGHT/WIDTH attribute	68
Table 65 – CYCLE_TIME attribute	69
Table 66 – X_AXIS attribute	69
Table 67 – GRID attributes	70
Table 68 – VECTORS attribute	70
Table 69 – HANDLING attribute	71
Table 70 – HEIGHT/WIDTH attribute	71
Table 71 – ORIENTATION attribute	72
Table 72 – VALIDITY attributes	72
Table 73 – IMAGE attributes	72
Table 74 – PATH attribute	73
Table 75 – LINK attribute	73
Table 76 – VALIDITY attributes	73

Table 77 – Importing Device Description.....	75
Table 78 – Redefinition attributes	76
Table 79 – Redefinition rules for AXIS attributes.....	76
Table 80 – Redefinition rules for BLOCK_A attributes	77
Table 81 – Redefinition rules for BLOCK_B attributes	77
Table 82 – Redefinition rules for CHART attributes	78
Table 83 – Redefinition rules for COLLECTION attributes.....	78
Table 84 – Redefinition rules for COMMAND attributes.....	78
Table 85 – Redefinition rules for CONNECTION attributes.....	79
Table 86 – Redefinition rules for DOMAIN attributes	79
Table 87 – Redefinition rules for EDIT_DISPLAY attributes.....	79
Table 88 – Redefinition rules for FILE attributes	79
Table 89 – Redefinition rules for GRAPH attributes.....	80
Table 90 – Redefinition rules for GRID attributes	80
Table 91 – Redefinition rules for IMAGE attributes.....	80
Table 92 – Redefinition rules for LIST attributes	81
Table 93 – Redefinition rules for MENU attributes.....	81
Table 94 – Redefinition rules for METHOD attributes	82
Table 95 – Redefinition rules for PROGRAM attributes	82
Table 96 – Redefinition rules for RECORD attributes.....	82
Table 97 – Redefinition rules for REFERENCE_ARRAY attributes	82
Table 98 – Redefinition rules for RESPONSE_CODES attributes	83
Table 99 – Redefinition rules for SOURCE attributes	83
Table 100 – Redefinition rules for VALUE_ARRAY attributes	83
Table 101 – Redefinition rules for VARIABLE attributes	84
Table 102 – Redefinition rules for VARIABLE_LIST attributes	85
Table 103 – Redefinition rules for WAVEFORM attributes.....	85
Table 104 – LIKE attributes	86
Table 105 – LIST attributes	86
Table 106 – TYPE attribute	86
Table 107 – CAPACITY, COUNT attribute	87
Table 108 – MENU attribute	88
Table 109 – ITEMS attribute.....	89
Table 110 – ACCESS attribute	89
Table 111 – ENTRY attribute.....	90
Table 112 – POST_EDIT_ACTIONS, PRE_EDIT_ACTIONS, POST_READ_ACTIONS, PRE_READ_ACTIONS, POST_WRITE_ACTIONS, PRE_WRITE_ACTIONS attributes.....	90
Table 113 – PURPOSE attribute.....	92
Table 114 – ROLE attribute	93
Table 115 – STYLE attribute	93
Table 116 – VALIDITY attributes	94
Table 117 – METHOD attributes.....	98
Table 118 – ACCESS attributes.....	98
Table 119 – TYPE attributes.....	99

Table 120 – VALIDITY attributes	99
Table 121 – PROGRAM attributes	100
Table 122 – ARGUMENT attribute	100
Table 123 – RECORD attributes	101
Table 124 – REFERENCE_ARRAY attribute	101
Table 125 – ELEMENTS attribute	102
Table 126 – REFRESH attributes	102
Table 127 – UNIT attributes	103
Table 128 – WRITE_AS_ONE attribute	103
Table 129 – RESPONSE_CODES attributes	104
Table 130 – SOURCE attributes	104
Table 131 – EMPHASIS attribute	105
Table 132 – LINE_COLOR attribute	105
Table 133 – LINE_TYPE attribute	106
Table 134 – Y_AXIS attribute	106
Table 135 – VALUE_ARRAY attributes	107
Table 136 – NUMBER_OF_ELEMENTS attribute	108
Table 137 – TYPE attribute	108
Table 138 – VARIABLE attributes	108
Table 139 – CLASS attributes	109
Table 140 – TYPE attributes	110
Table 141 – DOUBLE, FLOAT, INTEGER, UNSIGNED_INTEGER attributes	112
Table 142 – BIT_ENUMERATED attributes	114
Table 143 – status-class attributes	115
Table 144 – ALL, AO, DV, TV attributes	116
Table 145 – Enumerated types attributes	116
Table 146 – Index type attributes	117
Table 147 – Object reference type attribute	117
Table 148 – DEFAULT_REFERENCE attributes	117
Table 149 – String types attributes	119
Table 150 – CONSTANT_UNIT attribute	119
Table 151 – DEFAULT_VALUE attribute	119
Table 152 – HANDLING attribute	120
Table 153 – INITIAL_VALUE attribute	120
Table 154 – POST_EDIT_ACTIONS, PRE_EDIT_ACTIONS, POST_READ_ACTIONS, PRE_READ_ACTIONS, POST_WRITE_ACTIONS, PRE_WRITE_ACTIONS, REFRESH_ACTIONS attributes	121
Table 155 – READ/WRITE_TIMEOUT attributes	123
Table 156 – STYLE attribute	123
Table 157 – VALIDITY attributes	123
Table 158 – VARIABLE_LIST attributes	124
Table 159 – WAVEFORM attributes	124
Table 160 – TYPE attribute	125
Table 161 – XY attribute	125

Table 162 – YT attribute	126
Table 163 – HORIZONTAL attribute	127
Table 164 – VERTICAL attribute.....	127
Table 165 – EMPHASIS attribute.....	127
Table 166 – HANDLING attribute.....	128
Table 167 – EXIT_ACTIONS, INIT_ACTIONS, REFRESH_ACTIONS attribute	128
Table 168 – KEY_POINTS attribute	129
Table 169 – X_VALUES, Y_VALUES attribute	129
Table 170 – LINE_COLOR attribute.....	130
Table 171 – LINE_TYPE attribute	130
Table 172 – Y_AXIS attribute	131
Table 173 – DEFINITION attributes	131
Table 174 – HELP attribute	132
Table 175 – LABEL attribute.....	132
Table 176 – MEMBERS attributes.....	133
Table 177 – RESPONSE_CODES attribute.....	133
Table 178 – OPEN and CLOSE attributes	134
Table 179 – IF, SELECT conditional	135
Table 180 – Referencing an EDD instance.....	136
Table 181 – Referencing elements of VARIABLE	136
Table 182 – Referencing elements of RECORD	136
Table 183 – Referencing elements of VALUE_ARRAY	137
Table 184 – Referencing members of COLLECTION	137
Table 185 – Referencing members of REFERENCE_ARRAY	137
Table 186 – Referencing members of VARIABLE_LISTS	138
Table 187 – Referencing members of a BLOCK_A PARAMETERS	138
Table 188 – Referencing members of BLOCK_A PARAMETER_LISTS	138
Table 189 – Referencing members of BLOCK_A LOCAL_PARAMETER.....	138
Table 190 – Referencing BLOCK_A CHARACTERISTICS.....	139
Table 191 – Referencing members of FILE.....	139
Table 192 – Referencing elements of LIST	139
Table 193 – Referencing members of CHART	140
Table 194 – Referencing members of GRAPH	140
Table 195 – Referencing members of SOURCE.....	140
Table 196 – Referencing AXIS of a GRAPH. SOURCE, WAVEFORM	141
Table 197 – String as a string literal	141
Table 198 – String as a string variable.....	141
Table 199 – String as an enumeration value	142
Table 200 – String as a dictionary reference	142
Table 201 – Referencing HELP and LABEL attributes of EDD instances	142
Table 202 – String operation	143
Table 203 – Format specifier.....	143
Table 204 – Primary expressions.....	144

Table 205 – Attribute values of VARIABLES	144
Table 206 – AXIS Attribute Values	145
Table 207 – LIST Attribute Values	145
Table 208 – Unary expressions	145
Table 209 – Multiplicative operators	146
Table 210 – Additive operators	146
Table 211 – Shift operators	147
Table 212 – Relational operators	147
Table 213 – Equality operators	147
Table 214 – Text dictionary attributes	149
Table A.1 – Conventions for integer constants	154
Table A.2 – Using escape sequences in string literals	155
Table A.3 – Using language codes in string literals	155
Table A.4 – EDDL operators	156
Table A.5 – EDDL keywords	156
Table B.1 – Format for the Builtins lexical element tables	224
Table B.2 – Contents of the lexical element table	224
Table B.3 – Builtin abort	225
Table B.4 – Builtin abort_on_all_comm_errors	225
Table B.5 – Builtin ABORT_ON_ALL_COMM_STATUS	226
Table B.6 – Builtin ABORT_ON_ALL_DEVICE_STATUS	226
Table B.7 – Builtin ABORT_ON_ALL_RESPONSE_CODES	227
Table B.8 – Builtin abort_on_all_response_codes	227
Table B.9 – Builtin abort_on_comm_error	227
Table B.10 – Builtin ABORT_ON_COMM_ERROR	228
Table B.11 – Builtin ABORT_ON_COMM_STATUS	228
Table B.12 – Builtin ABORT_ON_DEVICE_STATUS	229
Table B.13 – Builtin ABORT_ON_NO_DEVICE	229
Table B.14 – Builtin ABORT_ON_RESPONSE_CODE	230
Table B.15 – Builtin abort_on_response_code	231
Table B.16 – Builtin abs	231
Table B.17 – Builtin ACKNOWLEDGE	232
Table B.18 – Builtin acknowledge	232
Table B.19 – Builtin acos	232
Table B.20 – Builtin add_abort_method	233
Table B.21 – Builtin add_abort_method	233
Table B.22 – Builtin asin	234
Table B.23 – Builtin assign	234
Table B.24 – Builtin assign_double	235
Table B.25 – Builtin assign_float	235
Table B.26 – Builtin assign_int	235
Table B.27 – Builtin assign_var	236
Table B.28 – Builtin atan	236

Table B.29 – Builtin ATOF	236
Table B.30 – Builtin atof	237
Table B.31 – Builtin ATOL	237
Table B.32 – Builtin atoi	237
Table B.33 – Builtin BUILD_MESSAGE	238
Table B.34 – Builtin cbrt	238
Table B.35 – Builtin ceil	238
Table B.36 – Builtin cos	239
Table B.37 – Builtin cosh	239
Table B.38 – Builtin dassign	239
Table B.39 – Builtin Date_to_DayOfMonth	240
Table B.40 – Builtin Date_to_Month	240
Table B.41 – Builtin Date_to_Year	240
Table B.42 – Builtin DELAY	241
Table B.43 – Builtin delay	241
Table B.44 – Builtin DELAY_TIME	242
Table B.45 – Builtin delayfor	242
Table B.46 – Builtin DICT_ID	243
Table B.47 – Builtin discard_on_exit	243
Table B.48 – Builtin display	244
Table B.49 – Builtin display_builtin_error	244
Table B.50 – Builtin display_comm_error	245
Table B.51 – Builtin display_comm_status	245
Table B.52 – Builtin display_device_status	245
Table B.53 – Builtin display_dynamics	246
Table B.54 – Builtin display_message	246
Table B.55 – Builtin display_response_code	247
Table B.56 – Builtin display_response_status	248
Table B.57 – Builtin display_xmtr_status	248
Table B.58 – Builtin edit_device_value	249
Table B.59 – Builtin edit_local_value	250
Table B.60 – Builtin exp	250
Table B.61 – Builtin ext_send_command	251
Table B.62 – Builtin ext_send_command_trans	251
Table B.63 – Builtin fail_on_all_comm_errors	252
Table B.64 – Builtin fail_on_all_response_codes	252
Table B.65 – Builtin fail_on_comm_error	253
Table B.66 – Builtin fail_on_response_code	253
Table B.67 – Builtin fassign	254
Table B.68 – Builtin fgetval	254
Table B.69 – Builtin float_value	254
Table B.70 – Builtin floor	255
Table B.71 – Builtin fmod	255

Table B.72 – Builtin fsetval	256
Table B.73 – Builtin ftoa	256
Table B.74 – Builtin fvar_value	256
Table B.75 – Builtin get_acknowledgement	257
Table B.76 – Builtin get_comm_error	258
Table B.77 – Builtin get_comm_error_string	258
Table B.78 – Builtin get_date	259
Table B.79 – Builtin get_date_value	259
Table B.80 – Builtin get_dds_error	260
Table B.81 – Builtin GET_DEV_VAR_VALUE	260
Table B.82 – Builtin get_dev_var_value	261
Table B.83 – Builtin get_dictionary_string	262
Table B.84 – Builtin get_double	262
Table B.85 – Builtin get_double_value	263
Table B.86 – Builtin get_enum_string	263
Table B.87 – Builtin get_float	264
Table B.88 – Builtin get_float_value	264
Table B.89 – Builtin GET_LOCAL_VAR_VALUE	265
Table B.90 – Builtin get_local_var_value	265
Table B.91 – Builtin get_more_status	266
Table B.92 – Builtin get_resolve_status	266
Table B.93 – Builtin get_response_code	267
Table B.94 – Builtin get_response_code_string	268
Table B.95 – Builtin get_signed	268
Table B.96 – Builtin get_signed_value	269
Table B.97 – Builtin get_status_code_string	269
Table B.98 – Builtin get_status_string	270
Table B.99 – Builtin get_stddict_string	270
Table B.100 – Builtin get_string	271
Table B.101 – Builtin get_string_value	271
Table B.102 – Builtin GET_TICK_COUNT	272
Table B.103 – Builtin get_unsigned	272
Table B.104 – Builtin get_unsigned_value	273
Table B.105 – Builtin iassign	273
Table B.106 – Builtin igetval	274
Table B.107 – Builtin IGNORE_ALL_COMM_STATUS	274
Table B.108 – Builtin IGNORE_ALL_DEVICE_STATUS	275
Table B.109 – Builtin IGNORE_ALL_RESPONSE_CODES	275
Table B.110 – Builtin IGNORE_COMM_ERROR	276
Table B.111 – Builtin IGNORE_COMM_STATUS	276
Table B.112 – Builtin IGNORE_DEVICE_STATUS	277
Table B.113 – Builtin IGNORE_NO_DEVICE	277
Table B.114 – Builtin IGNORE_RESPONSE_CODE	278

Table B.115 – Builtin int_value	278
Table B.116 – Builtin is_NaN	279
Table B.117 – Builtin isetval	279
Table B.118 – Builtin ITEM_ID	280
Table B.119 – Builtin ITOA	280
Table B.120 – Builtin itoa	280
Table B.121 – Builtin ivar_value	281
Table B.122 – Builtin lassign	281
Table B.123 – Builtin lgetval	281
Table B.124 – Builtin ListDeleteElementAt	282
Table B.125 – Builtin ListInsert	282
Table B.126 – Builtin log	283
Table B.127 – Builtin log10	283
Table B.128 – Builtin log2	284
Table B.129 – Lexical elements of Builtin LOG_MESSAGE	284
Table B.130 – Builtin long_value	284
Table B.131 – Builtin lsetval	285
Table B.132 – Builtin lvar_value	285
Table B.133 – Builtin MEMBER_ID	286
Table B.134 – Builtin MenuDisplay	286
Table B.135 – Builtin method_abort	287
Table B.136 – Builtin process_abort	287
Table B.137 – Builtin pow	287
Table B.138 – Builtin process_abort	288
Table B.139 – Builtin put_date	288
Table B.140 – Builtin put_date_value	289
Table B.141 – Builtin put_double	289
Table B.142 – Builtin put_double_value	290
Table B.143 – Builtin put_float	290
Table B.144 – Builtin put_float_value	291
Table B.145 – Builtin PUT_MESSAGE	291
Table B.146 – Builtin put_message	292
Table B.147 – Builtin put_signed	292
Table B.148 – Builtin put_signed_value	293
Table B.149 – Builtin put_string	294
Table B.150 – Builtin put_string_value	294
Table B.151 – Builtin put_unsigned	295
Table B.152 – Builtin put_unsigned_value	296
Table B.153 – Lexical elements of Builtin READ_COMMAND	296
Table B.154 – Builtin read_value	297
Table B.155 – Builtin remove_abort_method	297
Table B.156 – Builtin remove_abort_method	298
Table B.157 – Builtin remove_all_abort_methods	298

Table B.158 – Builtin resolve_array_ref	299
Table B.159 – Builtin resolve_block_ref	299
Table B.160 – Builtin resolve_param_list_ref	300
Table B.161 – Builtin resolve_parm_ref	300
Table B.162 – Builtin resolve_record_ref	301
Table B.163 – Builtin retry_on_all_comm_errors	301
Table B.164 – Builtin RETRY_ON_ALL_COMM_STATUS	302
Table B.165 – Builtin RETRY_ON_ALL_DEVICE_STATUS	302
Table B.166 – Builtin RETRY_ON_ALL_RESPONSE_CODES	303
Table B.167 – Builtin retry_on_all_response_codes	303
Table B.168 – Builtin RETRY_ON_COMM_ERROR	304
Table B.169 – Builtin retry_on_comm_error	304
Table B.170 – Builtin RETRY_ON_COMM_STATUS	305
Table B.171 – Builtin RETRY_ON_DEVICE_STATUS	305
Table B.172 – Builtin RETRY_ON_NO_DEVICE	306
Table B.173 – Builtin RETRY_ON_RESPONSE_CODE	307
Table B.174 – Builtin retry_on_response_code	307
Table B.175 – Builtin round	307
Table B.176 – Builtin rspcode_string	308
Table B.177 – Builtin save_on_exit	309
Table B.178 – Builtin save_values	309
Table B.179 – Builtin SELECT_FROM_LIST	309
Table B.180 – Builtin select_from_list	310
Table B.181 – Builtin select_from_menu	311
Table B.182 – Builtin send	311
Table B.183 – Builtin send_all_values	312
Table B.184 – Builtin send_command	312
Table B.185 – Builtin send_command_trans	313
Table B.186 – Builtin send_on_exit	314
Table B.187 – Builtin send_trans	314
Table B.188 – Builtin send_value	315
Table B.189 – Builtin SET_NUMBER_OF_RETRIES	315
Table B.190 – Builtin sin	315
Table B.191 – Builtin sinh	316
Table B.192 – Builtin sqrt	316
Table B.193 – Builtin strcmp	316
Table B.194 – Builtin strlen	317
Table B.195 – Builtin strlwr	317
Table B.196 – Builtin strmid	318
Table B.197 – Builtin strstr	318
Table B.198 – Builtin strtrim	318
Table B.199 – Builtin strupr	319
Table B.200 – Builtin tan	319

Table B.201 – Builtin tanh	319
Table B.202 – Builtin To_Date_and_Time	320
Table B.203 – Builtin trunc	320
Table B.204 – Builtin VARID	321
Table B.205 – Builtin vassign	321
Table B.206 – Builtin WRITE_COMMAND	321
Table B.207 – Builtin XMTR_ABORT_ON_ALL_COMM_STATUS	322
Table B.208 – Builtin XMTR_ABORT_ON_ALL_DEVICE_STATUS	323
Table B.209 – Builtin XMTR_ABORT_ON_ALL_RESPONSE_CODES	323
Table B.210 – Builtin XMTR_ABORT_ON_COMM_ERROR	324
Table B.211 – Builtin XMTR_ABORT_ON_COMM_STATUS	324
Table B.212 – Builtin XMTR_ABORT_ON_DATA	325
Table B.213 – Builtin XMTR_ABORT_ON_DEVICE_STATUS	325
Table B.214 – Builtin XMTR_ABORT_ON_NO_DEVICE	326
Table B.215 – Builtin XMTR_ABORT_ON_RESPONSE_CODE	326
Table B.216 – Builtin XMTR_IGNORE_ALL_COMM_STATUS	327
Table B.217 – Builtin XMTR_IGNORE_ALL_DEVICE_STATUS	327
Table B.218 – Builtin XMTR_IGNORE_ALL_RESPONSE_CODES	328
Table B.219 – Builtin XMTR_IGNORE_COMM_ERROR	328
Table B.220 – Builtin XMTR_IGNORE_COMM_STATUS	329
Table B.221 – Builtin XMTR_IGNORE_DEVICE_STATUS	329
Table B.222 – Builtin XMTR_IGNORE_NO_DEVICE	330
Table B.223 – Builtin XMTR_IGNORE_RESPONSE_CODE	330
Table B.224 – Builtin XMTR_RETRY_ON_ALL_DEVICE_STATUS	331
Table B.225 – Builtin XMTR_RETRY_ON_ALL_RESPONSE_CODE	332
Table B.226 – Builtin XMTR_RETRY_ON_ALL_RESPONSE_CODES	332
Table B.227 – Builtin XMTR_RETRY_ON_COMM_ERROR	333
Table B.228 – Builtin XMTR_RETRY_ON_COMM_STATUS	333
Table B.229 – Builtin XMTR_RETRY_ON_DATA	334
Table B.230 – Builtin XMTR_RETRY_ON_DEVICE_STATUS	334
Table B.231 – Builtin XMTR_RETRY_ON_NO_DEVICE	335
Table B.232 – Builtin XMTR_RETRY_ON_RESPONSE_CODE	335
Table B.233 – Builtin YearMonthDay_to_Date	336
Table B.234 – Contents of the return codes description table	336
Table B.235 – Return Code Description	336
Table D.1 – Profile selection tables	350
Table D.2 – EDDL Formal Definition profile tables	350
Table D.3 – Contents of selection tables	350
Table D.4 – EDDL element selection for PROFIBUS	351
Table D.5 – Builtin profile for PROFIBUS	354
Table D.6 – EDDL element selection for Fieldbus Foundation	357
Table D.7 – Builtin profile for Fieldbus Foundation	361
Table D.8 – EDDL element selection for HCF	365

Table D.9 – Builtin profile for HCF	368
Table D.10 – METHOD DEFINITIONS data types	372
Table D.11 – VARIABLE TYPES.....	372
Table D.12 – DATE coding	373
Table D.13 – DATE_AND_TIME coding	373
Table D.14 – DURATION coding	374
Table D.15 – TIME coding.....	374
Table D.16 – TIME_VALUE coding	374
Table D.17 – PACKED_ASCII coding.....	375

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FUNCTION BLOCKS (FB) FOR PROCESS CONTROL –

Part 3: Electronic Device Description Language (EDDL)

FOREWORD

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

This first edition cancels and replaces the EDDL specification given in the first edition of IEC 61804-2, published in 2004¹.

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

CDV	Report on voting
65C/406/CDV	65C/421/RVC

¹ The historical background to the EDDL specification is given in Annex E.

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 the 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

The EDDL fills the gap between the conceptual FB specification of IEC 61804-2 and a product implementation. It allows the manufacturers to use the same description method for devices based on different technologies and platforms. Figure 1 shows these aspects.

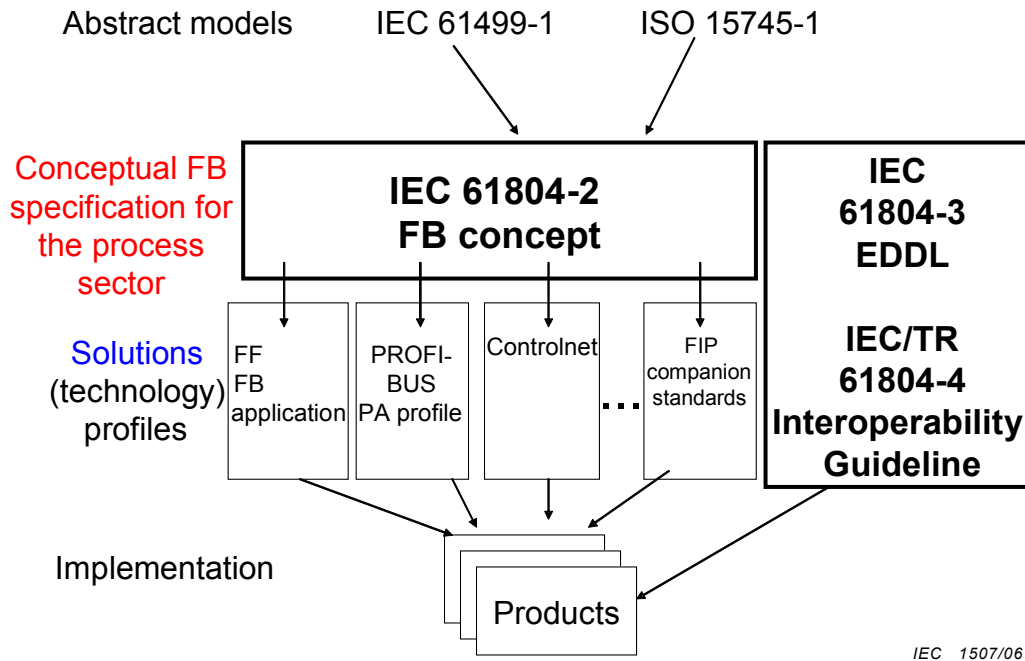


Figure 1 – Position of the IEC 61804 series related to other standards and products

FUNCTION BLOCKS (FB) FOR PROCESS CONTROL –

Part 3: Electronic Device Description Language (EDDL)

1 Scope

This part of IEC 61804 specifies the Electronic Device Description Language (EDDL) technology, which enables the integration of real product details using the tools of the engineering life cycle.

This standard specifies EDDL as a generic language for describing the properties of automation system components. EDDL is capable of describing

- device parameters and their dependencies;
- device functions, for example, simulation mode, calibration;
- graphical representations, for example, menus;
- interactions with control devices
- graphical representations
 - enhanced user interface
 - graphing system
- persistent data store.

EDDL is to be used to create Electronic Device Description (EDD). This EDD is used with appropriate tools to generate interpretative code to support parameter handling, operation, and monitoring of automation system components such as remote I/Os, controllers, sensors, and programmable controllers. Tool implementation is outside the scope of this standard.

This standard specifies the semantic and lexical structure in a syntax-independent manner. A specific syntax is defined in Annex A, but it is possible to use the semantic model also with different syntaxes.

NOTE 1 The EDDL may also be used for the description of product properties in other domains.

The EDDL and the device-related EDD is applicable to industrial automation.

NOTE 2 Industrial automation may include devices such as generic digital and analog input/output modules, motion controllers, human machine interfaces, sensors, closed-loop controllers, encoders, hydraulic valves, and programmable controllers.

This International Standard satisfies the requirements of Clause 9 of IEC 61804-1.

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

IEC 61804-1:2003, *Function blocks (FB) for process control – Part 1: Overview of system aspects*

ISO/IEC 2022, *Information technology – Character code structure and extension techniques*

ISO/IEC 2375:2003, *Information technology – Procedure for registration of escape sequences and coded character sets*

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

ISO/IEC 8859-1:1998, *Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1*

ISO/IEC 9899, *Programming languages – C*

ISO/IEC 10646-1:2000, *Information technology – Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane*

ISO 639, *Codes for the representation of names of languages*

ISO 3166, *Codes for the representation of names of countries and their subdivisions*

IEEE 754:1985 (R1990), *Binary Floating-Point Arithmetic*