

**BACnet Protocol Implementation Conformance Statement
(BACnet Testing Laboratories Version)**

Date: September 3, 2008
Vendor Name: I-Controls, Inc.
Product Name: iVV702 VAV Controller
Product Model Number: iVV702
Applications Software Version: 1.0 Firmware Revision: 1.0
BACnet Protocol Revision: 3

Product Description:

iVV 702 is a VAV controller for building air conditioning.
iVV 702 carries out functions to calculate the ongoing volume flow with build-in differential pressure sensor, and to control the duct in order to meet the optimal air volume.

List all BACnet Interoperability Building Blocks supported (see Annex K in BACnet 2004):

Data Sharing – Read Property-B DS-RP-B
Data Sharing – Read Property Multiple – B DS-RPM-B
Data Sharing – Write Property – B DS-WP-B
Data Sharing – Write Property Multiple-B DS-WPM-B
Device Management – Dynamic Device Binding – B
Device Management – Device Object Binding – B
Device Management – Device Communication Control – B
Device Management – Dynamic Time Synchronization - B

Which of the following device binding methods does the product support? (check one or more)

- Send Who-Is, receive I-Am (BIBB DM-DDB-A)
- Receive Who-Is, send I-Am (BIBB DM-DDB-B)
- Send Who-Has, receive I-Have (BIBB DM-DOB-A)
- Receive Who-Has, send I-Have (BIBB DM-DOB-B)
- Manual configuration of recipient device's network number and MAC address
- None of the above

Standard Object Types Supported:

On a separate page, please list each standard Object Type supported (i.e. an object of this type may be present in the product). For each standard Object Type supported provide the following data:

- 1) Whether objects of this type are dynamically creatable using BACnet's CreateObject service
- 2) Whether objects of this type are dynamically deletable using BACnet's DeleteObject service
- 3) List of the optional properties supported
- 4) List of all properties that are writable where not otherwise required by this standard
- 5) List of proprietary properties and for each its property identifier, datatype, and meaning
- 6) List of any property value range restrictions

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Data Link Layer Options (check all that are supported):

- BACnet IP, (Annex J)
 - Able to register as a 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, 76800
- 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: _____

Networking Options (check all that are supported):

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.:

- Annex H.3, BACnet Tunneling Router over UDP/IP
- BACnet/IP Broadcast Management Device (BBMD)
 - Does the BBMD support registrations by Foreign Devices? Yes No
- MS/TP Slave Proxy

Segmentation Capability (check all that apply): N/A

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

Character Sets Supported (check all that apply):

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 (ICS-4) JIS C 6226

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

Include any addition information about the product's BACnet capabilities relevant to interoperability:

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(Analog Input, 1) Air flow in duct

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device_type		V				31	Character String
Status-Flags						111	BACnetStatusFlag
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL

(Analog Input, 2) Zone temperature

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device-type		V				31	Character String
Status-Flags						111	BACnetStatusFlag
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Update-Interval		V		V		118	Unsigned
units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL
Time-Delay		V				113	Unsigned
Notification-Class		V				17	Unsigned
High-Limit		V				45	REAL
Low-Limit		V				59	REAL
Deadband		V				25	REAL
Limit-Enable		V				52	BACnetLimitEnable
Event-Enable		V				35	BACnetEventTransitionBits
Acked-Transitions		V				0	BACnetEventTransitionBits
Notify-Type		V				72	BACnetNotifyType
Event-Time-Stamps		V				130	SEQUENCE OF BACnetTimeStamp

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(Analog Input, 3) Duct temperature

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device_type		V				31	Character String
Status-Flags						111	BACnetStatusFlag
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Update-Interval		V				118	Unsigned
units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL

(Analog Input, 4) Auxiliary analog input

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device_type		V				31	Character String
Status-Flags						111	BACnetStatusFlag
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Update-Interval		V				118	Unsigned
Units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL

(Binary Input, 1) Zone activity

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType

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Present-value	V			V		85	BACnetBinaryPV
description		V		V	50Chars	28	Character String
Device-type		V				31	Character String
Status-flags						111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Polarity	V			V		84	BACnetPolarity
Inactive-Text		V				46	Character String
Active-Text		V				4	Character String

(Binary Input, 2) Auxiliary binary input 2

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	BACnetBinaryPV
description		V		V	50Chars	28	Character String
Device-type						31	Character String
Status-flags	V					111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Polarity	V			V		84	BACnetPolarity
Inactive-Text		V				46	Character String
Active-Text		V				4	Character String

(Binary Input, 3) Auxiliary binary input 3

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	BACnetBinaryPV
description		V		V	50Chars	28	Character String
Device-type						31	Character String
Status-flags	V					111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Polarity	V			V		84	BACnetPolarity
Inactive-Text		V				46	Character String
Active-Text		V				4	Character String

BTL Product Testing Application Form

(Binary Input, 4) Auxiliary binary input 4

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	BACnetBinaryPV
description		V		V	50Chars	28	Character String
Device-type						31	Character String
Status-flags						111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Polarity	V			V		84	BACnetPolarity
Inactive-Text		V				46	Character String
Active-Text		V				4	Character String

(Analog Output, 1) Analog Damper position

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device-type		V				31	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL
Priority-array	V					87	BACnetPriorityArray
Relinquish-default	V			V		104	REAL

(Analog Output, 2) Reheat valve position

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String

BTL Product Testing Application Form

Device-type		V				31	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits
min-pres-value		V		V		69	REAL
Max-pres_value		V		V		65	REAL
Resolution		V				106	REAL
Priority-array	V					87	BACnetPriorityArray
Relinquish-default	V			V		104	REAL

(Binary Output, 1) Series FAN status

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device-type		V				31	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Polarity	V			V		84	BACnetPolarity
Inactive-Text		V		V		46	Character String
Active-Text		V		V		4	Character String
Priority-array	V					87	BACnetPriorityArray
Relinquish-default	V			V		104	REAL

(Multi-state Output, 1) 3-state damper actuator status

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device-type		V				31	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Number-Of-States	V					74	Unsigned
State-Text		V				110	SEQUENCE of CharacterString
Priority-array	V					87	BACnetPriorityArray
Relinquish-default	V			V		104	REAL

(Multi-state Output, 2) 3-state reheat coil status

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V		28	Character String
Device-type		V				31	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Number-Of-States	V					74	Unsigned
State-Text		V				110	SEQUENCE of CharacterString
Priority-array	V					87	BACnetPriorityArray
Relinquish-default	V			V		104	REAL

(Analog Value, 1) Temperature setpoint

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
units	V			V		117	BACnetEngineeringUnits

(Analog Value, 2) Duct area

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags

BTL Product Testing Application Form

Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
units	V			V		117	BACnetEngineeringUnits

(Analog Value, 3) Minimum air flow

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
units	V			V		117	BACnetEngineeringUnits

(Analog Value, 4) Maximum air flow

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits

(Analog Value, 5) Series fan operation offset

Dynamic Creatable : No
Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState

BTL Product Testing Application Form

Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits

(Analog Value, 6) Reheat coil (step1) operation offset

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits

(Analog Value, 7) Reheat coil (step2) operation offset

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits

(Analog Value, 8) Reheat coil (step3) operation offset

Dynamic Creatable : No

Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	REAL
description		V		V	50Chars	28	Character String
Status-Flags	V					111	BACnetStatusFlags
Event-State	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Units	V			V		117	BACnetEngineeringUnits

(Multi State Value, 1) Control algorithm

Dynamic Creatable : No
 Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	BACnetBinaryPV
Description		V		V	50Chars	28	Character String
Status-flags	V					111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Number-of-states	V					74	Unsigned
State-Text		V				110	SEQUENCE of CharacterString

(Multi State Value, 2) AI 4 Type

Dynamic Creatable : No
 Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V		77	CharacterString
Object-type	V					79	BACnetObjectType
Present-value	V			V		85	BACnetBinaryPV
Description		V		V	50Chars	28	Character String
Status-flags	V					111	BACnetStatusFlags
Event-state	V					36	BACnetEventState
Out-of-service	V			V		81	Boolean
Number-of-states	V					74	Unsigned
State-Text		V				110	SEQUENCE of CharacterString

Device

Dynamic Creatable : No
 Dynamic Deletable : No

Property Name	Required	Optional	Proprietary	Writable	Range	Property ID	Data Type
Object-identifier	V					75	BACnetObjectIdentifier
Object-name	V			V	50Chars	77	CharacterString
Object-type	V					79	BACnetObjectType
Description		V		V	50Chars	28	CharacterString
System-status	V					112	BACnetDeviceStatus
Vendor-name	V					121	CharacterString

BTL Product Testing Application Form

Vendor-identifier	V					120	Unsigned16
Model-name	V					70	CharacterString
Firmware-revision	V					44	CharacterString
Application-software-version						12	CharacterString
Location							
Protocol-version	V					98	Unsigned
Protocol-revision	V					139	Unsigned
Protocol-services-supported	V					97	BACnetServicesSupported
Protocol-object-types-supported	V					96	BACnetObjectTypesSupported
Object-List	V					76	SEQUENCE OF BACnetObjectIdentifier
Max-apdu-length-accepted	V			V		62	Unsigned
Segmentation-supported	V					107	BACnetSegmentation
Local-time		V				57	Time
Local-date		V				56	Date
Apdu-segment-timeout		V		V	1000-65535	10	Unsigned
Apdu-timeout	V					11	Unsigned
Number-of-apdu-retries	V					73	unsigned
Max-master		V		V	1-127	64	Unsigned
Max-info-frames		V		V		63	Unsigned
Device-address-binding	V					30	SEQUENCE OF BACnetaddressBinding
Database-revision	V					155	Unsigned