

AMEV

Mechanical and Electrical Engineering Working Party of National, Regional and Local Authorities

BACnet Checklist for AMEV attestations

AMEV profiles AS-A and AS-B

as per „BACnet 2017“

(identical to BACnet 2011 V1.2)

1. **Test report:**
- Vendor / applicant:** **Vendor ID:**
- Firmware revision:**
- Product model no.:**

2. Supported BIBBs

AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
BIBBs	required	checked	BIBBs	required	checked
1	2	3	4	5	6
DS-RP-A	X		DS-COVP-B	X	
DS-RP-B	X		AE-N-E-B	X	
DS-RPM-A	X		AE-ASUM-B	X	
DS-RPM-B	X		SCHED-E-B	X	
DS-WP-A	X		T-VMT-I-B	X	
DS-WP-B	X		T-VMT-E-B	X	
DS-WPM-B	X		T-ATR-B	X	
DS-COV-A	X		DM-LM-B	X	
DS-COV-B	X		DM-OCD-B	X	
AE-N-I-B	X				
AE-ACK-B	X				
AE-ESUM-B	X				
AE-INFO-B	X				
SCHED-I-B	X				
DM-DDB-A	X				
DM-DDB-B	X				
DM-DOB-B	X				
DM-DCC-B	X				
DM-TS-B	X ^T				
DM-UTC-B	X ^T				
DM-RD-B	X				
DM-BR-B	X				

Key:
X^T BACnet device must support either DM-TS-B or DM-UTC-B (standard)

3. Supported BACnet object types and DC/DD capabilities

AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type	required	checked	Object Type	required	checked
1	2	3	4	5	6
AI	X		CAL (with DC/DD)	X	
AO	X		EE (with DC/DD)	X	
AV	X		NC (with DC/DD)	X	
BI	X		SCHED (with DD(DC)	X	
BO	X		TLOG (with DC/DD)	X	
BV	X		LP	X	
CAL	X				
DEV	X				
FIL	X				
MI	X				
MO	X				
MV	X				
NC	X				
SCHED	X				

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4. Supported object types, properties and read/write access

Key for columns 2 and 5 see page 9

AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Analog Input					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Update Interval	R	
Present Value	R		Min Pres Value	R	
Description	R		Max Pres Value	R	
Status Flags	R		Notification Class	W	
Event State	R		Description	W	
Out Of Service	W				
Units	R				
Resolution	R				
COV Increment	W				
Time Delay	W				
Notification Class	R				
High Limit	W				
Low Limit	W				
Deadband	W				
Limit Enable	W				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Analog Output					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Min Pres Value	R	
Present Value	W		Max Pres Value	R	
Description	R		Notification Class	W	
Status Flags	R		Description	W	
Event State	R				
Out Of Service	R				
Units	R				
Resolution	R				
Priority Array	R				
Relinquish Default	R				
COV Increment	W				
Time Delay	W				
Notification Class	R				
High Limit	W				
Low Limit	W				
Deadband	W				
Limit Enable	W				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Analog Value					
Object Identifier	R		Notification Class	W	
Object Name	R		Description	W	
Object Type	R				
Present Value	W				
Description	R				
Status Flags	R				
Event State	R				
Reliability	R				
Out Of Service	R				
Units	R				
Priority Array	R				
Relinquish Default	R				
COV Increment	W				
Time Delay	W				
Notification Class	R				
High Limit	W				
Low Limit	W				
Deadband	W				
Limit Enable	W				
Event Enable	R				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Binary Input					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Change Of State Time	R	
Present Value	R		Change Of State Count	R ^o	
Description	R		Time Of State Count_Reset	R	
Status Flags	R		Notification Class	W	
Event State	R		Description	W	
Out Of Service	W				
Polarity	R				
Inactive Text	R				
Active Text	R				
Elapsed Active Time	R ^o				
Time Of Active Time_Reset	R				
Time Delay	W				
Notification Class	R				
Alarm Value	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Binary Output					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Change Of State Time	R	
Present Value	W		Change Of State Count	R ^o	
Description	R		Time Of State Count Reset	R	
Status Flags	R		Minimum Off Time	R	
Event State	R		Minimum On Time	R	
Out Of Service	R		Notification Class	W	
Polarity	R		Description	W	
Inactive Text	R				
Active Text	R				
Elapsed Active Time	R ^o				
Time Of Active Time Reset	R				
Priority Array	R				
Relinquish Default	R				
Time Delay	W				
Notification Class	R				
Feedback Value	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Binary Value					
Object Identifier	R		Change Of State Time	R	
Object Name	R		Change Of State Count	R ^o	
Object Type	R		Time Of State Count Reset	R	
Present Value	W		Minimum Off Time	R	
Description	R		Minimum On Time	R	
Status Flags	R		Notification Class	W	
Event State	R		Description	W	
Reliability	R				
Out Of Service	R				
Inactive Text	R				
Active Text	R				
Elapsed Active Time	R ^o				
Time Of State Count Reset	R				
Priority Array	R				
Relinquish Default	R				
Time Delay	W				
Notification Class	R				
Alarm Value	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Calendar					
Object Identifier	R		Description	W	
Object Name	R				
Object Type	R				
Description	R				
Present Value	R				
Date List	W				

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Device					
Object Identifier	R		Description	W	
Object Name	R				
Object Type	R				
System Status	R				
Vendor Name	R				
Vendor Identifier	R				
Model Name	R				
Firmware Revision	R				
Application Software Version	R				
Location	R				
Description	R				
Protocol Version	R				
Protocol Revision	R				
Protocol Services Supp.	R				
Protocol Object Types Supp.	R				
Object List	R				
Max APDU Length Accepted	R				
Segmentation Supported	R				
Max Segments Accepted	R				
Local Time	R				
Local Date	R				
UTC Offset	R				
Daylight Savings Status	R				
APDU Segment Timeout	R				
APDU Timeout	R				
Number Of APDU Retries	R				
Device Address Binding	R				
Database Revision	R				
Configuration Files	R				
Last Restore Time	R				
Backup Failure Timeout	R				
Active COV Subscriptions	R				
Event Enrollment					
			Object Identifier	R	
			Object Name	R ^c	
			Object Type	R	
			Description	W	
			Event Type	R	
			Notify Type	R ^c	
			Event Parameters	R ^c	
			Object Property Reference	R ^c	
			Event State	R	
			Event Enable	R ^c	
			Acked Transitions	R	
			Notification Class	R ^c	
			Event Time Stamps	R	

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
File					
Object Identifier	R		Description	W	
Object Name	R				
Object Type	R				
Description	R				
File Type	R				
File Size	R				
Modification Date	R				
Archive	W				
Read Only	R				
File Access Method	R				
Loop					
			Object Identifier	R	
			Object Name	R	
			Object Type	R	
			Present Value	R	
			Description	W	
			Status Flags	R	
			Event State	R	
			Reliability	R	
			Out Of Service	W	
			Update Interval	R	
			Output Units	R	
			Manipulated Variable Ref.	R	
			Controlled Variable	R	
			Controlled Variable Valu	R	
			Controlled Variable Units	R	
			Setpoint Reference	R	
			Setpoint	R	
			Action	R	
			Proportional Constant	W	
			Proportional Constant U	R	
			Integral Constant	W	
			Integral Constant Units	R	
			Derivative Constant	W	
			Derivative Constant Unit	R	
			Bias	W	
			Maximum Output	W	
			Minimum Output	W	
			Priority For Writing	R	
			COV Increment	W	
			Time Delay	W	
			Notification Class	W	
			Error Limit	W	
			Event Enable	W	
			Acked Transitions	R	
			Notify Type	R	
			Event Time Stamps	R	

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Multi-state Input *					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Notification Class	W	
Present Value	R		Description	W	
Description	R				
Status Flags	R				
Event State	R				
Out Of Service	W				
Number Of States	R				
State Text	R				
Time Delay	W				
Notification Class	R				
Alarm Values	R				
Fault Values	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Multi-state Output *					
Object Identifier	R		Device Type	R	
Object Name	R		Reliability	R	
Object Type	R		Notification Class	W	
Present Value	W		Description	W	
Description	R				
Status Flags	R				
Event State	R				
Out Of Service	R				
Number Of States	R				
State Text	R				
Priority Array	R				
Relinquish Default	R				
Time Delay	W				
Notification Class	R				
Feedback Value	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				

* Support of the multi-state I/O objects is not required stringently for the AMEV attestation, as the functions in AS can be realized equivalently by choice of simple I/O objects.

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Multi-state Value					
Object Identifier	R		Notification Class	W	
Object Name	R		Description	W	
Object Type	R				
Present Value	W				
Description	R				
Status Flags	R				
Event State	R				
Reliability	R				
Out Of Service	R				
Number Of States	R				
State Text	R				
Priority Array	R				
Relinquish Default	R				
Time Delay	W				
Notification Class	R				
Alarm Values	R				
Fault Values	R				
Event Enable	W				
Acked Transitions	R				
Notify Type	R				
Event Time Stamps	R				
Notification Class					
Object Identifier	R		Description	W	
Object Name	R				
Object Type	R				
Description	R				
Notification Class	R				
Priority	R				
Ack Required	R				
Recipient List	R				
Schedule					
Object Identifier	R		Description	W	
Object Name	R				
Object Type	R				
Present Value	R				
Description	R				
Effective Period	W				
Weekly Schedule	W				
Exception Schedule	W				
Schedule Default	R				
List Of Object Property Re	R				
Priority For Writing	R				
Status Flags	R				
Reliability	R				
Out Of Service	W				

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AMEV profile AS-A (basic)			AMEV profile AS-B (extended)		
Object Type, Property	required	checked	Object Type, Property	required	checked
1	2	3	4	5	6
Trend Log					
			Object Identifier	R	
			Object Name	R ^c	
			Object Type	R	
			Description	R ^c	
			Enable	W	
			Start Time	W	
			Stop Time	W	
			Log DeviceObjectPropert	R ^c	
			Log Interval	W	
			COV Resubscription Inte	W	
			Client COV Increment	W	
			Stop When Full	W	
			Buffer Size	R	
			Log Buffer	R	
			Record Count	W	
			Total Record Count	R	
			Notification Threshold	W	
			Records Since Notificati	R	
			Last Notify Record	R	
			Event State	R	
			Notification Class	R ^c	
			Event Enable	W	
			Acked Transitions	R	
			Notify Type	R ^c	
			Event Time Stamps	R	

Key for Chapter 4.

The object types and properties as per AMEV BACnet 2017 Appendix 4 are allocated to AMEV profile AS-A (Columns 1 to 3) and AS-B (Columns 4 to 6).

Columns 2 and 5 indicate the read/write access to properties as per AMEV profile AS-A and AS-B. The abbreviations of read/write access are explained below:

- R** Property of AS is only readable.
- W** Property of AS is readable and writeable.
- R⁰** Property of AS is writeable with value 0 to reset the runtime totalizer or change of state counter.
- R^c** Property of AS is writeable during generation of a new object instance with the CreateObject service or generally with the WriteProperty service (W).

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5. Further requirements

Required	Statement	checked
1	2	3
Certificate: number		
Data Link Layer: minimum BACnet/IP		
Character set: UTF-8		
Object_Name: minimum 32 characters		
Object_Name: syntax as per AMEV example supported *		
Description: minimum 64 characters		
Description: syntax as per AMEV example supported **		
Calendar Object: minimum 3 instances		
Calendar Object: minimum 10 date entries in date list per instance		
Schedule Object: minimum 2 instances		
Schedule Object: minimum 12 switching times in Weekly_Schedule		
Schedule Object: minimum 6 date entries or references to CAL obj. (combination possible) in Exception_Schedule		
Schedule Object: minimum 6 switching times per date entry or reference to CAL objects in Exception_Schedule		

* **AMEV example of syntax Object_Name:**
089ABCFG_Hij67_KLM45_Nöp23_DEV01

** **AMEV example of syntax Description:**
0.123<456>789_ABCdefGHIjkIMNOpqrSTÜvwxyz-?ß@%µ/!€;\$,£+Ω=§(°C"!)

6. Conclusion

The device supports the BACnet functions as per BACnet 2017:

- AMEV profile AS-A**
- AMEV profile AS-B**

7. Attested by:

(location, date)

.....
(BACnet certification body)