

# SAUTER BACnet PICS

## BACnet Protocol Implementation Conformance Statement (PICS)

7010011003



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Note:

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

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## BACnet Protocol Implementation Conformance Statement (PICS)

### 1 BACnet Operator Workstation (B-OWS)

#### 1.1 novaPro Open with BACnet Driver

**Date:** December, 19<sup>th</sup> 2006  
**Vendor Name:** Fr. Sauter AG (Vendor ID: 80)  
**Product Name:** BACnet native Client for *novaPro Open* with vpiwnbcn.dll

**Product Model Number:** YZP 416 F311

**Applications Software Version:** 2.2      **Firmware Revision:** 2.5.6.0      **BACnet Protocol Revision:** 1.4

#### 1.1.1 Product Description

The BACnet driver vpiwnbcn.dll for novaPro Open turns novaPro Open into a BACnet operator workstation. It has two operation modes with integrated BACnet/IP BBMD, FD, Half-Router and Tunnelling Router functionality.

- a) BACnet operator workstation, suitable for configuring BACnet servers and accessing any property of any object, and
- b) Standard SCADA operation, providing a graphical, intuitive user interface in order to allow the end user to easily access and operate the plant.  
Data sharing, scheduling, alarming and trending services are fully integrated with the services of the SCADA system.

The client implementation is based on Cimetrix BACstac™ 4.2.E

#### 1.1.2 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)

#### 1.1.3 BACnet Interoperability Building Blocks Supported (Annex K)

Data Sharing	Event & Alarm Management	Scheduling	Trending	Device & Network Management
DS-RP-A, -B DS-RPM-A DS-WP-A DS-WPM-A DS-COV-A DS-COVP-A DS-COVU-A	AE-ACK-A AE-ASUM-A AE-ESUM-A AE-N-A AE-INFO-A <sup>1)</sup>	SCHED-A <sup>2)</sup>	T-ATR-A T-VMT-A	DM-DDB-A, -B DM-DCC-A DM-DOB-A, -B DM-RD-A DM-TS-A DM-UTC-A DM-LM-A DM-OCD-A DM-BR-A  NM-CE-A

<sup>1)</sup> Event summaries are generated at start-up and dynamically during operation. The service GetEventInformation is not used to provide this functionality.

<sup>2)</sup> Access to the list of object property references is provided by service AddListElement.

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### 1.1.4 Standard Object Types Supported

Only the standard object type Device is supported and present.

Object Type	Object Type Supported	Dynamically Creatable Deletable	Optional Properties	Writable Properties (Additional)
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

All other listed standard object types are supported by accessing the addressable properties from other BACnet device's objects:

Object Type	Object Type Supported	Dynamically Creatable and Deletable	Addressable Properties Supported
Accumulator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Analog Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Averaging	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Calendar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Command	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Event-Enrollment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
File	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Group	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Life Safety Point	<input type="checkbox"/>	<input type="checkbox"/>	
Life Safety Zone	<input type="checkbox"/>	<input type="checkbox"/>	
Loop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Multi-State Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Multi-State Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Multi-State Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Notification Class	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All

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Object Type	Object Type Supported	Dynamically Creatable and Deletable	Addressable Properties Supported
Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Pulse Converter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All
Schedule	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Trend Log	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All (Protocol Revision: 1.1-1.4)

Proprietary object types and proprietary properties are supported and can be addressed by BACnet enumeration codes.

### 1.1.5 Segmentation Capability

- Able to transmit segmented messages      Window Size    \_\_\_  
 Able to receive segmented messages      Window Size    \_\_\_

### 1.1.6 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):  
 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:  
 Other:

### 1.1.7 Device Address Binding

Is static device binding supported? (Necessary for two-way communication with MS/TP)       Yes  No

### 1.1.8 Networking Options

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.  
 Annex H, BACnet Tunneling Router over IP  
 BACnet/IP Broadcast Management Device (BBMD)  
 Does the BBMD support registrations by Foreign Devices?       Yes  No

### 1.1.9 Character Sets Supported

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

- ANSI X3.4       IBM™/Microsoft™ DBCS       ISO 8859-1  
 ISO 10646 (UCS-2)       ISO 10646 (UCS-4)       JIS C 6226

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### 2 BACnet Building Controller (B-BC)

#### 2.1 EY3600 Automation Stations

**Date:** November 16<sup>th</sup>, 2006  
**Vendor Name:** Fr. Sauter AG (Vendor ID: 80)  
**Product Name:** BACnet Server Sauter AS 3600

**Product Model Number:** EYK 300 F001 : nova106 Modular BACnet automation station  
 EYK 220 F001 : nova220 Compact BACnet automation station  
 EYK 230 F... : nova230 Compact BACnet universal automation station

**Applications Software Version:** 2.6-004    **Firmware Revision:** 2.6-004    **BACnet Protocol Revision:** 1.4

BTL Tested: Date: May 13, 2004 – WSPLab: No. 04.61.SAG.001.1 – Firmware Revision: 2.0-017 – Model: EYK 300 F001

#### 2.1.1 Product Description

The BACnet Server for Sauter EY3600 system is a software component for Sauter’s free programmable DDC-controllers. It includes a Client functionality for peer to peer communication with other BACnet Servers and has an integrated BBMD functionality. The Server implementation is based on Cimetrics BACstac™ V4.2 and runs on Microsoft® Windows CE™.

#### 2.1.2 BACnet Standardized Device Profile (Annex L)

- BACnet Operator Workstation (B-OWS)
- BACnet Building Controller (B-BC) <sup>1)</sup>
- BACnet Advanced Application Controller (B-AAC)
- BACnet Application Specific Controller (B-ASC)
- BACnet Smart Sensor (B-SS)
- BACnet Smart Actuator (B-SA)

<sup>1)</sup> yet with few exceptions (DS-COVU-A, DS-COVU-B, DS-RPM-A, AE-ESUM-B, DM-BR-B)

#### 2.1.3 BACnet Interoperability Building Blocks Supported (Annex K)

Data Sharing	Event & Alarm Management	Scheduling	Trending	Device & Network Management
DS-RP-A, -B DS-RPM-B DS-WP-A, -B DS-WPM-B DS-COV-A, -B	AE-N-I-B AE-ACK-B AE-ASUM-B AE-INFO-B	SCHED-I-B SCHED-E-B	T-VMT-I-B T-VMT-E-B T-ATR-B	DM-DDB-A, -B DM-DOB-A, -B DM-DCC-B DM-TS-B  DM-RD-B DM-LM-B DM-OCD-B  NM-CE-A

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### 2.1.4 Standard Object Types Supported

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

COV : Supports change of value (COV) reporting      DC : Dynamically creatable  
 IR : Supports intrinsic reporting                      DD : Dynamically deletable

There are no proprietary objects and no proprietary properties. There are no specific property range restrictions except those for the Sauter EY3600 system.

Standard object types are supported as listed:

Object Type	COV	IR	DC DD	Optional Properties	Writable Properties (Additional)
Analog Input	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description Device-Type Reliability Update-Interval Resolution	Out-Of-Service COV-Increment High-Limit Low-Limit
Analog Output	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description Device-Type Reliability Min-Pres-Value Max-Pres-Value Resolution	Out-Of-Service COV-Increment High-Limit Low-Limit
Analog Value	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description Reliability	Out-Of-Service COV-Increment High-Limit Low-Limit
Binary Input	<input checked="" type="checkbox"/>	<input checked="" 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	Out-Of-Service Change-Of-Count
Binary Output	<input checked="" type="checkbox"/>	<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	Out-Of-Service Change-Of-Count
Binary Value	<input checked="" type="checkbox"/>	<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	Out-Of-Service Change-Of-Count

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Object Type	COV	IR	DC DD	Optional Properties	Writable Properties (Additional)
Calendar	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Description	Object-Name Description Date-List
Device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location Description Max-Segments-Accepted APDU-Segment-Timeout Local-Time Local-Date UTC-Offset Daylight-Savings-Status Active-COV-Subscriptions	
Loop	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description Reliability Update-Interval Bias Maximum-Output Minimum-Output Proportional-Constant Proportional-Constant-Units Integral-Constant Integral-Constant-Units Derivative-Constant Derivative-Constant-Units	Proportional-Constant Integral-Constant Derivative-Constant Error-Limit Time-Delay COV-Increment Out-Of-Service
Multi-state Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description Device-Type Reliability State-Text	Out-Of-Service
Multi-state Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description Device-Type Reliability State-Text	Out-Of-Service
Multi-state Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description Reliability State-Text	Out-Of-Service
Notification Class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	Object-Name Description Recipient-List Priority
Pulse Converter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description Reliability	Out-Of-Service COV-Increment High-Limit Low-Limit

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Object Type	COV	IR	DC DD	Optional Properties	Writable Properties (Additional)
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Description Weekly-Schedule Exception-Schedule	Object-Name Description Out-Of-Service Effective-Period Weekly-Schedule Exception-Schedule List-Of-Object-Property-Reference
Trend Log <sup>1)</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Description COV-Resubscription-Interval Client-COV-Increment	Object-Name Description Log-DeviceObjectProperty COV-Resubscription-Interval Stop-When-Full Buffer-Size

<sup>1)</sup> Protocol Revision: 1.1-1.2

### 2.1.5 Segmentation Capability

- Able to transmit segmented messages Window Size 16
- Able to receive segmented messages Window Size 16

### 2.1.6 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):
- 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:
- Other:

### 2.1.7 Device Address Binding

Is static device binding supported? (Necessary for two-way communication with MS/TP)  Yes  No

### 2.1.8 Networking Options

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)  
Does the BBMD support registrations by Foreign Devices?  Yes  No

### 2.1.9 Character Sets Supported

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

- ANSI X3.4  IBM™/Microsoft™ DBCS  ISO 8859-1
- ISO 10646 (UCS-2)  ISO 10646 (UCS-4)  JIS C 6226