SNE/SNC Protocol Implementation Conformance Statement

M4-SNE22000-0, M4-SNE22001-0, M4-SNE11000-0, M4-SNE11001-0, M4-SNE110L0-0, M4-SNE110L1-0, M4-SNE10500-0, M4-SNE10501-0, M4-SNC25150-0, M4-SNC25151-0, M4-SNC25150-04, M4-SNC25151-04, M4-SNC16120-0, M4-SNC16121-0, M4-SNC16120-04, M4-SNC16121-04

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Document Introduction

This document contains the Protocol Implementation Conformance Statement (PICS) and BACnet® Interoperability Building Blocks (BIBBs) for the SNE Series of network engines and SNC Series of network control engines manufactured by Johnson Controls® as required by the American National Standards Institute/American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ANSI/ASHRAE) Standard 135, BACnet protocol.

The PICS is a written document created by the manufacturer of a device to identify the particular options specified in the BACnet standard and implemented in the device.

BACnet interoperability building blocks are collections of one or more BACnet services. This document includes a listing of the BIBBs currently supported by the SNE and SNC.

Annex A - Protocol Implementation Conformance Statement (Normative)

Table 1: BACnet Protocol Implementation Conformance Statement

Date	October 30, 2020
Vendor Name	Johnson Controls
Product Name	SNE Series of Network Engines, SNC Series of Network Control Engines
Product Model Numbers	M4-SNE22000-0, M4-SNE22001-0, M4-SNE11000-0, M4-SNE11001-0, M4-SNE110L0-0, M4-SNE110L1-0, M4-SNE10500-0, M4-SNE10501-0, M4-SNC25150-0, M4-SNC25151-0, M4-SNC25150-04, M4-SNC25151-04, M4-SNC16120-0, M4-SNC16121-0, M4-SNC16120-04, M4-SNC16121-04
Application Software Version	Not Applicable
Firmware Revision	11.0
BACnet Protocol Revision	Version 1, Rev. 18

Product Description

The SNE and SNC are components of the Metasys system. In terms of the BACnet protocol, the SNEs and SNCs are BACnet building controllers and support many operator workstation services.

The SNE and SNC can monitor and supervise a network of BACnet and non-BACnet devices. An operator views the data on a web browser that is logged on to the user interface of an SNE or SNC. As BACnet building controllers, other BACnet devices on the network can read and write to the BACnet objects within an SNE or SNC.

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 Other (B-Other)
☒	BACnet Router (B-RTR)

BACnet Interoperability Building Blocks (BIBBs) (Annex K)

The following table lists all BIBBs that are supported. The table is divided into BIBBs required for the BACnet Building Controller (B-BC) profile, followed by additional BIBBs that are supported but not required for the B-BC profile.

Table 2: BACnet B-BC BIBBs Support

BIBB Name (A = Initiates and B = Executes)	Designation
Required for B-BC Profile	
Alarm and Event - ACK - B	AE-ACK-B
Alarm and Event - Information - B	AE-INFO-B
Alarm and Event - Notification - Internal - B	AE-N-I-B
Device Management - Dynamic Device Binding - A	DM-DDB-A
Device Management - Dynamic Device Binding - B	DM-DDB-B
Device Management - Device Communication Control - B	DM-DCC-B
Device Management - Device Object Binding - B	DM-DOB-B
Device Management - Dynamic Time Synchronization - B	DM-TS-B
Device Management - Dynamic UTC Time Synchronization - B	DM-UTC-B
Device Management - Reinitialize Device - B	DM-RD-B
Device Management - Backup and Restore - B	DM-BR-B
Data Sharing - Read Property - A	DS-RP-A
Data Sharing - Read Property - B	DS-RP-B
Data Sharing - Read Property Multiple - A	DS-RPM-A
Data Sharing - Read Property Multiple - B	DS-RPM-B
Data Sharing - Write Property - A	DS-WP-A
Data Sharing - Write Property - B	DS-WP-B
Data Sharing - Write Property Multiple - B	DS-WPM-B
Scheduling - External - B	SCHED-E-B
Trending - Viewing and Modifying Trends Internal - B	T-VMT-I-B
Trending - Automated Trend Retrieval - B	T-ATR-B
Not Required for B-BC Profile	
Alarm and Event - ACK - A	AE-ACK-A
Alarm and Event - Alarm Summary - B	AE-ASUM-B
Alarm and Event Management-Configurable Recipient Lists - B	AE-CRL-B
Alarm and Event - Notification - A	AE-N-A
Alarm and Event - Notification - External - B	AE-N-E-B

Table 2: BACnet B-BC BIBBs Support

BIBB Name (A = Initiates and B = Executes)	Designation
Alarm and Event - Enrollment Summary - B	AE-ESUM-B
Alarm and Event Management-Alarm Summary View-A	AE-AS-A
Device Management - Automatic Time Synchronization - A	DM-ATS-A
Device Management - Manual Time Synchronization - A	DM-MTS-A
Device Management - Device Object Binding - A	DM-DOB-A
Device Management - Restart - A	DM-R-A
Device Management - Restart - B	DM-R-B
Device Management - List Manipulation - A	DM-LM-A
Device Management - List Manipulation - B	DM-LM-B
Device Management - Object Creation and Deletion - B	DM-OCD-B
Device Management - Time Synchronization - A	DM-TS-A
Device Management - UTC Time Synchronization - A	DM-UTC-A
Data Sharing - COV - A	DS-COV-A
Data Sharing - COV - B	DS-COV-B
Data Sharing - COVP - A	DS-COVP-A
Data Sharing - COVP - B	DS-COVP-B
Data Sharing - COVU - A	DS-COVU-A
Data Sharing - COVU - B	DS-COVU-B
Data Sharing - Write Property Multiple - A	DS-WPM-A
Network Management - Router Configuration - B	NM-RC-B
Network Management- BBMD Configuration - B	NM-BBMDC-B
Scheduling - Internal - B	SCHED-I-B
Scheduling - Weekly Schedule - A	SCHED-WS-A
Trending - View and Modify Trends - E - B	T-VMT-E-B

Segmentation Capability

☒	Able to transmit segmented messages	Window Size: 127
☒	Able to receive segmented messages	Window Size: 127

Standard Object Types Supported

The following table lists the standard object types as defined by ASHRAE that are currently supported in the SNE and SNC. See the section of the supported object type for details.

Accumulator	Life Safety Point
Analog Input	Life Safety Zone
Analog Output	Load Control
Analog Value	Loop
Averaging	Multistate Input

Binary Input	Multistate Output
Binary Output	Multistate Value
Binary Value	Network Port (Ethernet IP DataLink)
Calendar	Network Port (Field Bus MSTP)
Character String Value	Notification Class
Command Object	Pulse Converter
Device	Program
Event Enrollment	Positive Integer Value
File	Schedule
Group	Trend Log
Integer Value	Trend Log Multiple

Accumulator

Dynamically Creatable: No

Dynamically Deletable: No

Table 3: Accumulator

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
MAX_PRES_VALUE	X			65		X	
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X[1]	
SCALE	X			187		X	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[2]		X		0			
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_ CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
HIGH_LIMIT[2]		X		45		X[3]	
LIMIT_ENABLE[2]		X		52		X[3]	
LIMIT_MONITORING_ INTERVAL		X		182		X[3]	
LOGGING_DEVICE[4]		X		183			

Table 3: Accumulator

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
LOGGING_RECORD[4]		X		184			
LOW_LIMIT[2]		X		59		X[3]	
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
PRESCALE		X		185		X	
PROFILE_NAME		X		168			
PULSE_RATE		X		186		X[1,3]	
RELIABILITY		X		103		X[1]	
TIME_DELAY[2]		X		113		X[3]	
VALUE_BEFORE_CHANGE[4]		X		190			
VALUE_CHANGE_TIME		X		192			
VALUE_SET[4]		X		191		X	0–268,435,455
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
ALARM_STATE			X	1006	Enumerated		
ANTI_SPIKE[4]			X	722	Boolean	X	
DISPLAY_PRECISION			X	661	Enumerated	X	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X[3]	
GRAPHIC_ALIAS			X	32623	Character String	X[3]	
INPUT_REF			X	545	Attribute Reference		
INSTANCE_NUMBER			X	32589	Unsigned		
INTERNAL_UNITS			X	3432	Enumerated	X	
INTRINSIC_ALARM_DISABLED			X	4305	Character String	X	
ITEM_REFERENCE			X	32527	Character String		
JCI_LOGGING_DEVICE			X	4696	Character String	X	
LAST_KNOWN_TIME_STAMPS			X	1290	BACnetArray		
MAPPED_NAME[4]			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Character String	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
PERIODIC_UPDATE			X	2192	Unsigned	X	
REMOTE_DESCRIPTION[4]			X	32519	Character String		
REMOTE_DEVICE_ADDRESS[4]			X	538	String	X	
ROLLOVER_LIMIT[4]			X	823	Unsigned	X	
SCALE_AS_FLOAT			X	4693	Real	X	
SCALE_AS_INT			X	4692	Integer	X	
SCALED_VALUE			X	4694	Real		

Table 3: Accumulator

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bitstring		
USER_NAME			X	2390	Character String	X	400 characters max

1 Only writable when OUT_OF_SERVICE is set to True.
2 Only present when the instance supports intrinsic alarming.
3 Only writable when EVENT_DETECTION_ENABLE is present and is True.
4 Not present in all instances.

Analog Input

Dynamically Creatable: No

Dynamically Deletable: No

Table 4: Analog Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X[1]	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[2]		X		0			
COV_INCREMENT		X		22		X	any value > 0
DEADBAND[2]		X		25		X[3]	
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
HIGH_LIMIT[2]		X		45		X[3]	
LIMIT_ENABLE[2]		X		52		X[3]	
LOW_LIMIT[2]		X		59		X[3]	
MAX_PRES_VALUE		X		65		X	
MIN_PRES_VALUE		X		69		X	
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
RELIABILITY		X		103		X[1]	
RESOLUTION		X		106			

Table 4: Analog Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
TIME_DELAY[2]		X		113		X[3]	0–65,535
UPDATE_INTERVAL		X		118			
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
ALARM_STATE			X	1006	Enumerated		
ANTI_SPIKE			X	722	Boolean	X	
BACNET_EXPOSED			X	3807	Boolean	X	
DISPLAY_PRECISION			X	661	Enumerated	X	0–12
ENABLED			X	673	Boolean	X	
ENDPOINT_TOLERANCE			X	3544	Real	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FIELD_OFFSET			X	2179	Real	X	
FIELD_UNITS			X	2180	Enumerated		
FILTER_SETUP			X	3407	Enumerated	X	
GRAPHIC			X	32581	Character String	X[3]	
GRAPHIC_ALIAS			X	32623	Character String	X[3]	
HARDWARE_VALUE			X	1433	Real		
INPUT_RANGE_HIGH			X	1294	Real	X	
INPUT_RANGE_LOW			X	1293	Real	X	
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LOWPASS_FILTER_ENA			X	3542	Boolean	X	
MINUS_20_DB_FREQ			X	3543	Boolean	X	
NOTIFICATION_OBJ_REF			X	4304	Boolean	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE			X	913	Boolean		
OFFSET			X	956	Real	X	
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Structure	X	
OUTPUT_RANGE_HIGH			X	1296	Real	X	
OUTPUT_RANGE_LOW			X	1295	Real	X	
PROCESS_ID			X	3422	Enumerated	X	
SETUP			X	518	Enumerated	X	
SAB_MAC_ADDR			X	3645	Unsigned	X	
SLOT			X	519	Unsigned		
SPIKE_FRACTION			X	725	Real	X	
STATUS			X	512	Enumerated	X	
STORED_EVENT_ENABLE			X	4306	BitString		
TIME_CONSTANT			X	3164	Real	X	
USE_COV_MIN_SEND_TIME			X	3930	Boolean	X	
USER_NAME			X	2390	Character String	X	400 characters max

1 Only writable when OUT_OF_SERVICE is set to True.

2 Only present when the instance supports intrinsic alarming.
3 Only writable when EVENT_DETECTION_ENABLE is present and is TRUE.

Analog Output

Dynamically Creatable: No

Dynamically Deletable: No

Table 5: Analog Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X	
RELINQUISH_DEFAULT	X			104		X	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[1]		X		0			
COV_INCREMENT		X		22		X	any value > 0
DEADBAND[1]		X		25		X[2]	
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
EVENT_DETECTION_ENABLE[1]		X		353			
EVENT_ENABLE[1]		X		35		X[2]	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[1]		X		352		X[2]	256 characters max
EVENT_TIME_STAMPS[1]		X		130			
HIGH_LIMIT[1]		X		45		X[2]	
LIMIT_ENABLE[1]		X		52		X[2]	
LOW_LIMIT[1]		X		59		X[2]	
MAX_PRES_VALUE		X		65		X	
MIN_PRES_VALUE		X		69		X	
NOTIFICATION_CLASS[1]		X		17		X[2]	1–4,194,303
NOTIFY_TYPE[1]		X		72		X[2]	
RELIABILITY		X		103		X[3]	
RESOLUTION		X		106			
TIME_DELAY[1]		X		113		X[2]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[2]	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean	X	
DEADBAND			X	2205	Real	X	
DISPLAY_PRECISION			X	661	Enumerated	X	0–12
ENABLED			X	673	Boolean	X	

Table 5: Analog Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X[2]	
GRAPHIC_ALIAS			X	32623	Character String	X[2]	
INSTANCE_NUMBER			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean		
ITEM_REFERENCE			X	32527	Character String		
MAX_OUT_VALUE			X	653	Real		
MIN_OUT_VALUE			X	652	Real		
NOTIFICATION_OBJ_REF			X	4304	Object Reference		
OBJECT_CATEGORY			X	908	Enumerated		
OFFLINE			X	913	Boolean		
OUTPUT			X	663	Real		
OVERRIDE_EXPIRATION_TIME			X	64786	Structure		
RESTORE_COMMAND_ PRIORITY			X	721	Bit String	X	
SAB_MAC_ADDR			X	3645	Byte		
SLOT_A			X	990	Byte		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bit String		
TRUNK_NUMBER			X	549	Unsigned		
USE_COV_MIN_SEND_TIME			X	3930	Boolean	X	
USER_NAME			X	2390	Character String	X	400 characters max

1 Only present when the instance supports intrinsic alarming.
2 Only writable when EVENT_DETECTION_ENABLE is present and is TRUE.
3 Not writable in all instances.

Analog Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 6: Analog Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X[1]	
PRESENT_VALUE	X			85		X[1]	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[2]		X		0			
COV_INCREMENT		X		22		X	any value > 0
CURRENT_COMMAND_PRIORITY		X		431			
DEADBAND[2]		X		25		X[3]	

Table 6: Analog Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[1]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_ CONFIG[2]		X		352		X[1]	256 characters
EVENT_TIME_STAMPS[2]		X		130			
HIGH_LIMIT[2]		X		45		X[1]	
LIMIT_ENABLE[2]		X		52		X[1]	
LOW_LIMIT[2]		X		59		X[1]	
MAX_PRES_VALUE		X	X	65		X	
MIN_PRES_VALUE		X	X	69		X	
NOTIFICATION_CLASS[2]		X		17		X[1]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[1]	
PRIORITY_ARRAY[4]		X		87			
RELIABILITY		X		103		X[1]	
RELINQUISH_DEFAULT[4]		X		104		X	
TIME_DELAY		X		113		X	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[1]	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean	X	
CONNECTED_STATUS			X	1243	Enumerated		
CONNECTED_TO			X	1376	Attribute Reference	X[1]	
CONNECTED_TO_INTERNAL_ APPLICATION			X	6081	Enumerated		
DEFAULT_VALUE			X	3113	Real	X	
DIRECTION			X	746	Enumerated	X[1]	
DISPLAY_PRECISION			X	661	Enumerated	X	0–12
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FAILSOFT[4]			X	2567	Boolean		
FAILSOFT_CURRENTLY_ACTIVE[4]			X	6088	Enumerated		
GRAPHIC			X	32581	Character String	X[1]	
GRAPHIC_ALIAS			X	32623	Character String	X[1]	
INSTANCE_NUMBER[4]			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED[4]			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	

Table 6: Analog Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OUT_OF_SERVICE_EXPIRATION_TIME[4]			X	64787	Structure		
OVERRIDE_EXPIRATION_TIME[4]			X	64786	Structure		
PRESENT_VALUE_WRITABLE			X	6080	Structure		
PRIORITY_FOR_WRITING_TO_CONNECTED			X	6093	Byte	X[1]	
PRIORITY_SUPPORTED			X	6083	Boolean	X[1]	
PROPERTY_REF_VALUE			X	2202	Attribute Reference		
REFERENCED_RELIABILITY[4]			X	6085	Enumerated		
REFERENCED_VALUE[4]			X	6084	Real		
REFERENCED_VALUE_COS_COUNT[4]			X	6086	Unsigned		
RESTORE_COMMAND_PRIORITY[4]			X	721	Bit String	X	
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bit String		
USE_COV_MIN_SEND_TIME[4]			X	3930	Boolean	X	
USER_NAME			X	2390	Character String	X	400 characters max

1 Only writable when EVENT_DETECTION_ENABLE is present and is TRUE.
2 Only present when the instance supports intrinsic alarming.
3 Not writable in all instances.
4 Not present in all instances.

Averaging

Dynamically Creatable: No

Dynamically Deletable: No

Table 7: Averaging

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ATTEMPTED_SAMPLES	X			124		X	
OBJECT_NAME	X			77		X	
WINDOW_INTERVAL	X			147		X	
WINDOW_SAMPLES	X			148		X	
DESCRIPTION		X		28		X	64 characters max
MIN_VALUE_TIMESTAMP		X		150			
MAX_VALUE_TIMESTAMP		X		149			
ALARM_STATE			X	1006	Enumerated		
CURRENT_RELIABILITY			X	3377	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INPUT_REF[1]			X	545	Attribute Reference		

Table 7: Averaging

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
INSTANCE_NUMBER[1]			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
MAPPED_NAME			X	2564	String		
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION[1]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[1]			X	538	Complex		
STATUS			X	512	Enumerated		
USER_NAME			X	2390	Character String	X	400 characters max

1 Not present in all instances.

Binary Input

Dynamically Creatable: No

Dynamically Deletable: No

Table 8: Binary Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
POLARITY	X			84		X	
PRESENT_VALUE	X			85		X[1]	
ACTIVE_TEXT		X		4			
ACTIVE_TIME_RESET		X		114		X	
ACKED_TRANSITIONS[2]		X		0			
ALARM_VALUE[2]		X		6		X[3]	
COS_COUNT		X		15		X	
COS_TIME		X		16			
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	
ELAPSED_ACTIVE_TIME[2]		X		33		X	
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
INACTIVE_TEXT		X		46			
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
RELIABILITY		X		103		X[1]	

Table 8: Binary Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATE_COUNT_RESET		X		115		X	
TIME_DELAY[2]		X		113		X[3]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	536	String	X	
DEBOUNCE			X	610	Unsigned		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
GRAPHIC			X	32581	Character String	X[3]	
GRAPHIC_ALIAS			X	32623	Character String	X[3]	
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE			X	913	Boolean		
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Structure		
NOTIFICATION_OBJ_REF			X	4304	Object Reference		
SAB_MAC_ADDR			X	3645	Byte		
SLOT			X	519	Unsigned		
STATES_TEXT			X	931	Enumerated	X[4]	
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
TROUBLE			X	810	Boolean		
USER_NAME			X	2390	Character String	X	400 characters max

1 Only writable when Out of Service is set to True.
2 Only present when the instance supports intrinsic alarming.
3 Only writeable when EVENT_DETECTION_ENABLE is present and is TRUE.
4 Not writable in all instances.

Binary Output

Dynamically Creatable: No

Dynamically Deletable: No

Table 9: Binary Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
POLARITY	X			84		X	
PRESENT_VALUE	X			85		X	
RELINQUISH_DEFAULT	X			104		X	
ACKED_TRANSITIONS[1]		X		0			
ACTIVE_TEXT		X		4			
ACTIVE_TIME_RESET		X		114		X	

Table 9: Binary Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
COS_COUNT		X		15		X	
COS_TIME		X		16			
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
ELAPSED_ACTIVE_TIME		X		33		X	
EVENT_DETECTION_ENABLE		X		353			
EVENT_ENABLE[1]		X		35		X[2]	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_ CONFIG		X		352		X[2]	256 characters max
EVENT_TIME_STAMPS[1]		X		130			
FEEDBACK_VALUE[1]		X		40		X[2]	
INACTIVE_TEXT		X		46			
MIN_OFF_TIME		X		66		X	
MIN_ON_TIME		X		67		X	
NOTIFICATION_CLASS[1]		X		17		X[2]	1–4,194,303
NOTIFY_TYPE[1]		X		72		X[2]	
RELIABILITY		X		103		X	
STATE_COUNT_RESET		X		115		X	
TIME_DELAY[1]		X		113		X[2]	0–65,535
ALARM_MESSAGE_TEXT[1]			X	536	Character String	X[2]	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean	X	
ENABLED			X	673	Boolean	X	
ERROR_STATUS			X	576	Enumerated		
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FEEDBACK_REFERENCE			X	753	Attribute Reference		
GRAPHIC			X	32581	Character String	X[2]	
GRAPHIC_ALIAS			X	32623	Character String	X[2]	
HEAVY_EQUIP_DELAY			X	516	Unsigned	X	
HED_CONTROLLER			X	517	Unsigned	X	
IGNORE_RELINQUISH_ DEFAULT			X	580	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
MINIMUM_CYCLE_TIME			X	2199	Unsigned	X	
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	

Table 9: Binary Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OFFLINE			X	913	Boolean		
OUTPUT			X	663	Boolean		
OVERRIDE_EXPIRATION_TIME			X	64786	Structure		
PULSE_WIDTH			X	600	Real	X	
RESTORE_COMMAND_ PRIORITY			X	721	Bit String	X	
SAB_MAC_ADDR			X	3645	Unsigned		
SETUP			X	518	Enumerated		
SLOT_A			X	990	Unsigned		
SLOT_B			X	991	Unsigned		
STARTUP_OFF_STATE_ENABLE			X	1229	Boolean	X	
STATES_TEXT			X	931	Enumerated	X[3]	
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bit String		
USER_NAME			X	2390	Character String	X	400 characters max

1 Only present when the instance supports intrinsic alarming.
2 Only writable when EVENT_DETECTION_ENABLE is TRUE.
3 Not writable in all instances.

Binary Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 10: Binary Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X[1]	
PRESENT_VALUE	X			85		X[1]	
ACKED_TRANSITIONS[2]		X		0			
ACTIVE_TEXT		X		4			
ACTIVE_TIME_RESET[3]		X		114		X	
ALARM_VALUE[2]		X		6		X[4]	
COS_COUNT[3]		X		15		X	
COS_TIME[3]		X		16			
CURRENT_COMMAND_PRIORITY		X		431			
DESCRIPTION		X		28		X	64 characters max
ELAPSED_ACTIVE_TIME[3]		X		33		X	
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[4]	
EVENT_MESSAGE_TEXTS[2]		X		351			

Table 10: Binary Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X[4]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
INACTIVE_TEXT		X		46			
MIN_OFF_TIME[3]		X		66		X	
MIN_ON_TIME[3]		X		67		X	
NOTIFICATION_CLASS[2]		X		17		X[4]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[4]	
PRIORITY_ARRAY[3]		X		87			
RELIABILITY		X		103		X	
RELINQUISH_DEFAULT[3]		X		104		X	
STATE_COUNT_RESET[3]		X		115		X	
TIME_DELAY[2]		X		113		X[4]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[4]	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean	X	
CONNECTED_STATUS			X	1243	Enumerated		
CONNECTED_TO			X	1376	Attribute Reference	X[1]	
CONNECTED_TO_INTERNAL_APPLICATION			X	6081	Enumerated		
DEFAULT_VALUE			X	3113	Real	X	
DIRECTION			X	746	Enumerated	X[1]	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FAILSOFT[3]			X	2567	Boolean	X	
FAILSOFT_CURRENTLY_ACTIVE[3]			X	6088	Enumerated		
GRAPHIC			X	32581	Character String	X[4]	
GRAPHIC_ALIAS			X	32623	Character String	X[4]	
ITEM_REFERENCE			X	32527	Character String		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X[4]	
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X[4]	
OBJECT_CATEGORY			X	908	Enumerated	X	
OUT_OF_SERVICE_EXPIRATION_TIME[3]			X	64787	Structure		
OVERRIDE_EXPIRATION_TIME[3]			X	64786	Structure		
PRESENT_VALUE_WRITABLE			X	6080	Enumerated		
PRIORITY_FOR_WRITING_TO_CONNECTED			X	6093	Byte	X[1]	
PRIORITY_SUPPORTED			X	6083	Boolean	X[1]	
PROPERTY_REF_VALUE			X	2202	Attribute Reference		

Table 10: Binary Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
REFERENCED_RELIABILITY[3]			X	6085	Enumerated		
REFERENCED_VALUE[3]			X	6084	Real		
REFERENCED_VALUE_COS_ COUNT			X	6086	Unsigned	X	
RESTORE_COMMAND_ PRIORITY[3]			X	721	Bit String	X	
STATES_TEXT			X	931	Enumerated	X	
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bit String		
USER_NAME			X	2390	Character String	X	400 characters max

1 Not writable in all instances.
2 Only present when the instance supports intrinsic alarming.
3 Not present in all instances.
4 Only writeable when EVENT_DETECTION_ENABLE is present and is TRUE.

Calendar

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Table 11: Calendar

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
DATE_LIST	X			23		X	
OBJECT_NAME	X			77		X	
DESCRIPTION		X		28		X	64 characters max
ALARM_STATE			X	1006	Enumerated		
ALLOW_CALENDAR_EDIT			X	64005	Enumerated		
DATE_LIST_CHAGNED			X	1098	Byte		
GLOBAL_CALENDAR_OBJECT_ REFERENCE			X	63914	Object Reference	X	
GLOBAL_CALENDAR_UPDATE			X	1097	Structure		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
ITEM_REFERENCE			X	32527	Character String		
OBJECT_CATEGORY			X	908	Enumerated	X	
STATUS			X	512	Enumerated		
USER_NAME			X	2390	Character String	X	400 characters max

Character String Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 12: Character String Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
PRESENT_VALUE	X			85		X	
ACKED_TRANSITIONS[1]		X		0			
ALARM_VALUES[1]		X		7		X[2]	
CURRENT_COMMAND_PRIORITY		X		431			
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[1]		X		353			
EVENT_ENABLE[1]		X		35		X[2]	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[1]		X		352		X[2]	256 characters max
EVENT_STATE		X		36			
EVENT_TIME_STAMPS		X		130			
FAULT_VALUES[3]		X		39		X	0–65,535
NOTIFICATION_CLASS[1]		X		17		X[2]	1–4,194,303
NOTIFY_TYPE[1]		X		72		X[2]	
OUT_OF_SERVICE		X		81		X	
PRIORITY_ARRAY[3]		X		87			
PROFILE_NAME		X		168			
RELIABILITY		X		103		X	
RELINQUISH_DEFAULT[3]		X		104		X	
TIME_DELAY[1]		X		113		X	0–65,535
ALARM_MESSAGE_TEXT[1]			X	536	Character String	X	
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X	
GRAPHIC_ALIAS			X	32623	Character String	X	
INSTANCE_NUMBER			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME[3]			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Structure		
OVERRIDE_EXPIRATION_TIME			X	64786	Structure		
REMOTE_DESCRIPTION[3]			X	32519	Character String	X	

Table 12: Character String Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
REMOTE_DEVICE_ADDRESS[3]			X	538	Complex		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLED			X	4306	BitString	X	
USER_NAME			X	2390	Character String	X	400 characters max

1 Only present when the instance supports intrinsic alarming.
2 Only writeable when EVENT_DETECTION_ENABLE is present and is TRUE.
3 Not present in all instances.

Command Object

Dynamically Creatable: No

Dynamically Deletable: No

Table 13: Command Object

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
PRESENT_VALUE	X			85		X	
ACTION_TEXT		X		3		X	60 characters max
DESCRIPTION		X		28		X	64 characters max
ALARM_STATE			X	1006	Enumerated		
COMMAND_COUNT			X	1545	Unsigned		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INSTANCE_NUMBER[1]			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
MAPPED_NAME[1]			X	2564	String		
OBJECT_CATEGORY			X	908	Enumerated		
REMOTE_DESCRIPTION[1]			X	32519	Character String	X	
REMOTE_DEVICE_ADDR[1]			X	538	Complex		
STATES_TEXT			X	931	Enumerated	X[2]	
STATES_TEXT_ERROR_STATUS			X	64022	Enumerated		
STATUS			X	512	Enumerated		
USER_NAME			X	2390	Character String	X	
USER_SELECTED_STATES_TEXT			X	1103	Boolean	X	

1 Not present in all instances.
2 Not writable in all instances.

Device

Dynamically Creatable: No

Dynamically Deletable: No

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
APDU_RETRIES	X			73		X[1]	
APDU_TIMEOUT	X			11		X[1]	1,000–65,535 in milli-seconds
APPL_SW_VERSION	X			12		X	
MAX_APDU_LENGTH[2]	X			62			
OBJECT_NAME	X			77		X	
ACTIVE_COV_SUBSCRIPTIONS		X		152			
ADPU_SEGMENT_TIMEOUT		X		10		X[1]	1,000–65,535 in milli-seconds
ALIGN_INTERVALS		X		193		X	
BACKUP_AND_RESTORE_STATE		X		338			
BACKUP_FAIL_TIMEOUT		X		153		X	
BACKUP_PREPARATION_TIME		X		339			
CONFIG_FILES		X		154			
DST_STATUS		X		24			
DESCRIPTION		X		28		X	64 characters max
INTERVAL_OFFSET		X		195		X	
LAST_RESTART_REASON		X		196			
LAST_RESTORE_TIME		X		157			
LOCAL_DATE		X		56			
LOCAL_TIME		X		57			
LOCATION		X		58		X	
MAX_INFO_FRAMES		X		63		X	
MAX_MASTER		X		64		X	1–127
MAX_SEGMENTS_ACCEPTED		X		167			
RESTART_NOTIFICATION_ RECIPIENTS		X		202		X	
RESTORE_PREPARATION_TIME		X		341			
RESTORE_COMPLETION_TIME		X		340			
TIME_OF_DEVICE_RESTART		X		203			
TIME_SYNCHRONIZA-TION_INTERVAL		X		204		X	1-1440
UTC_TIME_SYNCHRONIZA TION_ RECIPIENTS		X		206		X	
UTC_OFFSET		X		119			
TIME_SYNC_RECIPIENTS		X		116		X	
ACCEPT_BACNET_TIME_SYNC			X	4970	Boolean		
ACK_FORWARD_ENABLE			X	64025	Boolean	X	
ACS_VERSION			X	4128	Byte		
ADS_CONN_TYPE			X	32559	Enumerated	X	
ADS_DELIV_TIME			X	32560	Time	X	
ADS_DIAL_PRI			X	2586	Unsigned	X	0–255

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ADS_REPOS			X	32558	Complex	X	
ALARM_COUNT			X	708	Unsigned		
ALARM_RATE			X	854	Unsigned		
ALARM_STATE			X	1006	Enumerated		
ALLOW_HTTP			X	32647	Boolean	X	
ALM_REPOS_SIZE			X	32543	Unsigned	X	100–1,000
ALM_SNOOZE_TIME			X	32544	Unsigned	X	0–75
ARCHIVE_DATE			X	849	Date		
ARCHIVE_STATUS			X	1187	Unsigned		
ARCHIVE_TIME			X	850	Time		
ASSET_VERSIONS			X	4960	List		
AUDIT_ACTION_FULL			X	32547	Enumerated	X	
AUDIT_ENABLED_CLAS_LEV			X	32549	Byte	X	
AUDIT_FWD_THRESH			X	32546	Unsigned	X	1–100
AUDIT_GEN_ALM_FULL			X	32548	Boolean	X	
AUDIT_LOST			X	32634	Unsigned	X	
AUDIT_RATE			X	855	Unsigned		
AUDIT_REPOS_SIZE			X	32545	Unsigned	X	10–500
AVERAGE_INTERMITTENT_FAILURE_PERIOD			X	869	List	X	0–249
BACNET_BROADCAST_RECEIVE_RATE			X	745	Unsigned		
BACNET_COMM_PASSWD			X	4211	String	X	
BACNET_ENCODE_TYPE			X	32578	Enumerated	X	
BACNET_IP_PORT			X	1223	Unsigned	X	
BACNET_OBJECT_CACHE_EXPOSED			X	4302	Enumerated		
BACNET_OID_ALLOCATED			X	1291	Unsigned		
BACNET_OID_USED			X	1292	Unsigned		
BACNET_ROUTED_MESSAGES_RATE			X	4310	Unsigned		
BAS_UNIT_SYSTEM			X	898	Enumerated	X	
BATTERY_CONDITION			X	647	Enumerated		
BOARD_TEMPERATURE			X	2580	Real		
CERT_RENEWAL_PERIOD			X	32646	Unsigned	X	1–3,600
COMPLETION_DOMAINS			X	32532	List	X	
COMPUTER_NAME			X	32531	String	X	max 40 characters
CONTACT_PERSON			X	32554	String	X	
CONTROL_SEQUENCE_IN_TEST			X	3651	Unsigned	X	
CONTROLLER_NUMBER			X	6056	Unsigned		
COV_MIN_SEND_TIME			X	3929	Byte	X	
COV_RECEIVES_PER_MINUTE			X	650	Unsigned		
COV_TRANSMITS_PER_MINUTE			X	651	Unsigned		

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
CPU_TEMPERATURE[3]			X	2579	Real		
CPU_USAGE			X	2583	Real		
CPU_USE_RESOURCE			X	2018	Unsigned		
DATA_COLLECTION_RATE			X	64607	Unsigned		
DATA_USAGE			X	64606	Real		
DDA_DIAGNOSTICS			X	30100	String		
DEFAULT_BASE_UNITS			X	2206	Enumerated		
DETECTION_INTERVAL			X	865	Unsigned	X	0–168
DEV_OBJECT_IDENTIFIER			X	65530	Unsigned		
DEVICE_TIME_ZONE			X	1403	Enumerated	X	
DHCP_ENABLED			X	1138	Boolean	X	
DMCS_VERSION			X	4129	Byte		
DNS_SERVER_IP_ADDRS			X	32534	Complex	X	
DOMAIN_NAME			X	2334	String	X	
DST_END_DATE			X	1411	Date		
DST_END_TIME			X	1412	Time		
DST_START_DATE			X	1409	Date		
DST_START_TIME			X	1410	Time		
EMAIL_DDA			X	32568	Complex	X	
EMAIL_DDA_DIAGNOSTICS			X	3133	String		
EMAIL_ENABLED			X	32662	Boolean	X	
ENABLE_APPLICATION_GEN_AUDIT			X	32637	Boolean	X	
ENABLED			X	673	Boolean	X	
ESTIMATED_FLASH_AVAILABLE[3]			X	2395	Real		
ETHERNET_1_LINK_SPEED			X	6094	Enumerated		
ETHERNET_2_LINK_SPEED			X	6095	Enumerated		
ETHERNET_ENABLED			X	32629	Boolean	X	
EVENT_ACTION_FULL			X	4296	Enumerated	X	
EVENT_LOST			X	1479	Unsigned		
EXECUTION_PRIORITY			X	2197	Enumerated	X	
EXTENDED_PROTO_VER			X	2291	Unsigned		
EXTERNAL_MODEM_CONFIG			X	32530	Complex	X	
FAIL_EMAIL_ADDR			X	32542	Complex	X	
FLASH_USAGE			X	2584	Real		
HAS_UNBOUND_REFERENCES			X	767	Boolean		
INCOMING_STAT			X	32567	Enumerated		
INTERNAL_MODEM_CONFIG			X	32529	Complex	X	
INTERNODE COMM_TIMER			X	845	Unsigned	X	
IP_ADDRESS			X	1135	Complex	X	
IP_MASK			X	1136	Complex	X	
IP_ROUTER_ADDRESS			X	1137	Complex	X	

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
IS_VALIDATED			X	4271	Boolean		
ITEM_REFERENCE			X	32527	String		
JCI_EXCEPTION_SCHEDULE			X	2573	Enumerated	X	
JCI_SYSTEM_STATUS			X	847	Enumerated		
LAST_BACNET_TIME_SYNC_ RCVED			X	5728	Structure		
LAST_IDLE_SAMPLE			X	30082	Real		
LOAD_BALANCER_LEVEL			X	4722	Enumerated		
LOCAL_SITE_SERVER			X	32557	Complex	X	
LOCAL_TIME_ZONE			X	1404	Enumerated		
MAIL_AUTH_TYPE			X	3814	Enumerated	X	
MAX_MESSAGE_BUFFER			X	848	Unsigned	X	
MAXIMUM_INTERMITTENT_FAI LURE_ PERIOD			X	868	List		
MEMORY_USAGE			X	2581	Real		
MULTICAST_HEARTBEAT			X	32628	Unsigned	X	
NETWORK_TOLERANCE			X	864	Enumerated	X	
NEXT_AVAILABLE_OID			X	787	Unsigned	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OBJECT_COUNT			X	844	Unsigned		
OBJECT_MEMORY_USAGE			X	2582	Real		
OBJENG_QUE_RESOURCE			X	2017	Unsigned		
OBTAIN_DNS_ADDRESS			X	32533	Boolean	X	
PAGER_DDA			X	32569	Complex	X	
PAGER_DIAL_STAT			X	32565	Enumerated		
PAGER_DIALUP_CONFIG			X	32535	Complex	X	
PCODE			X	1320	String		
POP_PASSWORD			X	32541	String	X	
POP_SERVER_HOSTNAME			X	32539	String	X	
POP_USER_NAME			X	32540	String	X	
PORT_NUMBER			X	1180	Unsigned	X	0–65,535
PROCESS_ID_LIST			X	64010	Complex	X	
PROCESS_UNMAPPED_OBJ_ ALARMS			X	64584	Boolean		
PROT_ENG_IN_RESOURCE			X	2019	Unsigned		
PROT_ENG_OUT_RESOURCE			X	2020	Unsigned		
PWR_CONS_SAMPS			X	32551	Unsigned	X	1–32
PWR_SAMP_INT			X	32550	Unsigned	X	
READ_COMMUNITY			X	32555	String	X	
REGISTRATION_USAGE			X	64605	Unsigned		
REPOSITORY_STATUS			X	815	Enumerated		
ROUTING_MODE			X	4307	Enumerated	X	
SAMPLE_RATE			X	824	Unsigned		
SAMPLES_LOST			X	816	Unsigned	X	

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
SER_PT1_CABLE_CONFIG			X	32528	Complex	X	
SIGN_PRI_DB_SIZE			X	730	Unsigned		
SIGN_PRI_PEAK			X	732	Unsigned		
SIGN_PRI_USED			X	731	Unsigned		
SITE_DIRECTOR_ONLINE			X	760	Boolean		
SITE_SECURITY_LEVEL			X	32645	Enumerated	X	
SMNP_ENABLED			X	32552	Boolean	X	
SMTP_PASSWORD			X	3861	String	X	
SMTP_PORT			X	32538	Unsigned	X	0–65,535
SMTP_SERVER_HOST			X	32537	Complex	X	
SMTP_USER_NAME			X	3815	String	X	
SNMP_DDA			X	32570	Complex	X	
SNMP_MESSAGE_FORMAT			X	4188	Enumerated		
SNMP_MGMT_DEV			X	32553	Complex	X	
SNMP_VERSION			X	32622	Enumerated	X	
SNTP_SERVER			X	4987	Boolean	X	
SSL_EMAIL_ENABLED			X	64590	Boolean	X	
SSL_EMAIL_IGNORE_ERRORS			X	64591	Boolean	X	
STAGED_FILES			X	5733	String		
STAGED_FIRMWARE_VERSION			X	5731	String		
STARTUP_OFF_STATE_AUTO _RELEASE_TIME			X	1186	Unsigned		
STARTUP_OFF_STATE_ COMMAND_PRIORITY			X	1224	Byte		
STATUS			X	512	Enumerated		
SUPERVISOR_DEVICE_ONLINE			X	3653	Boolean	X	
SUPERVISOR_OFFLINE_ TIMEOUT			X	6002	Byte		
SURROGATE_CACHE_CNT			X	571	Unsigned		
SURROGATE_CACHE_MAX			X	639	Unsigned		
SYS_RAM_RESOURCE			X	2016	Unsigned		
SYSLOG_DDA			X	64720	Complex	X	
SYSLOG_ENABLED			X	64745	Boolean	X	
TIME_BETWEEN_BUFFER_ READS			X	825	Unsigned		
TIMER_DB_SIZE			X	733	Unsigned		
TIMER_MSGS_ABORTED			X	4959	Unsigned		
TIMER_PEAK			X	735	Unsigned		
TIMER_USED			X	734	Unsigned		
TRANSFER_ALL_SAMPLES			X	861	Boolean		
TRANSFER_BUFFER_FULL			X	829	Unsigned		
TRANSPORT_FAILURE_RATE			X	867	List		
USER_NAME			X	2390	String	X	
WHO_IS_PERIOD			X	756	Unsigned	X	

Table 14: Device

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
WHO_IS_RECIPIENTS			X	755	Complex	X	
WRITE_COMMUNITY			X	32556	String	X	
XMS_DIAL_STAT[3]			X	32566	Enumerated		
XMS_DIALUP_CONFIG			X	32563	Complex	X	

1 Write does not take effect until after reboot.
2 Any change to APDU Length is made at associated network port object.
3 Not present in all instances.

Event Enrollment

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Table 15: Event Enrollment

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
EVENT_ENABLE	X			35		X	
EVENT_PARAMETERS	X			83		X	
NOTIFICATION_CLASS	X			17		X	1–4,194,303
NOTIFY_TYPE	X			72		X	
OBJECT_NAME	X			77		X	
OBJECT_PROPERTY_ REFERENCE	X			78		X[1]	
DESCRIPTION		X		28		X	64 characters max
EVENT_MESSAGE_TEXTS		X		351			
EVENT_MESSAGE_ TEXTS_CONFIG		X		352		X	256 characters max
ALARM_DISABLED			X	4308	Boolean	X	
ALARM_MESSAGE_TEXT[2]			X	536	Character String	X	
ALARM_STATE			X	1006	Enumerated		
ENABLED[2]			X	673	Boolean	X	
EXECUTION_PRIORITY[2]			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X	
GRAPHIC_ALIAS			X	32623	Character String	X	
INPUT_REF			X	545	Complex		
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
JCI_EVENT_PARAMETERS			X	2571	Character String	X	
MAPPED_NAME			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION[2]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[2]			X	538	Complex		
REMOTE_RELIABILITY[2]			X	32518	Enumerated		

Table 15: Event Enrollment

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Boolean	X	
USER_NAME			X	2390	Character String	X	400 characters max

1 Only writable when not defined after create object.
2 Not available in all instances.

File

File objects:

- can be modified by replacing the entire file
- must be written sequentially
- are only visible during a backup or restore operation
- can be created dynamically when restore is in progress

Dynamically Creatable: No

Dynamically Deletable: No

Table 16: File

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ARCHIVE	X			13		X	
FILE_SIZE[1]	X			42		X	
OBJECT_NAME	X			77		X	
DESCRIPTION		X		28		X	64 characters max
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
ITEM_REFERENCE			X	32527	Character String		
MAX_FILE_SIZE			X	3380	Unsigned		
OBJECT_CATEGORY			X	908	Enumerated	X	
STATUS			X	512	Enumerated		
USER_NAME			X	2390	Character String	X	400 characters max

1 Can write zero (0) to file size but arbitrary truncation or expansion is not supported.

Group

Dynamically Creatable: No

Dynamically Deletable: No

Table 17: Group

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
DESCRIPTION		X		28		X	64 characters max
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
ITEM_REFERENCE			X	32527	Character String		
JCI_LIST_OF_GROUP_MEMBRS			X	2572	List	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
STATUS			X	512	Enumerated		
USER_NAME			X	2390	Character String	X	400 characters max

Integer Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 18: Integer Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
PRESENT_VALUE	X			85		X	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[1]		X		0			
COV_INCREMENT		X		22		X	any value > 0
CURRENT_COMMAND_PRIORITY		X		431			
DEADBAND		X		25		X[2]	
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[1]		X		353			
EVENT_ENABLE[1]		X		35		X[2]	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[1]		X		352		X[2]	256 characters max
EVENT_STATE[1]		X		36			
EVENT_TIME_STAMPS[1]		X		130			
HIGH_LIMIT[1]		X		45		X[2]	
LIMIT_ENABLE[1]		X		52		X[2]	
LOW_LIMIT[1]		X		59		X[2]	
MAX_PRES_VALUE		X		65		X	
MIN_PRES_VALUE		X		69		X	

Table 18: Integer Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
NOTIFICATION_CLASS[1]		X		17		X[2]	1–4,194,303
NOTIFY_TYPE[1]		X		72		X[2]	
OUT_OF_SERVICE		X		81		X	
PRIORITY_ARRAY		X		87			
PROFILE_NAME		X		168			
RELIABILITY		X		103		X	
RELINQUISH_DEFAULT		X		104		X	
TIME_DELAY[1]		X		113		X[2]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[2]	
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X[2]	
GRAPHIC_ALIAS			X	32623	Character String	X[2]	
INSTANCE_NUMBER			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME[3]			X	2564	String		
NOTIFICATION_OBJ			X	4304	Object Reference		
OBJECT_CATEGORY			X	908	Enumerated		
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Complex		
OVERRIDE_EXPIRATION_TIME			X	64786	Complex		
REMOTE_DESCRIPTION[3]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[3]			X	538	String		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
USER_NAME			X	2390	Character String	X	400 characters max

1 Only present when the instance supports intrinsic alarming.
2 Only writable when EVENT_DETECTION_ENABLE is present and is True.
3 Not present in all instances.

Life Safety Point

Dynamically Creatable: No

Dynamically Deletable: No

Table 19: Life Safety Point

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
LIFE_SAFETY_MODE	X			160		X	
OBJECT_NAME	X			77		X	
RELIABILITY	X			103		X	

Table 19: Life Safety Point

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
TRACKING_VALUE[1]	X			164		X	0–65,535
DESCRIPTION		X		28		X	
DEVICE_TYPE		X		31		X	
DIRECT_READING		X		156		X	
MAINTENANCE_REQUIRED		X		158		X	
MEMBER_OF		X		159		X	
PROFILE_NAME		X		168		X	
SETTING		X		162		X	
UNITS		X		117		X	
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME			X	2564	String		
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS			X	538	Complex		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString	X	
USER_NAME			X	2390	String	X	400 characters max

1 Writable when Out of Service is True.

Life Safety Zone

Dynamically Creatable: No

Dynamically Deletable: No

Table 20: Life Safety Zone

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
LIFE_SAFETY_MODE	X			160		X	
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
RELIABILITY	X			103		X	
TRACKING_VALUE[1]	X			164		X	0–65,535
DESCRIPTION		X		28		X	
DEVICE_TYPE		X		31		X	
DIRECT_READING		X		156		X	
MAINTENANCE_REQUIRED		X		158		X	
MEMBER_OF		X		159		X	
PROFILE_NAME		X		168		X	
UNITS		X		117		X	

Table 20: Life Safety Zone

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INSTANCE_NUMBER			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME			X	2564	String		
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS			X	538	Complex		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString	X	
USER_NAME			X	2390	String	X	400 characters max

1 Writable when Out of Service is True.

Load Control

Dynamically Creatable: No

Dynamically Deletable: No

Table 21: Load Control

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
DUTY_WINDOW	X			213		X	
ENABLE	X			133		X	
OBJECT_NAME	X			77		X	
REQUESTED_SHED_LEVEL	X			218		X	
SHED_DURATION	X			219		X	
START_TIME	X			142			
ACKED_TRANSITIONS[1]		X		0			
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[1]		X		353			
EVENT_ENABLE[1]				35		X	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[1]		X		352		X	256 characters max
EVENT_TIME_STAMPS[1]		X		130			
FULL_DUTY_BASELINE		X		215			
NOTIFICATION_CLASS		X		17		X	1–4,194,303
NOTIFY_TYPE		X		72		X	
PROFILE_NAME		X		168			

Table 21: Load Control

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
RELIABILITY		X		103			
STATE_DESCRIPTION		X		222			
TIME_DELAY[1]		X		113		X	0–65,535
ACTUAL_SHED_LEVEL_VALUE			X	1492	Real		
ALARM_MESSAGE_TEXT			X	536	String	X	
ALARM_STATE			X	1006	Enumerated		
AUTHORIZATION_CATEGORY			X	908	Enumerated	X	0–249
DISPLAY_PRECISION			X	661	Enumerated	X	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
EXPECTED_SHED_LEVEL_VALUE			X	1491	Real		
GRAPHIC[1]			X	32581	Object Reference	X	
GRAPHIC_ALIAS[1]			X	32623	String	X	
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS				538	Complex		
REMOTE_RELIABILITY			X	32518	Enumerated		
REQUESTED_SHED-LEVEL_VALUE			X	1490	Enumerated		
SHED_LEVEL_TYPE			X	1489	Enumerated		
STATES_TEXT			X	931	Enumerated	X	
STATES_TEXT_ERROR_STATUS			X	64022	Enumerated		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
USER_NAME			X	2390	Character String	X	400 characters max
USER_SELECTED_ STATES_TEXT			X	1103	Boolean	X	

1 Only present when the instance supports intrinsic alarming.

Loop

Dynamically Creatable: No

Dynamically Deletable: No

Table 22: Loop

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ACTION	X			2		X	
CONTROLLED_VAR_UNITS				20		X	
OBJECT_NAME	X			77		X	
OUTPUT_UNITS				82		X[1]	
OUT_OF_SERVICE	X			81		X[2]	
PRESENT_VALUE	X			85		X[3]	
PRIORITY_FOR_WRITING	X			88		X	
SETPOINT	X			108		X[1]	
ACKED_TRANSITIONS[4]		X		0			
BIAS		X		14		X[2]	
COV_INCREMENT[5]		X		22		X	
DEADBAND		X		25		X	0.0–10,000
DERIVATIVE_CONSTANT		X		26		X[2]	
DERIVATIVE_CON_UNITS		X		27		X[1]	
DESCRIPTION		X		28			64 characters max
ERROR_LIMIT[4]				34		X[6]	
EVENT_DETECTION_ENABLE[4]		X		353			
EVENT_ENABLE[4]				35		X	
EVENT_MESSAGE_TEXTS[4]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[4]		X		352		X[6]	256 characters max
EVENT_TIME_STAMPS[4]		X		130			
INTEGRAL_CONSTANT		X		49		X[2]	
INTEGRAL_CONST_UNITS		X		50		X	
MAX_OUTPUT		X		61		X[2]	
MIN_OUTPUT		X		68		X[2]	
NOTIFICATION_CLASS[4]		X		17		X[6]	1–4,194,303
NOTIFY_TYPE[4]		X		72		X[6]	
PROPORTIONAL_CONST		X		93		X[2]	
PROP_CONSTANT_UNITS		X		94		X[1]	
RELIABILITY		X		103		X[3]	
TIME_DELAY[4]		X		113		X[6]	
UPDATE_INTERVAL		X		118		X[1]	
ALARM_STATE[5]			X	1006	Enumerated	X[6]	
ALARM_MESSAGE_TEXT			X	536	String	X[6]	
BIAS_REF			X	4687	Complex		
CNRL_DISPLAY_PRECISION[5]			X	1488	Enumerated	X	
DERIVATIVE_CONST_REF			X	4686	Complex		

Table 22: Loop

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
DISPLAY_PRECISION			X	661	Enumerated	X[1]	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	
GRAPHIC[4]			X	32581	Complex	X[6]	
GRAPHIC_ALIAS[4]			X	32623	String	X[6]	
INSTANCE_NUMBER[5]			X	32589	Unsigned		
INTEGRAL_CONST_REF			X	4685	Complex		
ITEM_REFERENCE[5]			X	32527	String		
INTRINSIC_ALARM_DISABLED			X	4305	Complex	X[6]	
JCI_CONTROLLED_VAR_REF			X	4683	Complex		
JCI_MANIPULATED_VAR_REF			X	4682	Complex		
JCI_OUTOFSERVICE_REF			X	12201	Complex		
JCI_OUTOFSERVICE_ VALUE_REF			X	12202	Complex		
JCI_SETPOINT_REFERENCE			X	4690	Complex		
LAST_KNOWN_TIME_STAMPS[5]			X	1290	BACnet Array		
MANUAL_TUNING[5]			X	3408	Enumerated		0-1
MAPPED_NAME[5]			X	2564	String		
MAX_OUTPUT_REF			X	4688	Complex		
MIN_OUTPUT_REF			X	4889	Complex		
NOTIFICATION_OBJ_REF[4]			X	4304	Complex	X[6]	
OBJECT_CATEGORY			X	908	Enumerated	X	
OUTPUT_DISPLAY_PRECISION[5]			X	1487	Enumerated	X	
PROPORTIONAL_CONST_REF			X	4684	Complex		
REMOTE_DESCRIPTION[5]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[5]			X	538	Complex		
STORED_EVENT_ENABLE			X	4306	Bit String		
STATUS			X	512	Enumerated		
USER_NAME			X	2390	String	X	

1 Not writable in all instances.
2 Only writable if MANUAL_TUNING or OUT_OF_SERVICE is True and referenced property is writable.
3 Only writable when Out of Service is true.
4 Only present when the instance supports intrinsic alarming.
5 Not present in all instances.
6 Only writable when Intrinsic Alarming Defined is True.

Multistate Input

Dynamically Creatable: No

Dynamically Deletable: No

Table 23: Multistate Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
NUMBER_OF_STATES	X			74		X	2–500 [1]
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X[2]	
ACKED_TRANSITIONS[3]		X		0			
ALARM_VALUES[3]		X		7		X[4]	0–65,535
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
EVENT_DETECTION_ENABLE[3]		X		353			
EVENT_ENABLE[3]		X		35		X[4]	
EVENT_MESSAGE_TEXTS[3]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[3]		X		352		X[4]	256 characters max
EVENT_TIME_STAMPS[3]		X		130			
FAULT_VALUES[3]		X		39		X[4]	0–65,535
NOTIFICATION_CLASS[3]		X		17		X[4]	1–4,194,303
NOTIFY_TYPE[3]		X		72		X[4]	
PROFILE_NAME		X		168			
RELIABILITY		X		103		X[2]	
STATE_TEXT		X		110			
TIME_DELAY[3]		X		113		X[4]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[4]	
ALARM_STATE			X	1006	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X[4]	
GRAPHIC_ALIAS			X	32623	Character String	X[4]	
INSTANCE_NUMBER			X	32589	Unsigned	X	
INTERFACE_VALUE			X	4265	Enumerated		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME[5]			X	2564	String		
NET_N2_ADDRESS			X	806	Byte		
NET_POINT_ADDR			X	808	Unsigned		
NET_POINT_TYPE			X	807	Enumerated		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	

Table 23: Multistate Input

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OFFLINE			X	913	Boolean		
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Complex		
OVERRIDDEN			X	809	Boolean		
OVERRIDE_EXPIRATION_TIME			X	64786	Complex		
REMOTE_DESCRIPTION			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[5]			X	538	Complex		
STATES_TEXT			X	931	Enumerated	X	
STATES_TEXT_ERROR_STATUS			X	64022	Enumerated		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
TRUNK_NUMBER			X	549	Unsigned		
USER_NAME			X	2390	Character String	X	
USER_SELECTED_STATES_TEXT			X	1103	Boolean	X	

1 For N2 integrations, the range is 2-16.
2 Only writable when Out of Service is set to True.
3 Only present when the instance supports intrinsic alarming.
4 Only writable when EVENT_DETECTION_ENABLE is present and is True.
5 Not present in all instances.

Multistate Output

Dynamically Creatable: No

Dynamically Deletable: No

Table 24: Multistate Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
NUMBER_OF_STATES	X			74		X	2–500 [1]
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X	
RELINQUISH_DEFAULT	X			104		X	
ACKED_TRANSITIONS[2]		X		0			
DESCRIPTION		X		28		X	64 characters max
DEVICE_TYPE		X		31		X	20 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
FEEDBACK_VALUE		X		40		X[3]	

Table 24: Multistate Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
PROFILE_NAME		X		168			
RELIABILITY		X		103		X[4]	
STATE_TEXT		X		110			
TIME_DELAY[2]		X		113		X[3]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
ALARM_STATE			X	1006	Enumerated		
AUTO_RESTORE			X	561	Boolean	X	
ENABLED			X	673	Boolean	X	
ERROR_STATUS			X	576	Enumerated		
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FEEDBACK_REFERENCE			X	753	Attribute Reference	X	
GRAPHIC			X	32581	Character String	X[3]	
GRAPHIC_ALIAS			X	32623	Character String	X[3]	
HEAVY_EQUIP_DELAY			X	516	Unsigned	X	
HED_CONTROLLER			X	517	Unsigned	X	
IGNORE_RELINQUISH_ DEFAULT			X	580	Boolean	X	
INSTANCE_NUMBER			X	32589	Unsigned		
INTERFACE_VALUE			X	4265	Enumerated		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean		
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
LOCAL_CONTROL			X	32608	Boolean	X	
MAPPED_NAME[5]			X	2564	String		
NET_N2_ADDRESS			X	806	Byte		
NET_POINT_TYPE			X	807	Enumerated		
NET_POINT_ADDR			X	808	Unsigned		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE			X	913	Boolean		
OUT_OF_SERVICE_EXPIRATION _TIME			X	64787	Complex		
OVERRIDDEN			X	809	Boolean		
OVERRIDE_EXPIRATION_TIME			X	64786	Complex		
REMOTE_DESCRIPTION[5]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[5]			X	538	String		
RESTORE_COMMAND_ PRIORITY			X	721	Bit String	X	
STATES_TEXT			X	931	Enumerated	X	
STATES_TEXT_ERROR_STATUS			X	64022	Enumerated		

Table 24: Multistate Output

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
TRUNK_NUMBER			X	549	Unsigned		
USER_NAME			X	2390	Character String	X	400 characters max
USER_SELECTED_STATES_TEXT			X	1103	Boolean	X	

1 For N2 integrations, the range is 2–16.
2 Only present when the instance supports intrinsic alarming.
3 Only writable when EVENT_DETECTION_ENABLE is present and is True.
4 Only writable when Out of Service is set to True.
5 Not present in all instances.

Multistate Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 25: Multistate Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
NUMBER_OF_STATES	X			74		X	2–500
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X[1]	
PRESENT_VALUE	X			85		X[1]	
ACKED_TRANSITIONS[2]		X		0			
ALARM_VALUES[2]		X		7		X[3]	0–65,535
CURRENT_COMMAND_PRIORITY		X		431			
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
FAULT_VALUES[2]		X		39		X[3]	0–65,535
ITEM_REFERENCE		X		32527			
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
PRIORITY_ARRAY[4]		X		87			
RELIABILITY		X		103		X[1]	
RELINQUISH_DEFAULT		X		104		X	
STATE_TEXT		X		110			

Table 25: Multistate Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
TIME_DELAY[2]		X		113		X[3]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
ALARM_STATE			X	1006	Enumerated		
AUTHORIZATION_CATEGORY			X	908	Enumerated	X	0–249
BACNET_EXPOSED			X	3807	Boolean	X	
CONNECTED_STATUS			X	1243	Enumerated		
CONNECTED_TO			X	1376	Attribute Reference	X[1]	
CONNECTED_TO_INTERNAL_APPLICATION			X	6081	Enumerated		
COV_COUNT			X	839	Unsigned		
DEFAULT_VALUE			X	3113	Enumerated	X	
DEVICE_MAC_ADDRESS			X	3629	Unsigned		
DIRECTION			X	746	Enumerated	X[1]	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
FAILSAFE_CURRENTLY_ACTIVE			X	6088	Enumerated		
FAILSOFT			X	2567	Boolean	X	
GRAPHIC			X	32581	Character String	X[3]	
GRAPHIC_ALIAS			X	32623	Character String	X[3]	
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X[3]	
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X[3]	
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE			X	913	Boolean		
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Complex		
OVERRIDE_EXPIRATION_TIME			X	64786	Complex		
PRESENT_VALUE_WRITABLE			X	6080	Enumerated		
PRIORITY_FOR_WRITING_TO_CONNECTED			X	6093	Byte	X[1]	
PRIORITY_SUPPORTED			X	6083	Boolean	X[1]	
PROPERTY_REF_VALUE			X	2202	Attribute Reference		
REFERENCED_RELIABILITY			X	6085	Enumerated		
REFERENCED_VALUE			X	6084	Enumerated		
REFERENCED_VALUE_COS_COUNT			X	6086	Unsigned	X[1]	
RESTORE_COMMAND_PRIORITY			X	721	Bit String	X[1]	
STATES_TEXT			X	931	Enumerated	X	

Table 25: Multistate Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	Bit String		
USER_NAME			X	2390	Character String	X	400 characters max

1 Not writable in all instances.
2 Only present when the instance supports intrinsic alarming.
3 Only writable when alarming is enabled.
4 Not present in all instances.

Network Port (Ethernet IP DataLink)

Dynamically Creatable: No

Dynamically Deletable: No

Table 26: Network Port (Ethernet IP Datalink)

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
APDU_LENGTH		X		399		X	
BACNET_COMMAND		X		417		X	
BACNET_IP_ADDRESS		X		400			
BACNET_IP_MODE		X		408			
BACNET_IP_UDP_PORT		X		412			
BACNET_MAC_ADDRESS		X		423			
BBMD_ACCEPT_FD_REGISTRATIONS		X		413		X	
BBMD_BROADCAST_DISTRIBUTION_TABLE		X		414		X	
BBMD_FOREIGN_DEVICE_TABLE		X		415			
DESCRIPTION		X		28		X	64 characters max
IP_DHCP_ENABLE		X		402			
IP_DNS_SERVER		X		406			
IP_SUBNET_MASK		X		411			
NETWORK_NUMBER[1]		X		425		X	
NETWORK_NUMBER QUALITY		X		426			
ALARM_STATE			X	1006	Enumerated		
BACNET_IP_PORT			X	1223	Unsigned	X	
BROADCAST_ADDRESS			X	2045	String		
DEVICE_ADDRESS			X	876	String		
DNS_REFRESH_PERIOD			X	2336	Unsigned	X	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	
ITEM_REFERENCE			X	32527	Enumerated		
JCI_NPO_ADPU_RETRIES			X	1851	Unsigned	X	

Table 26: Network Port (Ethernet IP Datalink)

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
JCI_NPO_ADPU_SEGMENT_TIMEOUT			X	1849	Unsigned	X	
JCI_NPO_ADPU_TIMEOUT			X	1850	Unsigned	X	
JCI_NPO_CHANGES_PENDING_BITSTRING			X	1852	Unsigned	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
PROT_ENG_OUT_RESOURCE			X	2020	Unsigned		
STATUS			X	512	Enumerated		
USER_NAME			X	2390	String	X	

1 Only writable when routing is enabled.

Network Port (Field Bus MSTP)

Dynamically Creatable: No

Dynamically Deletable: No

Table 27: Network Port (Field Bus MSTP)

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
APDU_LENGTH		X		399		X	
BACNET_COMMAND		X		417		X	
BACNET_MAC_ADDRESS		X		423		X	
DESCRIPTION		X		28		X	
LINK_SPEED_AUTONEGOTIATE		X		422			
MAX_INFO_FRAMES		X		63		X	
MAX_MASTER		X		64		X	
NETWORK_NUMBER[1]		X		425		X	
NETWORK_NUMBER QUALITY		X		426			
ACTIVE_BAUD_RATE			X	2861	Enumerated		
ACTIVE_NODE_TABLE			X	64646	Array		
ACTIVE_NODE_TABLE_CHANGE_COUNTER			X	64647	Unsigned		
ACTIVE_TABLE_STATUS			X	64645	Enumerated		
ALARM_STATE			X	1006	Enumerated		
BROADCAST_ADDRESS			X	2045	String		
CLEAR_STATISTICS			X	2427	Boolean	X	
DNS_REFRESH_PERIOD			X	2336	Unsigned	X	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	
ITEM_REFERENCE			X	32527	Enumerated		
JCI_NPO_ADPU_RETRIES			X	1851	Unsigned	X	
JCI_NPO_ADPU_SEGMENT_TIMEOUT			X	1849	Unsigned	X	
JCI_NPO_ADPU_TIMEOUT			X	1850	Unsigned	X	
JCI_NPO_CHANGES_PENDING_BITSTRING			X	1852	Unsigned	X	

Table 27: Network Port (Field Bus MSTP)

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
JCI_NPO_PORT_TYPE			X	1848	Enumerated	X	
LATCH_STATISTICS			X	2426	Boolean	X	
MULTICAST_RESPONDER			X	30095	Unsigned	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
PORT_STATUS			X	2866	Enumerated		
PROT_ENG_OUT_RESOURCE			X	2020	Unsigned		
REPLY_TIMEOUT			X	2865	Unsigned		
SOFTWARE_ADDRESSING_ENABLED			X	2863	Boolean		
STATUS			X	512	Enumerated		
USAGE_TIMEOUT			X	2864	Unsigned		
USER_NAME			X	2390	String	X	

1 Only writable when routing is enabled.

Notification Class

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Table 28: Notification Class

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ACK_REQUIRED	X			1		X	
OBJECT_NAME	X			77		X	
PRIORITY	X			86		X	
RECIPIENT_LIST	X			102		X	
DESCRIPTION		X		28		X	64 characters max
ALARM_STATE			X	1006	Enumerated		
AUTHORIZATION_CATEGORY			X	908	Enumerated	X	0–249
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
ITEM_REFERENCE			X	32527	Character String		
MAPPED_NAME[1]			X	2564	String		
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION[1]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[1]			X	538	Complex		
ROUTE_TO_METASYS			X	32580	Boolean	X	
SEND_NOTIFICATIONS_TO_SUPERVISOR			X	1095	Boolean	X	
STATUS			X	512	Enumerated		
SUPERVISORY_DEVICE_PROCESS_ID			X	3052	Unsigned		
USER_NAME			X	2390	Character String	X	400 characters max

1 Not present in all instances.

Positive Integer Value

Dynamically Creatable: No

Dynamically Deletable: No

Table 29: Positive Integer Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
PRESENT_VALUE	X			85		X	
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[1]		X		0			
COV_INCREMENT		X		22		X	any value > 0
CURRENT_COMMAND_PRIORITY		X		431			
DEADBAND[1]		X		25		X[2]	
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[1]		X		353			
EVENT_ENABLE[1]		X		35		X[2]	
EVENT_MESSAGE_TEXTS[1]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[1]		X		352		X[2]	256 characters max
EVENT_STATE[1]		X		36			
EVENT_TIME_STAMPS[1]		X		130			
HIGH_LIMIT[1]		X		45		X[2]	
LIMIT_ENABLE[1]		X		52		X[2]	
LOW_LIMIT[1]		X		59		X[2]	
MAX_PRES_VALUE		X		65		X	
MIN_PRES_VALUE		X		69		X	
NOTIFICATION_CLASS[1]		X		17		X[2]	1–4,194,303
NOTIFY_TYPE[1]		X		72		X[2]	
OUT_OF_SERVICE		X		81		X	
PRIORITY_ARRAY		X		87			
PROFILE_NAME		X		168			
RELIABILITY		X		103		X	
RELINQUISH_DEFAULT		X		104			
TIME_DELAY[1]		X		113		X[2]	0–65,535
ALARM_MESSAGE_TEXT			X	536	Character String	X[2]	
ALARM_STATE			X	1006	Enumerated		
AUTHORIZATION_CATEGORY			X	908	Enumerated	X	0–249
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
GRAPHIC			X	32581	Character String	X[2]	

Table 29: Positive Integer Value

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
GRAPHIC_ALIAS			X	32623	Character String	X[2]	
INSTANCE_NUMBER			X	32589	Unsigned		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
ITEM_REFERENCE			X	32527	Character String		
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME[3]			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OUT_OF_SERVICE_EXPIRATION_TIME			X	64787	Complex		
OVERRIDE_EXPIRATION_TIME			X	64786	Complex		
REMOTE_DESCRIPTION[3]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[3]			X	538	Complex		
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
USER_NAME			X	2390	Character String	X	400 characters max

1 Only present when the instance supports intrinsic alarming.
2 Only writable when EVENT_DETECTION_ENABLE is present and is True.
3 Not present in all instances.

Program

Dynamically Creatable: No

Dynamically Deletable: No

Table 30: Program

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_NAME	X			77		X	
PROGRAM_CHANGE	X			90		X	
DESCRIPTION		X		28		X	64 characters max
DESCRIPTION_OF_HALT		X		29			
INSTANCE_OF		X		48			
PROGRAM_LOCATION		X		91		X[1]	
PROFILE_NAME		X		168			
REASON_FOR_HALT		X		100			
RELIABILITY		X		103		X[1]	
ACS_VERSION[2]			X	4128	Byte	X[1]	
ALARM_STATE			X	1006	Enumerated		
APPLICATION_STATE[2]			X	11037	Enumerated	X[1]	
ARCHIVE_NAME[2]			X	32521	String	X[1]	
ATTRIBUTE_INFO			X	2554	List	X	
AUTHORIZATION_CATEGORY			X	908	Enumerated	X	0–249

Table 30: Program

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
DMCS_VERSION[2]			X	4129	Byte	X[1]	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	
FILE_NAME[2]			X	902	Complex	X[1]	
GRAPHIC			X	32581	Object Reference	X	
GRAPHIC_ALIAS			X	32623	String	X	
LOGIC_SEQUENCE			X	2529	List	X	
INPUT_1			X	50083	Numeric	X	
INPUT_2			X	50084	Numeric	X	
INPUT_3			X	2362	Numeric	X	
INPUT_4			X	2363	Numeric	X	
INPUT_5			X	2364	Numeric	X	
INPUT_6			X	2365	Numeric	X	
INPUT_7			X	2366	Numeric	X	
INPUT_8			X	2367	Numeric	X	
INPUT_9			X	2368	Numeric	X	
INPUT_10			X	2369	Numeric	X	
INPUT_11			X	2370	Numeric	X	
INPUT_12			X	2371	Numeric	X	
INPUT_13			X	2372	Numeric	X	
INPUT_14			X	2373	Numeric	X	
INPUT_15			X	2374	Numeric	X	
INPUT_16			X	2375	Numeric	X	
INPUT_17			X	2376	Numeric	X	
INPUT_18			X	2377	Numeric	X	
INPUT_19			X	2378	Numeric	X	
INPUT_20			X	2379	Numeric	X	
INPUT_21			X	2500	Numeric	X	
INPUT_22			X	2501	Numeric	X	
INPUT_23			X	2502	Numeric	X	
INPUT_24			X	2503	Numeric	X	
MAPPED_NAME			X	2564	String		
INSTANCE_NAME			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	String		
LAST_MODIFICATION_DATE			X	6096	Complex	X	
LOGIC_SEQUENCE			X	2529	List	X	
OBJECT_CATEGORY			X	908	Enumerated	X	
OBJECT_COUNT			X	844	Unsigned		
OUTPUT_1			X	2505	Numeric		
OUTPUT_2			X	2506	Numeric		
OUTPUT_3			X	2507	Numeric		
OUTPUT_4			X	2508	Numeric		

Table 30: Program

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OUTPUT_5			X	2509	Numeric		
OUTPUT_6			X	2510	Numeric		
OUTPUT_7			X	2511	Numeric		
OUTPUT_8			X	2512	Numeric		
OUTPUT_9			X	2513	Numeric		
OUTPUT_10			X	2514	Numeric		
OUTPUT_11			X	2515	Numeric		
OUTPUT_12			X	2516	Numeric		
OUTPUT_13			X	2517	Numeric		
OUTPUT_14			X	2518	Numeric		
OUTPUT_15			X	2519	Numeric		
OUTPUT_16			X	2520	Numeric		
OUTPUT_17			X	2521	Numeric		
OUTPUT_18			X	2522	Numeric		
OUTPUT_19			X	2523	Numeric		
OUTPUT_20			X	2524	Numeric		
OUTPUT_21			X	2525	Numeric		
OUTPUT_22			X	2526	Numeric		
OUTPUT_23			X	2527	Numeric		
OUTPUT_24			X	2528	Numeric		
PRIORITY			X	86	Enumerated		
REMOTE_DESCRIPTION			X	32519	String	X	
REMOTE_DEVICE_ADDRESS			X	538	String		
STARTUP_TIME			X	63947	Unsigned	X	
STATUS			X	512	Enumerated		
SYSTEM_NAME			X	910	String		
SYSTEM_OF_UNITS_SELECTION			X	6057	Enumerated		
TEST_MODE			X	3620	Enumerated		
USER_NAME			X	2390	String		

1 Not writable in all instances.
2 Not present in all instances.

Pulse Converter

Dynamically Creatable: No

Dynamically Deletable: No

Table 31: Pulse Converter

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ADJUST_VALUE	X			176		X	
OBJECT_NAME	X			77			
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X[1]	
PULSE_SCALE_FACTOR	X			188		X	

Table 31: Pulse Converter

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
UNITS	X			117		X	0–65,535
ACKED_TRANSITIONS[2]		X		0			
DEADBAND[2]		X		25		X	
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_ TEXTS_CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
HIGH_LIMIT[2]		X		45		X[3]	
LIMIT_ENABLE[2]		X		52		X[3]	
LOW_LIMIT[2]		X		59		X[3]	
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_TYPE[2]		X		72		X[3]	
PROFILE_NAME		X		168			
PULSE_REFERENCE		X		181			
RELIABILITY		X		103		X[1]	
TIME_DELAY[2]		X		113		X[3]	0–65,535
ALARM_STATE			X	1006	Enumerated		
ALARM_MESSAGE_TEXT			X	536	Character String	X[3]	
DISPLAY_PRECISION			X	661	Enumerated	X	
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	
GRAPHIC[2]			X	32581	Character String	X	
GRAPHIC_ALIAS[2]			X	32623	Character String	X	
INPUT REF			X	512	Enumerated		
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32589	String		
INTRINSIC_ALARM_DISABLED			X	4305	Boolean	X	
LAST_KNOWN_TIME_STAMPS			X	1290	BACnet Array		
MAPPED_NAME[4]			X	2564	String		
NOTIFICATION_OBJ_REF			X	4304	Object Reference		
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE			X	913	Boolean		
REMOTE_DESCRIPTION[4]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[4]			X	538	Complex		
REMOTE_RELIABILITY			X	32518	Enumerated	X	

Table 31: Pulse Converter

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
STATUS			X	512	Enumerated		
STORED_EVENT_ENABLE			X	4306	BitString		
USER_NAME			X	2390	String	X	

1 Only writable when Out of Service is set to True.
2 Only present when the instance supports intrinsic alarming.
3 Only writable when EVENT_DETECTION_ENABLE is present and is True.
4 Not present in all instances.

Schedule

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Table 32: Schedule

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
EFFECTIVE_PERIOD	X			32		X	
LIST_OF_PROP_REFS	X			54			
OBJECT_NAME	X			77		X	
OUT_OF_SERVICE	X			81		X	
PRESENT_VALUE	X			85		X[1]	
PRIORITY_FOR_WRITING	X			88		X	
SCHEDULE_DEFAULT	X			174		X	
DESCRIPTION		X		28		X	64 characters max
EXCEPTION_SCHEDULE		X		38		X[2,3]	
PROFILE_NAME[3]		X		168			
WEEKLY_SCHEDULE		X		123		X	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean	X	
COV_COUNT[3]			X	839	Byte		
DEVICE_MAC_ADDRESS[3]			X	3629	Byte		
DEVICE_TIME ZONE			X	1403	Enumerated		
DISPLAY_UNITS[3]			X	2207	Enumerated	X	
ENABLE_OBJECT_TYPE_ VALIDATION[3]			X	3983	Boolean	X	
ENABLED			X	673	Boolean	X	
EXCEPTION_SCHEDULE[3]			X	38	List		
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
IN_TEST[3]			X	3368	Boolean		
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
JCI_EXCEPTION_SCHEDULE			X	2573	List	X	
JCI_LIST_OF_PROPERTY_REF			X	2574	List	X	
MAPPED_NAME[3]			X	2564	String		

Table 32: Schedule

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
OBJECT_CATEGORY			X	908	Enumerated	X	
OFFLINE[3]			X	913	Boolean		
PERFORM_INDEX[3]			X	965	Unsigned		
REMOTE_DESCRIPTION[3]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[3]				538	Complex		
SCHEDULE_DATA_TYPE			X	951	Enumerated	X	
SCHEDULE_TYPE			X	950	Enumerated	X	
SICS_BEHAVIOR[3]			X	4349	Boolean	X	
START_TIME_SCHEDULE_VALUE[3]			X	1728	Enumerated		
STATES TEXT[3]			X	931	Enumerated	X	
STATUS			X	512	Enumerated		
STOP_TIME_SCHEDULE_VALUE			X	1729	Enumerated		
TODAYS_SCHEDULE[3]			X	4198	List		
TRUNK_NUMBER[3]			X	549	Byte		
USER_NAME			X	2390	Character String	X	400 characters max

1 Writable when OUT_OF_SERVICE is true.
2 Not writable in all instances.
3 Not present in all instances.

Trend Log

Dynamically Creatable: Yes

Dynamically Deletable: Yes

Table 33: Trend Log

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
BUFFER_SIZE	X			126		X[1]	2-5000
ENABLE	X			133		X	
LOGGING_TYPE	X			197		X[1]	
OBJECT_NAME	X			77		X	
RECORD_COUNT	X			371		X	
STOP_WHEN_FULL	X			144		X	
ACKED_TRANSITION[2]		X		0			
ALIGN_INTERVALS		X		193			
CLIENT_COV_INCREMENT		X		127		X	
COV_RESUBSC_INTERVAL		X		128		X	Any value > 0
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	

Table 33: Trend Log

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
EVENT_MESSAGE_TEXTS[2]		X		351		X[3]	
EVENT_MESSAGE_TEXTS_ CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
INPUT_REFERENCE [4]		X		132		X[1]	
INTERVAL_OFFSET		X		195		X	
LAST_NOTIFY_TIME		X		173			
LOG_INTERVAL[5]		X		134		X	
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_THRESHOLD[2]		X		137		X[3]	
NOTIFY_TYPE[2]		X		72		X[3]	
PROFILE_NAME		X		168			
RECORDS_SINCE_NOTIFY[2]		X		140			
RELIABILITY		X		103		X[1]	
START_TIME		X		142		X	
STOP_TIME		X		143		X	
TRIGGER		X		205		X	
ALARM_STATE			X	1006	Enumerated		
BACNET_EXPOSED			X	3807	Boolean		
BUFFER_STATE			X	2565	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INPUT_REF			X	545	Complex	X[1]	
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
MAPPED_NAME			X	2564	String		
NEXT_TRANSFER_COUNT			X	2553	Unsigned		
NOTIFICATION_OBJ_REF			X	4304	Object Reference	X[1]	
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION[6]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[6]			X	538	Complex		
REMOTE_RELIABILITY			X	32518	Enumerated		
RESPOSITORY_ENABLED			X	2549	Boolean	X	
ROUTE_TRIGGER			X	2552	Boolean	X	
SAMPLE_INTERVAL[5]			X	2566	Unsigned	X	
STATUS			X	512	Enumerated		
TRANSFER_SETPOINT			X	2550	Unsigned	X	1–5,000
USER_NAME			X	2390	Character String	X	400 characters max

1 Not writable in all instances.
2 Only present when the instance supports intrinsic alarming.

3 Only writable when EVENT_DETECTION_ENABLE is present and is True.
4 Named LOG_DEVICEOBJECTPROPERTY in the BACnet standard.
5 Log_Interval and Sample_Interval represent the same value in different units of time. Log_Interval is in hundredths of seconds and Sample_Interval (Johnson Controls proprietary) is in seconds. Both allow only whole seconds and round to the nearest second.
6 Not present in all instances.

Trend Log Multiple

Dynamically Creatable: No

Dynamically Deletable: No

Table 34: Trend Log Multiple

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
ENABLE	X			133		X	
LOG_INTERVAL[1]	X			134		X	
OBJECT_NAME	X			77		X	
RECORD_COUNT	X			371		X	
STOP_WHEN_FULL	X			144		X	
ACKED_TRANSITION[2]		X		0			
ALIGN_INTERVALS		X		193			
DESCRIPTION		X		28		X	64 characters max
EVENT_DETECTION_ENABLE[2]		X		353			
EVENT_ENABLE[2]		X		35		X[3]	
EVENT_MESSAGE_TEXTS[2]		X		351			
EVENT_MESSAGE_TEXTS_CONFIG[2]		X		352		X[3]	256 characters max
EVENT_TIME_STAMPS[2]		X		130			
INPUT_REFERENCE		X		132		X[4]	
INTERVAL_OFFSET		X		195		X	
LAST_NOTIFY_TIME		X		173			
NOTIFICATION_CLASS[2]		X		17		X[3]	1–4,194,303
NOTIFY_THRESHOLD[2]		X		137		X[3]	
NOTIFY_TYPE[2]		X		72		X[3]	
PROFILE_NAME		X		168			
RECORDS_SINCE_NOTIFY		X		140			
RELIABILITY		X		103		X	
START_TIME		X		142		X	
STOP_TIME		X		143		X	
TRIGGER		X		205		X	
ALARM_STATE			X	1006	Enumerated		
BUFFER_STATE			X	2565	Enumerated		
ENABLED			X	673	Boolean	X	
EXECUTION_PRIORITY			X	2197	Enumerated	X	0–3
INPUT_REF			X	545	Complex		

Table 34: Trend Log Multiple

Property Name	Required	Optional	Proprietary	Property ID	Data Type	Writable	Range
INSTANCE_NUMBER			X	32589	Unsigned		
ITEM_REFERENCE			X	32527	Character String		
MAPPED_NAME[5]			X	2564	String		
NEXT_TRANSFER_COUNT			X	2553	Unsigned		
NOTIFICATION_OBJ_REF			X	4304	Object Reference		
OBJECT_CATEGORY			X	908	Enumerated	X	
REMOTE_DESCRIPTION[5]			X	32519	Character String	X	
REMOTE_DEVICE_ADDRESS[5]			X	538	Complex		
REMOTE_RELIABILITY			X	32518	Enumerated		
RESPOSITORY_ENABLED			X	2549	Boolean	X	
ROUTE_TRIGGER			X	2552	Boolean	X	
SAMPLE_INTERVAL[1]			X	2566	Unsigned	X	
STATUS			X	512	Enumerated		
TRANSFER_SETPOINT			X	2550	Unsigned	X	1–5,000
USER_NAME			X	2390	Character String	X	400 characters max

1 Log_Interval and Sample_Interval represent the same value in different units of time. Log_Interval is in hundredths of seconds and Sample_Interval (JCI Proprietary) is in seconds. Both allow only whole seconds and round to the nearest second.
2 Only present when the instance supports intrinsic alarming.
3 Only writable when EVENT_DETECTION_ENABLE is present and is True.
4 Not writable in all instances.
5 Not present in all instances.

Data Link Layer Options

☒	BACnet IP (Annex J)	
☒	BACnet IP (Annex J), BACnet Broadcast Management Device (BBMD)	
☐	BACnet IP (Annex J), Foreign Device	
☐	ISO 8802-3, Ethernet (Clause 7)	
☐	ATA 878.1, 2.5 MB ARCNET network (Clause 8)	
☐	ATA 878.1, EIA-485 ARCNET network (Clause 8), baud rates:	_____
☒	Master-Slave/Token-Passing (MS/TP) master (Clause 9), baud rates: [1]	9600; 19,200; 38,400; 76,800 [2]
☐	MS/TP slave (Clause 9), baud rates:	_____
☐	Point-To-Point, EIA 232 (Clause 10), baud rates:	_____
☐	Point-To-Point, modem (Clause 10), baud rates:	_____

☐	LonTalk® protocol (Clause 11), medium:	_____
☐	BACnet/ ZigBee® protocol (Annex O)	_____
☐	Other:	_____

1 This option is not supported on all models.
2 See product data for 76,800 baud guidelines.

Device Address Binding

☐ Yes	☒ No	**Is static device binding supported?** (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.)

Networking Options

☒	Router, Clause 6:IP/MSTP MSTP/MSTP		
☐	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 Unicode Transformation Format-8 (UTF-8)	☒	IBM®/ Microsoft® Double-Byte Character Set (DBCS)	☐	ISO 8859-1
☒	ISO 10646 Universal Character Set-2 (UCS-2)	☐	ISO 10646 (UCS-4)	☒	Japanese Industrial Standard (JIS) X 0208

Communication Gateway (Annex H)

The following table describes the types of non-BACnet equipment and networks that the gateway supports for each SNE or SNC model:

Table 35: BACnet support for SNE and SNC models

Product Model	*Metasys* System N2 Bus	LonWorks® Network
M4-SNE22001-0	X	X
M4-SNE11001-0	X	X
M4-SNE110L1-0	X	X
M4-SNE10501-0	X	X
M4-SNC25151-0	X	X
M4-SNC25151-04	X	X
M4-SNC16121-0	X	X
M4-SNC16121-04	X	X

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