ACFA Intellect

BACnet Wrapper Settings Guide

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List of terms used in BACnet Wrapper Settings Guide

BACnet — network protocol which is used in building automation system and in control networks.

BACnet device — authorisation system device (controller, sensor, executing mechanism) supporting BACnet protocol.

BACnet program — micro code built-in device by manufacturer. It can receive several commands: it can be stopped, fully logged out or it can operate in normal mode.

Introduction into BACnet Wrapper Settings Guide

On the page:
• Purpose of the document • General information about the BACnet Wrapper integration module

Purpose of the document

The *BACnet Wrapper integration module settings guide* provides comprehensive setup and operational guidance for *BACnet Wrapper* module operators.

This Guide presents the following materials:

1. general information about the *BACnet Wrapper* module;
2. *BACnet Wrapper* module settings;
3. working with the *BACnet Wrapper* module.

General information about the BACnet Wrapper integration module

BACnet Wrapper integration module is designed for connecting any devices supporting *BACnet* protocol. *BACnet Wrapper* in tegration module allows to perform data exchange, receive events from such devices and perform rules for *BACnet devices*.

BACnet Wrapper integration module supports the following types of devices provided by *BACnet* protocol.

1. Binary Input.
2. Binary Output.
3. Binary Value.
4. Analogue Value.
5. Integer value.
6. Device.
7. Program.

Configuration of the BACnet Wrapper integration module

Configuration procedure for the BACnet Wrapper integration module

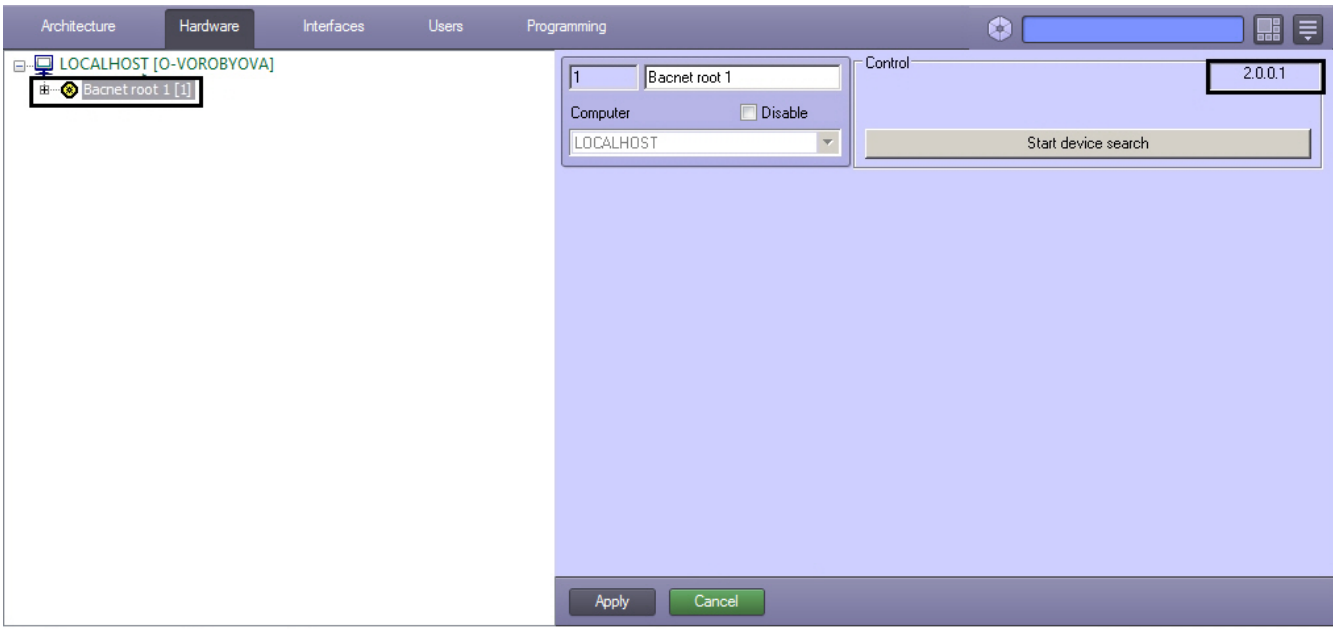
The BACnet Wrapper integration module is configured as follows:

1. Activate the *BACnet Wrapper* integration module.
2. Search for *BACnet Wrapper* devices.
3. Configure channels parameters of BACnet devices.
4. Configure rules for channels and BACnet parameteres.

Also device can be switched to service mode optionally.

Activate the BACnet Wrapper integration module

To activate the *BACnet Wrapper* integration module create the **Bacnet root** object on the basis of **Computer** object on the **Hardware** tab of the **System settings** dialog box.

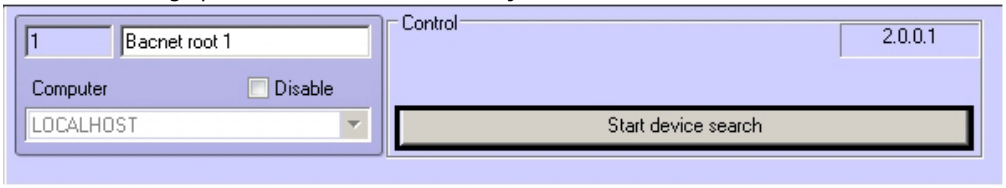


Version of the *BACnet Wrapper* integration module is displayed in the right top corner.

Search for BACnet Wrapper devices

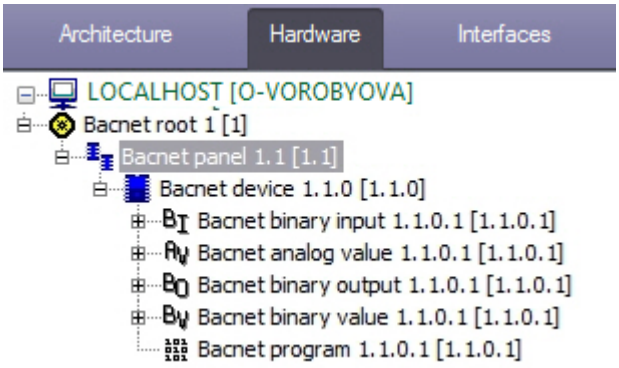
To search devices supporting BACnet protocol in local network, do the following:

1. Go to the settings panel of the **Bacnet root** object.



2. Click the **Start device search** button.

Search of BACnet devices will be performed and corresponding objects will be created in the object tree as a result.

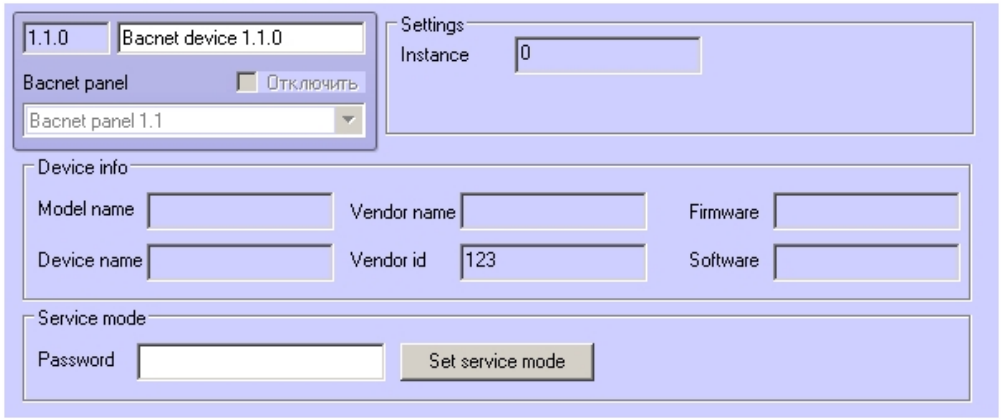


Note.
If there are several network connections on the PC where search for devices is performed it is recommended to disable all conections except that connection which provides connection to local network with BACnet devices.

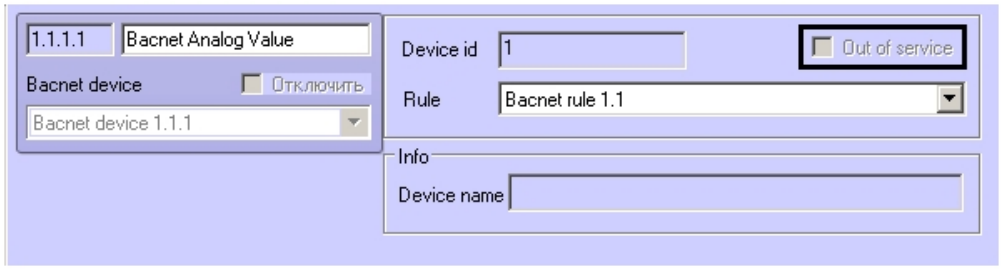
It is possible to create the following information on the settings panel of created object:

1. Parameters of connection IP panel of BACnet device are displayed in the settings panel of the **Bacnet panel** object.

2. Information about found device is displayed in the settings panel of the **Bacnet device** object.



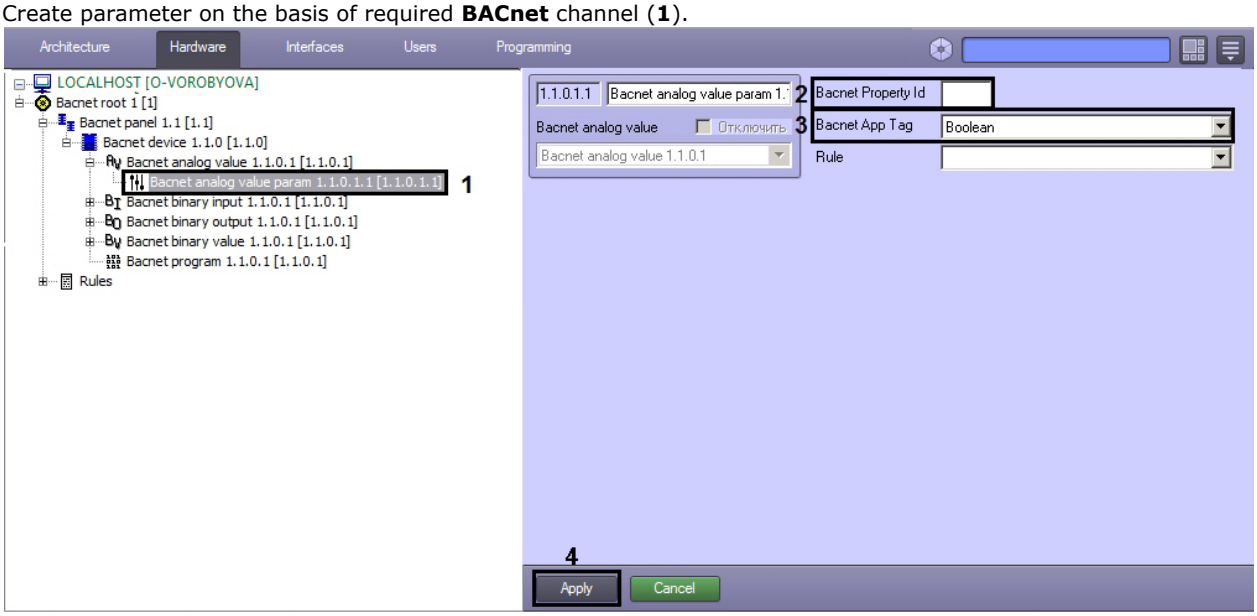
3. On the settings panel of objects corresponding to channels of the BACnet devices there is the **Out of service** check box which is not available for editing and has informing manner. The chackbox is set if channel of device is not in use. In such case value from channel is not read.



Configure parameters of BACnet channels

To configure parameters of BACnet channels, do the following:

1. Create parameter on the basis of required **BACnet** channel (**1**).



2. In the **Bacnet Property Id** field enter ID of channel parameter specified by protocol or device manufacturer (**2**).
3. From the **Bacnet App Tag** drop-down list select data type in which parameter is sent and stored in a device (**3**).

> **Attention!**
> *ACFA Intellect* software package is not able to transcode value of parameter correctly in case of invalid type and valid **Bacnet Property Id**.

4. Click the **Apply** button (**4**).
5. Repeat steps 1-4 for all required parameters and channels.

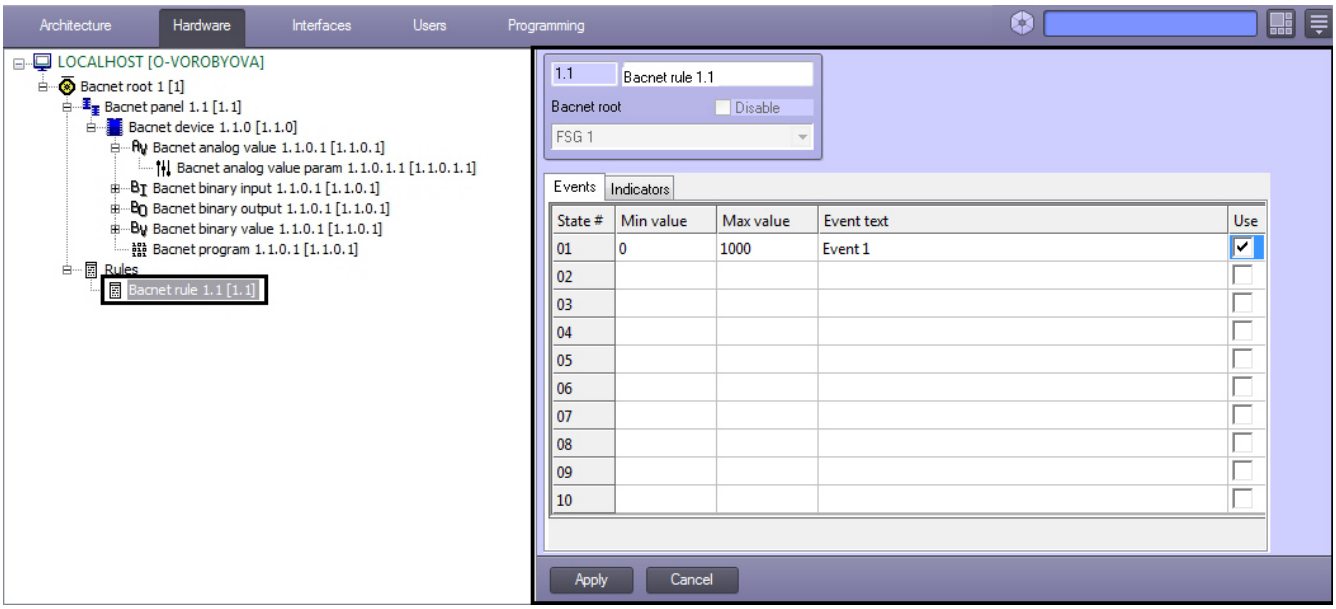
Configure rules for channels and BACnet parameteres

The following types of rules for devices and BACnet parameters are available:

1. State transition in the system while taking element on a value from the specified range.
2. Change of state indicator taking element on a value from the specified range.

Configuring of rules is performed on the settings panel of the **Bacnet rule** object which is created on the basis of the **Bacn**

et root object.



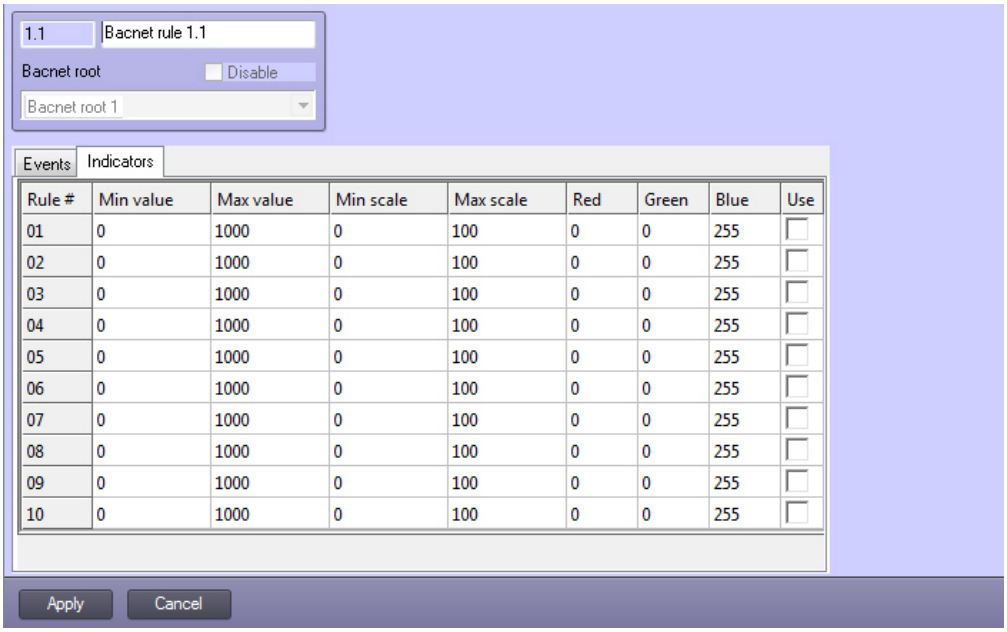
This object is a group of rules in which rules of any types can be included. Only one group of rules can be assigned to each parameter and BACnet channel.

Configure rule of change indicator state of parameters and BACnet channels

Rule of change the indicator state allows to know how to change indicator of object on the map while coming value of parameter in the specified interval.

Configuring of this rule is performed on the **Indicators** tab on the settings panel of the **Bacnet rule** object. Description of parameters is presented in the following table. It is possible to specify not more than 10 states of indicator.

Parameter	**Description of parameter**
Rule #	Number of rule
Min value , Max value	Range of element values for rule
Min scale, Max scale	Range of values which indicator will take according to the rule
Use	Activation of interval
Red, Green, Blue	Set color of indicator by RGB model



Attention!
If value of element enter into several intervals than indicator will take a value according the rule with less number of matched rules.

Click the **Apply** button to save changes.

Indicator and its value are displayed in the map (see Working with channels and BACnet parameters on the map section).

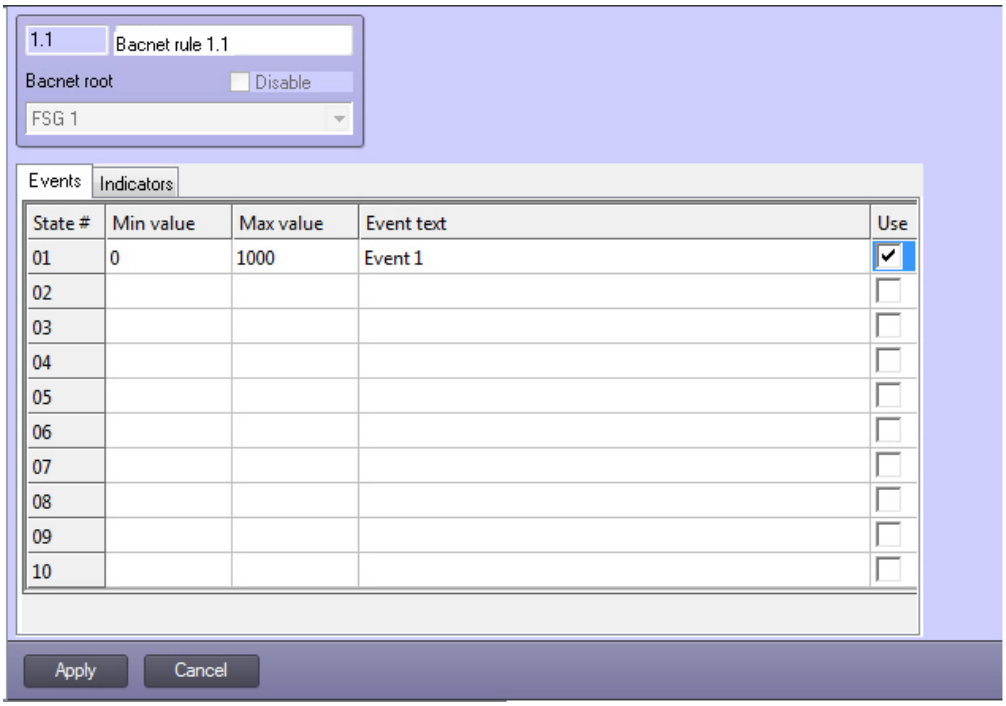
Configure rule of state transitions of channels and BACnet parameters

Rules of state transition allows to generate events in case of value of parameter or channel will come into the specified interval.

To configure this rule it is required to set the following parameters in the **Events** tab on the settings panel of the **Bacnet rule** object.

1. In the **Min value** column enter the begin of interval.
2. In the **Max value** column enter the end of interval.
3. Set the **Use** checkbox to activate interval.
4. In the **Event text** column enter message which will be received while taking element on a value from the specified range.

It is possible to specify not more than 10 intervals.

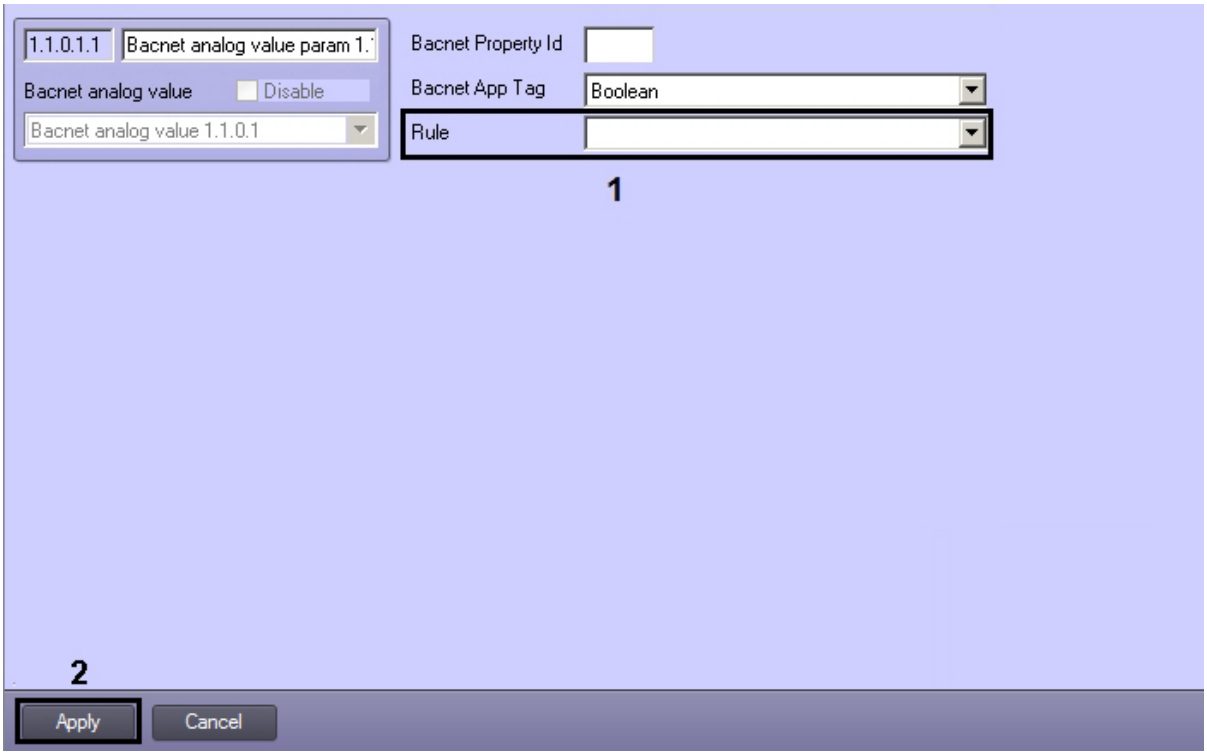


Attention!
Parameter will be in several states (multistate) if value of parameter or channel comes into several intervals.

Assign rule to channels or BACnet parameter

To assign rule to channels or parameter, do the following:

1. Go to the settings panel of the corresponding channel or parameter.



2. Select the required rule - **Bacnet rule** object from the **Rule** drop-down list (**1**).
3. Click **Apply** button to save changes (**2**).

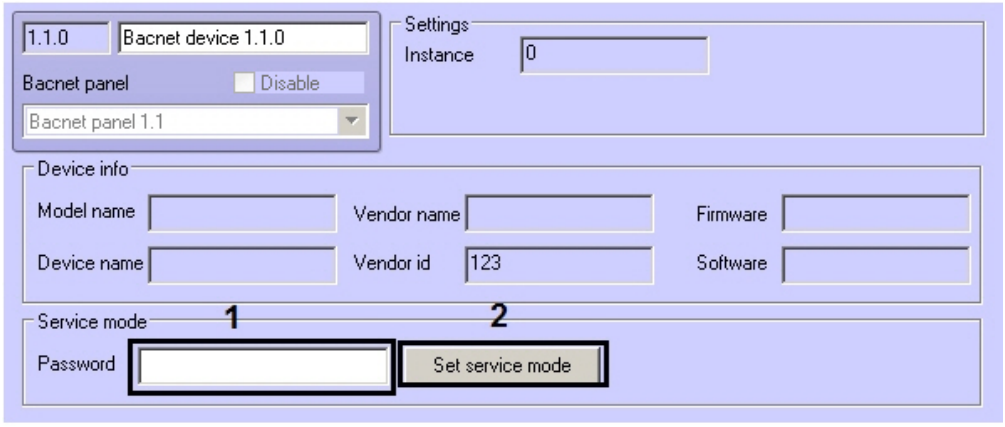
Assigning rule to channels or parameter is completed.

Switch the BACnet device to service mode

Service mode of device is a special mode of working which allow user to set values of some parameters and make available some commands.

To switch device to service mode, do the following:

1. Go to the settings panel of the **Bacnet device** object.



2. In the **Password** field enter password for switching device to service mode (**1**).

> **Note.**
> Password is specified in documentation of device manufacturer.

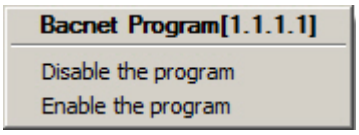
3. Click the **Set service mode** button (**2**).

As a result device will be switched to the service mode.

Working with BACnet Wrapper integration module

Control BACnet program from the map

BACnet Wrapper allows to control BACnet program from the map using functional menu of corresponding object. Available commands in the context menu are described in the table.



Command	Description
Disable the program	Stop the program
Enable the program	Start the program

General information on working with BACnet Wrapper integration module

Events of BACnet devices are sent to the *Events protocol*.

Icon and indicator of state and value of parameter or BACnet channel can be displayed in the map.

Information about configuring the **Events protocol** and **Map** interface objects is given in details in Intellect software package. Administrator's Guide document.

Working with **Events protocol** and **Map** interface objects is given in details in Intellect software package. Operator's Guide document.

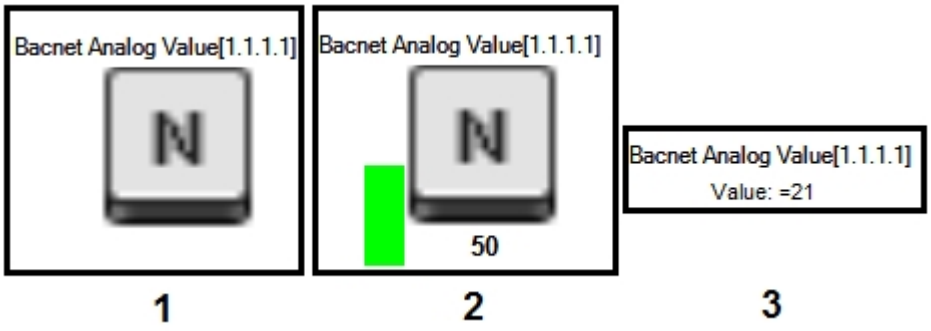
It is possible to configure reactions on some values of elements with the help of scripts and macros. Working with scripts and macros is given in details in Intellect software package. Programming Guide and Intellect software package. Programming Guide (Jscript) documents.

Note.
Current versions of all specified documents are stored in the AxxonSoft documentation repository.

Working with channels and BACnet parameters on the map

Channels and BACnet parameters can be added to the map in three ways.

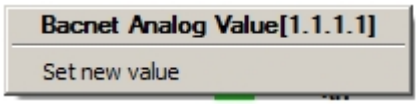
1. As icon of state (**1**).
2. As icon of state and indicator (**2**).
3. Textually (value of element, **3**).



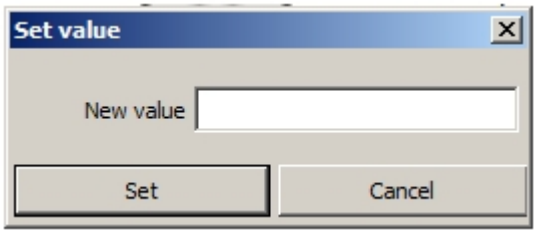
Note.
View of object displaying is selected while its adding (see Intellect software package. Administrator's Guide).

It is possible to change value of corresponding parameter or channel using the object on the map.

Click the right mouse button on the icon of object and select the **Set new value** item in the contect menu.



In the opened **Set value** window enter new value and click the **Set** button.



As a result new value will be assigned to channel or parameter, and indicator of element will take a value and color according to the rule (see Configure rules for channels and BACnet parameteres section).