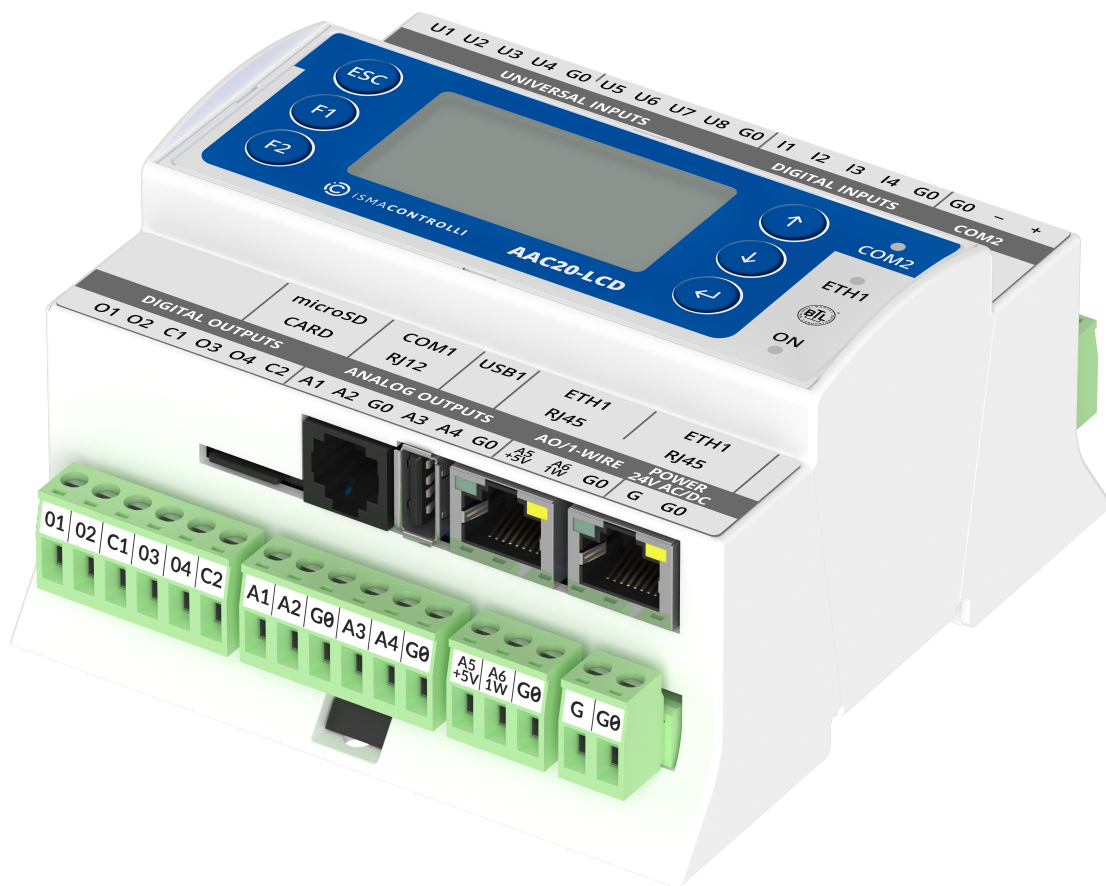


iSMA-B-AAC20

User Manual

Advanced Control Kit



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1 Introduction

This manual contains information about the iSMA Advance Control kit in the AAC20 controller, which was developed separately from the main Control kit for special needs of advanced users.

The Advance Control kit has been developed in order to facilitate creating of user applications. With this kit components, an advanced application can be built in a simple way. The kit contains the following components:

- ActionTrigger;
- DimmerSwitch;
- RaiseLower.

1.1 Revision History

Rev.	Date	Description
1.3	19 Jun 2024	Replaced environment of programming from iSMA Tool to iC Tool
1.2	28 Feb 2022	Rebranded
1.1	1 Mar 2020	Replaced environment of programming from Workplace to iSMA Tool
1.0	29 Jan 2018	First edition

Table 1. Revision history

2 Advance Control Components

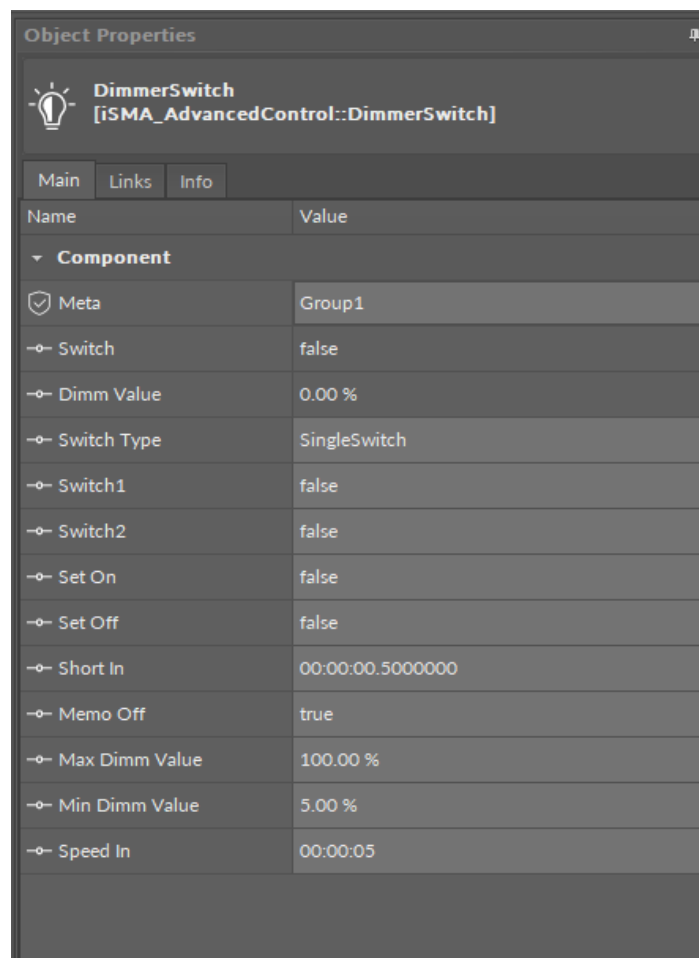
This section outlines all components available in the Advance Control kit.

2.1 DimmerSwitch

The DimmerSwitch component has been created to control a light dimmer with the use of a single (one digital input) or two buttons (two digital inputs).

In a single switch mode, the Switch 1 has defined functions for short and long press. The short press is when the button is pressed for less than the time defined in the Short In slot. The long press is when the button is pressed for longer than the time defined in the Short In slot. The short press is dedicated to on/off switching, the long press is dedicated for changing dimming value. Each short press toggles between on and off state. During long press the component increases or decreases the dimming value.

In a double switch mode, each button has defined functions: switch 1 is for switching on (short press) and increasing dimmer value (long press), switch 2 is for switching off (short press) and decreasing dimmer value (long press). The short press is when the high state time is less than the time defined in the Short In slot. The long press is when the short time elapses, and the button is still in the high state.



Name	Value
Component	
Meta	Group1
Switch	false
Dimm Value	0.00 %
Switch Type	SingleSwitch
Switch1	false
Switch2	false
Set On	false
Set Off	false
Short In	00:00:00.5000000
Memo Off	true
Max Dimm Value	100.00 %
Min Dimm Value	5.00 %
Speed In	00:00:05

Figure 1. DimmerSwitch component

The DimmerSwitch component has the following slots:

- **Switch:** the output slot for dimmer, digital value for on and off state;
- **Dimm Value:** the output slot for dimmer, analog 0-100% value;

- **Switch Type:** the button input;
- **Switch1:** the button input, main for the single switch mode, on, or increasing output in the double switch mode;
- **Switch2:** the button input, not active for the single switch mode, off, or decreasing output in the double switch mode;
- **Set On:** triggers the dimmer switch to on state (to max level);
- **Set Off:** triggers the dimmer switch to off state;
- **Short In:** the time of short button press;
- **Memo Off:** enables/disables a memory function of the Dimm Value during switch off;
- **Max Dimm Value:** max. dimmer analog value;
- **Min Dimm Value:** min. dimmer analog;
- **Speed In:** the dimming speed time.

2.2 ActionTrigger

The ActionTrigger component has been created to remotely recollect the action from a Sedona component. Sedona does not allow to create links to component's actions, and actions can be recalled manually from programming software (for example, the iSMA Tool) or by a dedicated component. The ActionTrigger component has 3 input slots, each dedicated to a Sedona variable type (as a standard we use only the one corresponding to the component type). The programmes create a link to the component, from which the action will be recalled to the ActionTrigger component input slot. The Action Name slot defines which action is to be recalled.

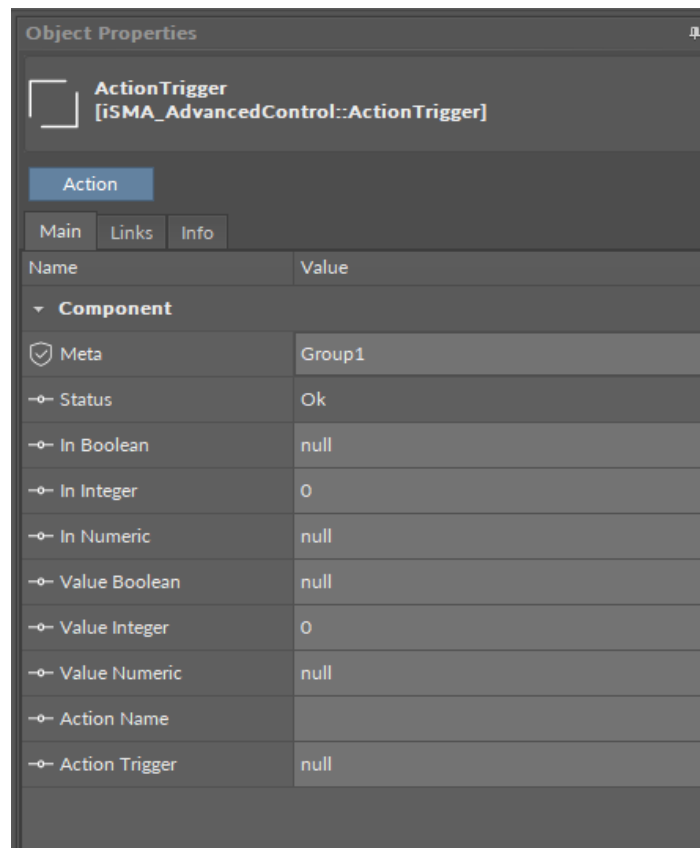


Figure 2. ActionTrigger component

The ActionTrigger component has the following slots:

- **Status:** shows the component's status;

- **In Boolean:** the input slot to make a link connection between components–Boolean type;
- **In Integer:** the input slot to make a link connection between components–integer type;
- **In Numeric:** Input slot to make a link connection between components–numeric/float type;
- **Value Boolean:** the Boolean output value;
- **Value Integer:** the integer output value;
- **Value Numeric:** the numeric output value;
- **Action Name:** the action name from the linked component, which will be recalled;
- **Action Trigger:** recalls action from the component linked to one of the input slots defined in Action Name.

The ActionTrigger component has the following actions:

- **Action:** manually invokes an action from a linked component.

2.3 RaiseLower

The RaiseLower component simplifies the control of 3-point valve actuators. This component has the following functions:

- analog input, works with PID regulators;
- 2 digital outputs for 3-point direct control valve actuators;
- analog output for 3-point control valve actuators by voltage level (additional device required);
- midnight reset function to automatically adjust physical and virtual valve position.

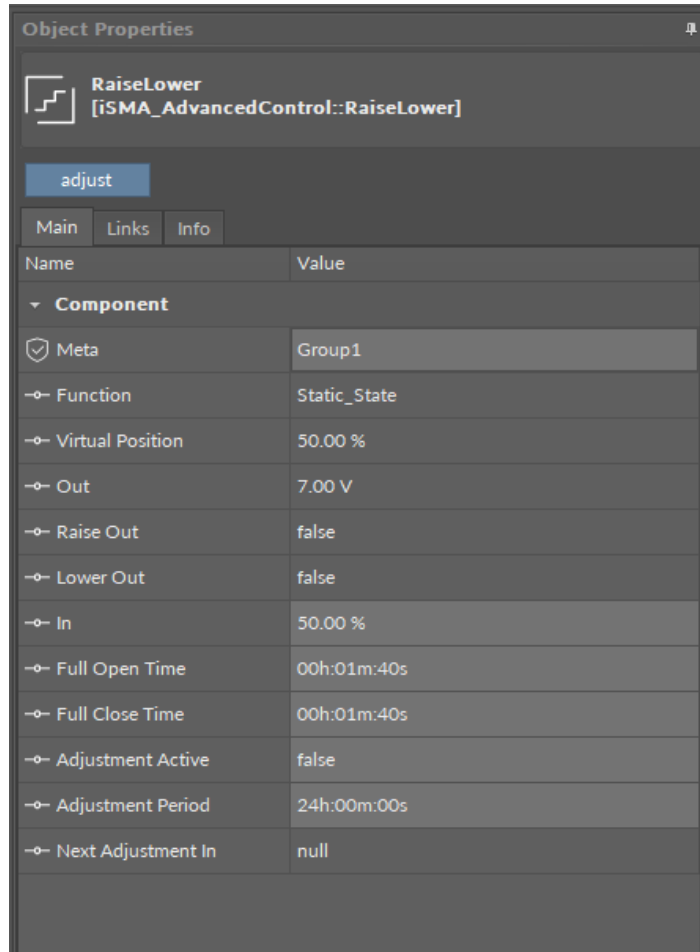


Figure 3. RaiseLower component

The RaiseLower component has the following slots:

- **Function:** the current function description (Lower_State, Static_State, Raise_State, Adjustment_Opening, Adjustment_Closing);
- **Virtual Position:** shows the valve virtual position in %;
- **Out:** the analog output slot;
- **Rise Out:** the digital output for rising function;
- **Lower Out:** the digital output for lowering function;
- **In:** allows to set the valve position demand;
- **Full Open Time:** allows to set the time for opening valve position from 0% to 100%;
- **Full Close Time:** allows to set the time for closing valve position from 100% to 0%;
- **Adjustment Active:** triggers the remote adjustment procedure;
- **Adjustment Period:** allows to set the adjustment procedure recall period in hours;
- **Next Adjustment In:** shows the time (in minutes) to the next adjustment procedure.

The RaiseLower component has the following action:

- **Adjust:** valve adjustment procedure recall (adjusts physical and virtual valve position).

Out Value	Rise	Lower	Description
0	Off	Off	Off
4	Off	On	Lower

Out Value	Rise	Lower	Description
7	Off	Off	Static
10	On	Off	Rise

Table 2. Analog output voltage level function