

# ETC Reference Guide

## BACnet PICS for P-CCS

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### Overview

This reference guide defines the BACnet Protocol Implementation Conformance Statement (PICS) for use with ETC's Unison Paradigm® Central Control Server.

### BACnet Protocol Implementation Conformance Statement

**Vendor Name:** Electronic Theatre Controls, Inc. (ETC) – BACnet Vendor ID # 433

**Product Name:** Unison Paradigm Central Control Server

**Product Model Number:** P-CCS

**Application Software Version:** v4.0 or newer

#### 1. Product Description

The P-CCS BACnet Interface allows a BACnet Client to interface with and control a Unison Paradigm lighting system. BACnet IP Clients physically connect via the Secondary Network Interface of the P-CCS, positioning the server as a gateway between the Unison system and BACnet client applications. It exposes a series of BACnet objects that reflect the state / condition of Paradigm lighting devices and permit control.

#### 2. BACnet Conformance Class Supported

##### 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 Gateway (B-GW)

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

DS-RP-B  
DS-RPM-B  
DS-WP-B  
DS-WPM-B



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Product information and specifications subject to change. ETC intends this document to be provided in its entirety.

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### 3. BACnet Standard Application Services Supported

Application Service	Initiates Requests	Executes Requests
Acknowledge Alarm	-	-
ConfirmedCOVNotification	-	-
ConfirmedEventNotification	-	-
GetAlarmSummary	-	-
GetEnrollmentSummary	-	-
SubscribeCOV	-	■
UnconfirmedCOVNotification	■	-
AtomicReadFile	-	-
AddListElement	-	-
RemoveListElement	-	-
CreateObject	-	■
DeleteObject	-	■
ReadProperty	-	■
ReadPropertyConditional	-	-
ReadPropertyMultiple	-	■
WriteProperty	-	■
WritePropertyMultiple	-	■
DeviceCommunicationControl	-	-
ConfirmedPrivateTransfer	-	-
ReinitializeDevice	-	-
ConfirmedTextMessage	-	-
UnconfirmedTextMessage	-	-
UTCTimeSynchronization	-	■
Who-Has	-	-
I-Have	-	-
Who-Is	-	-
I-Am	■	-

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Application Service	Initiates Requests	Executes Requests
VT-Open	-	-
VT-Close	-	-
VT-Data	-	-
Authenticate	-	-
Request Key	-	-

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### 4. Standard and Vendor-Proprietary Object Types Supported

Object-Type	Supported	Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
Analog Input	■	-	-	Description	
Analog Output	■	-	-	Description	Present_Value
Analog Value	-	-	-		
Binary Input	■	-	-	Description	
Binary Output	■	-	-	Description	Present_Value
Binary Value	-	-	-		
Calendar	-	-	-	(See Timed Event on next page)	(See Timed Event on next page)
Command	-	-	-		
Device	■	N/A	N/A		
Event Enrollment	-	-	-		
File	-	-	-		
Group	-	-	-		
Loop	-	-	-		
Multi-state Input	-	-	-		
Multi-state Output	-	-	-		
Notification Class	-	-	-		
Program	-	-	-		
Schedule	-	-	-	(See Timed Event below)	(See Timed Event below)
Macro (ETC)	■	-	-	ETC specific properties	Yes, Present_Value
Preset (ETC)	■	-	-	ETC specific properties	Yes, Present_Value
Override (ETC)	■	-	-	ETC specific properties	Yes, Present_Value

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Object-Type	Supported	Dynamically Creatable	Dynamically Deletable	Optional Properties Supported	Writable Properties
Group (ETC)	■	-	-	ETC specific properties	Yes, Present_Value
Space (ETC)	■	-	-	ETC specific properties	Yes, Present_Value
Wall (ETC)	■	-	-	ETC specific properties	Yes, Present_Value
Errors On Device (ETC)	■	-	-	ETC specific properties	N/A
Time Event (ETC)	■	■	■	ETC specific properties	YES

### Proprietary Object Type Properties

**MACRO:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Number and List of MetaData

**PRESET:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Number and List of MetaData

**OVERRIDE:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Number and List of MetaData

**GROUP:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Number and List of MetaData

**SPACE:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Space CID, Parent CID, Active Preset CID, Intensity, Number and List of Channels, Number and List of Presets, Number and List of Walls, Number and List of Child Spaces, Number and List of MetaData

**ERRORS ON DEVICE:** Object ID (BACnet), Object Name, Device CID, Number and list of Errors

**TIMED EVENT:** Object ID (BACnet), Object Name, Object CID (Paradigm ID), Override CID, Space CID, Begin Time, End Time, Recurrence, Start Action, End Action, Number and List of Exceptions (limited to 3650), Number and List of MetaData

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### 5. Data Link Layer Option

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ATA 878.1, 2.5Mb. 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:

### 6. Character Sets Supported

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

- ISO 10646 (UTF-8)
- IBM™ / Microsoft™ DBCS
- ISO 8859-1
- ANSI x3.4
- ISO 10646 (UCS-2)
- ISO 10646 (UCS-4)
- JIS 0208

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

- Supports connectivity with the Unison Paradigm Central Control Server and the ETC Net3 lighting control system.

### 7. Special Functionality

Segmented Requests Supported	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Window Size:
Segmented Responses Supported	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Window Size:

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### 8. Router

- 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

### 9. Property Range Restrictions

*DESCRIPTION AND LOCATION: 120 octets, including initial character set octet.*

*CREATED OBJECT NAMES: 64 octets maximum*