

Protocol Implementation Conformance Statement (PICS)

<i>Vendor Name:</i>	<i>Frimat GmbH</i>
<i>Vendor ID:</i>	<i>474</i>
<i>Product Name:</i>	<i>AS315bac</i>
<i>Product Model Number:</i>	<i>B</i>
<i>Applications Software Version:</i>	<i>16.10.3</i>
<i>Firmware Revision:</i>	<i>B</i>
<i>BACnet Protocol Revision:</i>	<i>1.14</i>

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Product Description:

The Frimat AS315bac works as a BACnet Building Controller (B-BC).

The implementation is based on the MBS Stack.

BACnet Standardized Device Profile (Annex L):

- BACnet Advanced Operator Workstation (B-AWS)
- BACnet Operator Workstation (B-OWS)
- BACnet Operator Display (B-OD)
- BACnet Advanced Lighting Workstation (B-ALWS)
- BACnet Lighting Operator Display (B-LOD)
- 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 Advanced Lighting User Interface (B-ALUI)
- BACnet General Lighting User Interface (B-GLUI)
- BACnet Simple Lighting User Interface (B-SLUI)
- BACnet Analog Lighting Device (B-ALD)
- BACnet Binary Lighting Device (B-BLD)
- BACnet Lighting Supervisory Device (B-LSD)

List all BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing	Alarms & Events	Scheduling	Trending	Device Management
DS-RP-A/B	AE-N-I-B	SCHED-I-B	T-VMT-I-B	DM-DDB-A/B
DS-RPM-A/B	AE-N-E-B	SCHED-E-B	T-VMT-E-B	DM-DOB-A/B
DS-WP-A/B	AE-ACK-B		T-ATR-B	DM-DCC-B
DS-WPM-B	AE-ASUM-B			DM-TS-B
DS-COV-A/B	AE-ESUM-B			DM-UTC-B
DS-COVP-B	AE-INFO-B			DM-RD-B
	AE-EL-I-B			DM-BR-B
				DM-LM-B
				DM-OCD-B

Segmentation Capability:

- Segmented requests supported
- Segmented responses supported

Window Size: 16 (configurable)

Window Size: 16 (configurable)

Standard Object Types supported:

Object-Type	Object-Type supported	Dynamically creatable / deletable
Accumulator	<input type="checkbox"/>	<input type="checkbox"/>
Analog Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analog Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Averaging	<input type="checkbox"/>	<input type="checkbox"/>
Binary Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Binary Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Binary Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Calendar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Command	<input type="checkbox"/>	<input type="checkbox"/>
Device	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Event-Enrollment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Event log	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
File	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group	<input type="checkbox"/>	<input type="checkbox"/>
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"/>
Multi-State Input	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Multi-State Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Multi-State Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Notification Class	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Program	<input type="checkbox"/>	<input type="checkbox"/>
Pulse Converter	<input type="checkbox"/>	<input type="checkbox"/>
Schedule	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Trend log	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lighting Output	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
- ATA 878.1, EIA-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):
- Lon Talk, (Clause 11), medium:
- BACnet/Zigbee (Annex O)
- Other:

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

Network 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
 - Does the BBMD support network address translation? Yes No

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)

Character Sets Supported:

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

- | | | |
|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> ISO 10646 (UTF-8) | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2) | <input type="checkbox"/> ISO 10646 (UCS-4) | <input type="checkbox"/> JIS X 0208 |

If this product is a communication gateway, describe the types of non-BACnet equipment / networks(s) that the gateway supports:

Properties Supported:

Analog-Input-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Present Value	W*
		Device Type	W
		Reliability	R
		Out Of Service	W
		Units	R
		Min Present Value	W
		Max Present Value	W
		Resolution	R
		COV Increment	W
		High Limit	W
		Low Limit	W
		Notification Class	W
		Time Delay	W
		Deadband	W
		Limit Enable	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

*= only writeable if Out-Of-Service is true

Analog-Output-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Units	R
		Present Value	W
		Device Type	W
		Reliability	R
		Priority Array	R
		Min Present Value	W
		Max Present Value	W
		Relinquish Default	R
		Resolution	R
		COV Increment	W
		High Limit	W
		Low Limit	W
		Notification Class	W
		Time Delay	W
		Deadband	W
		Limit Enable	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

Analog-Value-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Units	R
		Reliability	R
		Priority Array	R
		Present Value	W
		Relinquish Default	R
		COV Increment	W
		High Limit	W
		Low Limit	W
		Notification Class	W
		Time Delay	W
		Deadband	W
		Limit Enable	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

Binary-Input-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Present Value	W*
		Device Type	W
		Polarity	W
		Reliability	R
		Inactive Text	R
		Active Text	R
		Change Of State Time	R
		Change Of State Count	W
		Time Of State Count Reset	R
		Elapsed Active Time	W
		Time Of Active Time Reset	R
		Notification Class	W
		Time Delay	W
		Alarm Value	R
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

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Binary-Output-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Priority Array	R
		Present Value	W
		Device Type	W
		Polarity	R
		Reliability	R
		Inactive Text	R
		Active Text	R
		Change Of State Time	R
		Change Of State Count	W
		Time Of State Count Reset	R
		Elapsed Active Time	W
		Time Of Active Time Reset	R
		Minimum Off Time	R
		Minimum On Time	R
		Notification Class	W
		Relinquish Default	R
		Time Delay	W
		Feedback Value	R
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

Binary-Value-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier Object Name Object Type Description Status Flags Event State Out Of Service Priority Array Present Value 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 Relinquish Default Notification Class Time Delay Alarm Value Event Enable Acked Transitions Notify Type Event Detection Enable Event Algorithm Inhibit Time Delay Normal Reliability Evaluation Inhibit Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	R R R W R R W R W R W R R R R R R W W R R R W W W W W W W R R - -

Multistate-Input-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Present Value	W*
		Device Type	W
		Reliability	R
		Number Of States	R
		State Text	R
		Time Delay	W
		Notification Class	W
		Alarm Values	W
		Fault Values	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

*= only writeable if Out-Of-Service is true

Multistate-Output-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier Object Name Object Type Description Status Flags Event State Out Of Service Priority Array Present Value Device Type Reliability Number Of States State Text Relinquish Default Time Delay Notification Class Feedback Value Event Enable Acked Transitions Notify Type Event Detection Enable Event Algorithm Inhibit Time Delay Normal Reliability Evaluation Inhibit Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	R R R W R R W R W R W R R R R W W R W W W W W W R R - -

Multistate-Value-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier Object Name Object Type Description Status Flags Event State Out Of Service Priority Array Present Value Reliability Number Of States State Text Relinquish Default Time Delay Notification Class Alarm Values Fault Values Event Enable Acked Transitions Notify Type Event Detection Enable Event Algorithm Inhibit Time Delay Normal Reliability Evaluation Inhibit Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	R R R W R R W R W R R R R R W W W W W W W W W W W W R R - -

Loop-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Out Of Service	W
		Present Value	R*
		Reliability	R
		Output Units	R
		Update Interval	R
		Controlled Variable-Reference	R
		Controlled Variable Units	R
		Controlled Variable Value	R
		Setpoint Reference	R
		Setpoint	R
		Action	R
		Manipulated Variable-Reference	R
		Proportional Constant	W
		Proportional Constant Units	R
		Integral Constant	W
		Integral Constant Units	R
		Derivative Constant	W
		Derivative Constant Units	R
		Bias	R
		Maximum Output	W
		Minimum Output	W
		Priority For Writing	R
		COV Increment	R
		Time Delay	W
		Notification Class	W
		Error Limit	W
		Deadband	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Time Delay Normal	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

Calendar-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier Object Name Object Type Description Date List Present Value Profile Name	R W R W W R -

Event-Enrollment-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier Object Name Object Type Description Status Flags Reliability Event State Event Type Notify Type Event Parameters Object Property Reference Event Enable Acked Transitions Notification Class Fault Type Fault Parameters Event Detection Enable Event Algorithm Inhibit Time Delay Normal Reliability Evaluation Inhibit Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	R W R W R R R R W W W W W W W R R W W W W R R - -

Device-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input type="checkbox"/>	<input type="checkbox"/>	Object Identifier	R
		Object Name	R
		Object Type	R
		System Status	R
		Vendor Name	R
		Vendor Identifier	R
		Model Name	R
		Serial Number	R
		Location	W
		Description	W
		Firmware Revision	R
		Application Software Version	R
		Protocol Version	R
		Protocol Revision	R
		Object List	R
		Max APDU Length Accepted	R
		Segmentation Supported	R
		Local Time	R
		Local Date	R
		UTC Offset	W
		Daylight Savings Status	R
		APDU Segment Timeout	R
		APDU Timeout	R
		Number of APDU Retries	R
		Device Address Binding	R
		Database Revision	R
		Active COV Subscriptions	R
		Max Segments Accepted	R
		Object Types Supported	R
		Services Supported	R
		Time Synchronization Recipients	W
		UTC Time Synchronization-Recipients	W
		Configuration Files	R
		Last Restore Time	R
		Backup Failure Timeout	W
		Backup and Restore State	R
		Backup Preparation Time	W
		Restore Preparation Time	W
		Restore Completion Time	W

File-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier Object Name Object Type Description Record Count File Type File Size Modification Date Archive Read only File Access Method Profile Name	R W R W - R W R W R R -

Notification-Class-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier Object Name Object Type Description Notification Class Priority Ack Required Recipient List Profile Name	R W R W R R W W -

Schedule-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier	R
		Object Name	W
		Object Type	R
		Description	W
		Status Flags	R
		Out Of Service	W
		Present Value	W
		Reliability	R
		Effective Period	W
		Weekly Schedule	W
		Exception Schedule	W
		Schedule Default	W
		List Of Object Property-References	W
		Priority For Writing	W
		Notification Class	W
		Event Enable	W
		Acked Transitions	R
		Notify Type	W
		Event Detection Enable	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

TrendLog-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier	R
		Object Name	W
		Object Type	R
		Description	W
		Status Flags	R
		Event State	R
		Enable	W
		Start Time	W
		Stop Time	W
		Log DeviceObjectProperty	W
		Log Interval	W
		COV Resubscription Interval	W
		Client COV Increment	W
		Align Intervals	-
		Interval Offset	-
		Trigger	W
		Reliability	R
		Stop When Full	W
		Buffer Size	W
		Log Buffer	R
		Record Count	W
		Total Record Count	R
		Notification Threshold	W
		Records Since Notification	R
		Last Notify Record	R
		Notification Class	W
		Event Enable	W
		Acked Transitions	W
		Notify Type	W
		Logging Type	W
		Event Detection Enable	W
		Event Algorithm Inhibit	W
		Reliability Evaluation Inhibit	W
		Event Time Stamps	R
		Event Message Texts	R
		Event Message Texts Config	-
		Profile Name	-

EventLog-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier Object Name Object Type Description Status Flags Event State Enable Start Time Stop Time Reliability Stop When Full Buffer Size Log Buffer Record Count Total Record Count Notification Threshold Records Since Notification Last Notify Record Notification Class Event Enable Acked Transitions Notify Type Event Detection Enable Event Algorithm Inhibit Reliability Evaluation Inhibit Event Time Stamps Event Message Texts Event Message Texts Config Profile Name	R W R W R R W W W R W W R W R W R W R W R W R W W R R - -

Lighting-Output-Object

Dynamically Creatable	Dynamically Deleteable	Properties	Support Read / Write / -
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Object Identifier	R
		Object Name	W
		Object Type	R
		Description	W
		Status Flags	R
		Out of Service	W
		Reliability	R
		Priority Array	R
		Relinquish Default	R
		Blink Warn Enable	R
		Egress Active	R
		Egress Time	R
		Default Fade Time	R
		Default Ramp Rate	R
		Default Step Increment	R
		Feedback Value	W
		Power	R
		Instantaneous Power	R
		Min Actual Value	W
		Max Actual Value	W
		Lighting Command Default Priority	R
		COV Increment	R
		Lighting Command	W
		In Progress	R
		Transition	R
		Present Value	W
		Tracking Value	R

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