intelli bms -- BACnet PICS

BACnet Protocol Implementation Conformance Statement (PICS)
(mit deutschen Begriffen)

Date (Datum):	Oktober 2016
Vendor Name (Hersteller):	INGA mbH (Vendor ID: 275)
Product Name (Produktname):	iBMS
Product Model Number (Typ-Nummer):	iBMS
Applications Software Version (Software-Version):	10.2.24
Firmware Revision (Systemsoftware-Version):	10.2.24
BACnet Protocol Revision (BACnet Protokoll Stand):	Version 1, Revision 14

1. Product Description (Produktbeschreibung):

iBMS is a building management system for controls systems from all areas of building automation. It is designed as a BACnet Advanced Workstation. It provides an integrated object-browser for configuring BACnet servers and accessing any object with its properties. Data Sharing, Alarm & Event Management, Scheduling, Trending and Device & Network Management services are integrated. It has integrated BBMD and FD functionality and offers BACnet server functionality. The implementation of the BACnet protocol is based on Cimetrics BACstac.

2. BACnet Standardized Device Profile (Annex L) (Standard-Geräteprofil)**:**

☒ BACnet Advanced Operator Workstation (B-AWS)
☐ BACnet Operator Workstation (B-OWS)
☐ 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)

3. List of all BACnet Interoperability Building Blocks supported (Annex K)

(Liste aller unterstützter BIBBs):

Data Sharing BIBBs (Objektzugriff, Datenaustauch, gemeinsame Datennutzung)		
1.1	DS-RP-A	ReadProperty-A
1.2	DS-RP-B	ReadProperty-B
1.3	DS-RPM-A	ReadProperty Multiple-A
1.4	DS-RPM-B	ReadProperty Multiple-B
1.7	DS-WP-A	WriteProperty-A
1.8	DS-WP-B	WriteProperty-B
1.9	DS-WPM-A	WriteProperty Multiple-A
1.10	DS-WPM-B	WriteProperty Multiple-B
1.11	DS-COV-A	COV-Support-A
1.12	DS-COV-B	COV-Support-B
1.13	DS-COVP-A	COV-Property-A
1.14	DS-COVP-B	COV-Property-B
1.15	DS-COVU-A	COV-Unsubscribed-A
1.17	DS-V-A	Data Sharing-View-A
1.18	DS-AV-A	Data Sharing-Advanced View-A
1.19	DS-M-A	Data Sharing-Modify-A
1.20	DS-AM-A	Data Sharing-Advanced Modify-A
Alarm and Event Management BIBBs (Alarm-und Ereignisverarbeitung)		
2.1	AE-N-A	Alarm and Event-Notification-A
2.4	AE-ACK-A	Alarm and Event-ACK-A
2.14	AE-VN-A	Alarm and Event-View Notifications-A
2.15	AE-AVN-A	Alarm and Event-Advanced View Notifications-A
2.16	AE-VM-A	Alarm and Event-View and Modify-A
2.17	AE-AVM-A	Alarm and Event-Advanced View and Modify-A
2.18	AE-AS-A	Alarm and Event-Alarm Summary View-A
2.19	AE-ELV-A	Alarm and Event-Event Log View-A
2.20	AE-ELVM-A	Alarm and Event-Event Log View and Modify-A
Scheduling BIBBs (Zeitplan-und Zeitprogrammaustausch)		
3.5	SCHED-AVM-A	Scheduling-Advanced View and Modify-A
3.6	SCHED-VM-A	Scheduling-View and Modify-A

Trending BIBBs (Trendaufzeichnung)		
4.4	T-ATR-A	Trending-Automated Trend Retrieval-A
4.9	T-AMVR-A	Trending-Automated Multiple Value Retrieval-A
4.11	T-V-A	Trending-View-A
4.12	T-AVM-A	Trending-Advanced View and Modify-A
4.13	T-A-A	Trending-Archival-A
Device and Network Management BIBBs (Geräte-und Netzwerk-Management)		
5.1	DM-DDB-A	Device Management-Dynamic-Device-Binding-A
5.2	DM-DDB-B	Device Management-Dynamic-Device-Binding-B
5.4	DM-DOB-B	Device Management-Dynamic-Object-Binding-B
5.5	DM-DCC-A	Device Management-DeviceCommunicationControl-A
5.11	DM-TS-A	Device Management-TimeSynchronization-A
5.13	DM-UTC-A	Device-Management-UTCTimeSynchronization-A
5.15	DM-RD-A	Device Management-Reinitialize Device-A
5.17	DM-BR-A	Device Management-Backup and Restore-A
5.19	DM-R-A	Device Management-Restart-A
5.21	DM-LM-A	Device Management-List Manipulation-A
5.22	DM-LM-B	Device Management-List Manipulation-B
5.23	DM-OCD-A	Device Management-Object Creation and Deletion-A
5.31	DM-ANM-A	Device Management-Automatic Network Mapping-A
5.32	DM-ADM-A	Device Management-Automatic Device Mapping-A
5.33	DM-ATS-A	Device Management-Automatic Time Synchronization-A
5.34	DM-MTS-A	Device Management-Manual Time Synchronization-A

4. Segmentation Capability (Unterstützt Segmentierung)**:**

☒ Segmented requests supported (Segmentierte Anfragen werden unterstützt) Window Size: 32

☒ Segmented responses supported (Segmentierte Antworten werden unterstützt) Window Size: 32

5. Standard Object Types supported
(Unterstützte Standard-Objekttypen):

The iBMS BACnet Service supports the following server-side objects. The Device-ID can be configured.
(Der iBMS BACnet Service unterstützt serverseitig die folgenden Objekte. Die Device-ID kann konfiguriert werden).

Object-Type	Enum	Object-Type Supported	Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writeable Properties Where Not Required	Conditionally Writeable Properties Where Not Required	Proprietary Properties	Property Range Restrictions
Analog Input	0	Yes	No	No				---	---
Analog Output	1	Yes	No	No				---	---
Analog Value	2	Yes	No	No				---	---
Binary Input	3	Yes	No	No				---	---
Binary Output	4	Yes	No	No				---	---
Binary Value	5	Yes	No	No				---	---
Device	8	Yes	No	No				---	---
Multi-State Input	13	Yes	No	No				---	---
Multi-State Output	14	Yes	No	No				---	---
Multi-State Value	19	Yes	No	No				---	---

Client supported object types

The following standard object types are supported by addressing the object properties of other BACnet devices. Each Standard Object Type is supported with the following data.
(Nachfolgende Objekttypen werden unterstützt und ermöglichen den Zugriff auf Eigenschaften von anderen BACnet-Geräten. Jeder Standard- Objekttyp wird mit folgenden Daten unterstützt):

Object-Type	Enum	Object-Type Supported	Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writeable Properties Where Not Required	Conditionally Writeable Properties Where Not Required	Proprietary Properties	Property Range Restrictions
Accumulator	23	Yes	No	No	All	All		---	None
Analog Input	0	Yes	No	No	All	All		---	None
Analog Output	1	Yes	No	No	All	All		---	None
Analog Value	2	Yes	No	No	All	All		---	None

Averaging	18	Yes	No	No	All	All	---	None
Binary Input	3	Yes	No	No	All	All	---	None
Binary Output	4	Yes	No	No	All	All	---	None
Binary Value	5	Yes	No	No	All	All	---	None
BitString Value	39	Yes	No	No	All	All	---	None
Calendar	6	Yes	Yes	Yes	All	All	---	None
CharacterString Value	40	Yes	No	No	All	All	---	None
Command	7	Yes	No	No	All	All	---	None
Date Pattern Value	41	Yes	No	No	All	All	---	None
Date Value	42	Yes	No	No	All	All	---	None
Datetime Pattern Value	43	Yes	No	No	All	All	---	None
Datetime Value	44	Yes	No	No	All	All	---	None
Device	8	Yes	No	No	All	All	---	None
Event Enrollment	9	Yes	Yes	Yes	All	All	---	None
Event-Log	25	Yes	Yes	Yes	All	All	---	None
File	10	Yes	No	No	All	All	---	None
Global Group	26	Yes	No	No	All	All	---	None
Group	11	Yes	No	No	All	All	---	None
Integer Value	45	Yes	No	No	All	All	---	None
Large Analog Value	46	Yes	No	No	All	All	---	None
Life Safety Point	21	Yes	No	No	All	All	---	None
Life Safety Zone	22	Yes	No	No	All	All	---	None
Load-Control	28	Yes	No	No	All	All	---	None
Loop	12	Yes	Yes	Yes	All	All	---	None
Multi-State Input	13	Yes	No	No	All	All	---	None
Multi-State Output	14	Yes	No	No	All	All	---	None
Multi-State Value	19	Yes	No	No	All	All	---	None
Notification Class	15	Yes	Yes	Yes	All	All	---	None
Notification Forwarder	50	Yes	No	No	All	All	---	None
Octetstring Value	47	Yes	No	No	All	All	---	None
Positive Integer Value	48	Yes	No	No	All	All	---	None
Program	16	Yes	No	No	All	All	---	None

Pulse Converter	24	Yes	No	No	All	All	---	None
Schedule	17	Yes	Yes	Yes	All	All	---	None
Structured View	29	Yes	No	No	All	All	---	None
Time Pattern Value	49	Yes	No	No	All	All	---	None
Time Value	50	Yes	No	No	All	All	---	None
Trend Log	20	Yes	Yes	Yes	All	All	---	None
Trend Log Multiple	27	Yes	Yes	Yes	All	All	---	None
Access-Door	30	Yes	No	No	All	All	---	None
Access-Credential	32	Yes	No	No	All	All	---	None
Access-Point	33	Yes	No	No	All	All	---	None
Access-Rights	34	Yes	No	No	All	All	---	None
Access-User	35	Yes	No	No	All	All	---	None
Access-Zone	36	Yes	No	No	All	All	---	None
Credential-Data-Input	37	Yes	No	No	All	All	---	None

Proprietary object types and proprietary properties are supported and may be addressed by the BACnet enumeration codes (Clause 23).

6. Data Link Layer Options (Netzwerkoptionen)**:**

☒ 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, 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):
☐ LonTalk, (Clause 11), medium:
☐ BACnet/ZigBee (ANNEX O)
☐ Other:

7. Device Address Binding (Einbindung der Geräteadresse)**:**

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)
(Wird statische Geräteeinbindung unterstützt? Dies ist derzeit notwendig für bidirektionale Verbindungen mit MS/TP Slaves und bestimmten anderen Geräten.)
☒ Yes ☐ No

8. Networking Options (Routeroptionen)**:**

☐ Router, Clause 6 - List all routing configurations, e.g. ARCNET-Ethernet, Ethernet-MS/TP
☐ BACnet Tunneling Router over IP (Annex H)
☒ BACnet/IP Broadcast Management Device (BBMD)
Does the BBMD support registrations by Foreign Devices? ☒ Yes ☐ No
(Unterstützt das BBMD-Gerät die Registrierung durch externe Geräte?)
BDT size: max. 32 FDT size: max. 32

Does the BBMD support network address translation? ☒ Yes ☐ No
(Unterstützt das BBMD-Gerät Network Address Translation?)

9. Network Security Options: (Netzwerk Sicherheits-Optionen)

☒ 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)

10. Character Sets Supported (Unterstützte Zeichensätze)**:**

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.
(Der Verweis auf mehrere Zeichensätze bedeutet nicht deren gleichzeitige Nutzung.)

☒ ANSI X3.4	☒ IBM™/Microsoft™ DBCS	☒ ISO 8859-1
☒ISO 10646 (UCS-2)	☒ ISO 10646 (UCS-4)	☒ ISO 10646 (UTF-8)
☒ JIS X 0208		

11. If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:
(Falls das Produkt ein Gateway ist, werden die unterstützten, nicht BACnet-spezifischen Netzwerk und Geräte-eigenschaften nachfolgend beschrieben):

In conjunction with other iBMS-drivers (e.g. M-Bus, Modbus, OPC DA, KNX, LonWorks, K+P P90, SAIA S-Bus, Elesta RCO, Elesta REN, Siemens PRV BPS, Siemens S7, TwinCAT ADS, …) several foreign networks and devices can be integrated. Event driven data-exchange between BACnet and foreign devices by scripting function is supported.

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