



## BACnet Protocol Implementation Conformance Statement (PICS)

Date: September 29, 2015  
Vendor Name: ELESTA building automation GmbH  
Vendor ID: 308  
Product Name: Controlesta RCO D  
Product Model Number: RCO 9XX D-X  
Applications Software Version: 2-4-4, Sep 10 2015, 09:38:54  
Firmware Revision: D9-2-4-4  
BACnet Protocol Revision: 12

Product Description: Freely programmable DDC-Controller

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

BACnet Building Controller (B-BC)

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

#### Data Sharing BIBB's:

- DS-RP-A
- DS-RP-B
- DS-RPM-A
- DS-RPM-B
- DS-WPM-B
- DS-WP-A
- DS-WP-B
- DS-COV-A
- DS-COV-B
- DS-COVU-A
- DS-COVU-B

#### Scheduling BIBB's:

- SCHED-I-B
- SCHED-E-B
- SCHED-R-B
- SCHED-WS-I-B

#### Alarm and Event Management BIBB's:

- AE-N-I-B
- AE-N-E-B
- AE-ACK-A
- AE-ACK-B
- AE-ASUM-B
- AE-ESUM-B
- AE-INFO-B

#### Trending BIBB's:

- T-VMT-I-B
- T-ATR-B



**Device Management BIBB´s:**

- DM-DDB-A
- DM-DDB-B
- DM-DOB-A
- DM-DOB-B
- DM-DCC-B
- DM-TS-B
- DM-UTC-A
- DM-UTC-B
- DM-RD-B
- DM-BR-B
- DM-LM-B

**Network Management BIBB´s:**

- NM-CE-A
- NM-CE-B

**Standard Object Types Supported:**

- Analog Input
- Analog Output
- Analog Value
- Binary Input
- Binary Output
- Binary Value
- Calendar
- Device
- Event Enrollment
- File
- Multi-state Input
- Multi-state Output
- Multi-state Value
- Notification Class
- Schedule
- Trend Log
- Accumulator



## Standard Object Types Supported:

- 1) Whether objects of this type are dynamically creatable using the CreateObject service - NOT SUPPORTED
- 2) Whether objects of this type are dynamically deletable using the DeleteObject service - NOT SUPPORTED
- 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 all properties that are conditionally writable where not otherwise required by this standard

Object type	Optional properties supported	Writable properties
Analog-Input	DESCRIPTION, DEVICE_TYPE, MIN_PRES_VALUE, MAX_PRES_VALUE, RESOLUTION, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, UNITS, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE
Analog-Output	DESCRIPTION, DEVICE_TYPE, MIN_PRES_VALUE, MAX_PRES_VALUE, RESOLUTION, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, UNITS, RELINQUISH_DEFAULT, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE
Analog-Value	DESCRIPTION, RELIABILITY, PRIORITY_ARRAY, RELINQUISH_DEFAULT, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, OUT_OF_SERVICE, UNITS, RELINQUISH_DEFAULT, COV_INCREMENT, TIME_DELAY, NOTIFICATION_CLASS, HIGH_LIMIT, LOW_LIMIT, DEADBAND, LIMIT_ENABLE, EVENT_ENABLE
Binary-Input	DESCRIPTION, DEVICE_TYPE, INACTIVE_TEXT, ACTIVE_TEXT, CHANGE_OF_STATE_TIME, CHANGE_OF_STATE_COUNT, TIME_OF_STATE_COUNT_RESET, ELAPSED_ACTIVE_TIME, TIME_OF_ACTIVE_TIME_RESET, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, CHANGE_OF_STATE_COUNT, ELAPSED_ACTIVE_TIME, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUE, EVENT_ENABLE



Binary-Output	DESCRIPTION, DEVICE_TYPE, INACTIVE_TEXT, ACTIVE_TEXT, CHANGE_OF_STATE_TIME, CHANGE_OF_STATE_COUNT, TIME_OF_STATE_COUNT_RESET, ELAPSED_ACTIVE_TIME, TIME_OF_ACTIVE_TIME_RESET, TIME_DELAY, NOTIFICATION_CLASS, FEEDBACK_VALUE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, RELINQUISH_DEFAULT, CHANGE_OF_STATE_COUNT, ELAPSED_ACTIVE_TIME, TIME_DELAY, NOTIFICATION_CLASS, EVENT_ENABLE, NOTIFY_TYPE
Binary-Value	DESCRIPTION, RELIABILITY, INACTIVE_TEXT, ACTIVE_TEXT, CHANGE_OF_STATE_TIME, CHANGE_OF_STATE_COUNT, TIME_OF_STATE_COUNT_RESET, ELAPSED_ACTIVE_TIME, TIME_OF_ACTIVE_TIME_RESET, PRIORITY_ARRAY, RELINQUISH_DEFAULT, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, OUT_OF_SERVICE, CHANGE_OF_STATE_COUNT, ELAPSED_ACTIVE_TIME, RELINQUISH_DEFAULT, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUE, EVENT_ENABLE
Calendar	DESCRIPTION	OBJECT_NAME, DESCRIPTION, DATE_LIST
Device	LOCATION, DESCRIPTION, MAX_SEGMENTS_ACCEPTED, LOCAL_TIME, LOCAL_DATE, UTC_OFFSET, DAYLIGHT_SAVINGS_STATUS, APDU_SEGMENT_TIMEOUT, MAX_MASTER, MAX_INFO_FRAMES, CONFIGURATION_FILES, LAST_RESTORE_TIME, BACKUP_FAILURE_TIMEOUT, BACKUP_PREPARATION_TIME, RESTORE_PREPARATION_TIME, RESTORE_COMPLETION_TIME, BACKUP_AND_RESTORE_STATE, ACTIVE_COV_SUBSCRIPTIONS, UTC_TIME_SYNCHRONIZATION_RECIPIENTS, TIME_SYNCHRONIZATION_INTERVAL, ALIGN_INTERVALS, INTERVAL_OFFSET	APDU_TIMEOUT, NUMBER_OF_APDU_RETRIES, LOCAL_TIME, LOCAL_DATE, UTC_OFFSET, APDU_SEGMENT_TIMEOUT, MAX_MASTER, MAX_INFO_FRAMES, BACKUP_FAILURE_TIMEOUT, ACTIVE_COV_SUBSCRIPTIONS, UTC_TIME_SYNCHRONIZATION_RECIPIENTS, TIME_SYNCHRONIZATION_INTERVAL, ALIGN_INTERVALS, INTERVAL_OFFSET
Event-Enrollment	DESCRIPTION, EVENT_MESSAGE_TEXTS	DESCRIPTION, EVENT_PARAMETERS
File	DESCRIPTION, RECORD_COUNT	FILE_SIZE , ARCHIVE, RECORD_COUNT



Multi-State Input	DESCRIPTION, DEVICE_TYPE, STATE_TEXT, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUES, FAULT_VALUES, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUES, EVENT_ENABLE, NOTIFY_TYPE
Multi-State Output	DESCRIPTION, DEVICE_TYPE, STATE_TEXT, TIME_DELAY, NOTIFICATION_CLASS, FEEDBACK_VALUE, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, OUT_OF_SERVICE, RELINQUISH_DEFAULT, TIME_DELAY, NOTIFICATION_CLASS, EVENT_ENABLE, NOTIFY_TYPE
Multi-State-Value	DESCRIPTION, RELIABILITY, STATE_TEXT, PRIORITY_ARRAY, RELINQUISH_DEFAULT, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUES, FAULT_VALUES, EVENT_ENABLE, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	PRESENT_VALUE, DESCRIPTION, OUT_OF_SERVICE, RELINQUISH_DEFAULT, TIME_DELAY, NOTIFICATION_CLASS, ALARM_VALUES, EVENT_ENABLE
Notification-Class	DESCRIPTION	DESCRIPTION, RECIPIENT_LIST
Schedule	WEEKLY_SCHEDULE, EXCEPTION_SCHEDULE, DESCRIPTION	OBJECT_NAME, PRESENT_VALUE, DESCRIPTION, EFFECTIVE_PERIOD, LIST_OF_OBJECT_PROPERTY_REFERENCES, PRIORITY_FOR_WRITING, OUT_OF_SERVICE WEEKLY_SCHEDULE, EXCEPTION_SCHEDULE
Trend-Log	DESCRIPTION, START_TIME, STOP_TIME, LOG_DEVICE_OBJECT, LOG_INTERVAL, COV_RESUBSCRIPTION_INTERVAL, CLIENT_COV_INCREMENT, NOTIFICATION_THRESHOLD, RECORDS_SINCE_NOTIFICATION, LAST_NOTIFY_RECORD, EVENT_ENABLE, NOTIFICATION_CLASS, ACKED_TRANSITIONS, NOTIFY_TYPE, EVENT_TIME_STAMPS, EVENT_MESSAGE_TEXTS	OBJECT_NAME, DESCRIPTION, ENABLE, STOP_WHEN_FULL, RECORD_COUNT, START_TIME, STOP_TIME, LOG_INTERVAL, COV_RESUBSCRIPTION_INTERVAL, CLIENT_COV_INCREMENT, NOTIFICATION_CLASS, NOTIFICATION_THRESHOLD, EVENT_ENABLE
Accumulator	DESCRIPTION, DEVICE_TYPE, PRESCALE	PRESENT_VALUE, DESCRIPTION, DEVICE_TYPE, UNITS



**6) List of proprietary properties and for each its property identifier, datatype, and meaning – NOT SUPPORTED**

**7) List of any property range restrictions:**

DEVICE – UTC\_OFFSET: minimum -780; maximum 780  
DEVICE – APDU\_SEGMENT\_TIMEOUT: minimum 1500; maximum 65535  
DEVICE – APDU\_TIMEOUT: minimum 1500; maximum 65535  
DEVICE – NUMBER\_OF\_APDU\_RETRIES: minimum 1; maximum 255  
DEVICE – MAX\_MASTER: minimum 1; maximum 127  
DEVICE – MAX\_INFO\_FRAMES: minimum 1; maximum 15  
DEVICE – CONFIGURATION\_FILES: maximum length array: 1  
DEVICE – BACKUP\_FAILURE\_TIMEOUT: minimum 1; maximum 65535  
BINARY INPUT - CHANGE\_OF\_STATE\_COUNT: write only 0  
BINARY INPUT - ELAPSED\_ACTIVE\_TIME: write only 0  
BINARY OUTPUT - CHANGE\_OF\_STATE\_COUNT: write only 0  
BINARY OUTPUT - ELAPSED\_ACTIVE\_TIME: write only 0  
BINARY VALUE - CHANGE\_OF\_STATE\_COUNT: write only 0  
BINARY VALUE - ELAPSED\_ACTIVE\_TIME: write only 0  
NOTIFICATION CLASS - RECIPIENT\_LIST: maximum length list: 10  
SCHEDULE – WEEKLY\_SCHEDULE: maximum entries per day: 20  
SCHEDULE – EXCEPTION\_SCHEDULE: maximum length array: 1  
SCHEDULE – LIST\_OF\_OBJECT\_PROPERTY\_REFERENCES - maximum length list: 1  
TREND-LOG – LOG\_INTERVAL: minimum 100; maximum 8639900; resolution 100  
TREND-LOG – COV\_RESUBSCRIPTION\_INTERVAL: minimum 1; maximum 21600  
TREND-LOG – BUFFER\_SIZE minimum 1; maximum 10000  
TREND-LOG – RECORD\_COUNT: write only 0  
FILE – FILE\_SIZE: write only 0  
FILE – RECORD\_COUNT: write only 0.



### Segmentation Capability:

- Segmented requests supported                      Window Size 16
- Segmented responses supported                      Window Size 16

### 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): 9600bit/s, 19 200bit/s, 38 400bit/s, 76 800 bit/s
- MS/TP slave (Clause 9), baud rate(s): 9600bit/s, 19 200bit/s, 38 400bit/s, 76 800 bit/s
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): 9600bit/s, 57 600bit/s, 115 200 bit/s
- Point-To-Point, modem, (Clause 10), baud rate(s): 9600bit/s, 57 600bit/s, 115 200 bit/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 - List all routing configurations: IP-IP, IP-Ethernet, IP-MSTP, IP-PTP, Ethernet-Ethernet, Ethernet-MSTP, Ethernet-PTP, MSTP-PTP
- 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.

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