

**SAUTER BACnet PICS
EY-modulo 3 ecos301, ecos302**

**BACnet Protocol Implementation
Conformance Statement**

D100266790 - 01



Content

Note:

This statement corresponds to the current releases. Changes are taking place constantly, without prior notification.

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BACnet Application Specific Controller (B-ASC)

1 BACnet Application Specific Controller (B-ASC)

1.1. SAUTER EY-modulo 3 Room Controller

Date	December 12, 2014
Vendor Name	SAUTER (Fr. Sauter AG, Vendor ID: 80)
Product Name	EY-modulo 3 Room Controller ecos 3
Product Model Number	ecos301: EY-RC301 ecos302: EY-RC302
Applications Software Version	V1.2 R6 (Controller Firmware)
Firmware Revision	V1.2 R11 (BACnet Firmware)
BACnet Protocol Revision	Version 1, Revision 14 (135-2012)

BACnet Testing Laboratory (BTL):

BACnet Profile: B-ASC
Date: 7th May 2014
SoftDEL Test Report: TC50552

1.1.1. Product Description

The ecos 3 communicating BACnet controllers are designed as universal control equipment suitable for a large number of applications. They may be used for room climate control and other applications which are monitored by a BACnet (MS/TP) network. They are parameterized through parameters either with the room unit or with the PC tool EasySet.

The EY-RC3-MSTP is a BTL-listed BACnet implementation running on EY-CM320F070. EY-CM320F070 is the BACnet communication plug-in for the controller family SAUTER ecos 3 (EY-RC3**).

1.1.2. BACnet Standardized Device Profile (Annex L)

- BACnet Operator Workstation (B-OWS)
- BACnet Advanced Operator Workstation (B-AWS)
- BACnet Operator Display (B-OD)
- 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)

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1.1.3. BACnet Interoperability Building Blocks (Annex K)

Supports following BIBBs:

Data Sharing	Alarm & Event Management	Scheduling	Trending	Device & Network Management
DS-RP-B DS-RPM-B DS-WP-B				DM-DDB-B DM-DOB-B DM-DCC-B DM-RD-B DM-TS-B DM-UTC-B

1.1.4. BACnet Standardized Application Services

Supports following Standard BACnet Services:

Application Services	Supported
ReadProperty	☑
ReadPropertyMultiple	☑
WriteProperty	☑
DeviceCommunicationControl	☑
I-Am	☑
I-Have	☑
TimeSynchronisation	☑
UTCTimeSynchronisation	☑
ReinitializeDevice (“cold” or “warm”)	☑

1.1.5. Segmentation Capability

- Able to transmit segmented messages Window Size: n/a
- Able to receive segmented messages Window Size: n/a

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1.1.6. Object Types

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

Legend: = yes, supported = no, not supported -, n/a = not applicable

Objects may be created and deleted dynamically:

OC = Dynamic object creation OD = Dynamic object deletion

Objects may support optional functionality:

OOS = Out-Of-Service writeable COV = Change of value

Objects may have optional functionalities:

CMD = Object commandable

IR/AR = Intrinsic / Algorithmic change reporting

Standard objects may support optional functionality (Overview):

Object Type (Enum)	Supported	OC	OD	CMD	OOS	COV	IR/AR
Analog Input (0)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analog Value (2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Binary Value (5)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Device (8)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	-
Multi-State Value (19)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

There are no specific property range restrictions except those within the system SAUTER EY-modulo 3 and the range restrictions of the BACnet Standard.

All objects are available on the controller as fixed objects or are generated automatically depending on parameterization. No object can be created or deleted dynamically.

FP – Floating Point: The BACnet Standard data type “Floating Point” (32-bit FP) for AI and AV is internally handled as fixed decimal point datatype (FDP). This implementation is handled as described in the BACnet Standard with “best effort”.

Supported standard objects may support following optional properties and in addition to the standard conformance code some writable properties:

Legend: = yes, supported = no, not supported -, n/a = not applicable

CC = Conformance Code () = comments in parenthesis

R = Required Readable W = Required Readable and Writable

O = (Conditionally) Optional P = Proprietary

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1.1.6.1. Device Management

Device (DEV = 8)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Object-Name	R	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Object-Type	R	<input checked="" type="checkbox"/>		
System-Status	R	<input checked="" type="checkbox"/>		(0, 2, 4)
Vendor-Name	R	<input checked="" type="checkbox"/>		(SAUTER)
Vendor-Identifier	R	<input checked="" type="checkbox"/>		(80)
Model-Name	R	<input checked="" type="checkbox"/>		
Firmware-Revision	R	<input checked="" type="checkbox"/>		
Application-Software-Version	R	<input checked="" type="checkbox"/>		
Location	O	-		
Description	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(up to 32 bytes)
Protocol-Version	R	<input checked="" type="checkbox"/>		(1)
Protocol-Revision	R	<input checked="" type="checkbox"/>		(14)
Protocol-Services-Supported	R	<input checked="" type="checkbox"/>		
Protocol-Object-Types-Supported	R	<input checked="" type="checkbox"/>		
Object-List	R	<input checked="" type="checkbox"/>		
Structured-Object-List	O	-		
Max-APDU-Length-Accepted	R	<input checked="" type="checkbox"/>		(480)
Segmentation-Supported	R	<input checked="" type="checkbox"/>		(3)
Max-Segments-Accepted	O1	-		
VT-Classes-Supported	O2	-		
Active-VT-Sessions	O2	-		
Local-Time	O3,4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(time sync service)
Local-Date	O3,4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(time sync service)
UTC-Offset	O4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Daylight-Savings-Status	O4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(automatic DST)
APDU-Segment-Timeout	O1	-		
APDU-Timeout	R	<input checked="" type="checkbox"/>		(0)
Number-Of-APDU-Retries	R	<input checked="" type="checkbox"/>		(0)
Time-Synchronization-Recipients	O5	-		
Max-Master	O6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(default: 127)
Max-Info-Frames	O6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(default: 1)
Device-Address-Binding	R	<input checked="" type="checkbox"/>		
Database-Revision	R	<input checked="" type="checkbox"/>		
Configuration-Files	O7	-		
Last-Restore-Time	O7	-		
Backup-Failure-Timeout	O8	-		
Backup-Preparation-Time	O	-		(Add135-2008n-1)
Restore-Preparation-Time	O	-		(Add135-2008n-1)
Restore-Completion-Time	O	-		(Add135-2008n-1)
Backup-And-Restore-State	O	-		(Add135-2008n-1)
Active-COV-Subscriptions	O9	-		
Slave-Proxy-Enable	O10	-		
Manual-Slave-Address-Binding	O10	-		
Auto-Slave-Discovery	O11	-		
Slave-Address-Binding	O12	-		

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Last-Restart-Reason	O13	-		
Time-Of-Device-Restart	O13	-		
Restart-Notification-Recipients	O13	-		
UTC-Time-Synchronization-Recipients	O5	-		
Time-Synchronization-Interval	O14	-		
Align-Intervals	O14	-		
Interval-Offset	O14	-		
Profile-Name	O	-		

1.1.6.2. Input, Output, Value

Analog Input (AI = 0)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	<input checked="" type="checkbox"/>		
Object-Name	R	<input checked="" type="checkbox"/>		
Object-Type	R	<input checked="" type="checkbox"/>		
Present-Value	R1	<input checked="" type="checkbox"/>		
Description	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(up to 16 bytes)
Device-Type	O	-		
Status-Flags	R	<input checked="" type="checkbox"/>		
Event-State	R	<input checked="" type="checkbox"/>		
Reliability	O	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Out-Of-Service	R	<input checked="" type="checkbox"/>		
Update-Interval	O	-		
Units	R	<input checked="" type="checkbox"/>		
Min-Pres-Value	O	-		
Max-Pres-Value	O	-		
Resolution	O	-		
COV-Increment	O2	-		
Time-Delay	O3	-		
Notification-Class	O3	-		
High-Limit	O3	-		
Low-Limit	O3	-		
Deadband	O3	-		
Limit-Enable	O3	-		
Event-Enable	O3	-		
Acked-Transitions	O3	-		
Notify-Type	O3	-		
Event-Time-Stamps	O3	-		
Event-Message-Texts	O	-		
Profile-Name	O	-		

Analog Value (AV = 2)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	<input checked="" type="checkbox"/>		
Object-Name	R	<input checked="" type="checkbox"/>		
Object-Type	R	<input checked="" type="checkbox"/>		
Present-Value	R4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1)	
Description	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1)	(up to 16 bytes)
Status-Flags	R	<input checked="" type="checkbox"/>		
Event-State	R	<input checked="" type="checkbox"/>		

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Reliability	O	-		
Out-Of-Service	R	<input checked="" type="checkbox"/>		
Units	R	<input checked="" type="checkbox"/>		
Priority-Array	O1	-		
Relinquish-Default	O1	-		
COV-Increment	O2	-		
Time-Delay	O3	-		
Notification-Class	O3	-		
High-Limit	O3	-		
Low-Limit	O3	-		
Deadband	O3	-		
Limit-Enable	O3	-		
Event-Enable	O3	-		
Acked-Transitions	O3	-		
Notify-Type	O3	-		
Event-Time-Stamps	O3	-		
Event-Message-Texts	O	-		
Profile-Name	O	-		

1) Writable for objects with instance number greater than 11.

Binary Value (BV = 5)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	<input checked="" type="checkbox"/>		
Object-Name	R	<input checked="" type="checkbox"/>		
Object-Type	R	<input checked="" type="checkbox"/>		
Present-Value	R1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Description	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 2)	(up to 16 bytes)
Status-Flags	R	<input checked="" type="checkbox"/>		
Event-State	R	<input checked="" type="checkbox"/>		
Reliability	O	-		
Out-Of-Service	R	<input checked="" type="checkbox"/>		
Inactive-Text	O2	-		
Active-Text	O2	-		
Change-Of-State-Time	O3	-		
Change-Of-State-Count	O3	-		
Time-Of-State-Count-Reset	O3	-		
Elapsed-Active-Time	O4	-		
Time-Of-Active-Time-Reset	O4	-		
Minimum-Off-Time	O	-		
Minimum-On-Time	O	-		
Priority-Array	O5	-		
Relinquish-Default	O5	-		
Time-Delay	O6	-		
Notification-Class	O6	-		
Alarm-Value	O6	-		
Event-Enable	O6	-		
Acked-Transitions	O6	-		
Notify-Type	O6	-		
Event-Time-Stamps	O6	-		
Event-Message-Texts	O	-		
Profile-Name	O	-		

2) Writable for objects with instance number greater than 100.

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Multi-State Value (MV = 19)

Standard Property	CC	R	W	Range Restriction
Object-Identifier	R	<input checked="" type="checkbox"/>		
Object-Name	R	<input checked="" type="checkbox"/>		
Object-Type	R	<input checked="" type="checkbox"/>		
Present-Value	R1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 3)	
Description	O	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(up to 16 bytes)
Status-Flags	R	<input checked="" type="checkbox"/>		
Event-State	R	<input checked="" type="checkbox"/>		
Reliability	O2	-		
Out-Of-Service	R	<input checked="" type="checkbox"/>		
Number-Of-States	R	<input checked="" type="checkbox"/>		
State-Text	O	<input checked="" type="checkbox"/>		
Priority-Array	O3	-		
Relinquish-Default	O3	-		
Time-Delay	O4	-		
Notification-Class	O4	-		
Alarm-Values	O4	-		
Fault-Values	O4	-		
Event-Enable	O4	-		
Acked-Transitions	O4	-		
Notify-Type	O4	-		
Event-Time-Stamps	O4	-		
Event-Message-Texts	O	-		
Profile-Name	O	-		

3) Writable for objects with instance number greater than 100.

1.1.6.3. Proprietary Objects

There are no proprietary objects implemented.

1.1.7. Data Link Layer Options

- BACnet IP (Annex J)
- BACnet IP (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ANSI/ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ANSI/ATA 878.1, RS-485 ARCNET (Clause 8), baud rate(s): ____
- MS/TP master (Clause 9), baud rate(s):
9600, 19200, 38400, 57600, 76800, 115200 (kBit/s)
- MS/TP slave (Clause 9), baud rate(s): ____
- Point-To-Point, EIA-232 (Clause 10), baud rate(s): ____
- Point-To-Point, modem (Clause 10), baud rate(s): ____
- LonTalk, (Clause 11), medium: ____

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BACnet/ZigBee (Annex O)

Other: ____

1.1.8. Device Address Binding

Static device binding is supported: Yes No

1.1.9. Networking Options

Router (Clause 6) - List of all routing configurations: ____

BACnet Tunneling Router over IP (Annex H)

BACnet/IP Broadcast Management Device (BBMD)

1.1.10. Network Security Options:

Non-secure Device - is capable of operating without BACnet Network Security

Secure Device - is capable of using BACnet Network Security (NS-SD BIBB)

Multiple Application-Specific Keys:

Supports encryption (NS-ED BIBB)

Key Server (NS-KS BIBB)

1.1.11. Character Sets

Supports following character sets:

ISO 10646 (UTF-8)

IBM™/Microsoft™ DBCS

ISO 8859-1

ISO 10646 (UCS-2)

ISO 10646 (UCS-4)

JIS 0208



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