

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Industrial communication networks – Fieldbus specifications –
Part 6-2: Application layer protocol specification – Type 2 elements**

**Réseaux de communication industriels – Spécifications des bus de terrain –
Partie 6-2: Spécification du protocole de la couche liaison de données –
Éléments de type 2**



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CONTENTS

FOREWORD.....	14
INTRODUCTION.....	16
1 Scope.....	17
1.1 General.....	17
1.2 Specifications	17
1.3 Conformance	18
2 Normative references	18
3 Terms, definitions, symbols, abbreviated terms and conventions	20
3.1 Terms and definitions from other ISO/IEC standards.....	20
3.1.1 Terms and definitions from ISO/IEC 7498-1	20
3.1.2 Terms and definitions from ISO/IEC 9545	21
3.1.3 Terms and definitions from ISO/IEC 8824-1	21
3.1.4 Terms and definitions from ISO/IEC 8825-1	22
3.2 Terms and definitions from IEC 61158-5-2	22
3.3 Additional terms and definitions	22
3.4 Abbreviated terms and symbols	29
3.5 Conventions.....	29
3.5.1 General concept	29
3.5.2 Attribute specification	30
3.5.3 Common services	30
3.5.4 State machine conventions	34
4 Abstract syntax.....	35
4.1 FAL PDU abstract syntax	35
4.1.1 General.....	35
4.1.2 PDU structure	36
4.1.3 UCMM_PDUs	38
4.1.4 Transport_Headers.....	40
4.1.5 CM_PDUs.....	43
4.1.6 CM PDU components	57
4.1.7 MR headers	66
4.1.8 QM_Service_PDU.....	67
4.1.9 Message and connection paths.....	122
4.1.10 Class, attribute and service codes	137
4.1.11 Error codes.....	143
4.2 Data abstract syntax specification.....	157
4.2.1 Transport format specification.....	157
4.2.2 Abstract syntax notation	157
4.2.3 Control network data specification	158
4.2.4 Data type specification / dictionaries.....	160
4.3 Encapsulation abstract syntax.....	162
4.3.1 Encapsulation protocol	162
4.3.2 Command descriptions	165
4.3.3 Common packet format.....	177
5 Transfer syntax.....	181
5.1 Compact encoding	181
5.1.1 Encoding rules.....	181

5.1.2	Encoding constraints	182
5.1.3	Examples.....	182
5.2	Data type reporting	188
5.2.1	Object data representation.....	188
5.2.2	Elementary data type reporting	189
5.2.3	Constructed data type reporting.....	190
6	Structure of FAL protocol state machines	196
7	AP-Context state machine	196
7.1	Overview.....	196
7.2	Connection object state machine	196
7.2.1	I/O Connection instance behavior	196
7.2.2	Bridged Connection instance behavior	200
7.2.3	Explicit Messaging Connection instance behavior	201
8	FAL service protocol machine (FSPM).....	204
8.1	General.....	204
8.2	Primitive definitions.....	204
8.3	Parameters of primitives	209
8.4	FSPM state machines	209
9	Application relationship protocol machines (ARPMs).....	210
9.1	General.....	210
9.2	Connection-less ARPM (UCMM).....	210
9.2.1	General	210
9.2.2	Primitive definitions	210
9.2.3	Parameters of primitives	211
9.2.4	UCMM state machines.....	212
9.2.5	Examples of UCMM sequences	217
9.2.6	Management UCMM.....	219
9.3	Connection-oriented ARPMs (transports).....	220
9.3.1	Transport PDU buffer.....	220
9.3.2	Transport classes	220
9.3.3	Common primitive definitions.....	221
9.3.4	Parameters of common primitives	222
9.3.5	Transport state machines – class 0.....	222
9.3.6	Transport state machines – class 1.....	226
9.3.7	Transport state machines – class 2.....	231
9.3.8	Transport state machines – class 3.....	239
9.3.9	Transport state machines – classes 4, 5, 6	249
9.3.10	Transport state machines – class 4.....	249
9.3.11	Transport state machines – class 5.....	249
9.3.12	Transport state machines – class 6.....	249
10	DLL mapping protocol machine 1 (DMPM 1).....	249
10.1	General.....	249
10.2	Link producer	250
10.3	Link consumer	250
10.4	Primitive definitions.....	250
10.4.1	Primitives exchanged between DMPM and ARPM.....	250
10.4.2	Parameters of ARPM/DMPM primitives	250
10.4.3	Primitives exchanged between data-link layer and DMPM.....	251

10.4.4	Parameters of DMPM/Data-link Layer primitives	251
10.4.5	Network connection ID	252
10.5	DMPM state machine	253
10.5.1	DMPM states	253
10.5.2	Functions used by DMPM	254
10.6	Data-link Layer service selection.....	254
11	DLL mapping protocol machine 2 (DMPM 2)	254
11.1	General.....	254
11.2	Mapping of UCMM PDUs	255
11.2.1	General	255
11.2.2	Common requirements for Connection Manager PDU's.....	256
11.2.3	Forward_open PDU for class 2 and class 3 connections.....	258
11.2.4	Forward_open for class 0 and class 1 connections	258
11.2.5	Forward_close	262
11.3	Mapping of transport class 0 and class 1 PDUs.....	263
11.3.1	Class 0 and class 1 PDUs.....	263
11.3.2	No dependency on TCP connections	263
11.3.3	Class 0 and class 1 packet ordering	263
11.3.4	Screening incoming connected data.....	264
11.4	Mapping of transport class 2 and class 3 PDU's.....	264
11.5	Mapping of transport classes 4 to 6.....	265
11.6	IGMP Usage	265
11.6.1	Background (informative).....	265
11.6.2	IGMP Membership Report messages	266
11.6.3	IGMP Leave Group messages	266
11.7	Quality of Service (QoS) for CP 2/2 messages	267
11.7.1	Overview	267
11.7.2	DSCP format	267
11.7.3	IEEE 802.1D/IEEE 802.Q format.....	268
11.7.4	Mapping CPF 2 traffic to DSCP and IEEE 802.1D	268
11.7.5	CP 2/2 usage of DSCP	269
11.7.6	CP 2/2 usage of IEEE 802.1D/IEEE 802.1Q.....	269
11.7.7	User considerations with IEEE 802.1D/IEEE 802.1Q.....	269
11.8	Management of an encapsulation session.....	270
11.8.1	Phases of an encapsulation session	270
11.8.2	Establishing a session	270
11.8.3	Terminating a session.....	270
11.8.4	Maintaining a session	270
11.8.5	TCP connection management.....	271
12	DLL mapping protocol machine 3 (DMPM 3)	271
	Bibliography.....	272
	Figure 1 – Attribute table format and terms	30
	Figure 2 – Service request/response parameter	30
	Figure 3 – Example of an STD	34
	Figure 4 – Network connection parameters	58
	Figure 5 – Priority/Tick_time bit definition	61
	Figure 6 – Member ID/EX description (WORD).....	75

Figure 7 – Transport Class Trigger attribute.....	110
Figure 8 – CP2/3_initial_comm_characteristics attribute format	114
Figure 9 – Segment type.....	123
Figure 10 – Port segment.....	124
Figure 11 – Logical segment encoding.....	126
Figure 12 – Extended network segment	132
Figure 13 – Symbolic segment encoding.....	133
Figure 14 – Encapsulation message	162
Figure 15 – FixedLengthBitString compact encoding bit placement rules	185
Figure 16 – Example compact encoding of a SWORD FixedLengthBitString.....	186
Figure 17 – Example compact encoding of a WORD FixedLengthBitString.....	186
Figure 18 – Example compact encoding of a DWORD FixedLengthBitString.....	186
Figure 19 – Example compact encoding of a LWORD FixedLengthBitString.....	186
Figure 20 – Example 1 of formal encoding of a structure type specification.....	191
Figure 21 – Example 2 of formal encoding of a structure type specification.....	191
Figure 22 – Example 3 of formal encoding of a handle structure type specification	192
Figure 23 – Example 4 of formal encoding of a handle structure type specification	192
Figure 24 – Example 5 of abbreviated encoding of a structure type specification	193
Figure 25 – Example 1 of formal encoding of an array type specification.....	194
Figure 26 – Example 2 of formal encoding of an array type specification.....	194
Figure 27 – Example 1 of abbreviated encoding of an array type specification	195
Figure 28 – Example 2 of abbreviated encoding of an array type specification	195
Figure 29 – I/O Connection object state transition diagram	196
Figure 30 – Bridged Connection object state transition diagram	200
Figure 31 – Explicit Messaging Connection object state transition diagram	202
Figure 32 – State transition diagram of UCMM client9.....	212
Figure 33 – State transition diagram of high–end UCMM server.....	214
Figure 34 – State transition diagram of low–end UCMM server	216
Figure 35 – Sequence diagram for a UCMM with one outstanding message.....	218
Figure 36 – Sequence diagram for a UCMM with multiple outstanding messages.....	219
Figure 37 – TPDU buffer	220
Figure 38 – Data flow diagram using a client transport class 0 and server transport class 0	223
Figure 39 – Sequence diagram of data transfer using transport class 0.....	223
Figure 40 – Class 0 client STD	224
Figure 41 – Class 0 server STD	225
Figure 42 – Data flow diagram using client transport class 1 and server transport class 1	226
Figure 43 – Sequence diagram of data transfer using client transport class 1 and server transport class 1	227
Figure 44 – Class 1 client STD	229
Figure 45 – Class 1 server STD	230
Figure 46 – Data flow diagram using client transport class 2 and server transport class 2.....	232

Figure 47 – Diagram of data transfer using client transport class 2 and server transport class 2 without returned data 233

Figure 48 – Sequence diagram of data transfer using client transport class 2 and server transport class 2 with returned data 234

Figure 49 – Class 2 client STD 235

Figure 50 – Class 2 server STD 237

Figure 51 – Data flow diagram using client transport class 3 and server transport class 3 240

Figure 52 – Sequence diagram of data transfer using client transport class 3 and server transport class 3 without returned data 241

Figure 53 – Sequence diagram of data transfer using client transport class 3 and server transport class 3 with returned data 242

Figure 54 – Class 3 client STD 244

Figure 55 – Class 3 server STD 247

Figure 56 – Data flow diagram for a link producer and consumer 249

Figure 57 – State transition diagram for a link producer 253

Figure 58 – State transition diagram for a link consumer 254

Figure 59 – DS field in the IP header 268

Figure 60 – IEEE 802.1Q tagged frame 268

Table 1 – Get_Attributes_All response service rules 31

Table 2 – Example class level object/service specific response data of Get_Attributes_All 31

Table 3 – Example Get_Attributes_All data array method 32

Table 4 – Set_Attributes_All request service rules 33

Table 5 – Example Set_Attributes_All attribute ordering method 33

Table 6 – Example Set_Attributes_All data array method 33

Table 7 – State event matrix format 35

Table 8 – Example state event matrix 35

Table 9 – UCMM_PDU header format 39

Table 10 – UCMM command codes 39

Table 11 – Transport class 0 header 40

Table 12 – Transport class 1 header 40

Table 13 – Transport class 2 header 40

Table 14 – Transport class 3 header 40

Table 15 – Real-time data header – exclusive owner 41

Table 16 – Real-time data header – redundant owner 41

Table 17 – Forward_Open request format 46

Table 18 – Forward_Open_Good response format 46

Table 19 – Forward_Open_Bad response format 47

Table 20 – Large_Forward_Open request format 48

Table 21 – Large_Forward_Open_Good response format 48

Table 22 – Large_Forward_Open_Bad response format 49

Table 23 – Forward_Close request format 50

Table 24 – Forward_Close_Good response format 50

Table 25 – Forward_Close_Bad response format	51
Table 26 – Unconnected_Send request format	51
Table 27 – Unconnected_Send_Good response format	52
Table 28 – Unconnected_Send_Bad response format	53
Table 29 – Unconnected_Send request format (modified)	54
Table 30 – Unconnected_Send_Good response format (modified)	54
Table 31 – Unconnected_Send_Bad response format (modified).....	55
Table 32 – Get_Connection_Data request format.....	55
Table 33 – Get_Connection_Data response format	55
Table 34 – Search_Connection_Data request format	56
Table 35 – Get_Connection_Owner request format	57
Table 36 – Get_Connection_Owner response format	57
Table 37 – Time-out multiplier.....	60
Table 38 – Tick time units	61
Table 39 – Encoded application path ordering.....	65
Table 40 – Transport class, trigger and Is_Server format	66
Table 41 – MR_Request_Header format	66
Table 42 – MR_Response_Header format.....	67
Table 43 – Structure of Get_Attributes_All_ResponsePDU body.....	67
Table 44 – Structure of Set_Attributes_All_RequestPDU body	68
Table 45 – Structure of Get_Attribute_List_RequestPDU body	68
Table 46 – Structure of Get_Attribute_List_ResponsePDU body	68
Table 47 – Structure of Set_Attribute_List_RequestPDU body	68
Table 48 – Structure of Set_Attribute_List_ResponsePDU body.....	69
Table 49 – Structure of Reset_RequestPDU body	69
Table 50 – Structure of Reset_ResponsePDU body	69
Table 51 – Structure of Start_RequestPDU body	69
Table 52 – Structure of Start_ResponsePDU body	69
Table 53 – Structure of Stop_RequestPDU body	70
Table 54 – Structure of Stop_ResponsePDU body	70
Table 55 – Structure of Create_RequestPDU body	70
Table 56 – Structure of Create_ResponsePDU body	70
Table 57 – Structure of Delete_RequestPDU body	70
Table 58 – Structure of Delete_ResponsePDU body	70
Table 59 – Structure of Get_Attribute_Single_ResponsePDU body	71
Table 60 – Structure of Set_Attribute_Single_RequestPDU body	71
Table 61 – Structure of Set_Attribute_Single_ResponsePDU body	71
Table 62 – Structure of Find_Next_Object_Instance_RequestPDU body	71
Table 63 – Structure of Find_Next_Object_Instance_ResponsePDU body	72
Table 64 – Structure of Apply_Attributes_RequestPDU body	72
Table 65 – Structure of Apply_Attributes_ResponsePDU body	72
Table 66 – Structure of Save_RequestPDU body	72
Table 67 – Structure of Save_ResponsePDU body	72

Table 68 – Structure of Restore_RequestPDU body	73
Table 69 – Structure of Restore_ResponsePDU body	73
Table 70 – Structure of Get_Member_ResponsePDU body	73
Table 71 – Structure of Set_Member_RequestPDU body	73
Table 72 – Structure of Set_Member_ResponsePDU body	73
Table 73 – Structure of Insert_Member_RequestPDU body	74
Table 74 – Structure of Insert_Member_ResponsePDU body	74
Table 75 – Structure of Remove_Member_ResponsePDU body	74
Table 76 – Common structure of _Member_RequestPDU body (basic format)	75
Table 77 – Common structure of _Member_ResponsePDU body (basic format)	75
Table 78 – Common structure of _Member_RequestPDU body (extended format)	76
Table 79 – Common structure of _Member_ResponsePDU body (extended format)	76
Table 80 – Extended Protocol ID	76
Table 81 – Structure of _Member_RequestPDU body (Multiple Sequential Members)	77
Table 82 – Structure of _Member_ResponsePDU body (Multiple Sequential Members)	77
Table 83 – Structure of _Member_RequestPDU body (International String Selection)	78
Table 84 – Structure of _Member_ResponsePDU body (International String Selection)	78
Table 85 – Structure of Group_Sync_RequestPDU body	78
Table 86 – Structure of Group_Sync_ResponsePDU body	78
Table 87 – Structure of Multiple_Service_Packet_RequestPDU body	79
Table 88 – Structure of Multiple_Service_Packet_ResponsePDU body	79
Table 89 – Identity object class attributes	80
Table 90 – Identity object instance attributes	80
Table 91 – Identity object bit definitions for status instance attribute	81
Table 92 – Default values for extended device status field (bits 4 to 7) of status instance attribute	82
Table 93 – Identity object bit definitions for protection mode instance attribute	82
Table 94 – Class level object/service specific response data of Get_Attributes_All	82
Table 95 – Instance level object/service specific response data of Get_Attributes_All	83
Table 96 – Object-specific request parameter for Reset	83
Table 97 – Reset service parameter values	84
Table 98 – Communication link attributes that shall be preserved	84
Table 99 – Structure of Flash_LEDs_RequestPDU body	84
Table 100 – Message Router object class attributes	85
Table 101 – Message Router object instance attributes	85
Table 102 – Class level object/service specific response data of Get_Attributes_All	85
Table 103 – Instance level object/service specific response data of Get_Attributes_All	86
Table 104 – Structure of Symbolic_Translation_RequestPDU body	86
Table 105 – Structure of Symbolic_Translation_ResponsePDU body	86
Table 106 – Object specific status for Symbolic_Translation service	86
Table 107 – Assembly object class attributes	87
Table 108 – Assembly object instance attributes	87
Table 109 – Assembly Instance ID ranges	88

Table 110 – Acknowledge Handler object class attributes	88
Table 111 – Acknowledge Handler object instance attributes	89
Table 112 – Structure of Add_AckData_Path_RequestPDU body	89
Table 113 – Structure of Remove_AckData_Path_RequestPDU body	89
Table 114 – Time Sync object class attributes	90
Table 115 – Time Sync object instance attributes	90
Table 116 – ClockIdentity encoding for different network implementations	94
Table 117 – ClockClass values	94
Table 118 – TimeAccuracy values	94
Table 119 – TimePropertyFlags bit values	95
Table 120 – TimeSource values	95
Table 121 – Types of Clock	96
Table 122 – Network protocol to PortPhysicalAddressInfo mapping	96
Table 123 – Parameter object class attributes	97
Table 124 – Parameter Class Descriptor bit values	97
Table 125 – Parameter object instance attributes	98
Table 126 – Semantics of Descriptor Instance attribute	99
Table 127 – Descriptor Scaling bits usage	99
Table 128 – Minimum and Maximum Value semantics	100
Table 129 – Scaling Formula attributes	101
Table 130 – Scaling links	101
Table 131 – Class level object/service specific response data of Get_Attributes_All	102
Table 132 – Instance level object/service specific response data of Get_Attributes_All (Parameter object stub)	102
Table 133 – Instance level object/service specific response data of Get_Attributes_All (full Parameter object)	103
Table 134 – Structure of Get_Enum_String_RequestPDU body	104
Table 135 – Structure of Get_Enum_String_ResponsePDU body	104
Table 136 – Enumerated strings Type versus Parameter data type	104
Table 137 – Connection Manager object class attributes	105
Table 138 – Connection Manager object instance attributes	105
Table 139 – Class level object/service specific response data of Get_Attributes_All	106
Table 140 – Instance level object/service specific response data of Get_Attributes_All	106
Table 141 – Instance level object/service specific request data of Set_Attributes_All	107
Table 142 – Connection object class attributes	107
Table 143 – Connection object instance attributes	108
Table 144 – Values assigned to the state attribute	109
Table 145 – Values assigned to the instance_type attribute	110
Table 146 – Possible values within Direction Bit	111
Table 147 – Possible values within Production Trigger Bits	111
Table 148 – Possible values within Transport Class Bits	112
Table 149 – TransportClass_Trigger attribute values summary	112
Table 150 – Transport Class 0 client behavior summary	113
Table 151 – Transport Class 1, 2 and 3 client behavior summary	113

Table 152 – Values defined for the CP2/3_produced_connection_id attribute	114
Table 153 – Values defined for the CP2/3_consumed_connection_id attribute	114
Table 154 – Values for the Initial Production Characteristics nibble	115
Table 155 – Values for the Initial Consumption Characteristics nibble.....	116
Table 156 – Values for the watchdog_timeout_action.....	119
Table 157 – Structure of Connection_Bind_RequestPDU body.....	121
Table 158 – Object specific status for Connection_Bind service	121
Table 159 – Structure of Producing_Application_Lookup_RequestPDU body	121
Table 160 – Structure of Producing_Application_Lookup_ResponsePDU body.....	122
Table 161 – Producing_Application_Lookup Service status codes.....	122
Table 162 – Possible port segment examples	124
Table 163 – TCP/IP link address examples	125
Table 164 – Extended Logical Type	126
Table 165 – Electronic key segment format.....	128
Table 166 – Logical segments examples.....	129
Table 167 – Network segments.....	130
Table 168 – Extended subtype definitions	132
Table 169 – Symbolic segment examples.....	133
Table 170 – Data segment.....	134
Table 171 – ANSI_Extended_Symbol segment	134
Table 172 – Addressing categories.....	137
Table 173 – Class code ID ranges	137
Table 174 – Attribute ID ranges	138
Table 175 – Service code ranges.....	138
Table 176 – Class codes.....	139
Table 177 – Reserved class attributes for all object class definitions	140
Table 178 – Common services list.....	140
Table 179 – Identity object specific services list.....	141
Table 180 – Message Router object specific services list.....	141
Table 181 – Acknowledge Handler object specific services list.....	141
Table 182 – Parameter object specific services list.....	141
Table 183 – Services specific to Connection Manager	142
Table 184 – Services specific to Connection object.....	142
Table 185 – Device type numbering	143
Table 186 – Connection Manager service request error codes	144
Table 187 – General status codes.....	153
Table 188 – Extended status code for a general status of "Key Failure in path.....	155
Table 189 – Identity object status codes	156
Table 190 – Encapsulation header	163
Table 191 – Encapsulation command codes	163
Table 192 – Encapsulation status codes	165
Table 193 – Nop request encapsulation header	166
Table 194 – RegisterSession request encapsulation header	166

Table 195 – RegisterSession request data portion	167
Table 196 – RegisterSession reply encapsulation header	167
Table 197 – RegisterSession reply data portion (successful)	168
Table 198 – UnRegisterSession request encapsulation header	168
Table 199 – ListServices request encapsulation header	169
Table 200 – ListServices reply encapsulation header	169
Table 201 – ListServices reply data portion (successful)	170
Table 202 – Communications capability flags	170
Table 203 – ListIdentity request encapsulation header	171
Table 204 – ListIdentity reply encapsulation header	172
Table 205 – ListIdentity reply data portion (successful)	172
Table 206 – CPF 2 identity item	173
Table 207 – ListInterfaces request encapsulation header	174
Table 208 – ListInterfaces reply encapsulation header	174
Table 209 – SendRRData request encapsulation header	175
Table 210 – SendRRData request data portion	175
Table 211 – SendRRData reply encapsulation header	176
Table 212 – SendUnitData request encapsulation header	176
Table 213 – SendUnitData request data portion	176
Table 214 – Common packet format	177
Table 215 – CPF item format	177
Table 216 – Item Type ID numbers	177
Table 217 – Null address item	178
Table 218 – Connected address item	178
Table 219 – Sequenced address item	179
Table 220 – Unconnected data item	179
Table 221 – Connected data item	179
Table 222 – Sockaddr info items	180
Table 223 – Usage of CPF items	181
Table 224 – BOOLEAN encoding	182
Table 225 – Example compact encoding of a BOOL value	182
Table 226 – Encoding of SignedInteger values	182
Table 227 – Example compact encoding of a SignedInteger value	182
Table 228 – UnsignedInteger values	183
Table 229 – Example compact encoding of an UnsignedInteger	183
Table 230 – FixedLengthReal values	183
Table 231 – Example compact encoding of a REAL value	183
Table 232 – Example compact encoding of a LREAL value	183
Table 233 – FixedLengthReal values	184
Table 234 – STRING value	184
Table 235 – STRING2 value	184
Table 236 – STRINGN value	184
Table 237 – SHORT_STRING value	185

Table 238 – Example compact encoding of a STRING value	185
Table 239 – Example compact encoding of STRING2 value	185
Table 240 – SHORT_STRING type	185
Table 241 – Example compact encoding of a single dimensional ARRAY	187
Table 242 – Example compact encoding of a multi-dimensional ARRAY	187
Table 243 – Example compact encoding of a STRUCTURE	188
Table 244 – Identification codes and descriptions of elementary data types	189
Table 245 – Identification codes and descriptions of constructed data types	190
Table 246 – Formal structure encoding definition	190
Table 247 – Formal structure with handles encoding definition	191
Table 248 – Abbreviated structure encoding definition	192
Table 249 – Formal array encoding definition	193
Table 250 – Abbreviated array encoding definition	195
Table 251 – I/O Connection state event matrix	197
Table 252 – Bridged Connection state event matrix	200
Table 253 – Explicit Messaging Connection state event matrix	202
Table 254 – Primitives issued by FAL user to FSPM	205
Table 255 – Primitives issued by FAL user to FSPM	205
Table 256 – Primitives issued by FSPM to FAL user	208
Table 257 – Parameters used with primitives exchanged between FAL user and FSPM	209
Table 258 – Primitives issued by FSPM to ARPM	211
Table 259 – Primitives issued by ARPM to FSPM	211
Table 260 – Parameters used with primitives exchanged between FSPM and ARPM	211
Table 261 – UCMM client states	212
Table 262 – State event matrix of UCMM client	213
Table 263 – High-end UCMM server states	214
Table 264 – State event matrix of high-end UCMM server	215
Table 265 – Low-end UCMM server states	216
Table 266 – State event matrix of low-end UCMM server	217
Table 267 – Notification	220
Table 268 – Transport classes	221
Table 269 – Primitives issued by FSPM to ARPM	221
Table 270 – Primitives issued by ARPM to FSPM	222
Table 271 – Parameters used with primitives exchanged between FSPM and ARPM	222
Table 272 – Class 0 transport client states	224
Table 273 – Class 0 client SEM	224
Table 274 – Class 0 transport server states	225
Table 275 – Class 0 server SEM	225
Table 276 – Class 1 transport client states	228
Table 277 – Class 1 client SEM	229
Table 278 – Class 1 transport server states	230
Table 279 – Class 1 server SEM	231
Table 280 – Class 2 transport client states	235

Table 281 – Class 2 client SEM	236
Table 282 – Class 2 transport server states	237
Table 283 – Class 2 server SEM	238
Table 284 – Class 3 transport client states	243
Table 285 – Class 3 client SEM	244
Table 286 – Class 3 transport server states	246
Table 287 – Class 3 server SEM	248
Table 288 – Primitives issued by ARPM to DMPM	250
Table 289 – Primitives issued by DMPM to ARPM	250
Table 290 – Parameters used with primitives exchanged between ARPM and DMPM	251
Table 291 – Primitives exchanged between data-link layer and DMPM	251
Table 292 – Parameters used with primitives exchanged between DMPM and Data-link	251
Table 293 – Selection of connection ID	252
Table 294 – Link producer states	253
Table 295 – State event matrix of link producer	253
Table 296 – Link consumer states	254
Table 297 – State event matrix of link consumer	254
Table 298 – UCMM request	255
Table 299 – UCMM reply	256
Table 300 – Network Connection ID selection	257
Table 301 – Sockaddr Info usage	259
Table 302 – Example multicast assignments	262
Table 303 – UDP data format for class 0 and class 1	263
Table 304 – Transport class 2 and class 3 connected data	265
Table 305 – Default DSCP and IEEE 802.1D mapping	268

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –
FIELDBUS SPECIFICATIONS –****Part 6-2: Application layer protocol specification –
Type 2 elements**

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

International Standard IEC 61158-6-2 has been prepared by subcommittee 65C: Industrial networks, of IEC technical committee 65: Industrial-process measurement, control and automation.

This fourth edition cancels and replaces the third edition published in 2014. This edition constitutes a technical revision.

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

- clarifications of response PDU formats in case of failure in 4.1.5;
- clarifications of connection request priority definition and handling in 4.1.6.5 and 4.1.6.6;
- clarification of connection remaining path in 4.1.6.12;
- extensions of general syntax in 4.1.8.1;
- extensions and clarifications of Identity object PDUs in 4.1.8.2;
- updates of Assembly object PDUs in 4.1.8.4;
- extensions and clarification of Time sync object PDUs in 4.1.8.6;
- updates of Parameter object PDUs in 4.1.8.7;
- extensions of Connection Manager object PDUs in 4.1.8.8;
- clarifications of Connection object PDUs in 4.1.8.9;
- extensions and clarifications of message and connection paths in 4.1.9;
- updates of object and service class codes in 4.1.10 and error codes in 4.1.11;
- updates of data types in 4.2.4, 5.1.3 and 5.2.3;
- updates of the encapsulation abstract syntax in 4.3;
- updates to the DLL mapping protocol machine 2 in Clause 11;
- miscellaneous editorial corrections.

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

FDIS	Report on voting
65C/948/FDIS	65C/956/RVD

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.

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.

INTRODUCTION

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

Withdrawing