

# Distech Controls Application Specific Controllers PICS

## BACnet Protocol Implementation Conformance Statement

<b>Date</b>	January 13, 2014	
<b>Vendor Name</b>	Distech Controls Inc.	
<b>Product Name</b>	ECB-VAV Series, ECB-103, ECB-203 Series	ECB-PTU Series
<b>Product Model Number</b>	ECB-VAVS-O, ECB-VAVS, ECB-VAV, ECB-VVTS, ECB-VAV-N, ECB-103, ECB-203, ECB-253	ECB-PTU-107, ECB-PTU-207, ECB-PTU-208, ECB-PTU-307, & ECB-PTU-308
<b>Application</b>	B:2.2.12041.1	B:2.2.12041.1
<b>Software Version</b>	A:2.8.13337.1	A:2.0.13337.1
<b>Firmware Revision</b>	1.2.13337.1	1.2.13337.1
<b>BACnet Protocol Revision</b>	Version 1, Revision 9	Version 1, Revision 9

### Product Description:

The ECB-VAVS Series, ECB-103, ECB-203 Series, and ECB-PTU Series are BACnet terminal application programmable controllers that communicate using MS/TP network and are designed to control equipment such as variable air volume box, fan coil units, roof top units, heat pump unit, chilled ceiling, unit ventilator, etc.

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

- BACnet Advanced 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)

### Additional BACnet Interoperability Building Blocks Supported (Annex K):

#### Required for B-ASC Profile:

<u>Application Service</u>	<u>BIBBS</u>
Data Sharing - Read Property - Execute	DS-RP-B
Data Sharing - Write Property - Execute	DC-WP-B
Device Management - Dynamic Device Binding - Execute	DM-DDB-B
Device Management - Dynamic Object Binding - Execute	DM-DOB-B
Device Management - Device Communication Control - Execute	DM-DCC-B

#### Not Required for B-ASC Profile:

<u>Application Service</u>	<u>BIBBS</u>
Data Sharing - Read Property - Initiate	DS-RP-A
Data Sharing - Read Property Multiple - Initiate	DS-RPM-A
Data Sharing - Read Property Multiple - Execute	DS-RPM-B
Data Sharing - Write Property - Initiate	DC-WP-A
Data Sharing - Write Property Multiple - Initiate	DS-WPM-A
Data Sharing - Write Property Multiple - Execute	DS-WPM-B
Data Sharing - COV - Initiate	DS-COV-A
Data Sharing - COV - Execute	DS-COV-B
Data Sharing - COV Unsolicited - Initiate	DS-COVU-A
Data Sharing - COV Unsolicited - Execute	DS-COVU-B
Device Management - Dynamic Device Binding - Initiate	DM-DDB-A
Device Management - Reinitialize Device - Execute	DM-RD-B
Device Management - Time Synchronization - Execute	DM-TS-B
Device Management - UTC Time Synchronization - Execute	DM-UTC-B
Scheduling - Internal- Execute	SCHED-I-B

File Access – Atomic Read File	N/A
File Access – Atomic Write File	N/A
Remote Device Management – Confirmed Private Transfer	N/A
Remote Device Management – Unconfirmed Private Transfer	N/A

### Standard Object Types Supported

The following is a list of the standard object types as define by the standard. The objects checked are currently supported by this product. See the section in this document for the supported object type for details.

- Accumulator
- Analog Input
- Analog Output
- Analog Value
- Averaging
- Binary Input
- Binary Output
- Binary Value
- Calendar
- Command
- Device
- Event Enrollment
- File
- Group
- Life Safety Point
- Life Safety Zone
- Loop
- Multistate Input
- Multistate Output
- Multistate Value
- Notification Class
- Program
- Pulse Converter
- Schedule
- Trend Log

### BACnet Analog Input (AI) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Units	<input checked="" type="checkbox"/>			R	117	
COV_Increment		<input checked="" type="checkbox"/>		RW	22	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Analog Output (AO) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			RW	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Units	<input checked="" type="checkbox"/>			R	117	
Min_Present_Value		<input checked="" type="checkbox"/>		R	69	
Max_Present_Value		<input checked="" type="checkbox"/>		R	65	
Priority_Array	<input checked="" type="checkbox"/>			R	87	
Relinquish_Default	<input checked="" type="checkbox"/>			RW	104	
COV_Increment		<input checked="" type="checkbox"/>		RW	22	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Analog Value (AV) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			RW	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Units	<input checked="" type="checkbox"/>			R	117	
Priority_Array		<input checked="" type="checkbox"/>		R	87	
Relinquish_Default		<input checked="" type="checkbox"/>		RW	104	
COV_Increment		<input checked="" type="checkbox"/>		RW	22	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Binary Input (BI) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Polarity	<input checked="" type="checkbox"/>			R	84	
Inactive_Text		<input checked="" type="checkbox"/>			46	
Active_Text		<input checked="" type="checkbox"/>			4	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Binary Output (BO) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			RW	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Polarity	<input checked="" type="checkbox"/>			R	84	
Inactive_Text		<input checked="" type="checkbox"/>			46	
Active_Text		<input checked="" type="checkbox"/>			4	
Priority_Array	<input checked="" type="checkbox"/>			R	87	
Relinquish_Default	<input checked="" type="checkbox"/>			RW	104	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Binary Value (BV) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			RW	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Inactive_Text		<input checked="" type="checkbox"/>			46	
Active_Text		<input checked="" type="checkbox"/>			4	
Priority_Array		<input checked="" type="checkbox"/>		R	87	
Relinquish_Default		<input checked="" type="checkbox"/>		RW	104	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Calendar Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	85	
Date_List	<input checked="" type="checkbox"/>			RW	23	
Time_To_Next_State			<input checked="" type="checkbox"/>	R	1001	
Next_State			<input checked="" type="checkbox"/>	R	1002	

## Device Object

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			RW	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
System_Status	<input checked="" type="checkbox"/>			R	112	
Vendor_Name	<input checked="" type="checkbox"/>			R	121	
Vendor_Identifier	<input checked="" type="checkbox"/>			R	120	
Model_Name	<input checked="" type="checkbox"/>			R	70	
Firmware_Revision	<input checked="" type="checkbox"/>			R	44	
Application_Software_Version	<input checked="" type="checkbox"/>			R	12	
Location		<input checked="" type="checkbox"/>		RW	58	
Protocol_Version	<input checked="" type="checkbox"/>			R	98	
Protocol_Revision	<input checked="" type="checkbox"/>			R	139	
Protocol_Services_Supported	<input checked="" type="checkbox"/>			R	97	
Protocol_Object_Types_Supported	<input checked="" type="checkbox"/>			R	96	
Object_List	<input checked="" type="checkbox"/>			R	76	
Max_APDU_Length_Accepted	<input checked="" type="checkbox"/>			R	62	
Segmentation_Supported	<input checked="" type="checkbox"/>			R	107	
Local_Date		<input checked="" type="checkbox"/>		R	56	
Local_Time		<input checked="" type="checkbox"/>		R	57	
UTC_Offset		<input checked="" type="checkbox"/>		RW	119	
Daylight_Savings_Status		<input checked="" type="checkbox"/>		R	24	
APDU_Timeout	<input checked="" type="checkbox"/>			RW	10	
Number_Of_APDU_Retries	<input checked="" type="checkbox"/>			RW	73	
Max_Master		<input checked="" type="checkbox"/>		RW	64	
Max_Info_Frames		<input checked="" type="checkbox"/>		RW	63	
Device_Address_Binding	<input checked="" type="checkbox"/>			R	30	
Database_Revision	<input checked="" type="checkbox"/>			R	155	
Active_COV_Subscriptions		<input checked="" type="checkbox"/>		R	152	

### BACnet File Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
File_Type	<input checked="" type="checkbox"/>			R	43	
File_Size	<input checked="" type="checkbox"/>			R	42	
Modification_Date	<input checked="" type="checkbox"/>			R	71	
Archive	<input checked="" type="checkbox"/>			RW	13	
Read_Only	<input checked="" type="checkbox"/>			R	99	
File_Access_Method	<input checked="" type="checkbox"/>			R	41	

### BACnet Loop Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Output_Units	<input checked="" type="checkbox"/>			R	82	
Manipulated_Variable_Reference	<input checked="" type="checkbox"/>			R	60	
Controlled_Variable_Reference	<input checked="" type="checkbox"/>			R	19	
Controlled_Variable_Value	<input checked="" type="checkbox"/>			R	21	
Controlled_Variable_Units	<input checked="" type="checkbox"/>			R	20	
Setpoint_Reference	<input checked="" type="checkbox"/>			R	109	
Setpoint	<input checked="" type="checkbox"/>			R	108	
Action	<input checked="" type="checkbox"/>			RW	2	
Proportional_Constant		<input checked="" type="checkbox"/>		RW	93	
Proportional_Constant_Units		<input checked="" type="checkbox"/>		R	94	
Integral_Constant		<input checked="" type="checkbox"/>		RW	49	
Integral_Constant_Units		<input checked="" type="checkbox"/>		R	50	

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Derivative_Constant		<input checked="" type="checkbox"/>		RW	26	
Derivative_Constant_Units		<input checked="" type="checkbox"/>		R	27	
Bias		<input checked="" type="checkbox"/>		RW	14	
Priority_For_Writing	<input checked="" type="checkbox"/>			R	88	
LoopDeadband			<input checked="" type="checkbox"/>	RW	1011	
Saturation_Time			<input checked="" type="checkbox"/>	RW	1003	
COV_Increment		<input checked="" type="checkbox"/>		RW	22	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	
Ramp_Time			<input checked="" type="checkbox"/>	RW	1005	
Saturation_Time_Low_Limit_Enable			<input checked="" type="checkbox"/>	RW	1006	
Saturation_Time_High_Limit_Enable			<input checked="" type="checkbox"/>	RW	1007	

#### BACnet Multi-state Input (MSI) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Number_of_States	<input checked="" type="checkbox"/>			R	74	
State_Text		<input checked="" type="checkbox"/>		R	110	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	



### BACnet Multi-state Value (MSV) Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			RW	85	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Event_State	<input checked="" type="checkbox"/>			R	36	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Number_of_States	<input checked="" type="checkbox"/>			R	74	
State_Text		<input checked="" type="checkbox"/>		R	110	
Priority_Array		<input checked="" type="checkbox"/>		R	87	
Relinquish_Default		<input checked="" type="checkbox"/>		RW	104	
COV_Period			<input checked="" type="checkbox"/>	RW	1004	
COV_Min_Send_Time			<input checked="" type="checkbox"/>	RW	1000	

### BACnet Program Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Program_State	<input checked="" type="checkbox"/>			R	92	
Program_Change	<input checked="" type="checkbox"/>			RW	90	
Description_Of_Halt		<input checked="" type="checkbox"/>		R	29	
Reason_For_Halt		<input checked="" type="checkbox"/>		R	100	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			R	81	

## BACnet Schedule Object Type

- Dynamically Creatable
- Dynamically Deletable

Property Name	Mandatory	Optional	Proprietary	RW	ID	Range
Object_Identifier	<input checked="" type="checkbox"/>			R	75	
Object_Name	<input checked="" type="checkbox"/>			RW	77	
Object_Type	<input checked="" type="checkbox"/>			R	79	
Present_Value	<input checked="" type="checkbox"/>			R	92	
Effective_Period	<input checked="" type="checkbox"/>			RW	32	
Weekly_Schedule		<input checked="" type="checkbox"/>		RW	123	
Exception_Schedule		<input checked="" type="checkbox"/>		RW	38	
Schedule_Default	<input checked="" type="checkbox"/>			RW	174	
List_Of_Object_Property_References	<input checked="" type="checkbox"/>			R	54	
Priority_For_Writing	<input checked="" type="checkbox"/>			W	88	
Status_Flags	<input checked="" type="checkbox"/>			R	111	
Reliability		<input checked="" type="checkbox"/>		R	103	
Out_Of_Service	<input checked="" type="checkbox"/>			RW	81	
Time_To_Next_State			<input checked="" type="checkbox"/>	R	1001	
Next_State			<input checked="" type="checkbox"/>	R	1002	

### Segmentation Capability:

- Segmented Request supported
  - Segmented Response supported
- Window size: N/A  
Window size: N/A

### 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, 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:

### 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

### Networking Options:

- Router, Clause 6 - Routing configurations: Ethernet-IP, Ethernet-MS/TP, IP-MS/TP
- Annex H, BACnet Tunneling Router over IP
- BACnet/IP Broadcast Management Device (BBMD)  
Does the BBMD support registrations by Foreign Devices?  
 Yes  No

**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

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

Not applicable