

DIN EN ISO 16484-6:2014-09 (E)

Building automation and control systems (BACS) - Part 6: Data communication conformance testing (ISO 16484-6:2014); English version EN ISO 16484-6:2014, only on CD-ROM

Contents	Page
1. PURPOSE	1
2. SCOPE	1
3. DEFINITIONS	1
4. ELECTRONIC PICS FILE FORMAT	1
4.1 Character Encoding	1
4.2 Structure of EPICS Files	2
4.3 Character Strings	3
4.4 Notational Rules for Parameter Values	3
4.5 Sections of the EPICS File	4
5. EPICS CONSISTENCY TESTS	23
6. CONVENTIONS FOR SPECIFYING BACnet CONFORMANCE TESTS	24
6.1 TCSL Components	24
6.2 TCSL Statements	25
6.3 Time Dependencies	30
6.4 BACnet References	31
6.5 TD Requirements	31
7. OBJECT SUPPORT TESTS	32
7.1 Read Support for Properties in the Test Database	32
7.2 Write Support for Properties in the Test Database	32
7.3 Object Functionality Tests	35
8. APPLICATION SERVICE INITIATION TESTS	131
8.1 AcknowledgeAlarm Service Initiation Tests	131
8.2 ConfirmedCOVNotification Service Initiation Tests	132
8.3 UnconfirmedCOVNotification Service Initiation Tests	141
8.4 ConfirmedEventNotification Service Initiation Tests	144
8.5 UnconfirmedEventNotification Service Initiation Tests	177
8.6 GetAlarmSummary Service Initiation Tests	184
8.7 GetEnrollmentSummary Service Initiation Tests	184
8.8 GetEventInformation Service Initiation Tests	186
8.9 LifeSafetyOperation Service Initiation Tests	187
8.10 SubscribeCOV Service Initiation Tests	187
8.11 SubscribeCOVProperty Service Initiation Tests	188
8.12 AtomicReadFile Service Initiation Tests	189
8.13 AtomicWriteFile Service Initiation Tests	190
8.14 AddListElement Service Initiation Tests	190
8.15 RemoveListElement Service Initiation Tests	191
8.16 CreateObject Service Initiation Tests	191
8.17 DeleteObject Service Initiation Tests	192
8.18 ReadProperty Service Initiation Tests	193
8.19 ReadPropertyConditional Service Initiation Tests	194
8.20 ReadPropertyMultiple Service Initiation Tests	195
8.21 ReadRange Service Initiation Tests	197
8.22 WriteProperty Service Initiation Tests	201
8.23 WritePropertyMultiple Service Initiation Tests	203
8.24 DeviceCommunicationControl Service Initiation Tests	205
8.25 ConfirmedPrivateTransfer Service Initiation Test	207
8.26 UnconfirmedPrivateTransfer Service Initiation Test	207
8.27 ReinitializeDevice Service Initiation Tests	207
8.28 ConfirmedTextMessage Service Initiation Tests	208
8.29 UnconfirmedTextMessage Service Initiation Tests	209
8.30 TimeSynchronization Service Initiation Tests	210
8.31 UTCTimeSynchronization Service Initiation Tests	210
8.32 Who-Has Service Initiation Tests	211
8.33 I-Have Service Initiation Tests	212

8.34	Who-Is Service Initiation Tests	212
8.35	I-Am Service Initiation Tests	213
8.36	VT-Open Service Initiation Tests	213
8.37	VT-Close Service Initiation Tests	214
8.38	VT-Data Service Initiation Tests	215
8.39	RequestKey Service Initiation Tests.....	217
8.40	Authenticate Service Initiation Tests.....	218
9.	APPLICATION SERVICE EXECUTION TESTS.....	222
9.1	AcknowledgeAlarm Service Execution Tests	222
9.2	ConfirmedCOVNotification Service Execution Tests.....	243
9.3	UnconfirmedCOVNotification Service Execution Tests.....	247
9.4	ConfirmedEventNotification Service Execution Tests.....	247
9.5	UnconfirmedEventNotification Service Execution Tests.....	250
9.6	GetAlarmSummary Service Execution Tests	250
9.7	GetEnrollmentSummary Service Execution Tests	251
9.8	GetEventInformation Service Execution Tests.....	255
9.9	LifeSafetyOperation Service Execution Test	257
9.10	SubscribeCOV Service Execution Tests	259
9.11	SubscribeCOVProperty Service Execution Tests.....	265
9.12	AtomicReadFile Service Execution Tests	272
9.13	AtomicWriteFile Service Execution Tests	278
9.14	AddListElement Service Execution Tests	289
9.15	RemoveListElement Service Execution Tests.....	291
9.16	CreateObject Service Execution Tests.....	293
9.17	DeleteObject Service Execution Tests.....	297
9.18	ReadProperty Service Execution Tests.....	298
9.19	ReadPropertyConditional Service Execution Tests.....	301
9.20	ReadPropertyMultiple Service Execution Tests.....	302
9.21	ReadRange Service Execution Tests	309
9.22	WriteProperty Service Execution Tests.....	318
9.23	WritePropertyMultiple Service Execution Tests	323
9.24	DeviceCommunicationControl Service Execution Test	331
9.25	ConfirmedPrivateTransfer Service Execution Tests.....	338
9.26	UnconfirmedPrivateTransfer Service Execution Tests.....	338
9.27	ReinitializeDevice Service Execution Tests	338
9.28	ConfirmedTextMessage Service Execution Tests	341
9.29	UnconfirmedTextMessage Service Execution Tests	343
9.30	TimeSynchronization Service Execution Tests	343
9.31	UTCTimeSynchronization Service Execution Tests	344
9.32	Who-Has Service Execution Tests	345
9.33	Who-Is Service Execution Tests.....	350
9.34	VT-Open Service Execution Tests	353
9.35	VT-Close Service Execution Tests.....	355
9.36	VT-Data Service Execution Tests	356
9.37	RequestKey Service Execution Test.....	356
9.38	Authenticate Service Execution Tests	358
9.39	General Testing of Service Execution	363
10.	NETWORK LAYER PROTOCOL TESTS	364
10.1	Processing Application Layer Messages Originating from Remote Networks	364
10.2	Router Functionality Tests	364
10.3	Half-Router Functionality Tests	388
10.4	B/IP PAD Tests	395
10.5	Initiating Network Layer Messages.....	397
10.6	Non-Router Functionality Tests	398
10.7	Route Binding Tests	400
11.	LOGICAL LINK LAYER PROTOCOL TESTS	406

11.1	UI Command and Response	406
11.2	XID Command and Response	406
11.3	TEST Command and Response.....	407
12.	DATA LINK LAYER PROTOCOLS TESTS	408
12.1	MS/TP State Machine Tests	408
12.2	PTP State Machine Tests	463
13.	SPECIAL FUNCTIONALITY TESTS	501
13.1	Segmentation	501
13.2	Time Master	510
13.3	Character Sets.....	510
13.4	Malformed PDUs	511
13.5	Slave Proxy Tests	512
13.6	Automatic Network Mapping.....	515
13.7	Automatic Device Mapping.....	515
14.	BACnet/IP Functionality Tests.....	516
14.1	Non-BBMD B/IP Device	516
14.2	BBMD B/IP Device with a Server Application	518
14.3	Broadcast Distribution Table Operations	522
14.4	Foreign Device Table Operations (Negative Tests)	526
14.5	BACnet Broadcast Management (No Foreign Device Table, No Applications)	527
14.6	Foreign Device Management.....	529
14.7	Broadcast Management (BBMD, Foreign Devices, Local Application)	533
14.8	Registering as a Foreign Device	541
14.9	Initiating BVLL Service Requests Conveying an NPDU	541
15.	Reporting Test Results	543
	ANNEX A - Example EPICS (INFORMATIVE).....	545