



Object Library

Schedule Object

Copyright 2008
Johnson Controls, Inc.
All Rights Reserved

No part of this document may be reproduced without the prior permission of
Johnson Controls, Inc.

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.

SCHEDULE OBJECT

INTRODUCTION

The Schedule object works behind the scenes of the Scheduling feature. The Schedule object updates attribute values of objects according to the time of day. These times can be specified for days of the week and exception days.

Exception days (Exception Schedule) are days when you do not want the weekly schedule to operate, such as holidays. They can be defined as specific dates, ranges of dates, week and day, or by reference to a Calendar object. You can define a different set of activities to occur on the exception days.

By setting the *Time Zone* attribute to a P2000 Time Zone, you can have the *Weekly Schedule* and *Exception Schedule* attributes filled in automatically by the P2000 server.

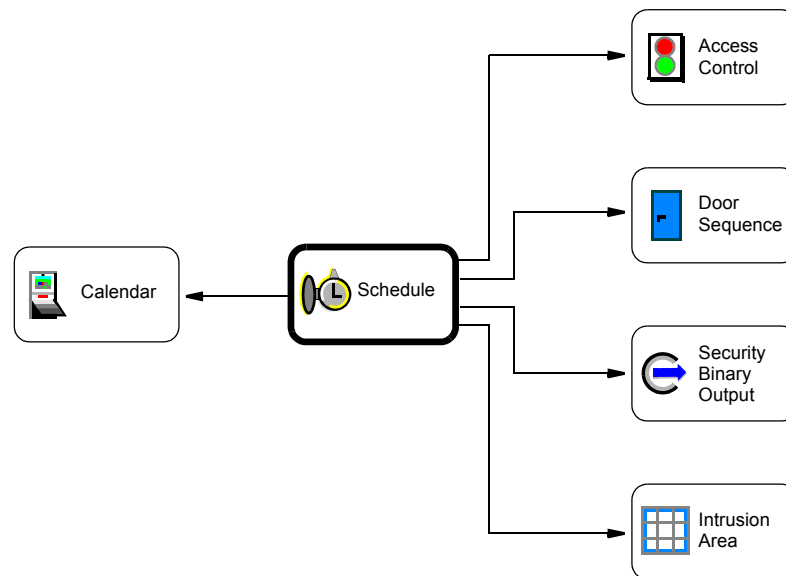


Figure 1: Schedule Object

For more information on the Scheduling feature or the steps it takes to create one, refer to the *CK722 Commissioning Guide*.

ATTRIBUTES

This section describes visible attributes specific to the Schedule 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.

For detailed information on BACnet properties, see *ANSI/ASHRAE Standard 1352001 - A Data Communication Protocol for Building Automation and Control Networks*.

Table 1: Schedule Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options/Range
<i>Calendar Device</i>	1018	Object reference	WCNA	NULL	-
<i>Effective Period</i>	32	Array of dates	WCAQ	0xFF (all)	n = 2 (array size)
<i>Exception Schedule</i>	38	List	WCAO	-	list element contents choices: choice 0 - date/date - timevalue/list of structures struct element names/ data type/properties - time/time - value/numeric - event priority/byte/min=1, max=16 choice 1 - date range/array of dates (n=2) - start date/date - end date/date - timevalue/list of structures struct element names/ data type/properties - time/time - value/numeric - event priority/ byte/min=1, max=16 (Continued)

Table 1: Schedule Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options/Range
<i>Exception Schedule</i>	38	List	WCAO	-	choice 2 - calendar reference/ BACnet object id - timevalue/ list of structures struct element names/ data type/properties - time/time - value/numeric - event priority/ byte/min=1, max=16 choice 3 - weekNday/octet string/ size=3 - timevalue/list of structures struct element names/ data type/properties - time/time - value/numeric - event priority/byte/min=1, max=16
<i>List Of Prop Refs</i>	54	List	WCAQ	-	list element contents choices: choice 0 structure element names/ data type/properties - object/BACnet Object Id - attribute/enum choice 1 structure element names/ data type/properties - object/BACnet Object Id - attribute/enum - element index/unsigned int
<i>Objects In Device</i>	843	Object reference	WCNA	NULL	-
<i>Present Value</i>	85	Numeric	QD	NULL	
<i>Time Zone</i>	32583	Enumeration	WCA	-	Select from P2000 Time Zones
<i>Weekly Schedule</i>	123	Array of list of structures	WCAO	-	n = 7 (array size) structure element names/data type/properties - time/time - value/numeric

A - Archive, C - Configurable, D - Default attribute for display, N - Value not required, O - BACnet optional attribute, Q - BACnet Required attribute, W - Writable

Calendar Device – An object reference to the device that contains the Calendar objects referenced in *Exception Schedule* attribute. If the value is “Null,” the Calendar object(s) are assumed to be on the same device as the Schedule object. All Calendar objects referenced by one Schedule object are required to exist in the same device.

Effective Period – Defines the range of dates within which the Schedule object is active. By default, these dates are unspecified, causing the Schedule object to be active for all days. Wild cards may be used in the date fields.

Exception Schedule – See the Scheduling feature description in the *CK722 Commissioning Guide*.

List Of Prop Refs – Lists objects and their attributes that are going to have their values updated.

Objects In Device – An object reference to the device which contains the scheduled objects (those objects referenced in the *List Of Prop Refs* attribute). If the value is “Null,” the scheduled objects are assumed to be on the same device as the Schedule object. All scheduled objects are required to exist in the same device.

Present Value – Indicates the current value of the Schedule (the value most recently written to a referenced object attribute of one member of the List of Object Property References). You can schedule analog, binary, and enumerated values.

Time Zone – When referencing a P2000 Time Zone, the *Weekly Schedule* and the *Exception Schedule* attributes are filled in by the P2000 server, according to the specified Time Zone and Holiday definition. In this case the *Weekly Schedule* and *Exception Schedule* attributes will not show any values in the SCT.

Any values entered manually in the *Weekly Schedule* and the *Exception Schedule* attributes will be overwritten. Therefore, when the *Time Zone* attribute is referencing a P2000 Time Zone, leave the *Weekly Schedule* and the *Exception Schedule* attributes empty.

Weekly Schedule – Contains one entry for each day of the week - Monday, Tuesday, Wednesday, etc. Each entry contains a list of the times and corresponding values for the Schedule object to write to the scheduled objects. The *Exception Schedule* overrides the times in the *Weekly Schedule*.

COMMANDS

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

Table 2: Schedule Object Commands

Command Name	Description
Enable	Resumes operation of the Schedule object.
Disable	Disables the operation of the Schedule object. Freezes the <i>Present Value</i> attribute.
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 Schedule object. These screens also allow you to set the values of configurable attributes. For more information refer to the *System Configuration Tool (SCT)* manual.

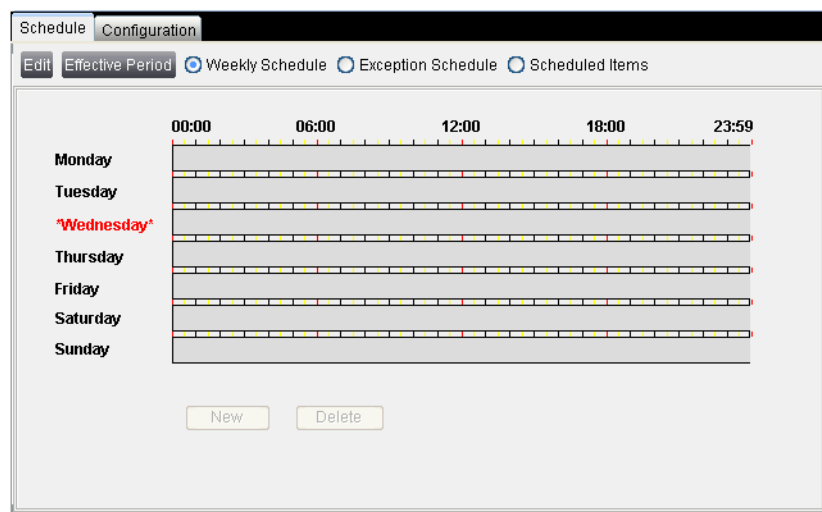


Figure 2: Schedule View (Weekly Schedule)

The screenshot shows the 'Schedule Configuration' window with the 'Exception Schedule' tab selected. The 'Exception List' is empty. Below it is a timeline from 00:00 to 23:59. Buttons for 'New Exception', 'Delete', 'New Event', and 'Delete' are visible.

Schedule Configuration

Edit **Effective Period** ☐ Weekly Schedule ☒ Exception Schedule ☐ Scheduled Items

Exception List

New Exception

Delete

00:00 06:00 12:00 18:00 23:59

New Event Delete

Figure 3: Schedule View (Exception Schedule)

The screenshot shows the 'Schedule Configuration' window with the 'Scheduled Items' tab selected. The 'Table of Scheduled Items' is empty. Buttons for 'Add' and 'Remove' are visible.

Schedule Configuration

Edit **Effective Period** ☐ Weekly Schedule ☐ Exception Schedule ☒ Scheduled Items

Table of Scheduled Items

Add

Remove

Item Name	Scheduled Attribute
-----------	---------------------

Figure 4: Schedule View (Scheduled Items)

The 'Effective Period' dialog box shows the 'Effective Period' field with the text 'any month any date any year - any month any date any year'. Below it are dropdown menus for 'Month', 'Day', 'Year', and 'Day of Week' for both 'From' and 'To' dates. Buttons for 'Apply', 'OK', and 'Cancel' are at the bottom.

Effective Period

Effective Period

any month any date any year - any month any date any year

Month Day Year Day of Week

From any any any any

To any any any any

Apply OK Cancel

Figure 5: Effective Period for Schedules

The screenshot shows the 'Configuration' tab of a 'Schedule' object. The 'Basic' view is selected. The configuration table lists the following attributes and values:

Attribute	Value
Object	
Name	CK722-test-Schedule-01
Description	
Object Type	Schedule
Object Category	General
Partition	Super User
Public	<input type="checkbox"/>
Enabled	<input checked="" type="checkbox"/>
Time Zone	<none>

Figure 6: Configuration View (Basic)

The screenshot shows the 'Configuration' tab of a 'Schedule' object. The 'Advanced' view is selected. The configuration table lists the following attributes and values:

Attribute	Value
Object	
Name	CK722-test-Schedule-01
Description	
Object Type	Schedule
Object Category	General
Partition	Super User
Public	<input type="checkbox"/>
Enabled	<input checked="" type="checkbox"/>
Time Zone	<none>
Execution	
Execution Priority	Normal
Priority For Writing	15

} The Advanced view is expanded with these attributes

Figure 7: Configuration View (Advanced)

