



BACnet Protocol Implementation Conformance Statement

Date: April 1, 2012
Vendor Name: Carel SpA
Product Name: BACnet pCOWeb
Product Model Number: PCO1000WB0
Application Software Version: 2.15.2
Firmware Revision: A1.4.9 - B1.2.4
BACnet Protocol Revision: 4

Product Description:

The pCOWeb provides BACnet 8802.3 Ethernet and BACnet/IP connectivity for Carel pCO and SuperNode series controllers.

BACnet Standardized Device Profile (Annex L):

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

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

DS-RP-B	DM-DCC-B
DS-RPM-B	DM-RD-B
DS-WP-B	DM-TS-B
DS-WPM-B	DM-UTC-B
DS-COV-B	AE-N-I-B,
DS-COVP-B	AE-ACK-B
DM-DDB-A	AE-INFO-B
DM-DDB-B	SCHED-I-B
DM-DOB-B	

Segmentation Capability:

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

Standard Object Types Supported:

Object Type	Create/ Delete	Optional Properties	Proprietary Properties	Writable Properties
Device	No	Active_COV_Subscriptions Daylight_Savings_Status Description Location Local_Date Local_Time Profile_Name UTC_Offset	(* See descriptions below) 1000 1003 1004 1005 1006 1007 1009 1010 1011 1012 1013 1015 1016 1017	APDU_Timeout Daylight_Savings_Status Description (max 64 chars) Location (max 64 chars) Number_Of_APDU_Retries Object_Identifier UTC_Offset (* For Proprietary Properties See descriptions below) Proprietary Property 1000 Proprietary Property 1003 Proprietary Property 1004 Proprietary Property 1005 Proprietary Property 1006 Proprietary Property 1007 Proprietary Property 1009 Proprietary Property 1010 Proprietary Property 1011 Proprietary Property 1012 Proprietary Property 1013 Proprietary Property 1015
Analog Value	No	Acked_Transitions COV_Increment Deadband Description Event_Enable Event_Time_Stamps High_Limit Limit_Enable Low_Limit Notify_Type Priority_Array ¹ Reliability Relinquish_Default ¹ Time_Delay ¹ These Properties are present only if Proprietary Property 1014=2	(** See descriptions below) 1014 3000 3001 ¹ 3002 ¹ 3003 ¹ 3004 ¹ 3005 ¹ 3006 ¹ 3007 ¹ 3008 ¹ ¹ These Properties are present only if Proprietary Property 3000=1	Object_Identifier ³ Deadband Description (max 64 chars) Event_Enable High_Limit Limit_Enable Low_Limit Notification_Class (0 to 16) ⁴ Object_Name (max 32 chars) Present_Value ² Units (** For Proprietary Properties See descriptions below) Proprietary Property 1014 Proprietary Property 3000 Proprietary Property 3001 Proprietary Property 3002 Proprietary Property 3003 Proprietary Property 3004 Proprietary Property 3005 Proprietary Property 3006 Proprietary Property 3007 Proprietary Property 3008

				² Writable only if Proprietary Property 1014=1 or 2 ³ The Analog Values 1001 through 1207 or 200001 through 202048 may be programmed as either Analog Value or Multi-State Value types by writing to the Object_Identifier property or ⁴ 0 indicates no alarming
Binary Value	No	Acked_Transitions Active_Text Alarm_Value Description Event_Enable Event_Time_Stamps Inactive_Text Notify_Type Priority_Array ¹ Reliability Relinquish_Default ¹ Time_Delay ¹ These Properties are present only if Proprietary Property 1014=2	(** See descriptions below) 1014 3000 3001 ¹ 3002 ¹ 3003 ¹ 3004 ¹ 3005 ¹ 3006 ¹ 3007 ¹ 3008 ¹ ¹ These Properties are present only if Proprietary Property 3000=1	Active_Text (max 32 chars) Alarm_Value Description (max 64 chars) Event_Enable Inactive_Text (max 32 chars) Notification_Class (0 to 16) ⁴ Object_Name (max 32 chars) Present_Value ² (** For Proprietary Properties See descriptions below) Proprietary Property 1014 Proprietary Property 3000 Proprietary Property 3001 Proprietary Property 3002 Proprietary Property 3003 Proprietary Property 3004 Proprietary Property 3005 Proprietary Property 3006 Proprietary Property 3007 Proprietary Property 3008 ² Writable only if Proprietary Property 1014=1 or 2 ⁴ 0 indicates no alarming
Multistate Value	No	Acked_Transitions Alarm_Values Description Event_Enable Event_Time_Stamps Fault_Values Notify_Type Priority_Array ¹ Reliability Relinquish_Default ¹ State_Text Time_Delay ¹ These Properties are present only	(** See descriptions below) 1014 3000 3001 ¹ 3002 ¹ 3003 ¹ 3004 ¹ 3005 ¹ 3006 ¹ 3007 ¹ 3008 ¹	Object_Identifier ³ Alarm_Values Description (max 64 chars) Event_Enable Fault_Values Notification_Class (0 to 16) ⁴ Number_of_States (1 to 32) Object_Name (max 32 chars) State_Text (max 32 chars per state) Present_Value ² (** For Proprietary Properties See descriptions below)

		if Proprietary Property 1014=2	¹ These Properties are present only if Proprietary Property 3000=1	Proprietary Property 1014 Proprietary Property 3000 Proprietary Property 3001 Proprietary Property 3002 Proprietary Property 3003 Proprietary Property 3004 Proprietary Property 3005 Proprietary Property 3006 Proprietary Property 3007 Proprietary Property 3008 ² Writable only if Proprietary Property 1014=1 or 2 ³ The Analog Values 1001 through 1207 or ???? may be programmed as either Analog Value or Multi-State Value types by writing to the Object_Identifier property ⁴ 0 indicates no alarming
Notification Class	No	Description	None	Ack_Required Priority Recipient_List (max 4 entries)
Calendar	No	Description	None	Object_Name (max 32 chars) Description (max 64 chars) Date_List (max 16)
Schedule	No	Description Exception_Schedule Weekly_Schedule	None	Object_Name (max 32 chars) Description (max 64 chars) Effective_Period Exception_Schedule (max 4 entries) List_Of_Object_Property_References (max 64 entries) Priority_For_Writing Schedule_Default ⁵ Weekly_Schedule ⁵ ⁵ max 6 time/value pairs

* Description of the Proprietary Properties of the Device Object

Proprietary Property	Datatype	Description	Writable	Value Range
1000	Boolean	Enable_Alarming	Yes	T=All Alarming Enabled
1003	Unsigned	LANType	Yes	0=8802-3 Ethernet 1=BACnet/IP
1004	Unsigned	BACnet/IP UDP	Yes	0xBAC0, etc.
1005	Character String	Password (for ReinitializeDevice and Device Communication Control)	Yes	Max 9 chars (always numeric characters 0-4294967295)
1006	Unsigned	WhoslamInterval (period in minutes to send Whols, lam)	Yes	0 to 55 0=do not send
1007	Unsigned	PCO_BAUD (the baud rate to the pCO controller)	Yes	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
1009	Unsigned	MAPPEDA (number of Carel Analog points mapped to BACnet)	Yes	0 to 207 if Carel Protocol 0 to 2048 if Modbus Extended Protocol
1010	Unsigned	MAPPEDI (number of Carel Integer points mapped to BACnet)	Yes	0 to 207 if Carel Protocol 0 to 2048 if Modbus Extended Protocol
1011	Unsigned	MAPPEDD (number of Carel Digital points mapped to BACnet)	Yes	0 to 207 if Carel Protocol 0 to 2048 if Modbus Extended Protocol
1012	Unsigned	BBMD_Address	Yes	In hexadecimal 0x00000000 indicates no BBMD 0x6401A8C0=192.168.1.100 for Example
1013	Unsigned	BBMD_TimeToLive	Yes	
1015	Unsigned	Controller Protocol (the protocol type between the pCOWeb and the pCO Controller)	Yes	1=Carel 30= Modbus Extended
1016	Character String	pCOProtocolName	No	Carel MODBUS Extended
1017	Unsigned	maxAIDvars	No	621 if Carel Protocol 6144 if MODBUS Protocol

** Description of the Proprietary Properties of the Analog Aalue, Binary Value and Multistate Value objects

Proprietary Property	Datatype	Description	Writable	Value Range
1014	Unsigned	ObjectRWC	Yes	0=Present_Value is Read-Only) 1=Present_Value is Writable but not Command-able 2=Present_Value is Command-able
3000	Boolean	AlarmCustom	Yes	True=Alarms are customized for this object False=Use the default Message Text format
3001	Character String	AalarmProperty	Yes	Object_Name or Description
3002	Character String	AlarmCOS	Yes	String (max 32 characters) to replace Event_Type ChangeofState text
3003	Character String	AlarmOOR	Yes	String (max 32 characters) to replace Event_Type OutofRange text
3004	Character String	AlarmNormal	Yes	String (max 32 characters) to replace to-state Normal text
3005	Character String	AlarmFault	Yes	String (max 32 characters) to replace to-state Fault text
3006	Character String	AlarmOffnormal	Yes	String max 32 characters) to replace to-state Offnormal text
3007	Character String	AlarmHilim	Yes	String (max 32 characters) to replace to-state High Limit text
3008	Character String	AlarmLowlim	Yes	String (max 32 characters) to replace to-state Low Limit text

Proprietary Object Types Supported:

No proprietary object types supported.

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):

- ☐ LonTalk, (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

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
 - 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: