

August 2012

Honeywell ComfortPoint™ Open Plant Controller Protocol Implementation Conformance Statement (PICS)

Topic: BACnet Protocol Implementation Conformance
Statement (PICS)
Date: 27th August 2012
Version: 1.0
Applicable Products: ComfortPoint™ Open Plant Controller (CPO-PC-6A)
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Honeywell ComfortPoint™ Open Plant Controller

Annex A - Protocol Implementation Conformance Statement

Date: 27th August 2012

Vendor Name: Honeywell International Inc.

Vendor ID: 17

Product Name: Honeywell ComfortPoint™ Open Plant Controller

Product Model Number: CPO-PC-6A

Applications Software Version: N/A

Firmware Revision: 2.1 (or higher)

BACnet Protocol Revision: 9 (135-2010)

Product Description and Intended Use:

CPO-PC-6A is an IP based Native BACnet® Network controller, which eliminates the need for additional router hardware and can support up to 90 MS/TP devices. Combined with the various I/O options available, it can meet the needs of complex Heating Ventilation Air Conditioning & Refrigeration (HVACR) applications.

CPO-PC-6A is designed to meet the requirements of a BACnet B-BC (BACnet Building Controller) profile, supporting Device Management, Scheduling, and Trend Object functionality.

Powerful and yet easily programmable, it can operate stand-alone or networked to perform complex control, monitoring, and energy management functions.

This is ideally suitable for Central Plant control and complex HVACR / AHU control function.

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)

BACnet Interoperability Building Blocks Supported (Annex K):

Data Sharing	Read Property-A	DS-RP-A
	Read Property-B	DS-RP-B
	Read Property Multiple-A	DS-RPM-A
	Read Property Multiple-B	DS-RPM-B
	Write Property-A	DS-WP-A
	Write Property-B	DS-WP-B
	Write Property Multiple-A	DS-WPM-A
	Write Property Multiple-B	DS-WPM-B
	Change Of Value-B	DS-COV-B
	Alarm & Event Management	Notification Internal-B
Acknowledgement-B		AE-ACK-B
Alarm Summary-B		AE-ASUM-B
Enrollment Summary-B		AE-ESUM-B
Event Information -B		AE-INFO-B
Scheduling	Scheduling Internal-B	SCHED-I-B
	Scheduling -External-B	SCHED-E-B
Trending	Viewing and Modifying Trends Internal-B	T-VMT-I-B
	Automated Trend Retrieval-B	T-ATR-B
Device & Network Management	Dynamic Device Binding	DM-DDB-A
	Dynamic Device Binding	DM-DDB-B
	Dynamic Object Binding-B	DM-DOB-B
	Device Communication Control	DM-DCC-B
	Time Synchronization	DM-TS-B
	UTC Time Synchronization	DM-UTC-B
	Reinitialize Device	DM-RD-B
	Back-up and Restore-B	DM-BR-B
	Restart-B	DM-R-B
	List Manipulation-B	DM-LM-B
Object Creation and Deletion-B	DM-OCD-B	
Router Configuration-B	NM-RC-B	

The following device binding methods are supported by the controller:

- 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

Segmentation Capability:

Able to transmit segmented messages yes no Window Size 1
 Able to receive segmented messages yes no Window Size 1

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):

- 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 - BACnet IP (Annex J) - MS/TP (3 MSTP Ports).
- 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

Character Sets Supported:

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

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

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)

Standard Object Types Supported:

	Object supported	Object dynamically creatable	Object dynamically deletable
ACCUMULATOR	Y	N	N
ANALOG_INPUT	Y	N	N
ANALOG_OUTPUT	Y	N	N
ANALOG_VALUE	Y	N	N
AVERAGING	N	N	N
BINARY_INPUT	Y	N	N
BINARY_OUTPUT	Y	N	N
BINARY_VALUE	Y	N	N
CALENDAR	Y	N	N
COMMAND	N	N	N
DEVICE	Y	N	N
EVENT_ENROLLMENT	N	N	N
FILE	Y	Y	Y
GROUP	N	N	N
LIFE_SAFETY_POINT	N	N	N
LIFE_SAFETY_ZONE	N	N	N
LOOP	N	N	N

	Object supported	Object dynamically creatable	Object dynamically deletable
MULTISTATE_INPUT	N	N	N
MULTISTATE_OUTPUT	N	N	N
MULTISTATE_VALUE	Y	N	N
NOTIFICATION_CLASS	Y	N	N
PROGRAM	N	N	N
PULSE_CONVERTER	N	N	N
SCHEDULE	Y	N	N
TRENDLOG	Y	Y	Y
ACCESS_DOOR	N	N	N
EVENT_LOG	N	N	N
LOAD_CONTROL	N	N	N
STRUCTURED_VIEW	Y	Y	Y
TREND_LOG_MULTIPLE	N	N	N

Standard Objects and Properties Supported:

Accumulator Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
scale	
units	
prescale	
max-pres-value	max-pres-value
value-change-time	
value-before-change	
value-set	value-set
pulse-rate	
high-limit	high-limit
low-limit	low-limit
limit-monitoring-interval	
notification-class	
time-delay	time-delay
limit-enable	limit-enable
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Analog Input Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
units	
cov-increment	cov-increment
time-delay	time-delay
notification-class	
high-limit	high-limit
low-limit	low-limit
deadband	deadband
limit-enable	limit-enable
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Analog Output Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
units	
priority-array	
relinquish-default	relinquish-default
cov-increment	cov-increment
time-delay	time-delay
notification-class	
high-limit	high-limit
low-limit	low-limit
deadband	deadband
limit-enable	limit-enable
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Analog Value Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
units	
priority-array	
relinquish-default	relinquish-default
cov-increment	cov-increment
time-delay	time-delay
notification-class	
high-limit	high-limit
low-limit	low-limit
deadband	deadband
limit-enable	limit-enable
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Binary Input Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
polarity	
inactive-text	
active-text	
elapsed-active-time	elapsed-active-time
time-of-active-time-reset	
time-delay	time-delay
notification-class	
alarm-value	alarm-value
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Binary Output Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
polarity	
inactive-text	
active-text	
elapsed-active-time	elapsed-active-time
time-of-active-time-reset	
priority-array	
relinquish-default	relinquish-default
time-delay	time-delay
notification-class	
feedback-value	feedback-value
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Binary Value Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
inactive-text	
active-text	
elapsed-active-time	elapsed-active-time
time-of-active-time-reset	
priority-array	
relinquish-default	relinquish-default
time-delay	time-delay
notification-class	
alarm-value	alarm-value
event-enable	event-enable

Readable Properties	Writable Properties
acked-transitions	
notify-type	notify-type
event-time-stamps	

Calendar Input Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
description	
present-value	
date-list	date-list

Device Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
system-status	
vendor-name	
vendor-identifier	
model-name	
firmware-revision	
application-software-version	
location	
description	
protocol-version	
protocol-revision	
protocol-services-supported	
protocol-object-types-supported	
object-list	
Structured_Object_List	
max-apdu-length-accepted	
segmentation-supported	
max-segments-accepted	
local-time	
local-date	
utc-offset	
daylight-savings-status	
apdu-segment-timeout	
apdu-timeout	apdu-timeout
number-of-apdu-retries	
max-master	
max-info-frames	
device-address-binding	
database-revision	
configuration-files	
last-restore-time	
backup-failure-timeout	backup-failure-timeout

Readable Properties	Writable Properties
active-cov-subscriptions	
restart-notification-recipients	
time-of-device-restart	
last-restart-reason	

File Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
description	
file-type	file-type
file-size	file-size
modification-date	
archive	archive
read-only	read-only
file-access-method	

Multi-State Value Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	present-value
description	
status-flags	
event-state	
reliability	
out-of-service	out-of-service
number-of-states	
state-text	
priority-array	
relinquish-default	relinquish-default
time-delay	time-delay
notification-class	
alarm-values	alarm-values
fault-values	fault-values
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Notification Class Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	

Readable Properties	Writable Properties
object-type	
description	
notification-class	
priority	priority
ack-required	ack-required
recipient-list	recipient-list

Schedule Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
present-value	
description	
effective-period	
weekly-schedule	weekly-schedule
exception-schedule	exception-schedule
schedule-default	schedule-default
list-of-object-property-references	list-of-object-property-references
priority-for-writing	
status-flags	
reliability	
out-of-service	out-of-service

Trend Log Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
description	
enable	enable
start-time	start-time
stop-time	stop-time
log-device-object-property	log-device-object-property
log-interval	log-interval
client-cov-increment	
stop-when-full	stop-when-full
buffer-size	
record-count	record-count
total-record-count	
notification-threshold	notification-threshold
records-since-notification	
last-notify-record	
event-state	
notification-class	notification-class
event-enable	event-enable
acked-transitions	
notify-type	notify-type
event-time-stamps	

Readable Properties	Writable Properties
status-flags	
logging-Type	
log-buffer	
reliability	

Structured View Object Properties

Readable Properties	Writable Properties
object-identifier	
object-name	
object-type	
description	
node-type	node-type
node-subtype	node-subtype
subordinate-list	
subordinate-annotations	