Johnson Controls

Object Library

Otis Controller Object

Version 1.0, December 2008
24-10239-391 Revision B

These instructions are supplemental. Some times they are supplemental to other manufacturer's documentation. Never discard other manufacturer's documentation. Publications from Johnson Controls, Inc. are not intended to duplicate nor replace other manufacturer's documentation.

If this document is translated from the original English version by Johnson Controls, Inc., all reasonable endeavors will be used to ensure the accuracy of translation. Johnson Controls, Inc. shall not be liable for any translation errors contained herein or for incidental or consequential damages in connection with the furnishing or use of this translated material.

OTIS CONTROLLER OBJECT

INTRODUCTION

The Otis Controller object represents the Otis elevator controller inside the Metasys Control Engine (MCE). The object serves as the interface to set configuration parameters related to the elevator controller, as well as the interface to monitor the status of the elevator controller and its communication with the CK722 supervisory controller.

The Otis Controller object is a child of the Otis Integration object. Each Otis Controller object represents a single elevator controller that is connected to the CK722 supervisory controller. The limit is 1 elevator controller per CK722.

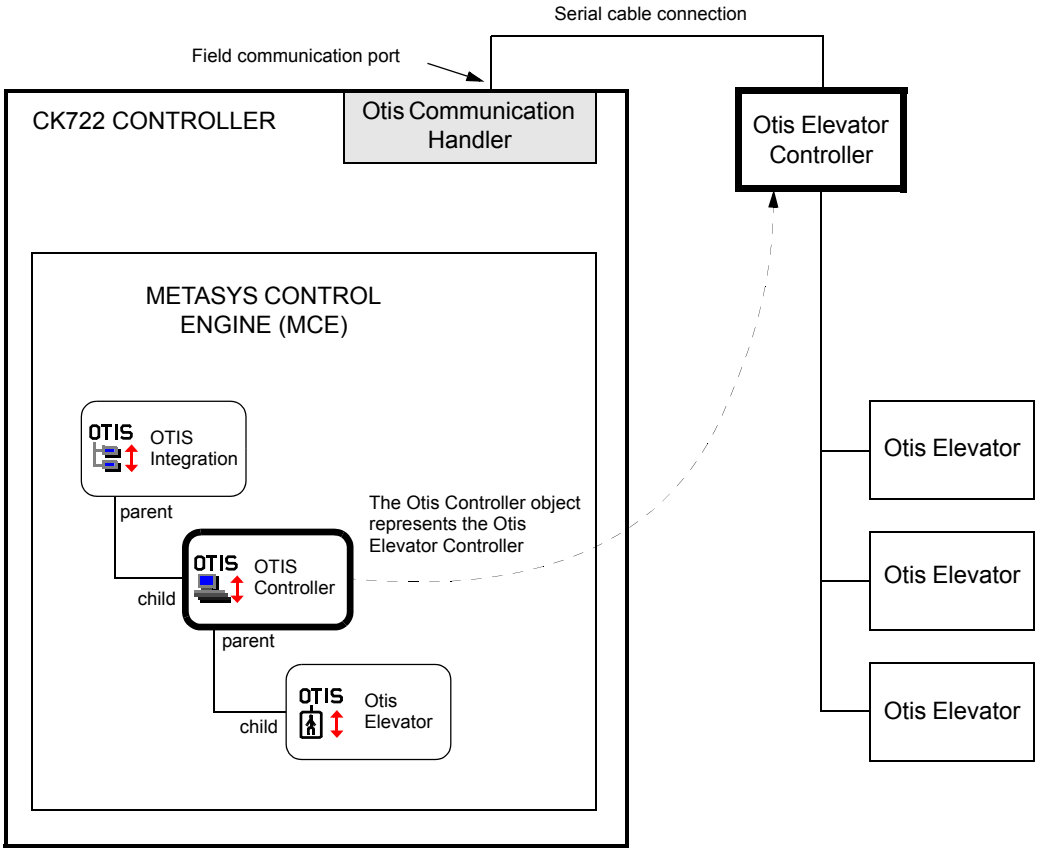

Figure 1: Otis Controller Object

ATTRIBUTES

This object contains attributes common to all objects in the P2000 Security Management System. For details, see the *General Object Information* document. The table below lists only the attributes specific to the Otis Controller object.

Table 1: Otis Controller Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
Acked Transitions	0	BACnetEvent TransitionBits	-	-	Refer to *BACnet Standard 12.19.19*
Clear Statistics	2427	Boolean	W	-	-
Corrupted Polls	4089	Unsigned32	-	-	-
Corrupted Responses	4084	Unsigned32	-	-	-
Date	548	Date	-	-	-
Default Locking Polls	4080	Unsigned32	-	-	-
Event Enable	35	BACnetEvent TransitionBits	-	1,1,1	Refer to *BACnet Standard 12.19.18*
Event State	36	Enumeration	F	-	0 = Normal 1 = Fault 2 = Off-Normal
Event Time Stamps	130	BACnetAR-RAY[3] of BACnetTime Stamp	-	-	Refer to *BACnet Standard 12.19.21*
Fault Cause	2896	Enumeration	F	-	0 = None 1 = Port 2 = Task
Incomplete Responses	4085	Unsigned32	-	-	-
Invalid Polls	4088	Unsigned32	-	-	-
Invalid Responses	4083	Unsigned32	-	-	-
Latch Statistics	2426	Boolean	W	-	-
Max Landings for Controller	4093	Unsigned8	WCA	-	0 - 128
Missing Responses	4086	Unsigned32	-	-	-
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*

Table 1: Otis Controller Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
Null Polls	4078	Unsigned32	-	-	-
Offlines	3744	Unsigned32	-	-	-
Poll Delay	1163	Unsigned16	WCA	100	0 - 1000 milliseconds
Present Value	85	Enumeration	F	-	0 = Not Initialized 1 = Operational 2 = Offline 3 = Fault
Reset Date	1141	Date	-	-	-
Reset Time	1140	Time	-	-	-
Set Access Polls	4079	Unsigned32	-	-	-
Time	547	Time	-	-	-
Total Polls	4081	Unsigned32	-	-	-
Total Responses	4087	Unsigned32	-	-	-
Valid Responses	4082	Unsigned32	-	-	-
Watchdog Events	4090	Unsigned32	-	-	-

A - Archive, C - Configurable, F - PMI (Person/Machine Interface) refreshing, W - Writable

Acked Transitions – Refer to *BACnet Standard 135-2001 12.19.19*.

Clear Statistics – Resets the Otis Controller object's statistics when written to “True.”

Corrupted Polls – Indicates how many polls the Otis elevator controller rejected because of checksum errors.

Corrupted Responses – Indicates how many responses from the Otis elevator controller were found to have an incorrect checksum.

Date – Indicates the local date when the Otis Controller object's statistics were last updated.

Default Locking Polls – Indicates how many default locking polls were sent to the Otis elevator controller.

Event Enable – Refer to *BACnet Standard 135-2001 12.19.18*.

Event State – Indicates the event related status of the Otis Controller object, which is determined as follows:

- Off-Normal - The *Present Value* attribute is set to “Offline” or the last To-Offnormal notification has not yet been acknowledged.
- Fault - The *Present Value* attribute is set to “Fault” or the last To-Fault notification has not yet been acknowledged.
- Normal - All other conditions.

Event Time Stamps – Refer to *BACnet Standard 135-2001 12.19.21*.

Fault Cause – Indicates the reason why the Otis Controller object is in the fault state. If multiple reasons apply, the state with the higher enumeration value is shown.

- None - No fault detected.
- Port - The controller's port for communicating with the Otis elevator controller is not working correctly.
- Task - The controller's Otis elevator integration task is not working correctly.

Incomplete Responses – Indicates how many responses from the Otis elevator controller were not fully received.

Invalid Polls – Indicates how many polls were not understood by the Otis elevator controller despite a correct checksum.

Invalid Responses – Indicates how many responses from the Otis elevator controller were not understood despite a correct checksum.

Latch Statistics – Updates the Otis Controller object's statistics when written to "True."

Max Landings for Controller – Specifies the maximum number of landings of any elevator that is served by this Otis elevator controller. Specifying this value is necessary, as not all elevators may be integrated to the access control system.

Missing Responses – Indicates how many expected responses from the Otis elevator controller were not received at all.

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

Notify Priority –Specifies the Priority parameter of all notifications generated by the Otis Controller object.

Notify Type – Specifies the Notify Type of the Otis Controller object. Refer to *BACnet Standard 135-2001 12.19.20*.

Null Polls – Indicates how many null polls were sent to the Otis elevator controller.

Offlines – Indicates how many times the Otis elevator controller transitioned from the online into the offline state.

Poll Delay – Specifies the time in milliseconds that the access control system shall wait before sending a poll to the Otis elevator controller. This attribute is necessary, as some versions of the Otis elevator controller software do not support continuous polling.

Present Value – Indicates the principal condition that the Otis elevator controller is in.

- Not initialized - The Otis elevator controller's condition is not yet determined. This state is used only as the initial state.
- Operational - The Otis elevator controller is up and running.
- Offline - The Otis elevator controller is offline to the controller that this object resides on.
- Fault - The Otis elevator task is in the fault state. The *Fault Cause* attribute contains details about the reason of the fault condition.

Reset Date – Indicates the local date when the Otis Controller object's statistics were last reset.

Reset Time – Indicates the local time when the Otis Controller object's statistics were last reset.

Set Access Polls – Indicates how many set access polls were sent to the Otis elevator controller.

Time – Indicates the local time when the Otis Controller object's statistics were last updated.

Total Polls – Indicates the sum of the *Null Polls*, *Set Access Polls*, and *Default Locking Polls* attribute values.

Total Responses – Indicates the sum of the *Valid Responses*, *Invalid Responses*, *Corrupted Responses*, *Incomplete Responses*, and *Missing Responses* attribute values.

Valid Responses – Indicates how many correct responses from the Otis elevator controller were received.

Watchdog Events – Indicates how many times the Otis elevator controller's watchdog timer timed out.

COMMANDS

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

Table 2: Otis Controller Object Commands

Command Name	Description
`Latch Statistics`	Writes the *Latch Statistics* attribute to "True."
`Clear Statistics`	Writes the *Clear Statistics* attribute to "True."
`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 Otis Controller object. This screen also allows you to set the values of configurable attributes. For more information refer to the *System Configuration Tool (SCT)* manual.

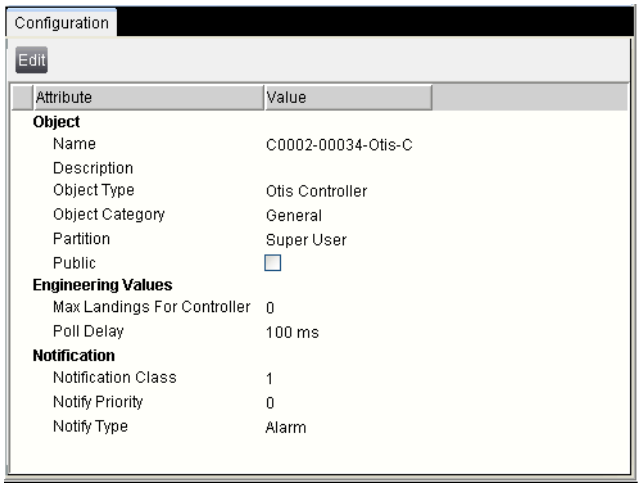

Figure 2: Configuration View

DESCRIPTION OF OPERATION

The elevator controller statistics are reset when the *Clear Statistics* attribute is written to "True." The elevator controller statistics are updated when the *Latch Statistics* attribute is written to "True."

Present Value and Fault Cause Attributes

Immediately after the Otis Controller object is started, it attempts to communicate with the elevator task. In case this task cannot be communicated with, or does not work properly, the Otis Controller object's *Present Value* attribute is set to “Fault,” and the *Fault Cause* attribute is set to “Task.” Such a condition indicates a severe error with the operating system and application software of the CK722.

When the elevator task runs successfully, it builds a database of all its defined elevators and floors. As soon as at least one elevator is defined, the elevator task starts communicating with the elevator controller through the specified port on the CK722. In case that port cannot be accessed correctly, the object's *Present Value* attribute is set to “Fault,” and the *Fault Cause* attribute is set to “Port.” Such a condition indicates a severe error with the operating system and application software of the CK722, or a hardware failure of the serial port.

When the elevator task is able to use the CK722's port correctly, it determines the status of the elevator controller. If after a certain number of tries no valid communication can be established, the object's *Present Value* attribute is set to “Offline,” while the *Fault Cause* attribute is set to “None.” Such a condition indicates an error with the elevator controller, or with the cabling between it and the CK722.