

SAIA-Burgess **Controls AG**

BACnet PCD7.R560 **BACnet PCD7.R561** **BACnet PCD7.R562**

Protocol Implementation Conformance Statement (PICS)

Version 1.16.55

Contents

1.	Product Description:.....	4
2.	BACnet Standardized Device Profile (Annex L):	5
3.	BACnet Interoperability Building Blocks Supported (Annex K):	6
3.1	Data Sharing BIBBs.....	6
3.2	Alarm / Event BIBBs	6
3.3	Scheduling BIBBs.....	6
3.4	Trending BIBBs	6
3.5	Device Management BIBBs	7
3.6	Network Management BIBBs	7
4.	Segmentation Capability:.....	7
5.	Standard Object Types Supported:	8
5.1	Standard Object Types Supported: Accumulator-Object	8
5.2	Standard Object Types Supported: Analog-Input-Object.....	8
5.3	Standard Object Types Supported: Analog-Output-Object	9
5.4	Standard Object Types Supported: Analog-Value-Object.....	9
5.5	Standard Object Types Supported: Averaging Object	9
5.6	Standard Object Types Supported: Binary-Input-Object.....	10
5.7	Standard Object Types Supported: Binary-Output-Object	10
5.8	Standard Object Types Supported: Binary-Value-Object.....	11
5.9	Standard Object Types Supported: Calendar-Object.....	11
5.10	Standard Object Types Supported: Command.....	11
5.11	Standard Object Types Supported: Device-Object.....	12
5.12	Standard Object Types Supported: Event Enrollment Object.....	12
5.13	Standard Object Types Supported: File.....	12
5.14	Standard Object Types Supported: Group.....	12
5.15	Standard Object Types Supported: Loop.....	13
5.16	Standard Object Types Supported: Multistate-Input-Object	13
5.17	Standard Object Types Supported: Multistate-Output-Object	14
5.18	Standard Object Types Supported: Multistate-Value-Object	14
5.19	Standard Object Types Supported: Notification Class Object	14
5.20	Standard Object Types Supported: Program.....	15
5.21	Standard Object Types Supported: Pulse Converter.....	15
5.22	Standard Object Types Supported: Schedule Object	15
5.23	Standard Object Types Supported: Trendlog Object	16
6.	Device Address Binding :.....	17
7.	Data Link Layer Options:	17
8.	Networking Options:.....	17
9.	Character Sets Supported:	17

BACnet and ASHRAE are registered trademarks of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, INC. (ASHRAE)

Document Revision

Date	Author	Version	Revision informations
26.05.2005	Simon Ginsburg	1.0	Initial release
27.06.2005	Simon Ginsburg	1.1	Review version finalized
08.07.2005	Simon Ginsburg	1.2	Minor corrections
11.07.2005	Simon Ginsburg	1.3	Final adaptations for 135-2001
15.11.2005	Simon Ginsburg	1.4	Corrections: <ul style="list-style-type: none"> - Protocol Revision 1.4 updated - All Objects updated to 135-2004 - Accumulator Object Added - Trendlog Object Added
19.06.2006 (E5)	Simon Ginsburg	1.5	Additions: <ul style="list-style-type: none"> - BIBBs AE-N-E-B, AE-ASUM-B, T-VMT-E-B DM-R-B, NM-RC-A, NM-RC-B added - List of on line creatable objects updated: Calender, Event Enrollment, Notification Class, Scheduler, Trendlog
xx.08.2006 (E6)	Simon Ginsburg	1.6	Additions: <ul style="list-style-type: none"> - Routing functionality - List writable properties updated in all objects
27.03.2008	Oliver Greune	1.08.28	Additions: <ul style="list-style-type: none"> - Add PCD products and names
04.08.2008 (E7)	Oliver Greune	1.08.37.16	Additions: <ul style="list-style-type: none"> - Add PCD products and names - Update BACnet Firmware revision
26.11.2008	Oliver Greune	1.08.49	Additions: <ul style="list-style-type: none"> - Update certified BACnet Firmware revision
28.11.2008	Oliver Greune	1.08.50.11	Additions: <ul style="list-style-type: none"> - Update certified BACnet Firmware revision - Accumulator object adaptation
17.11.2010/ 11.02.2011	Oliver Greune	1.16.03.01/ 1.16.xx	Additions <ul style="list-style-type: none"> - Update certified BACnet Firmware revision - New PCD Controllers added - Update to protocol revision 1.7 - Update firmware revision (11.02.2011)
19.12.2011	Oliver Greune	1.16.55	Additions <ul style="list-style-type: none"> - Update certified BACnet Firmware revision - New BACnet Memory Module PCD7.R562 with 128MB user file system added

BACnet Protocol Implementation Conformance Statement (PICS)

Date:	19.12.2011
Vendor Name:	Saia-Burgess Controls AG (Vendor ID = 89)
Product Names:	BACnet for PCD1.M2xx0, PCD2.M5xx0, PCD3.Mxxx0 automation stations: PCD1.M2120 PCD2.M5540, PCD3.M3330, PCD3.M3120, PCD3.M5340, PCD3.M5540, PCD3.M6340, PCD3.M6540 PCD3.M5560 PCD3.M90
Product Model Number:	PCD7.R560, PCD7.R561, PCD7.R562, PCD3.R560, PCD3.R561, For PCD3.M90 PCD7.R596
Applications Software Version:	-
Firmware Revision:	PCD2.M5xx0, PCD3.Mxxx0 BACnet_PCD3.Mxxx0_PCD2.M5xx0_1.16.xx.blk PCD1.M2120, PCD3.M5560 BACnet_PCD1.M2xx0_PCD3.Mxx60_1.16.xx.blk
BACnet Protocol Revision:	1.7 (BACnet ANSI/ASHRAE 135-2008)

1. Product Description:

The **SAIA-Burgess BACnet Memory Flash Card** is a Plugin into the **PCD1.M2, PCD2.M5 and PCD3 controller** hardware extending its communication capabilities to a **BACnet Building Controller** (B-BC).

The Saia BACnet solution can be used for the following Controllers to support the B-BC profile:

- PCD1.M2120
- PCD2.M5540
- PCD3.M3120
- PCD3.M3330
- PCD3.M5340
- PCD3.M5540
- PCD3.M6340
- PCD3.M6540
- PCD3.M5560

2. BACnet Standardized Device Profile (Annex L):

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC)
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)
- BACnet Gateway (B-GW)

3. BACnet Interoperability Building Blocks Supported (Annex K):

3.1 Data Sharing BIBBs

Data Sharing Read-Property-A	DS-RP-A
Data Sharing Read-Property-B	DS-RP-B
Data Sharing Read-Property-Multiple-A	DS-RPM-A
Data Sharing Read-Property-Multiple-B	DS-RPM-B
Data Sharing Write-Property-A	DS-WP-A
Data Sharing Write-Property-B	DS-WP-B
Data Sharing Write-Property-Multiple-B	DS-WPM-B
Data Sharing COV-A	DS-COV-A
Data Sharing COV-B	DS-COV-B
Data Sharing COV-Unsolicited-A	DS-COVU-A
Data Sharing COV-Unsolicited-B	DS-COVU-B
Data Sharing COV-Property-B	DS-COVP-B

3.2 Alarm / Event BIBBs

Alarm and Event-Notification Internal-B	AE-N-I-B
Alarm and Event-Notification External-B	AE-N-E-B
Alarm and Event-Acknowledge-B	AE-ACK-B
Alarm and Event-Information-B	AE-INFO-B
Alarm and Event-Alarm Summary-A	AE-ASUM-B
Alarm and Event-Enrollment Summary-B	AE-ESUM-B

3.3 Scheduling BIBBs

Scheduling-Internal-B	SCHED-I-B
Scheduling-External-B	SCHED-E-B

3.4 Trending BIBBs

Trending-Viewing and Modifying Trends Internal-B	T-VMT-I-B
Trending-Viewing and Modifying Trends External-B	T-VMT-E-B
Trending-Automated Trend Retrieval-B	T-ATR-B

3.5 Device Management BIBBs

Device Management-Dynamic Device Binding-A	DM-DDB-A
Device Management-Dynamic Device Binding-B	DM-DDB-B
Device Management-Dynamic Object Binding-A	DM-DOB-A
Device Management-Dynamic Object Binding-B	DM-DOB-B
Device Management-DeviceCommunicationControl-B	DM-DCC-B
Device Management-TimeSynchronization-A	DM-TS-A
Device Management-TimeSynchronization-B	DM-TS-B
Device Management-UTCTimeSynchronization-A	DM-UTC-A
Device Management-UTCTimeSynchronization-B	DM-UTC-B
Device Management-ReinitializeDevice-B	DM-RD-B
Device Management-Backup and Restore-B	DM-BR-B
Device Management-Restart-B	DM-R-B
Device Management-List Manipulation-B	DM-LM-B
Device Management-Object Creation and Deletion-B	DM-OCD-B

3.6 Network Management BIBBs

Network Management-Connection Establishment-A	NM-CE-A
Network Management-Connection Establishment-B	NM-CE-B
Network Management-Router Configuration-A	NM-RC-A
Network Management-Router Configuration-B	NM-RC-B

4. Segmentation Capability:

- Segmented requests supported Window Size 16
- Segmented responses supported Window Size 16

5. Standard Object Types Supported:

5.1 Standard Object Types Supported: Accumulator-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device Type Reliability Prescale Value_Change_Time Value_Before_Change Value_Set Pulse_Rate High_Limit Low_Limit Limit_Monitoring_Interval Notification_Class Time_Delay Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Description Device Type Prescale Value_Set Pulse_Rate High_Limit Low_Limit Limit_Monitoring_Interval Time_Delay Limit_Enable Event_Enable	-

5.2 Standard Object Types Supported: Analog-Input-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device Type Reliability Update_Interval Min_Pres_Value Max_Pres_Value Resolution COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value COV_Increment Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable	-

5.3 Standard Object Types Supported: Analog-Output-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device Type Reliability Min_Pres_Value Max_Pres_Value Resolution COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value COV_Increment Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable	-

5.4 Standard Object Types Supported: Analog-Value-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Priority_Array Relinquish_Default COV_Increment Time_Delay Notification_Class High_Limit Low_Limit Deadband Limit_Enable Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value COV_Increment Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable	-

5.5 Standard Object Types Supported: Averaging Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Minimum_Value_Timestamp Variance_Value Maximum_Value_Timestamp Description	Attempted_Samples Window_Interval Window_Samples	-

5.6 Standard Object Types Supported: Binary-Input-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device_Type Reliability Inactive_Text Active_Text Change_Of_State_Time Change_Of_State_Count Time_Of_State_Count_Reset Elapsed_Active_Time Time_Of_Active_Time_Reset Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Event_Enable	-

5.7 Standard Object Types Supported: Binary-Output-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device_Type Reliability Inactive_Text Active_Text Change_Of_State_Time Change_Of_State_Count Time_Of_State_Count_Reset Elapsed_Active_Time Time_Of_Active_Time_Reset Minimum_Off_Time Minimum_On_Time Time_Delay Notification_Class Feedback_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Event_Enable	-

5.8 Standard Object Types Supported: Binary-Value-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Inactive_Text Active_Text Change_Of_State_Time Change_Of_State_Count Time_Of_State_Count_Reset Elapsed_Active_Time Time_Of_Active_Time_Reset Minimum_Off_Time Minimum_On_Time Priority_Array Relinquish_Default Time_Delay Notification_Class Alarm_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Event_Enable	-

5.9 Standard Object Types Supported: Calendar-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description	Date_List	-

5.10 Standard Object Types Supported: Command

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Action_Text	Present_Value Action Action_Text	-

5.11 Standard Object Types Supported: Device-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
N/A	N/A	Location Description Max_Segments_Accepted Local_Time Local_Date UTC_Offset Daylight_Savings_Status APDU_Segment_Timeout Time_Synchronization_Recipients Configuration_Files Last_Restore_Time Backup_Failure_Timeout Active_COV_Subscriptions	Time _Synchronization_Recipients Backup _Failure_Timeout	-

5.12 Standard Object Types Supported: Event Enrollment Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description		-

5.13 Standard Object Types Supported: File

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description	File_Size Archive	-

5.14 Standard Object Types Supported: Group

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description		-

5.15 Standard Object Types Supported: Loop

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability Update_Interval Proportional_Constant Proportional_Constant_Units Integral_Constant Integral_Constant_Units Derivative_Constant Derivative_Constant_Units Bias Maximum_Output Minimum_Output COV_Increment Time_Delay Notification_Class Error_Limit Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Proportional_Constant Integral_Constant Derivative_Constant Bias Maximum_Output Minimum_Output	-

5.16 Standard Object Types Supported: Multistate-Input-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device_Type Reliability State_Text Time_Delay Notification_Class Alarm_Values Fault_Values Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Alarm_Values Fault_Values Event_Enable	-

5.17 Standard Object Types Supported: Multistate-Output-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Device_Type Reliability State_Text Time_Delay Notification_Class Feedback_Value Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Event_Enable	-

5.18 Standard Object Types Supported: Multistate-Value-Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability State_Text Priority_Array Relinquish_Default Time_Delay Notification_Class Alarm_Values Fault_Values Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Present_Value Time_Delay Alarm_Values Fault_Values Event_Enable	-

5.19 Standard Object Types Supported: Notification Class Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description		-

5.20 Standard Object Types Supported: Program

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Reason_For_Halt Description_Of_Halt Program_Location Description Instance_Of Reliability	Program_Change	-

5.21 Standard Object Types Supported: Pulse Converter

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input type="checkbox"/>	<input type="checkbox"/>	Description Input_Reference Reliability COV_Increment COV_Period Notification_Class Time_Delay High_Limit Low_Limit Deadband Limit_Enable Event_Enable Aked_Transitions Notify_Type Event_Time_Stamps	Present_Value Adjust_Value Count_Before_Change	-

5.22 Standard Object Types Supported: Schedule Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description Weekly_Schedule Exception_Schedule	Weekly_Schedule Exception_Schedule	-

5.23 Standard Object Types Supported: Trendlog Object

Dynamically Creatable	Dynamically Deleteable	Optional Properties Supported	Writable Properties	Proprietary Properties
☑	☑	Description Start_Time Stop_Time Log_DeviceObjectProperty Log_Interval COV_Resubscription_Interval Client_COV_Increment Notification_Threshold Records_Since_Notification Last_Notify_Record Notification_Class Event_Enable Acked_Transitions Notify_Type Event_Time_Stamps	Log_Enable Start_Time Stop_Time Log_Interval Record_Count	-

6. Device Address Binding :

Is static device binding supported ? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) Yes No

7. Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ASTM 878.1, 2.5 Mb. ARCNET (Clause 8)
- ASTM 878.1, RS-485 ARCNET (Clause 8) baud rate(s) _____
- MS/TP master (Clause 9), baud rate(s): _____
- MS/TP slave (Clause 9), baud rate(s): _____
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): max. EIA 232
- Point-To-Point, modem, (Clause 10), baud rate(s): 115200 baud / max. modem
- LonTalk, (Clause 11), medium: _____
- Other: _____

8. Networking Options:

- Router, Clause 6 - BACnet/IP-PTP.
 - Annex H, BACnet Tunneling Router over IP
 - BACnet Broadcast Management Device (BBMD)
- Does the BBMD support registrations by Foreign Devices? Yes No

9. Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input checked="" type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2) | <input type="checkbox"/> ISO 10646 (ICS-4) | <input type="checkbox"/> JIS C 6226 |