



SAUTER Vision Center BACnet PICS

SAUTER Vision Center

BACnet Protocol Implementation Conformance Statement 1.26

D100552438 - 01



Note:

This statement corresponds to the ANSI/ASHRAE 135-2024 release. Changes are taking place constantly, without prior notification.

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Legend:

This document contains tables with symbols and abbreviations for which the following legend applies:

☒	yes, supported	☐	no, not supported
-, n/a	not applicable	CC	Conformance Code
()	comments in parenthesis	R	Required Readable
(R)	Network Port specific	W	Required Readable and Writable
O	(Conditionally) Optional	OD	Dynamic object deletion
OC	Dynamic object creation	COV	Change of value
OOS	Out-Of-Service writeable	IR/AR	Intrinsic / Algorithmic change reporting
CMD	Object commandable		

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I. BACnet Protocol Implementation Conformance Statement

I.1 SAUTER Vision Center

Date	
Vendor Name	Fr. Sauter AG (Vendor ID: 80)
Product Name	SAUTER Vision Center
Product Model Number	YZP487 F101
Applications Software Version	9.2
Firmware Revision	9.2.0.177 (Sauter.VisionCenter.BACnet.Client.dll)
BACnet Protocol Revision	Version 1, Revision 26

I.1.1 Product Description

The BACnet client turns SAUTER Vision Center into a BACnet operator workstation. SAUTER Vision Center has two operation modes with integrated BACnet/IP BBMD, and FD functionality:

- BACnet advanced operator workstation, suitable for configuring BACnet servers and accessing any property of any object, and
- Web based Building and energy Management system for operation, providing a graphical, intuitive user interface in order to allow the end user to easily access and operate the Building Automation and Control System (BACS) of the building (plant, room,...). BACnet data sharing, scheduling, alarming and trending services are fully integrated with the services of SAUTER Vision Center.

The client implementation is based on Cimetrix BACstac 7.11

I.1.2 BACnet Standardized Device Profile (Annex L)

- ☒ BACnet Cross-Domain Advanced Operator Workstation (B-XAWS)
- ☒ BACnet Advanced Operator Workstation (B-AWS)
- ☒ BACnet Advanced Life Safety Workstation (B-ALSWS)
- ☒ BACnet Advanced Access Control Workstation (B-AACWS)
- ☒ BACnet Elevator Display (B-ED)
- ☒ BACnet Broadcast Management Device (B-BBMD)
- ☒ BACnet Operator Workstation (B-OWS)
- ☒ BACnet Operator Display (B-OD)

I.1.3 BACnet Interoperability Building Blocks (Annex K)

Supports following BIBBs:

Data Sharing-	BIBB	A	B
Read Property-	DS-RP-	☒	☒
Read Property Multiple-	DS-RPM-	☒	☒
Write Property-	DS-WP-	☒	☒
Write Property Multiple-	DS-WPM-	☒	☒
Read Range-	DS-RR-	☐	☒
Change Of Value Unsubscribed	DS-COVU	☒	☒
Subscribe to value changes	DS-COV	☒	☐
Subscribe to change of a specific property	DS-COVP	☒	☐

COV without acknowledgement	DS-COVU	☒	☐
Access grouped data (views)	DS-V	☒	☐
Atomic read/write for views/files	DS-AV	☒	☐
Basic monitoring services	DS-M	☒	☐
Enhanced monitoring services	DS-AM	☒	☐
View life-safety information	DS-LSV	☒	☐
Advanced life-safety view	DS-LSAV	☒	☐
Monitor life-safety objects	DS-LSM	☒	☐
Advanced LS monitoring	DS-LSAM	☒	☐
View alarms and events	DS-ACV	☒	☐
Advanced alarm views	DS-ACAV	☒	☐
Alarm/event supervision	DS-ACM	☒	☐
Advanced A&E monitoring	DS-ACAM	☒	☐
Event without acknowledgement	DS-ACUC	☒	☐
Confirmed alarm/event delivery	DS-ACSC	☒	☐
Alarm acknowledgement	DS-ACAD	☒	☐
Discrete alarm state handling	DS-ACCDI	☒	☐
Basic trend logging	DS-LO	☒	☐
Subscribe to logged data	DS-LOS	☒	☐
Extended logging features	DS-ALO	☒	☐
Monitor logging objects	DS-LOM	☒	☐
View logged data	DS-LV	☒	☐
Advanced trend views	DS-LAV	☒	☐
Monitor logging behaviour	DS-LM	☒	☐
Advanced log monitoring	DS-LAM	☒	☐
Subscribe to value changes	DS-RP	☒	☒
Subscribe to change of a specific property	DS-RPM	☒	☒
COV without acknowledgement	DS-WP	☒	☒
Access grouped data (views)	DS-WPM	☒	☒
Atomic read/write for views/files	DS-COV	☒	☐
Basic monitoring services	DS-COVP	☒	☐
Enhanced monitoring services	DS-COVU	☒	☐
View life-safety information	DS-V	☒	☐
Advanced life-safety view	DS-AV	☒	☐

Device Management-	BIBB	A	B
Dynamic Device Binding-	DM-DDB-	☒	☒
Dynamic Object Binding-	DM-DOB-	☐	☒
Device Communication Control-	DM-DCC-	☒	☐
Reinitialize Device-	DM-RD-	☒	☒
Backup and Restore-	DM-BR-	☒	☐
Restart-	DM-R-	☐	☒
List Manipulation-	DM-LM-	☒	☐
Time Synchro-	DM-TS	☐	☒
UTC Time Synchro-	DM-UTS-	☐	☒
Device Management– Automatic Network Management	DM-ANM	☒	☐
Device Management – Automatic Device Management	DM-ADM	☒	☐
Device Management – Manual Time Synchronization	DM-MTS	☒	☐
Device Management – Automatic Time Synchronisation	DM-ATS	☒	☐
Device Management – Object Creation & Deletion	DM- OCD	☒	☐

Alarm & Event Management	BIBB	A	B
Notification	AE-N	☒	☐
Acknowledge Alarm	AE-ACK	☒	☐
Alarm Summary	AE-ASUM	☒	☐
Event Summary	AE-ESUM	☒	☐
Event Information	AE-INFO	☒	☐
Alarm Summary (Basic)	AE-AS	☒	☐
View & Monitor	AE-VM	☒	☐
Advanced View & Monitor	AE-AVM	☒	☐
View Notification	AE-VN	☒	☐
Advanced View Notification	AE-AVN	☒	☐
Event Log View	AE-ELV	☒	☐
Event Log View & Monitor	AE-ELVM	☒	☐
Life Safety Alarm	AE-LS	☒	☐
Life Safety View Notification	AE-LSVN	☒	☐
Life Safety Advanced View Notification	AE-LSAVN	☒	☐
Life Safety View & Monitor	AE-LSVM	☒	☐
Life Safety Advanced View & Monitor	AE-LSAVM	☒	☐
Alarm & Event Control	AE-AC	☒	☐
Alarm & Event Advanced View Notification	AE-ACAVN	☒	☐
Alarm & Event View & Monitor	AE-ACVM	☒	☐
Alarm & Event Advanced View & Monitor	AE-ACAVM	☒	☐

Scheduling	BIBB	A	B
Scheduling	SCHED	☒	☐
Scheduling – View & Monitor	SCHED-VM	☒	☐
Scheduling – Write Support	SCHED-WS	☒	☐
Scheduling – Advanced View & Monitor	SCHED-AVM	☒	☐

Trending	BIBB	A	B
Trend – View & Monitor (Trend Log)	T-VMT	☒	☐
Trend – View & Monitor Multiple Values	T-VMMV	☒	☐
Trend – View	T-V	☒	☐
Trend – Advanced View & Monitor	T-AVM	☒	☐
Trend – Automatic Trend Retrieval	T-ATR	☒	☐
Trend – Advanced Multiple Value Retrieval	T-AMVR	☒	☐
Trend – Archive	T-A	☒	☐

Network Management-	BIBB	A	B
Network Management – Router	NM-R	☒	☒
Network Management – Router Configuration	NM-RC	☒	☒
Network Management – BBMD Configuration	NM-BBMD	☒	☒
Network Management – Foreign Device Registration	NM-FDR	☒	☒
Network Management - Connection Establishment	NM-CE	☒	☒
Network Management - Secure Connect Hub	NM-SC-HUB	☐	☒
Network Management - Secure Connect Direct Connect	NM-SC-DC	☒	☒
Network Management - Communications Configuration	NM-CC	☒	☐
Network Management - Secure Connect Certificate Management	NM-SCCM	☒	☐

The table below consolidates all BIBBs required for B-RTR and B-SCHUB profile as of Annex L. Supplementary BIBBs are in *italics*.

Data Sharing	Alarm & Event Management	Scheduling	Trending	Device & Network Management
DS-RP-A	AE-N-A	SCHED-A	T-VMT-A	DM-DDB-A
DS-RP-B	AE-ACK-A	SCHED-VM-A	T-VMMV-A	DM-DDB-B
DS-RPM-A	AE-ASUM-A	SCHED-WS-A	T-V-A	DM-ANM-A
DS-RPM-B	AE-ESUM-A	SCHED-AVM-A	T-AVM-A	DM-ADM-A
DS-WP-A	AE-INFO-A		T-ATR-A	DM-DOB-B
DS-WP-B	AE-AS-A		T-AMVR-A	DM-DCC-A
DS-WPM-A	AE-VM-A		T-A-A	DM-MTS-A
DS-WPM-B	AE-AVM-A			DM-ATS-A
DS-COV-A	AE-VN-A			DM-OCD-A
DS-COVP-A	AE-AVN-A			DM-RD-A
DS-COVU-A	AE-ELV-A			DM-RD-B
DS-V-A	AE-ELVM-A			DM-BR-A
DS-AV-A	AE-LS-A			DM-LM-A
DS-M-A	AE-LSVN-A			DM-R-A
DS-AM-A	AE-LSAVN-A			
DS-LSV-A	AE-LSVM-A			NM-R-A
DS-LSAV-A	AE-LSAVM-A			NM-R-B
DS-LSM-A	AE-AC-A			NM-RC-A
DS-LSAM-A	AE-ACAVN-A			NM-RC-B
DS-ACV-A	AE-ACVM-A			NM-BBMDC-A
DS-ACAV-A	AE-ACAVM-A			NM-BBMDC-B
DS-ACM-A				NM-FDR-A
DS-ACAM-A				NM-FDR-B
DS-ACUC-A				NM-CE-A
DS-ACSC-A				NM-CE-B
DS-ACAD-A				NM-SC-DC-A
DS-ACCDI-A				NM-SC-DC-B
DS-LO-A				NM-SC-HUB-B
DS-LOS-A				NM-CC-A
DS-ALO-A				NM-SCCM-A
DS-LOM-A				
DS-LV-A				
DS-LAV-A				
DS-LM-A				
DS-LAM-A				

I.1.4 Segmentation Capability

- ☒ Able to transmit segmented messages
- ☒ Able to receive segmented messages

Window Size: 16
Window Size: 16

I.1.5 Object Types

Standard and proprietary object types are supported and may be present in the device.

Note:

Present-Value and Reliability properties are writable when Out-Of-Service = True.

Standard and proprietary objects may support optional functionality (Overview):

Object Type	ID	OC	OD	CMD	OOS	COV	IR/AR
Device	8	☐	☐	-	-	-	-
File	10	☐	☐	-	-	-	-
NetworkPort	56	☐	☐	-	-	-	-

Some standard objects may have proprietary properties in addition (Clause 23). There are no specific property range restrictions except those within the system SAUTER modulo 6 and the range restrictions of the BACnet Standard. Supported standard and proprietary objects may support the following optional and proprietary properties and in addition to the standard conformance code some writable properties:

I.1.5.1 Device & Network Management

Device (DEV = 8)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	☒		
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	O	☒	☒	(up to 128 characters)
Description	O	☒	☒	(up to 128 characters)
Protocol-Version	R	☒		
Protocol-Revision	R	☒		
Protocol-Services-Supported	R	☒		
Protocol-Object-Types-Supported	R	☒		
Object-List	R	☒		
Structured-Object-List	O	☒		
Max-APDU-Length-Accepted	R	☒		
Segmentation-Supported	R	☒		
Max-Segments-Accepted	O	☒		
Local-Time	O	☒	☒	(time sync service)
Local-Date	O	☒	☒	(time sync service)
UTC-Offset	O	☒	☒	
Daylight-Savings-Status	O	☒		(automatic DST)
APDU-Segment-Timeout	O	☒		
APDU-Timeout	R	☒		
Number-Of-APDU-Retries	R	☒		
Device-Address-Binding	R	☒		(up to 100 devices)
Database-Revision	R	☒		
Configuration-Files	O	☒		
Last-Restore-Time	O	☒		
Backup-Failure-Timeout	O	☒	☒	
Backup-Preparation-Time	O	☒		
Restore-Preparation-Time	O	☒		
Restore-Completion-Time	O	☒		
Backup-And-Restore-State	O	☒		
Active-COV-Subscriptions	O	☒		
Last-Restart-Reason	O	☒		
Time-Of-Device-Restart	O	☒		
Restart-Notification-Recipients	O	☒		
Serial-Number	O	☒		
Property-List	R	☒		
Profile-Name	O	☒		
Device_UUID	R	☒		

Proprietary Property	ID	R	W	Property Datatype Range Restriction
MAC-Address	8207	☒		
Hardware-Revision	8208	☒		
Firmware-Index	8255	☒		
Serial-Number	8277	☒		
Production-Date	8278	☒		
Sauter-Character-Set	8351	☒		0: UTF8
Sauter-Battery-OK-Indication	8380	☒		

File (FL = 10)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	☒		
Object-Name	R	☒		
Object-Type	R	☒		
Description	O	☒		
File-Type	R	☒		
File-Size	R	☒	☒	0 (delete)
Modification-Date	R	☒		
Archive	W	☒	☒	
Read-Only	R	☒		
File-Access-Method	R	☒		
Property-List	R	☒		
Profile-Name	O	☒		

Network Port (NP = 56)

Depending on the value of Network_Type property, the object properties required change. Properties are split into Base properties which are independent of the Network_Type value, and a subset of properties related to the specific value of the Network_Type Property.

Base properties (present for any Network_Type value)

Standard Property	CC	R	W	Range Restriction
Object_Identifier	R	☒		
Object_Name	R	☒		
Object_Type	R	☒		
Description	O	☒		
Status_Flags	R	☒		
Reliability	R	☒		
Out_Of_Service	R	☒		
Network_Type	R	☒		
Protocol_Level	R	☒		
Reference_Port	O	☒		
Changes_Pending	R	☒		
Command	O	☒	☒	
Current_Health	O	☒		
Command_Validation_Result	O	☒		
Profile_Name	O	☒		
Network_Number	R	☒	☒	
Network_Number_Quality	R	☒		
APDU_Length	R	☒		
Routing_Table BACnetRouter	R	☒		
MAC_Address	R	☒		
IP_Address	R	☒		
IP_Default_Gateway	R	☒		
IP_DHCP_Enable	R	☒		
IP_DHCP_Lease_Time	R	☒		
IP_DHCP_Lease_Time_Remaining	R	☒		
IP_DHCP_Server	R	☒		
IP_DNS_Server	R	☒		

Case 1: Network_Type == IP + BBMD + NAT

Standard Property	CC	R	W	Range Restriction
BACnet_IP_Global_Address	(R)	☒	☒	
BACnet_IP_Mode	O	☒		
BACnet_IP_NAT_Traversal	(R)	☒	☒	
IP_Subnet_Mask	(R)	☒		
BACnet_IP_UDP_	(R)	☒		
BBMD_Accept_FD_Registrations	(R)	☒		
BBMD_Broadcast_Distribution_Table	(R)	☒	☒	
BBMD_Foreign_Device_Table	(R)	☒	☒	
FD_BBMD_Address	(R)	☒		
FD_Subscription_Lifetime	(R)	☒		
Link_Speed	(R)	☒		
Network_Interface_Name	(R)	☒		

(R): The properties that are required based on the Network_Type and Protocol_Level are identified in the sub-tables with a (R) conformance code.

Case 2: Network_Type == Foreign device

Standard Property	CC	R	W	Range Restriction
ip-subnet-mask	(R)	☒		
bacnet-ip-mode	(R)	☒		
bacnet-ip-udp-port	(R)	☒		
fd-bbmd-address	(R)	☒		
fd-subscription-lifetime	(R)	☒		
link-speed	(R)	☒		
network-interface-name	(R)	☒		

(R): The properties that are required based on the Network_Type and Protocol_Level are identified in the sub-tables with a (R) conformance code.

Case 3: Network_Type == SECURE_CONNECT

Standard Property	CC	R	W	Range Restriction
IP_Subnet_Mask	(R)	☒		
Link_Speed	(R)	☒		
IPv6_Address	(R)	☒		
IPv6_Prefix_Length	(R)	☒		
IPv6_Default_Gateway	(R)	☒		
IPv6_DNS_Server	(R)	☒		
IPv6_Auto_Addressing_Enable	(R)	☒		
IPv6_DHCP_Lease_Time	(R)	☒		
IPv6_DHCP_Lease_Time_Remaining	(R)	☒		
IPv6_DHCP_Server	(R)	☒		
IPv6_Zone_Index	(R)	☒		
Max_BVLC_Length_Accepted	(R)	☒		
Max_NPDU_Length_Accepted	(R)	☒		
SC_Primary_Hub_URI	(R)	☒		
SC_Failover_Hub_URI	(R)	☒		
SC_Minimum_Reconnect_Time	(R)	☒		
SC_Maximum_Reconnect_Time	(R)	☒		
SC_Connect_Wait_Timeout	O	☒		
SC_Disconnect_Wait_Timeout	O	☒		
SC_Heartbeat_Timeout	O	☒		
SC_Hub_Connector_State	O	☒		
Operational_Certificate_File	O	☒		
Issuer_Certificate_Files	O	☒		
Certificate_Signing_Request_File	(R)	☒		
SC_Primary_Hub_Connection_Status	(R)	☒		
SC_Failover_Hub_Connection_Status	(R)	☒		
SC_Direct_Connect_Initiate_Enable	(R)	☒		
SC_Direct_Connect_Accept_Enable	(R)	☒		
SC_Direct_Connect_Accept_URIs	(R)	☒		
SC_Direct_Connect_Binding	(R)	☒		
SC_Direct_Connect_Connection_Status	(R)	☒		
SC_Failed_Connection_	(R)	☒		
IP_Subnet_Mask	(R)	☒		
Link_Speed	(R)	☒		

I.1.6 Data Link Layer Options

- ☒ BACnet IP, (Annex J)
- ☒ BACnet IP, (Annex J) BACnet Broadcast Management Device (BBMD)
- ☒ BACnet IP, (Annex J) Network Address Translation (NAT Traversal)
- ☒ BACnet Secure Connect (Annex AB)
 - ☒ BACnet Secure Connect Node
 - If direct connections are supported:
 - Maximum number of simultaneous direct connections initiated: 100
 - Maximum number of simultaneous direct connections accepted: 100
 - ☐ BACnet Secure Connect Hub Function
 - Maximum number of simultaneous hub connections accepted: 100
 - ☐ HTTPS Proxy Support
 - List the types of HTTPS proxies supported: none
 - ☐ Additional cipher suites supported beyond those required for TLS V1.3
 - The additional cipher suites supported using the cipher suite names as of the TLS Cipher Suite Registry at IANA (See RFC 8446):
 - none
 - ☐ Additional Transport Layer Security versions other than V1.3 supported
 - The TLS versions other than V1.3 that are supported, including the supported cipher suites for the version beyond those required, using the cipher suite names as defined by the TLS version supported:
 - none
 - ☐ Generates private keys internally, and provides matching certificate signing requests.
 - ☒ DNS host name resolution supported (RFC 1123)
 - ☒ mDNS host name resolution supported (RFC 6762)

I.1.7 Device Address Binding

- ☐ Static device binding supported ¹

I.1.8 Networking Options

- ☒ Router, Clause 6
- ☐ Annex H, BACnet Tunneling Router over IP
- ☒ BACnet/IP Broadcast Management Device (BBMD)
 - ☒ BBMD supports registrations by Foreign Devices

I.1.9 Character Sets

Supports following character sets²:

- | | | |
|---|---|-------------------------------------|
| ☒ ISO 10646 (UTF-8) | ☐ IBM™/Microsoft™ DBCS | ☐ ISO 8859-1 |
| ☐ ISO 10646 (UCS-2) | ☐ ISO 10646 (UCS-4) | ☐ JIS 0208 |

Outgoing character strings are communicated according to the selected character set (Sauter-character-set).

Incoming character strings with character sets other than ISO 10646 (UTF-8) will be mapped to ISO 10646 (UTF-8) internally.

¹ This is currently necessary for two-way communication with MS/TP slaves and certain other devices.

² Indicating support for multiple character sets does not imply that they can all be supported simultaneously.



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Printed in Switzerland
Document Revision: 01
Released: 21.09.2026