Johnson Controls

Object Library

CK722 Device Object

Version 1.0, December 2008
24-10239-154 Revision B

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CK722 DEVICE OBJECT

INTRODUCTION

The CK722 Device Object defines the attributes that represent the externally visible characteristics of the CK722 controller.

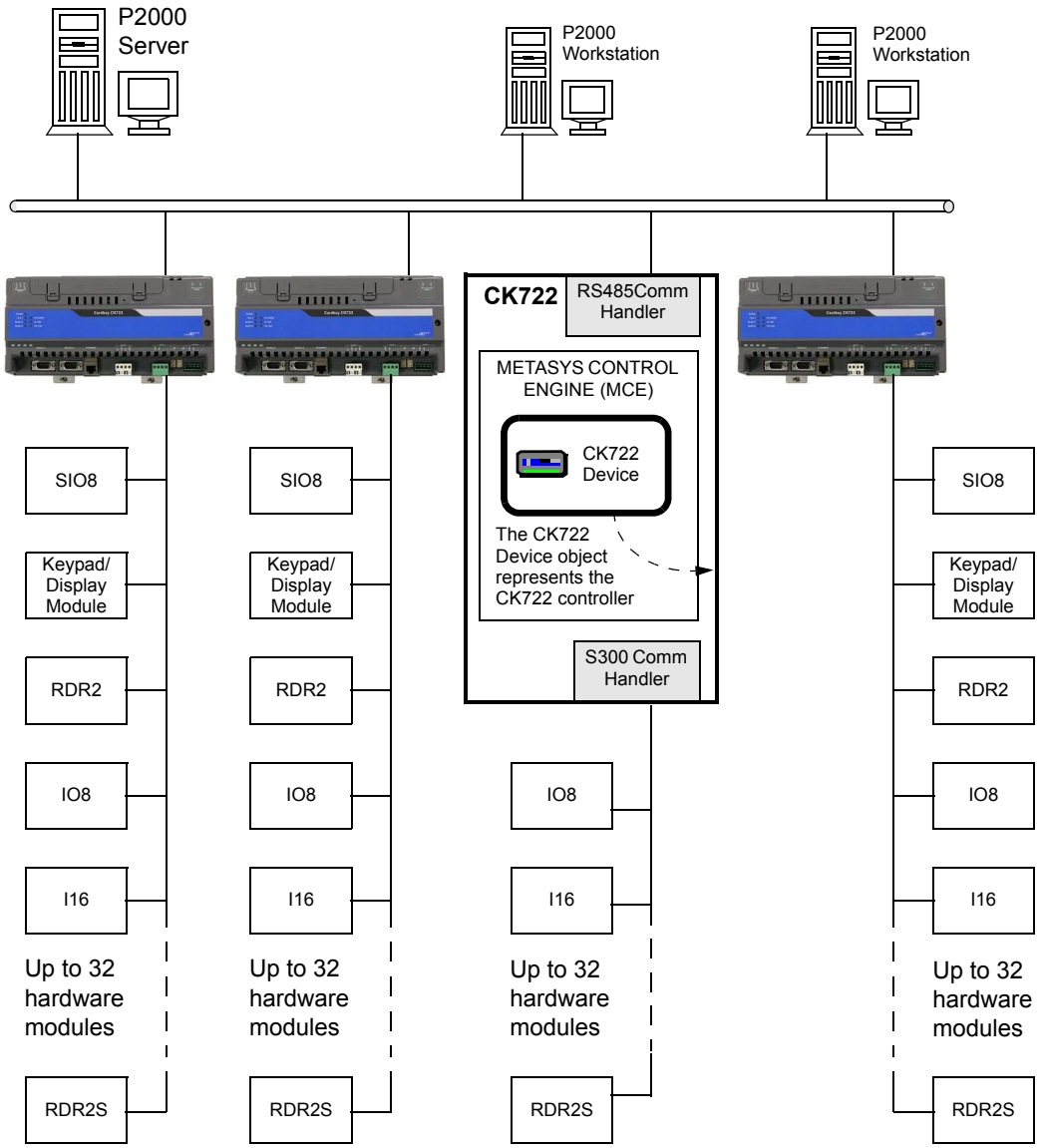

Figure 1: CK722 Device Object

ATTRIBUTES

This section describes visible attributes specific to the CK722 Device object. This object also contains:

- Attributes common to all objects in the P2000 Security Management System. For details, see the *General Object Information* document.
- Internal attributes, which are invisible to the user and cannot be modified directly, but may be referred to throughout this document.

Table 1: CK722 Device Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
*APDU Retries***	73	Byte	ACWQ	4	Min: 2, Max: 10 Range Check = Use Limits
*APDU Segment Timeout***	10	Unsigned Integer	ACWQ	4000	In milliseconds Min: 1000, Max: 65535 Range Check = Use Limits
*APDU Timeout***	11	Unsigned Integer	ACWQ	6000	In milliseconds Min: 1000, Max: 65535 Range Check = Use Limits
*Archive Date**	849	Date	A	No date	-
*Archive Status**	1187	Unsigned Integer	A	477	Range Check = No Check
*Archive Time**	850	Time	A	No time	-
BACnet IP Port	1223	Unsigned16	WCA	47808	-
BACnet IP Port Encryption Incoming	3658	Unsigned16	WCA	47809	-
BACnet IP Port Encryption Outgoing	3659	Unsigned16	WCA	47810	-
Board Temperature	2580	Float	F	-	In degrees Celsius Display Precision = 1 COV Increment = 1.0
Certificate Server IP Address	4130	Array [4] of byte	WCA	-	Category: IP Address
Cipher Algorithm	3642	Enumeration	WCA	0	0 = AES-CBC 1 = DES-CBC 3 = DES-EDE3-CBC
Computer Name	32531	String (Unicode)	W	See attribute description	Max. 15 characters

Table 1: CK722 Device Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
CPU Usage	2583	Float	F	-	In percent (%) Display Precision = 1 COV Increment = 1.0
Database Action	4015	Enumeration	W	0	0 = None 1 = Commit 2 = Restart 3 = Purge
Database Client Password	4147	String (Unicode)	W	-	Max. 32 characters
Database Client Path	4002	String (Unicode)	W	-	Max. 256 characters
Database Client User Name	4175	String (Unicode)	W	-	Max. 32 characters
Database Download Error String	4174	String (Unicode)	-	-	Max. 256 characters
Database Failed File Name	4173	String (Unicode)	-	-	Max. 256 characters
Database Server IP Address	4144	Array [4] of byte	WCA	-	Category: IP Address
DHCP Enabled	1138	Boolean	WCA	True	-
DNS Server IP Addresses	32534	Listof array [4] of byte	WCA	-	Array category: IP Address Max. size: 3
Domain Name	2334	String (Unicode)	W	-	Category: Hostname
DST Status	24	Boolean	O	-	-
Encryption Enabled	3637	Boolean	WCA	-	-
Estimated Flash Available	2395	Float	-	-	In Megabytes Display Precision = 0.1 COV Increment = 0.1
Event State	36	Enumeration	F	-	0 = Normal 1 = Fault 2 = Off-Normal
*Extended Proto Ver**	2291	Unsigned Integer	-	-	-
Firmware Upgrade	3775	Enumeration	W	0	0 = Not initialized 1 = Validate 2 = Upgrade 3 = Save 4 = Downgrade

Table 1: CK722 Device Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
Firmware Upgrade Status	3777	Enumeration	F	-	0 = Not initialized 1 = Validating 2 = Success 3 = Failed: File not found 4 = Failed: File invalid
Firmware Version	44	String (Unicode)	Q	-	-
Flash Usage	2584	Float	-	-	In percent (%) Display Precision = 1 COV Increment = 1.0
Internal Modem Config	32529	Struct	WCA	See note[1]	Applicable to Modem version ONLY
IP Address	1135	Array [4] of byte	WCA	-	Category: IP Address
IP Mask	1136	Array [4] of byte	WCA	-	Category: IP Address
IP Router Address	1137	Listof array [4] of byte	WCA	-	Array category: IP Address Max. size: 3
*JCI System Status**	847	Enumeration	DKF	Startup In Progress	JCI System Status enumeration Range Check = No Check
Key Size	3643	Enumeration	WCA	3	0 = 64 bits 1 = 128 bits 2 = 192 bits 3 = 256 bits
Last Idle Sample	30082	Float	-	-	In percent (%) Display Precision = 1 COV Increment = 1.0
Local Date	56	Date	O	-	-
Local Time	57	Time	FO	-	-
*Max APDU Length***	62	Unsigned Integer	ACWQ	1024	In bytes Min: 128 Max: 65535 Range Check = Use Limits

Table 1: CK722 Device Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
*Max Message Buffer***	848	Unsigned Integer	ACW	994	In bytes Min: 98 Max: 65535 Range Check = Use Limits
Memory Usage	2581	Float	F	-	In percent (%) Display Precision = 1 COV Increment = 1.0
Minimize Notifications	2895	Boolean	WCA	True	-
Notification Class	17	Unsigned32	WCA	1	Refer to *BACnet Standard 12.19.15*
Notify Priority	3644	Unsigned8	WCA	-	-
Notify Type	72	Enumeration	WCA	-	Refer to *BACnet Standard 12.19.20*
Object Memory Usage	2582	Float	F	-	In percent (%) Display Precision = 1 COV Increment = 1.0
Obtain DNS Address Automatically	32533	Boolean	WCA	True	-
P2000 Certificate Server Port	4003	Unsigned16	WCA	41027	-
Port Number	1180	Unsigned16	WCA	161	-
*Preload Classes**	837	List of Structures	CA	Varies per specific device class	Structure fields are: element 1 = Class Id: Enumeration (No Check) element 2 = Class Name: String(20) element 3 = Version: Structure (Specific Use = Version)
Renegotiate Bytes	3639	Unsigned16	WCA	-	-
Renegotiate Packets	3641	Unsigned16	WCA	-	-
Renegotiate Time	3640	Unsigned16	WCA	60	In minutes
Resend Status Notifications	4140	Boolean	W	False	-
Serial Port 1 Cable Config	32528	Struct	WCA	See note[1]	-
SNMP Enabled	32552	Boolean	WCA	False	-

Table 1: CK722 Device Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
SNMP Management Device	32553	Struct	WCA	-	Category = Hostname or IP Address
*System Status**	112	Enumeration	Q	Non Operational	BACnet Device Status enumeration Range Check = No Check
Time Zone	32583	Enumeration	WCA	0	Time Zone enumeration 0 = Value is taken from the Site object's *Time Zone* attribute
UTC Offset	119	Signed16	O	-	In minutes Min: -900 Max: +900

A - Archive, C - Configurable, D - Default attribute, F - PMI (Person/Machine Interface) refreshing, K - Key attribute, O - BACnet optional attribute, Q - BACnet required attribute, W - Writable

* This attribute is common to all device objects.

** This attribute belongs to product-specific device class attributes, a subclass of the common device object attributes.

Note[1]: The default modem initialization string is "AT-&F0V1Q0E0X3&C1&D2S0=1&W0"

APDU Retries – Maximum number of times that an APDU shall be retransmitted.

APDU Segment Timeout – The time between retransmission of an APDU segment.

APDU Timeout – The time between retransmissions of an APDU. The retransmission occurs when no acknowledgment has been received for an ADPU that requires acknowledgment.

Archive Date – This is the date of the last successful onboard archive of object instances. The value of this attribute will be valid if a valid onboard archive exists and during the onboard archive download process. The value of this attribute will be all 0xFF bytes at all other times.

Archive Status – This attribute is the status of the last onboard instance archive. The status is an internal error code to be used by qualified software personnel only. If this attribute is read immediately after an archive failure, it will indicate the reason for the failure. If the device reboots before this attribute is read, this attribute will simply indicate that there is no archive (status of NO INSTANCE ARCHIVE). If the archive completed successfully, this attribute will report an OK status.

Archive Time – This is the start time of the last successful onboard archive of object instances. The value of this attribute will be valid if a valid onboard archive exists and during the onboard archive download process. The value of this attribute will be all 0xFF bytes at all other times.

BACnet IP Port – Specifies the IP port. This value allows multiple BACnet networks on a single IP network.

BACnet IP Port Encryption Incoming – Specifies the BACnet IP Port for incoming encrypted messages.

BACnet IP Port Encryption Outgoing – Specifies the BACnet IP Port for outgoing encrypted messages.

Board Temperature – This attribute specifies the current Printed Wiring Board (PWB) temperature in degrees Celsius. It is updated every 60 seconds. It is obtained from a temperature sensor built onto the PWB. The device is designed to run reliably with a PWB temperature at or below 67 degrees Celsius. If this temperature is exceeded, appropriate measures should be taken to cool the device. Valid data is provided only on the CK722 hardware. Under device simulation, the value will be 0.

Certificate Server IP Address – This attribute represents the IP (internet protocol) address of the machine on which the P2000 certificate server is running.

Cipher Algorithm – Specifies the Cipher Algorithm used for encrypting packets. The options are:

- AES_CBC
- DES_CBC
- DES_EDE3_CBC

Computer Name – The attribute represents the CK722's unqualified host name. The *Object Name* attribute of the CK722 Device object is constructed using the computer name. Changing the object name (as from the archive database) may automatically change the computer name and changing the computer name will indirectly change the object name. Changing the computer name should only be done on a newly installed CK722. The Computer Name may be changed by the host (P2000 server).

Changing the computer name at any other time is discouraged because it may invalidate object references on other devices to the CK722. The computer name may be changed automatically by a DHCP server, if present and configured to do so. The computer name is initialized at the factory, for example, to be NAE00108d004c3a where 00.10.8d.00.4c.3a is the hexadecimal value for the six bytes of the Ethernet MAC address.

CPU Usage – This attribute specifies a running average of CPU utilization over the last 50 minutes. The value is updated every 30 seconds. The running average is calculated by adding or subtracting 1% of the difference between the current and average CPU usage. The value may not be meaningful until 50 minutes after a system restart. A value of 0% means the CPU is 100% idle. A value of 100% means the CPU is 0% idle. A value of 50% or less is considered OK although other performance indicators should also be assessed. Valid data is provided only on the CK722 hardware. Under device simulation, the value will be 0.

Database Action – Specifies the action to be performed on the database. The options are:

- Commit - Write the database to flash memory.
- Restart - Close and subsequently open the database.
- Purge - Delete the database from flash memory.

Database Client Password – This attribute represents the password on the client machine for the database download to occur using FTP. This password is used by the P2000 for downloading the database using FTP.

Database Client Path – This attribute represents the path (directory, sub-directory) on the client machine for the database download to occur using FTP. This path is used by the P2000 for downloading the database using FTP.

Database Client User Name – This attribute represents the user name for the database on the client machine for the database download to occur using ftp. This database client user name is used by the P2000 server for downloading the database using FTP.

Database Download Error String – This attribute represents the error string in case of an error when downloading the database from the P2000 server using FTP.

Database Failed File Name – This attribute represents the name of the file in case of a failure of a database download from the P2000 server using FTP.

Database Server IP Address – This attribute represents the IP (internet protocol) address of the machine on which the P2000 FTP (file transfer protocol) server is running.

DHCP Enabled – This attribute specifies whether the DHCP protocol should be utilized. There are three modes in which the device may run:

1. DHCP is enabled and a DHCP server exists on the network

The DHCP server assigns network configuration information. The following attributes may be assigned by the DHCP server:

- *IP Address*
- *IP Mask*
- *IP Router Address*
- *DNS Server IP Addresses* (when the *Obtain DNS Address Automatically* attribute is "True")

2. DHCP is enabled and no DHCP server exists on the network

Using a feature called Automatic Client Configuration, the device automatically configures the network configuration. The following attributes may be assigned:

- *IP Address*
- *IP Mask*

3. DHCP is disabled

The network configuration must be assigned manually. When *DHCP Enabled* is "True," writes to the following attributes are ignored:

- *IP Address*
- *IP Mask*
- *IP Router Address*
- *DNS Server IP Addresses* (when *Obtain DNS Address Automatically* attribute is "True")

Also, the values from DHCP are assumed to be more current than the tool database.

DNS Server IP Addresses – This attribute lists the IP addresses of *Domain Name* Servers (DNS) on the network. A DNS server is used by the system to resolve host names to IP addresses and similar tasks. A write to this attribute is ignored when the *Obtain DNS Address Automatically* attribute is "True." A read of this attribute will return either the user specified value or the value determined from DHCP.

This attribute may be set explicitly, or it may be automatically set using a DHCP server. Use of a DHCP server may change this attribute even if the user has set it up explicitly. See the *DHCP Enabled* attribute on page 8.

Domain Name – This attribute is the domain name in which the CK722 is defined. The *Object Name* attribute of the CK722 Device object is constructed using the domain name. Changing the object name (as from the archive database) may automatically change the domain name and changing the domain name will indirectly change the object name. Changing the domain name should only be done on a newly installed CK722. The *Domain Name* may be changed by the Host.

Changing the domain name at any other time is discouraged because it may invalidate object references on other devices to the CK722. The domain name may be changed automatically by a DHCP server, if present and configured to do so.

DST Status – When "True," the daylight savings time is in effect at the device's location.

Encryption Enabled – Specifies whether Encryption is Enabled or not. Setting this attribute to 'True' results in encryption of all messaging between CK722 controllers and between CK722 controllers and the host. With Encryption enabled, the host and CK722 Controller must encrypt all messages and support the same encryption algorithm and key size between themselves.

Estimated Flash Available – This attribute specifies the estimated flash memory available within the device for use by the user's database. This value can be used to determine whether additional use of flash can be accommodated, however, other performance indicators should also be assessed. This attribute's value is calculated at the same time as the *Flash Usage* attribute. A negative value suggests that the flash usage should be reduced. Also, a negative value can affect system reliability now or in future releases of software.

Event State – Indicates the event related status of the CK722 Device object, determined as follows:

- Fault - The last To-Fault notification has not yet been acknowledged.
- Off-Normal - The Event Type of event notification is BAC_EVENT_MEMORY_LOW or the last To-Offnormal notification has not yet been acknowledged.
- Normal - The Event Type of event notification is BAC_EVENT_MEMORY_OK or the last To-Normal notification has not yet been acknowledged.

Extended Proto Ver – This attribute specifies the version of JCI service extensions to the BACnet standard supported by the device. If this attribute does not exist, or the value returned is not within the range of 50001 to 50100, then the device does not support JCI service extensions.

Firmware Upgrade – Specifies the CK722 firmware upgrade value to be set. The result of the write to this attribute can be obtained in the *Firmware Upgrade Status* attribute. The options are:

- Validate - The downloaded file is decompressed and verified for integrity
- Upgrade - The current firmware is replaced by the downloaded firmware
- Save - The downloaded firmware is to be saved for later use
- Downgrade - The current firmware is replaced by the previously saved firmware or factory reset firmware if the downloaded firmware was not saved

Firmware Upgrade Status – Indicates the status of the CK722 Device object's firmware upgrade. The options are:

- Validating - The compressed firmware file is in the process of being decompressed.
- Success - The compressed firmware file has been decompressed successfully.
- Failed: File not found - The firmware file to be decompressed was not found.
- Failed: File invalid - The firmware file while being decompressed failed the integrity check.

Firmware Version – This attribute represents the release of firmware installed in the main code section of the device. The attribute is in the form "w.x.y.z" where w is a digit 0 to 9 that is advanced on major releases and x is a digit 0 to 9 that is advanced on minor releases, y is a digit 0 to 9 that is advanced on revision releases and z is a number that is advanced on build releases.

Flash Usage – This attribute specifies the estimated percent of flash memory currently in use. The percentage is based on the portion of flash that is designated for use by the user's database. The value is updated on device startup, after a database archive, database sync and by manual command. A value greater than 100% suggests that the flash usage should be reduced. Also, a value greater than 100% can affect system reliability now or in future releases of software. There are no restrictions in place to prohibit use of flash over 100%.

Internal Modem Config – This attribute (applicable only to the modem version) specifies the internal modem configuration. The following table describes the structure elements of this attribute:

Structure Element Name	Data Type	Initial Value	Properties
Enabled	Boolean	TRUE (1)	-
Allow Incoming Connections*	Boolean	FALSE (0)	-
Baud rate	Enumeration	115200	Baud Rate Enum Set
Max. Baud rate	Enumeration	115200	Baud Rate Enum Set
Wait for dial tone before dialing	Boolean	TRUE (1)	-
Modem Initialization String	String	MO	-

* When “False,” the connection can only be used for outgoing calls.

** This is the initialization string that will be sent to the modem whenever a modem is detected.

IP Address – This attribute represents the IP (internet protocol) address of this CK722 device. An Ethernet network requires that each Ethernet network node be assigned an IP address for correct network operation. A write to this attribute is ignored when the *DHCP Enabled* attribute is “True.” A read of this attribute will return either the user specified value or the value determined from DHCP.

Certain IP addresses are invalid and cannot be written successfully. The network address portion of the IP address is computed by including all bits in which the corresponding bit from the IP mask is “1.” The device address portion of the IP address is computed by including all bits in which the corresponding bit from the IP mask is “0.” Neither the network address nor device address can be all zero bits or all one bits. For example, if the IP mask is 255.255.0.0, then the following IP addresses are invalid: 0.0.100.100 and 100.100.0.0.

This attribute may be set explicitly, or it may be automatically set using a DHCP server. Use of a DHCP server may change this attribute even if the user has set it up explicitly. See the *DHCP Enabled* attribute on page 8.

IP Mask – This attribute represents the IP mask used on the Ethernet network. A write to this attribute is ignored when the *DHCP Enabled* attribute is “True.” A read of this attribute will return either the user specified value or the value determined from DHCP. The following IP masks are invalid and cannot be written successfully: 0.0.0.0 and 255.255.255.255. Generally, an IP mask will consist of between 1 to 31 consecutive “1” bits followed by 31 to 1 consecutive “0” bits when written out in binary notation. It is recommended, but not required, that an IP mask follow this pattern.

This attribute may be set explicitly, or it may be automatically set using a DHCP server. Use of a DHCP server may change this attribute even if the user has set it up explicitly. See the *DHCP Enabled* attribute on page 8.

IP Router Address – This attribute represents the IP (internet protocol) address of one or more default gateways. A write to this attribute is ignored when the *DHCP Enabled* attribute is "True." A read of this attribute will return either the user specified value or the value determined from DHCP. Certain IP router addresses are invalid and cannot be written successfully. See the description of the IP address for details. This attribute may be set explicitly, or it may be automatically set using a DHCP server. Use of a DHCP server may change this attribute even if the user has set it up explicitly. See the *DHCP Enabled* attribute on page 8.

JCI System Status – This attribute reflects the current status of the device. The values that may be taken on by this attribute are as follows. Not all platforms support all values.

Attribute Value	Description
Code download required	The device has determined that the main code is invalid and needs to be downloaded. The device will only run in boot code until main code is downloaded.
Code download in progress	Download of main code is in progress.
Class code download in progress	Download of optional classes is in progress.
Subclass download in progress	User defined assembly or application subclass download is in progress.
Instance download in progress	Download of object instances is in progress.
Startup in progress	The startup process is in progress. This state is entered after cold start, restart, an instance download or onboard download.
JCI operational	The device is operational.
Subclass upload in progress	User defined assembly or application subclass upload is in progress.
Instance upload in progress	Upload of object instances is in progress.
Onboard upload in progress	The process of uploading all object instances to an archive database local to the device is in progress.
Onboard download in progress	The process of creating object instances from an archive database local to the device is in progress.
Boot code download required	The device has determined that the boot code is invalid and needs to be downloaded. The device will only run in main code until boot code is downloaded.
Startup code download required	The device has determined that the startup code is invalid and needs to be downloaded.
Boot code download in progress	Download of boot code is in progress.
Startup code download in progress	Download of startup code is in progress.
Instances deleted	The onboard archive database has not been loaded in preparation for an instance download.
Dictionary download in progress	Download of the dictionary is in progress.

Attribute Value	Description
Dictionary download required	This status occurs after a main code download. Instances cannot be downloaded when this status is in effect.
Archive database CRC error	This occurs after a dictionary download. It implies that no instances have been downloaded and the dictionary had been downloaded less than 24 hours ago.
Device reset needed	This occurs when certain flash based attributes are written. It implies a reset is required to use the new written value.
Device cold reset needed	This occurs when certain flash based attributes are written. It implies a cold reset is required to use the new written value.

Typical system status transitions on power up when an archive database exists running main code:

State	Description
Startup in progress	Set in device object creation in object engine cold start (initial value). Automatically created objects go through the startup process.
Onboard download in progress	Set before start of loading the archive database.
Startup in progress	Objects loaded from the archive database go through the startup process.
Operational	Startup process completed.

Typical system status transitions on power up when an archive database does not exist:

State	Description
Startup in progress	Set in device object creation in object engine cold start (initial value). Automatically created objects go through the startup process.
Archive database CRC error	Startup process completed.

Key Size – Specifies the size of the Cipher Key. The options are:

- 64 bits
- 128 bits
- 192 bits
- 256 bits

Last Idle Sample – This attribute specifies the CPU idle time over a 30 second interval as a percent. It is updated every 30 seconds and is used to compute the *CPU Usage* attribute. Valid data is provided only on the CK722 hardware. Under device simulation, the value will be 0.

Local Date – The *Local Date* attribute, of type "Date," shall indicate the date to the best of the device's knowledge. The DATE type is a structure of 4 one-byte elements. The first byte is the year (represented as current year – 1900); the second byte is the month (1 to 12, 1=January); the third is the day of month (1 to 31). In order to maintain compatibility with BACnet, a fourth byte contains the day of week (1=Monday). A value of FF (hex) in any of the elements indicates the value is not specified.

Local Time – The *Local Time* attribute, of type "Time," shall indicate the time of day to the best of the device's knowledge. The TIME type is a structure of 4 one-byte elements. The first byte is the hour (0 to 23); the second byte is the minute (0 to 59); and the third byte is the seconds (0 to 59). A fourth byte has been added to maintain compatibility with BACnet and will contain the hundredths of second (0 to 99). A value of FF (hex) in any byte indicates the value is unspecified. This would be used, for example, when the hundredths byte is not important.

Max APDU Length – A maximum number of bytes that may be contained in a single, indivisible APDU (Application Protocol Data Unit).

Max Message Buffer – The largest piece of data that can be sent to a device at a time, excluding all communications headers. This value is used to size the data in situations when applications need to perform segmentation of data outside of the communications system.

Memory Usage – This attribute specifies the percent of system RAM that is currently in use.

These values are obtained from the Windows CE operating system. It can be used to diagnose operational problems with the device. For example, if the value climbs steadily over time (about 24 hours), it would indicate a memory leak. A memory leak will eventually consume all system RAM and cause a device reset. Valid data is provided only on the CK722 hardware. Under device simulation, the value will be 0.

Minimize Notifications – Specifies whether the minimized event notification will be sent.

Notification Class – Specifies which Security Notification Class object should be used by the CK722 Device object to send its notifications to.

Notify Priority – Specifies the Priority parameter of all notifications generated by the CK722 Device Object.

Notify Type – Specifies the Notify Type of the CK722 Device object.

Object Memory Usage – This attribute specifies the percent of the object database that is currently in use. Each object created consumes memory within the object database. This attribute can be used to help determine the device's capacity for additional objects, however, other performance indicators should also be assessed. This attribute is valid on the CK722 hardware and under device simulation.

Obtain DNS Address Automatically – This attribute controls whether the *DNS Server IP Addresses* attribute should be automatically determined using DHCP. If the *DHCP Enabled* attribute is "False," this attribute is ignored, and a value of "False" is assumed. When "True," a write to the *DNS Server IP Addresses* attribute is ignored.

P2000 Certificate Server Port – This attribute represents the UDP port number to be used by the P2000 for downloading the database to the client machine using FTP.

Port Number – Specifies the logical port on which the SNMP Agent listens to messages.

Renegotiate Bytes – Specifies the number of bytes sent/received after which the data channel key is renegotiated.

Renegotiate Packets – Specifies the number of packets sent/received after which the data channel key is renegotiated. The *Renegotiate Bytes*, *Renegotiate Time*, and *Renegotiate Packets* attributes are independent of each other. If any one of these three conditions occurs, the data channel key is renegotiated.

Renegotiate Time – Specifies the time (in minutes) after which the data channel key is renegotiated.

Preload Classes – This attribute returns the list of non-internal classes/subclasses that will be loaded into this device on a complete code download. For devices with a Fixed BIN code download this list cannot be changed. This attribute returns a list of structures with the following elements:

- Class Id - An enumeration representing the class id.
- Class Name - A String representing the class name. This may be NULL if the string dictionary is not available.
- Version - The version of the class.

Resend Status Notifications – When this attribute is written to "True," the CK722 resends all its status related notifications. Each object determines what is considered a status related notification. The value of the *Resend Status Notification* attribute itself is always "False."

Serial Port 1 Cable Config – This attribute specifies the configuration of a communications cable connected between the CK722 serial port and another computer. The following table describes the structure elements of this attribute:

Structure Element Name	Data Type	Initial Value	Properties
Enabled	Boolean	TRUE (1)	-
Allow Incoming Connections*	Boolean	TRUE (1)	-
Baud rate	Enumeration	115200	Baud Rate Enum Set
Max. Baud rate	Enumeration	115200	Baud Rate Enum Set
Wait for dial tone before dialing**	Boolean	FALSE (0)	-
Modem Initialization String*	String	-	Maximum Length = 80

* When "False," the connection can only be used for outgoing calls.
** Not applicable

SNMP Enabled – Specifies if the Simple Network Management Protocol (SNMP) should be enabled on the device.

SNMP Management Device – Specifies a host name or IP address of an SNMP Management Device. This attribute is ignored if *SNMP Enabled* is "False."

System Status – The value of this attribute is derived from the *JCI System Status* attribute as illustrated in the following table:

System Status	JCI System Status
Operational	JCI operational instances deleted device reset needed device cold reset needed
Operational Read Only	subclass upload in progress instance upload in progress onboard upload in progress
Download Required	code download required boot code download required startup code download required dictionary download required archive database CRC error
Download In Progress	code download in progress class code download in progress subclass download in progress instance download in progress boot code download in progress startup code download in progress dictionary download in progress
Non Operational	startup in progress onboard download in progress

Time Zone – This attribute specifies the device's time zone. By default, the time zone is inherited from the Site object *Time Zone* attribute. If required, it can be configured or written to value different from the Site object's *Time Zone* attribute.

NOTE

Time zones with "(No DST)" in the name do not conform to Daylight Savings Time (DST) rules of the selected region. Select the correct time zone (with or without DST) according to the region where the CK722 controllers are installed. If the wrong time zone is selected, each CK722 controller clock that receives its time zone setting from the Site object will be out-of-sync with the local time, and some P2000 notifications may not be reported.

UTC Offset – This attribute is the Universal Coordinated Time (UTC). The *UTC Offset* attribute shall indicate the number of minutes (-900 to +900) offset between local standard time and Universal Coordinated Time. The time zones to the west of the zero degree meridian shall be positive values, and those to the east shall be negative values. It is derived from the *Time Zone* attribute.

COMMANDS

This section describes commands that can be issued to this object from SCT.

Table 2: CK722 Device Object Commands

Command Name	Description
`Change Attribute`	See the description below.

The `Change Attribute` is a generic command available for writing the attributes of an object. It is mainly used to change an attribute value from those features which work only with commands. For the sole purpose of giving a generic example, there is no command defined to change the *Notify Priority* attribute of an object. `Change Attribute` could, therefore, be used to change the *Notify Priority* attribute through an interlock or multiple command, both features which require commands to be entered. The `Change Attribute` command requires two parameters:

- Attribute - This parameter specifies which attribute of the object is to be written. Only writable attributes may be changed by this command.
- New value - This parameter specifies new value to be written and must be the same data type as the attribute. The only data types allowed in this command are those allowed as command parameters. A command priority can be specified if the attribute to be changed is a prioritized attribute.

VIEWS

This section illustrates how the System Configuration Tool displays properties of the CK722 Device object. These screens also allow you to set the values of configurable attributes. For more information refer to the *System Configuration Tool (SCT)* manual.

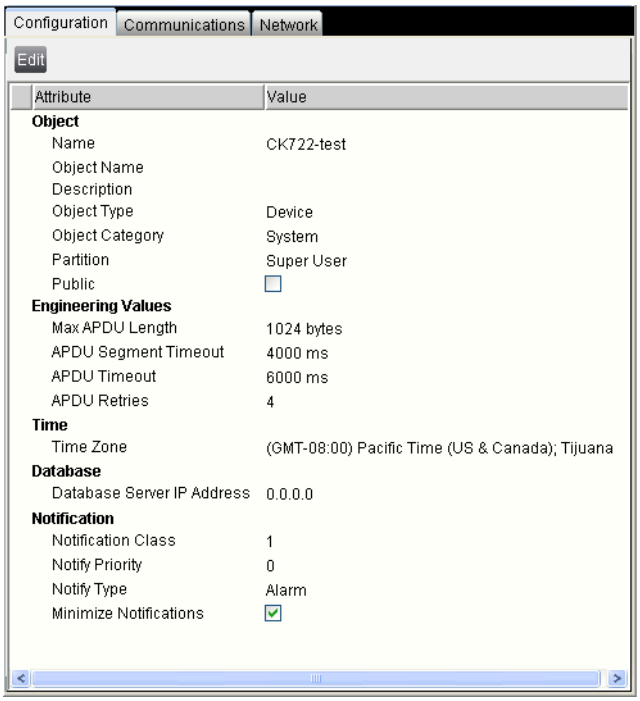

Figure 2: Configuration View

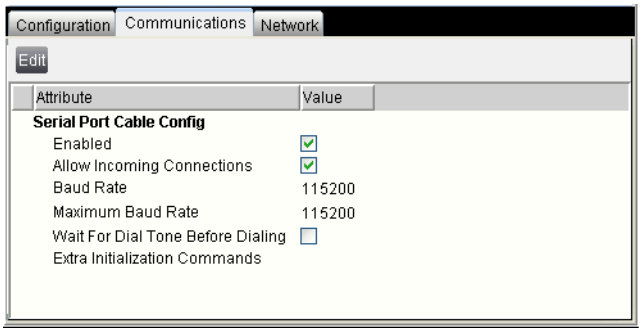

Figure 3: Communications View

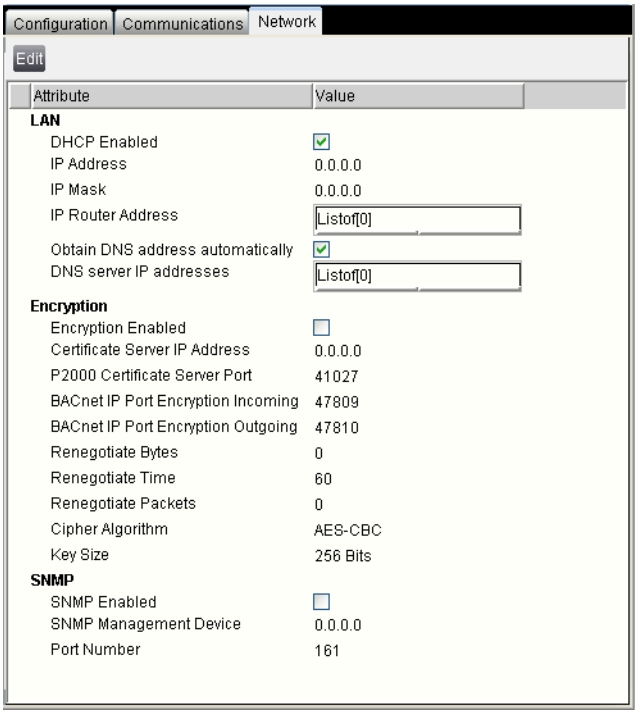

Figure 4: Network View