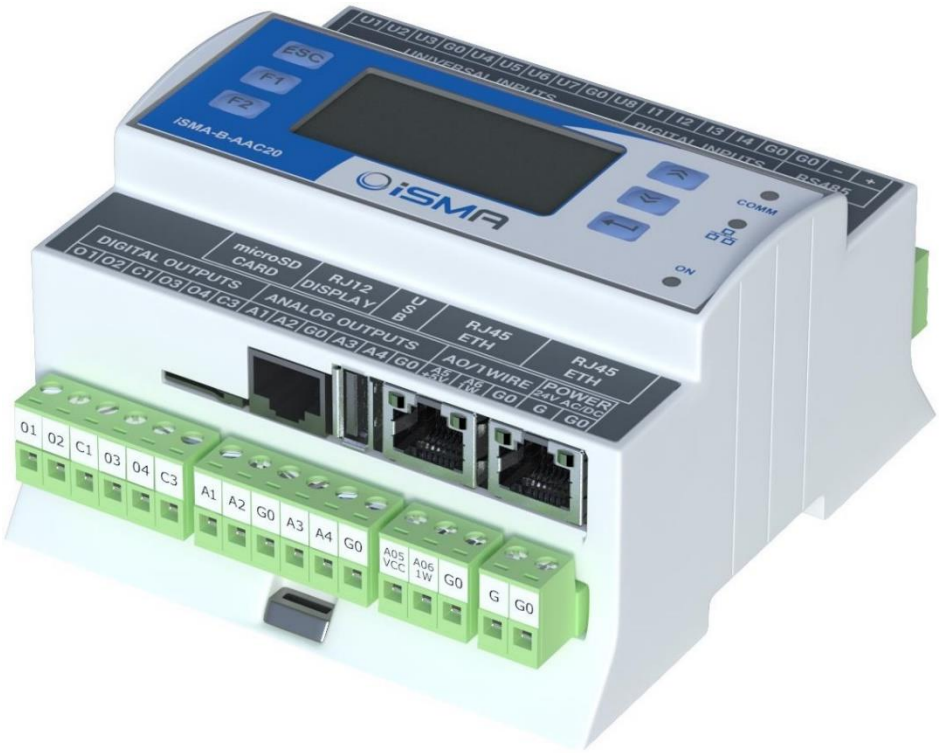
Intelligent Solution Managing Automation

iSMA-B-AAC20

User Manual

iSMA Building kit



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Global Control 5 S.A.
Warsaw, Poland
www.globalcontrol5.com

Table of content

1 Introduction

1.1 Revision history

Rev	Date	Description
1.0	27.01.2020	First edition

Table 1 - Revision history

2 Building kit

This manual contains information about iSMA Building Kit in iSMA-B-AAC20 controller. The iSMA Building kit has been created to simplify the creation of the applications for the Blind/Shutter control. The kit has the following components:

- Sunblind
- AdvanceSunblind

2.1 Sunblind

The Component Sunblind has been created to allow the control of the Sunblind with one function block. It suits simple projects the best, where only simple Up/Down manual or BMS control is required. There is a dedicated slot for monitoring the current position of the Sunblind.

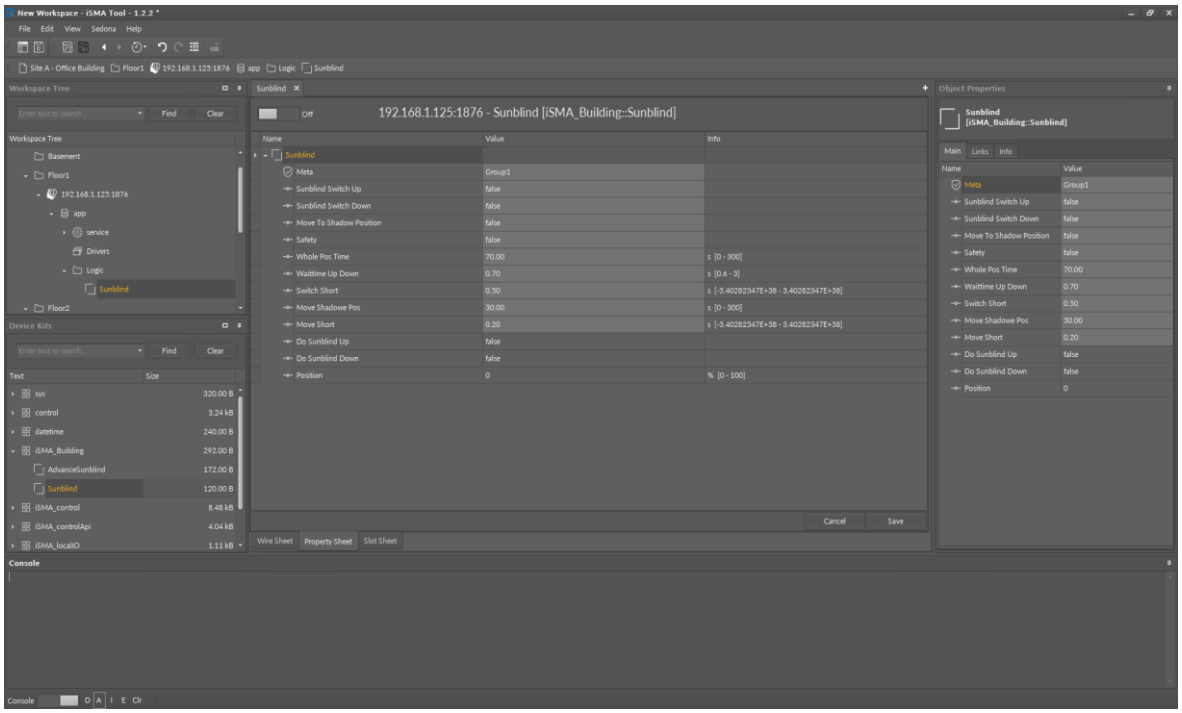

Figure 1 – Sunblind property sheet view

The component has the following configuration slots:

- Sunblind Switch Up – Boolean Input dedicated for moving the Sunblind to Up position,
- Sunblind Switch Down - Boolean Input dedicated for moving the Sunblind to Down position,
- Move To Shadow Position – Boolean Input dedicated for moving the Sunblind to Shadow position (Protection from the sunlight),
- Safety - – Boolean Input dedicated for moving the Sunblind to complete Up position (Protection from the strong wind),
- Whole Pos Time – The time needed for the Sunblind motor to make complete Opening/Closing of the Sunblind. [0 – 300 sec].
- Waittime Up Down – The delay between changing the direction of the Sunblind. [0.6 – 3 sec].
- Switch Short – The time defining short press of the switch, which will result in changing the Slats position,
- Move Shadow Pos – The time needed for the Sunblind motor to set the Sunblind in Shadow position. [0 – 300 sec].
- Move Short – The time defining the short moving of the Sunblind in case if the impulse was shorter than Switch Short. If the motor is in moving, such an impulse will result in stopping the Sunblind motor.
- Do Sunblind Up – Boolean Output dedicated for moving the Sunblind to the Up position,
- Do Sunblind Down – Boolean Output dedicated for moving the Sunblind to the Down position,
- Position – The slot which allows monitoring the position of the Sunblind. [0 – 100 %].

2.2 AdvanceSunblind

The AdvanceSunblind component has been created to extend the possibilities of the Sunblind component. It is suited the best for projects, where control of the Sunblind with the possibility to change the Slats positioning is required. There are dedicated slots which allow forchanging the operation mode of the Sunblind depending on the length of the impulse – Short Pulse/ Middle / Long Pulse. The component also allows for defining special function positions, such as Shadow, Safety and Cleaning, which can be invoked by slots “Move to …”.

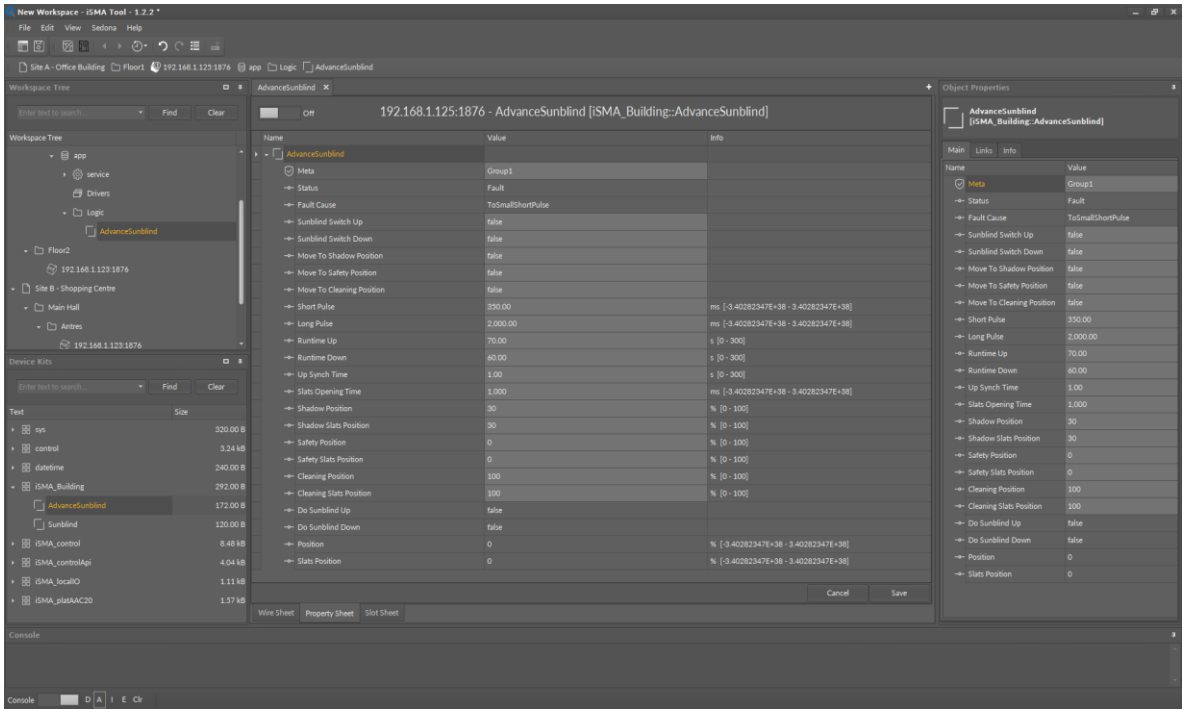

Figure 2 - AdvenceSunblind property sheet view

The component has the following configuration slots:

- Status – component status:
  OK – the component working properly,

  Fault – a mistake in the component settings;
- Fault Cause – description of the fault:
  None – the component working properly,

  TooSmallShortPulse – the value ScanPeriod is twice bigger comparing to ShortPulse;

  TooSmallLongPulse – the value ScanPeriod is twice bigger comparing to LongPulse;

  ShortPulseIsGreaterThenLong – the value ShortPulse is bigger or equal to LongPulse.
- Sunblind Switch Up – Boolean Input dedicated for moving the Sunblind to the Up position,
- Sunblind Switch Down - Boolean Input dedicated for moving the Sunblind to the Down position,
- Move To Shadow Position – Boolean Input dedicated for moving the Sunblind to the Shadow position (Protection from the sunlight). This slot has the lowest priority. While this function is in operation it is still possible to control the Sunblind by Sunblind Switch Up and Sunblind Switch Down inputs.
- Move To Safety Position – Boolean Input dedicated for moving the Sunblind to the Safety position (Protection from the strong wind). This slot has the highest priority. While this function is in operation it is not possible to control the Sunblind by Sunblind Switch Up and Sunblind Switch Down inputs.

- Move To Cleaning Position – Boolean Input dedicated for moving the Sunblind to the Cleaning position. While this function is in operation it is not possible to control the Sunblind by Sunblind Switch Up and Sunblind Switch Down inputs.
- Short Pulse – The time [ms] defining length of the impulse which will be considered as a short impulse. Such an impulse will cause the change position of the slats as long as the button will be pressed.
- Long Pulse - The time [ms] defining length of the impulse which will be considered as a long impulse. Such an impulse will cause the change position of the Sunblind for as long as the button is pressed.
- Middle Pulse – The impulse which is longer than Short Pulse and shorter than Long Pulse. Such an impulse will cause the full opening/closing of the Sunblind depending on the pressed button Up or Down.
- Runtime Up – The time of full opening of the Sunblind. [sec]
- Runtime Down – The time of full closing of the Sunblind. [sec]
- Up Synch Time – The additional time for moving Up the Sunblind to make sure it is always fully open.
- Slats Opening Time – The time [ms] of the complete change of the position of Slats (from Open to Close and vice-versa).
- Shadow Position – slot for the defining position [%] of the Sunblind for making a shadow, by default 30%.
- Shadow Slats Position – slot for defining slats position [%] of the Sunblind for making a shadow, by default 30%.
- Safety Position – slot for defining the safety position of the Sunblind (Protection from the strong wind), by default 0%.
- Safety Slats Position – slot for defining the safety Slats position of the Sunblind (Protection from the strong wind), by default 0%.
- Cleaning Position – slot for defining the cleaning position of the Sunblind, by default 100%.
- Cleaning Slats Position – slot for defining the Slats cleaning position of the Sunblind, by default 100%.
- Do Sunblind Up – Boolean Output dedicated for moving the Sunblind to the Up position,
- Do Sunblind Down – Boolean Output dedicated for moving the Sunblind to the Down position,
- Position – the slot which allows monitoring the position of the Sunblind. [0 – 100 %].
- Slats Position – The slot which allows monitoring the position of the Slats of the Sunblind. [0 – 100 %].

Note: Additionally, for the kit operating correctly, it is required to set Scan Period time in App component 15-20 ms longer than the value in Scan Time, for the logic to be responsive. According to these parameters, the position of the Sunblind is calculated, so it will allow controlling the Sunblind precisely.

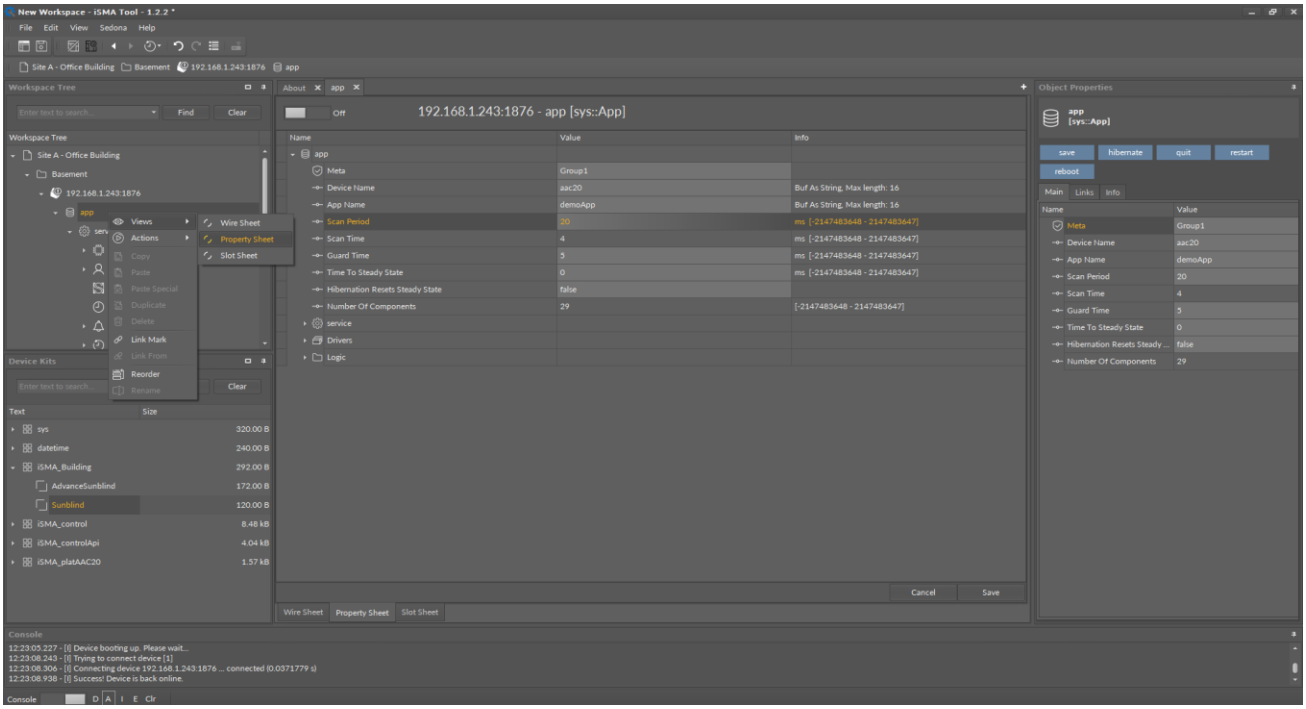

Figure 3 - App property sheet view