Johnson Controls

Object Library

Controller Event Object

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CONTROLLER EVENT OBJECT

INTRODUCTION

The Controller Event object defines the conditions upon which a controller event is triggered, and the actions that are taken when the controller event is activated or deactivated. The Controller Event Object is also responsible for reporting the activation or deactivation of the controller event to the host (P2000 server).

Controller events can either write a fixed value or a value read from another object into the target object, or they can toggle the current target attribute's value.

The following diagram shows the major blocks the Controller Event Object interacts with.

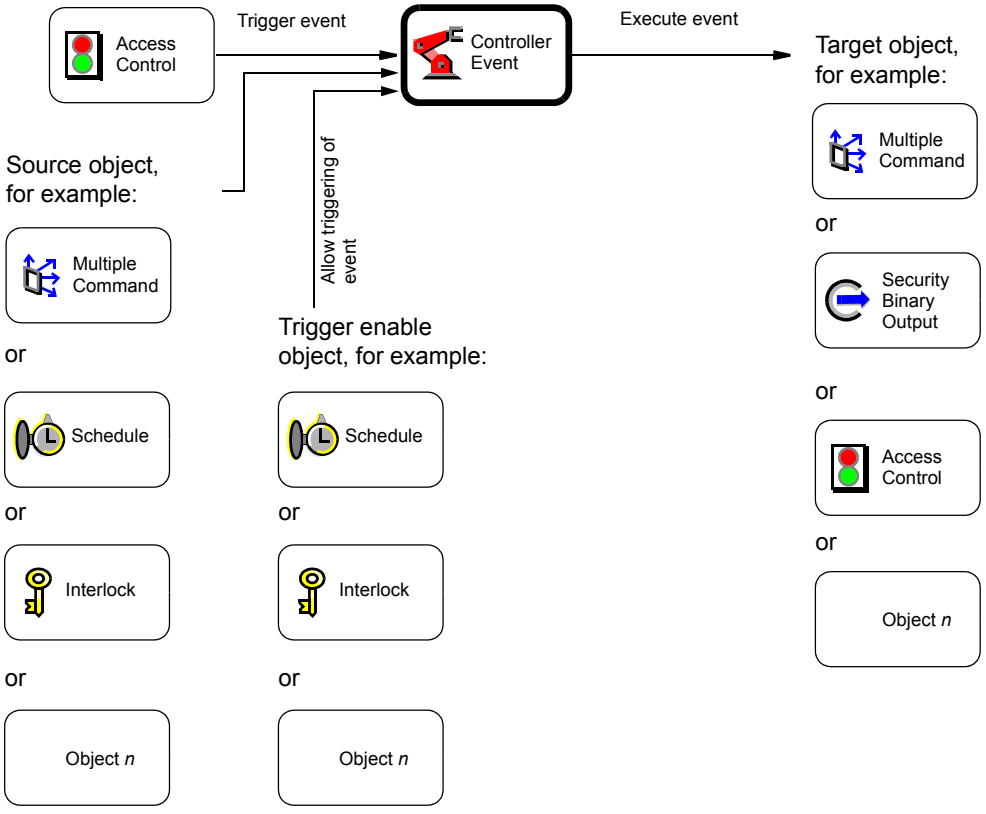

Figure 1: Controller Event Object

ATTRIBUTES

This section describes visible attributes specific to the Controller Event 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: Controller Event Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
Activate	4137	Boolean	W	-	-
Deactivate	4138	Boolean	W	-	-
Entity ID	2936	Unsigned32	W	-	-
Error Notification	3040	Boolean	WCA	1	-
Event Code	3078	Unsigned32	WCA	-	-
Event Privilege	2938	Unsigned8	WCA	-	0 - 7
Notification Class	17	Unsigned32	WCA	1	-
Notify Priority	3644	Unsigned8	WCA	-	-
Source Attribute	4711	Attribute reference	WCA	-	-
Target Attribute	4123	Attribute reference	WCA	-	-
Target Value	4131	Unsigned32	WCA	-	-
Target Value Toggle	4132	Boolean	WCA	-	-
Trigger Lock	4124	Boolean	WV	Redirected to *Trigger Lock Default*	-
Trigger Lock Default	4125	Boolean	WCA	-	-
Trigger Mask	3606	Bitstring	WCA	-	100 bits
Trigger Type	3077	Enumeration	WCA		0 = Always On Unidentified 1 = Always On Positive Decision 2 = Also Require Positive Decision 3 = Do Not Require Positive Decision 4 = Always On Negative Decision
Unlock Door Strike	3079	Boolean	WCA	-	-

A - Archive, C - Configurable, W - Writable, V - Redirect default value to attribute

Activate – When written to "True," the controller event will be activated, provided that the *Trigger Lock* attribute is not set to "True."

Deactivate – When written to "True," the controller event will be deactivated, provided that the *Trigger Lock* attribute is not set to "True."

Entity ID – Specifies the Entity ID that requested the controller event to be triggered. This attribute is contained in notifications generated by the Controller Event object relating to controller events that were requested by an entity. This attribute is set to 0 after the *Activate* or the *Deactivate* attributes are written.

Error Notification – Specifies whether the Controller Event object sends out extra notifications every time an error is encountered, such as during accessing the target object. These error notifications are in addition to all other notifications the Controller Event object may generate.

Event Code – Specifies the keypad event code necessary to activate or deactivate a manual controller event.

Event Privilege – Specifies the event privilege necessary to automatically activate, manually activate, or manually deactivate a controller event. This setting does not apply to controller events with a trigger type of "Always on unidentified."

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

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

Source Attribute - Specifies the source attribute, which provides the value that the target attribute is written to when the controller event is activated. This attribute must belong to an on-box object.

Target Attribute – Specifies the target attribute, which is the attribute that is written to when the controller event is activated or deactivated. This attribute must belong to an on-box object.

Target Value – Specifies the value that the target attribute is written to when the controller event is activated, while the *Target Value Toggle* attribute is "False."

Target Value Toggle – Specifies the value that the target attribute is written to when the controller event is activated. When the *Target Value Toggle* attribute is "False," the target attribute is written to the *Target Value* when the controller event is activated. When the *Target Value Toggle* attribute is "True," the target attribute is written to 0 when its current value matches the *Target Value* attribute, and written to *Target Value* when its current value does not match the *Target Value* attribute. The *Target Value Toggle* attribute is ignored when deactivating a controller event.

Trigger Lock – When set to "True," the controller event cannot be activated or deactivated.

Trigger Lock Default – Specifies the default value of the *Trigger Lock* attribute. Changing this attribute automatically sets the *Trigger Lock* attribute to the same value.

Trigger Mask – Specifies the normal mask or a security mask in emergency mode. (Emergency mode is determined by the Access Control object.) For the controller event to be automatically executed, an access profile must have at least one set bit in common with this mask (provided that the access profile's event privilege meets or exceeds the controller event's event privilege). If triggering by a trigger mask is not required, this attribute shall be set to all zeros.

Trigger Type – Specifies the trigger condition upon which the controller event shall be executed. See the *Access Control Object* document for details. The options are:

- Always on unidentified - The controller event is triggered automatically every time an access decision of type “Unidentified” is made, independent of any event privilege considerations.
- Always on positive decision - The controller event is triggered automatically every time a positive access decision is made, provided that the access profile's event privilege meets or exceeds the controller event's event privilege.
- Also require positive decision - The controller event is triggered by trigger mask or event code, but only when a positive access decision is made and the access profile's event privilege meets or exceeds the controller event's event privilege.
- Do not require positive decision - The controller event is triggered by trigger mask or event code, independent of the access decision, provided that the access profile's event privilege meets or exceeds the controller event's event privilege.
- Always On Negative Decision - The controller event is triggered automatically every time a negative access decision is made, independent of any event privilege considerations.

Unlock Door Strike – Specifies whether the activation or deactivation of a manual controller event shall result in the door strike being unlocked. This is useful if the intent of the identified entity is to just activate the event, but not open the door.

COMMANDS

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

Table 2: Controller Event Object Commands

Command Name	Description
`Activate`	Writes the *Activate* attribute to “True.”
`Deactivate`	Writes the *Deactivate* attribute to “True.”
`Trigger Lock On`	Writes the *Trigger Lock* attribute to “True.”
`Trigger Lock Off`	Writes the *Trigger Lock* attribute to “False.”
`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 Controller Event object. This screen also allows you to set the values of configurable attributes. For more information refer to the *System Configuration Tool (SCT)* manual.

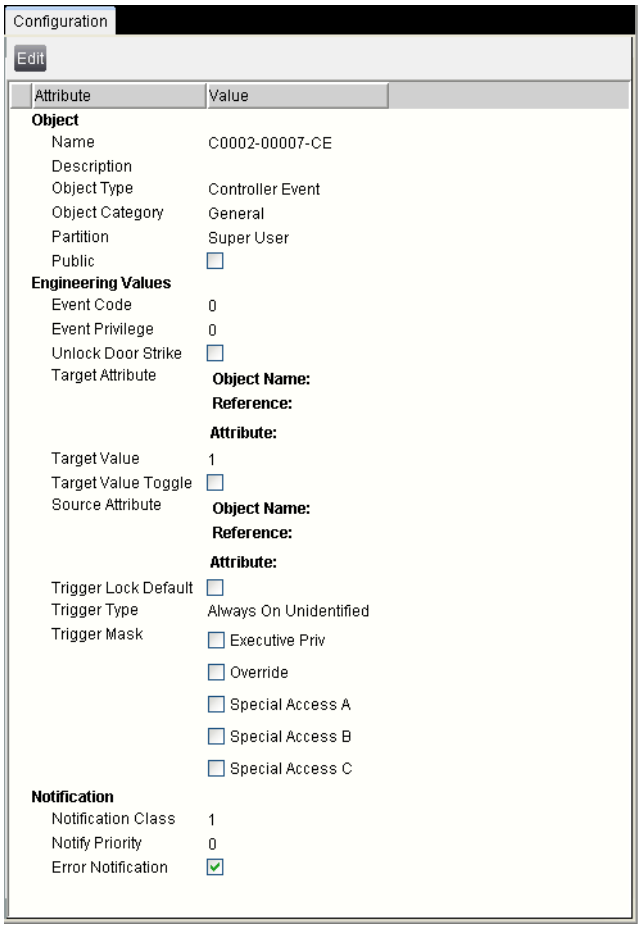

Figure 2: Configuration View

DESCRIPTION OF OPERATION

A controller event is requested to activate by writing its *Activate* attribute to "True."
A controller event is requested to deactivate by writing its *Deactivate* attribute to "True." See the algorithm below for details:

```
If Trigger_Lock is set
    Return WRITE_NOT_HANDLED

If requested to deactivate
    Write target attribute to 0
Else
    If source attribute is specified
        Read source attribute
        If reading source attribute failed
            If error notification is to be generated
                Generate error notification
            Return read error
        Else
            Write target attribute to value of source attribute
    Else
        If Target_Value_Toggle is not set
            Write target attribute to Target_Value
        Else
            Read target attribute
            If reading target attribute failed
                If error notification is to be generated
                    Generate error notification
                Return read error
            If target attribute matches Target_Value
                Write target attribute to 0
            Else
                Write target attribute to Target_Value

If writing target attribute failed
    If error notification is to be generated
        Generate error notification
    Return write error

Generate notification
Return OK
```

The following attributes of the Controller Event object are designed to be used by the object that is requesting the controller event to be triggered (typically, the Access Control object):

- *Event Code*
- *Event Privilege*
- *Unlock Door Strike*
- *Trigger Type*
- *Trigger Mask*

For details about how the Access Control object uses these attributes refer to the *Access Control Object* document.

For information about how to invoke manual controller events refer to the “Using a Keypad Reader on CK721/720/705 Series Panels” section of the *P2000 Software User Manual*.