iSMA**CONTROLLI**

iSMA-B-AAC20

User Manual

Building Kit
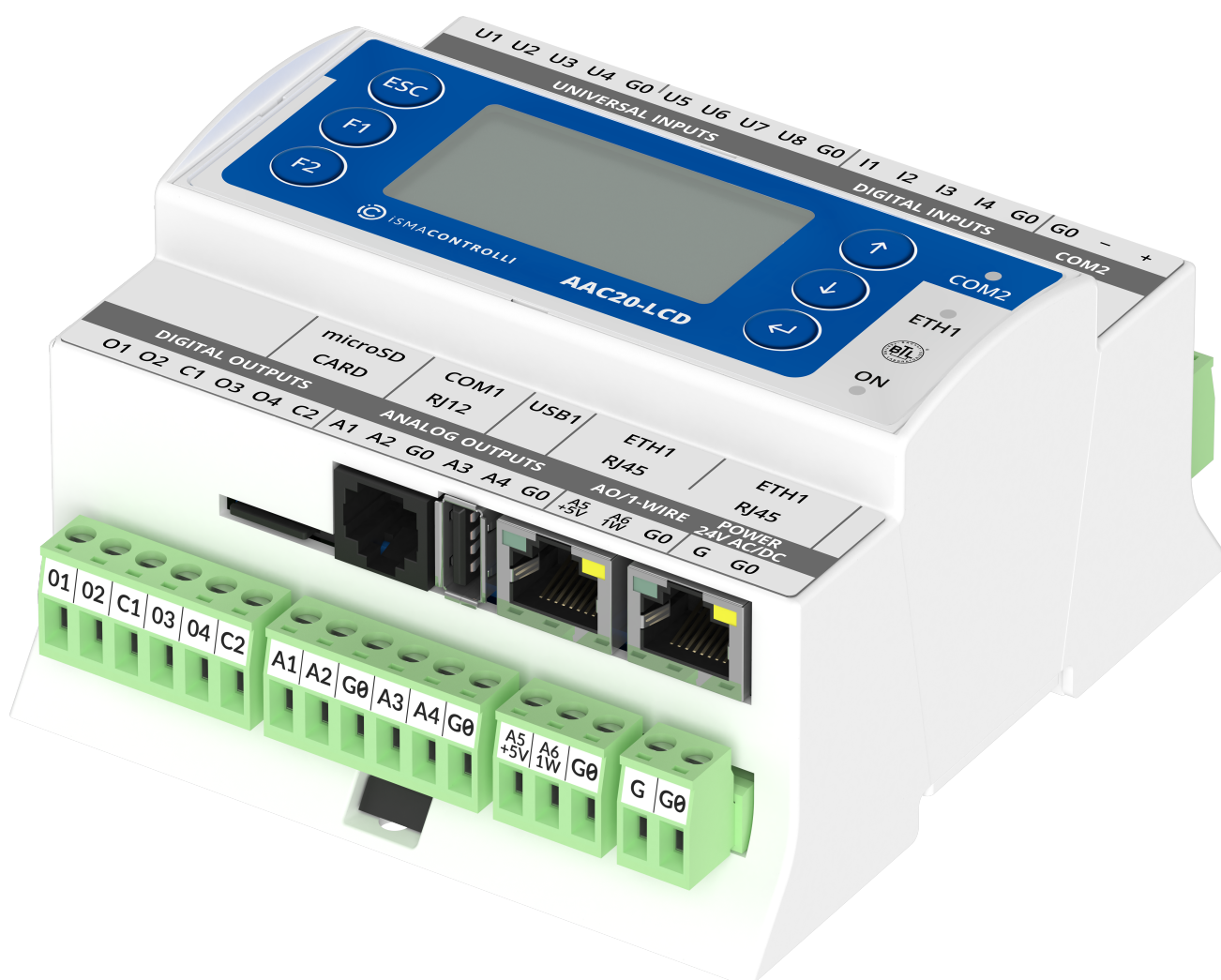
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1 Introduction

This manual contains information about the iSMA Building kit in the 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:
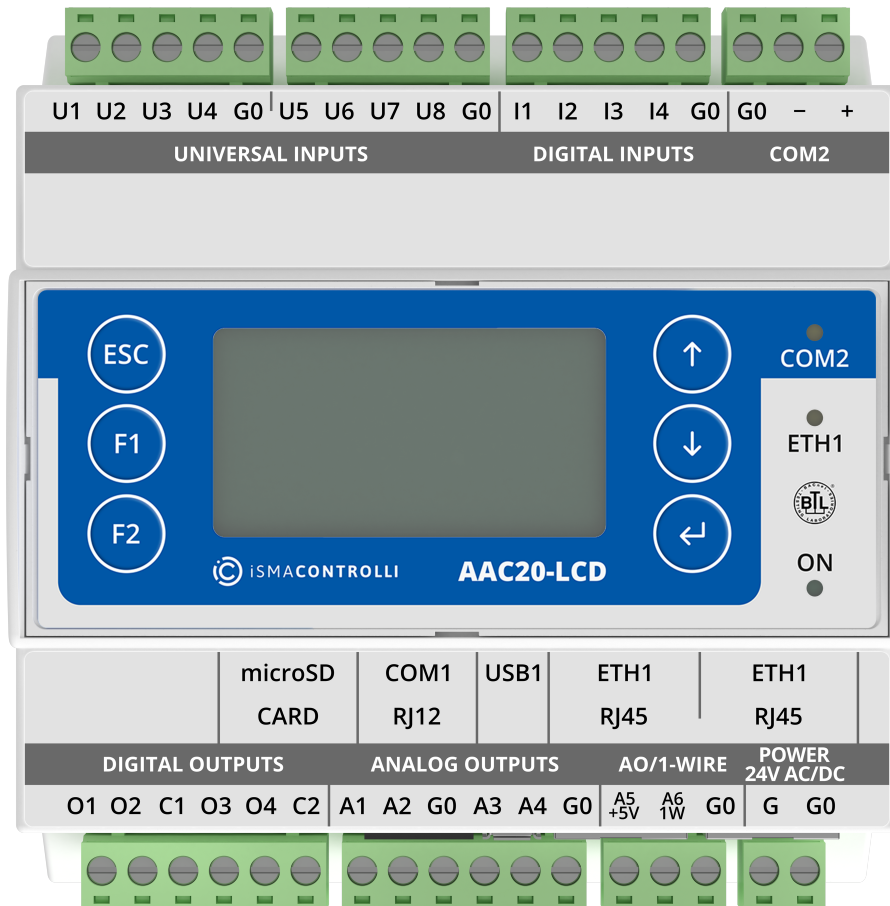
- Sunblind;
- AdvanceSunblind.

Figure 1. AAC20-LCD controller

1.1 Revision History

Rev.	Date	Description
1.0	27 Jan 2020	First edition
1.1	28 Feb 2022	Rebranded

Table 1. Revision history

2 Sunblind

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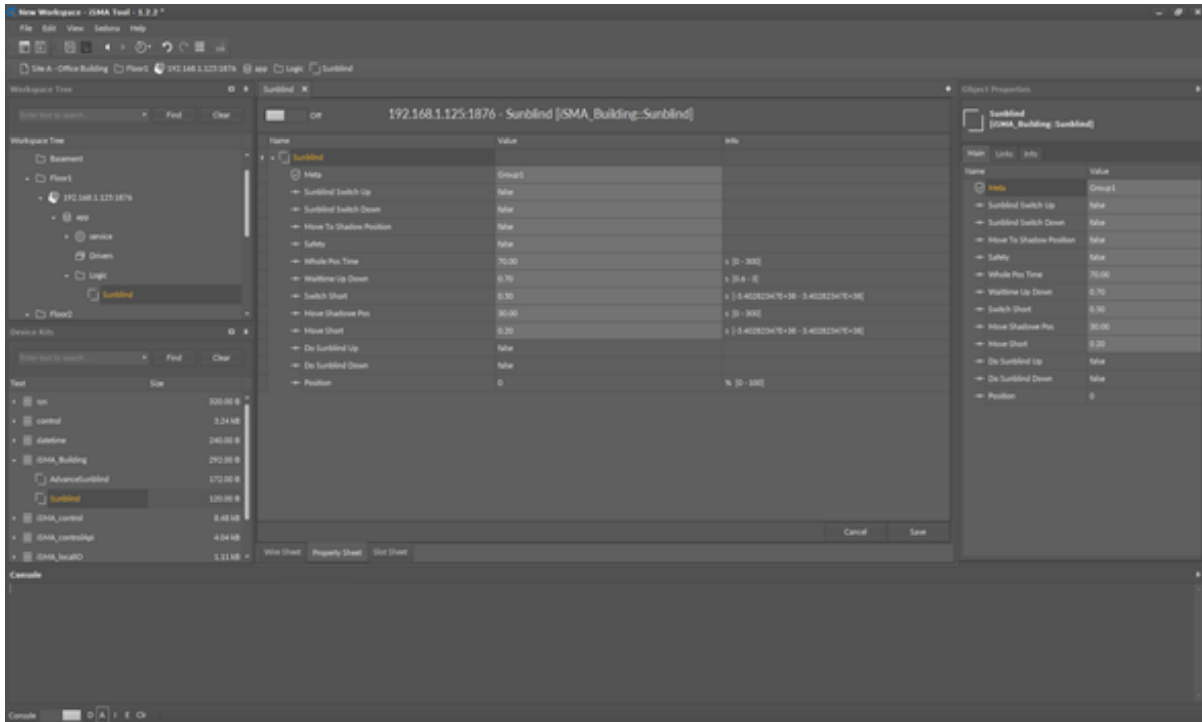

Figure 2. Sunblind component

The Sunblind component has the following configuration slots:

- **Sunblind Switch Up**: the Boolean input dedicated for moving the sunblind up;
- **Sunblind Switch Down:** the Boolean input dedicated for moving the sunblind down;
- **Move To Shadow Position:** the Boolean input dedicated for moving the sunblind to shadow position (protection from sunlight);
- **Safety**: the Boolean input dedicated for moving the sunblind completely up (protection from strong wind);
- **Whole Pos Time:** the time needed for the sunblind motor to make a complete opening/closing of the sunblind (0-300 s);
- **Waittime Up Down:** the delay between changing the direction of the sunblind (0,6-3 s);
- **Switch Short:** the time defining a short press of the switch, which results in changing the slats position;
- **Move Shadow Pos:** the time needed for the sunblind motor to set the sunblind to shadow position (0-300 s);
- **Move Short:** the time defining the short moving of the sunblind in case if the impulse was shorter than the Switch Short. If the motor is moving, such impulse results in stopping the sunblind motor;
- **Do Sunblind Up:** the Boolean output dedicated for moving the sunblind up;
- **Do Sunblind Down:** the Boolean output dedicated for moving the sunblind down;
- **Position:** monitors the position of the sunblind (0-100%).

3 AdvanceSunblind

The AdvanceSunblind component has been created to extend the possibilities of the Sunblind component. It best suits projects, where the control of sunblind with the possibility to change the slats positioning is required. There are dedicated slots, which allow for changing the operation mode of sunblinds 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 Move To Shadow/Safety/Cleaning Position slots.
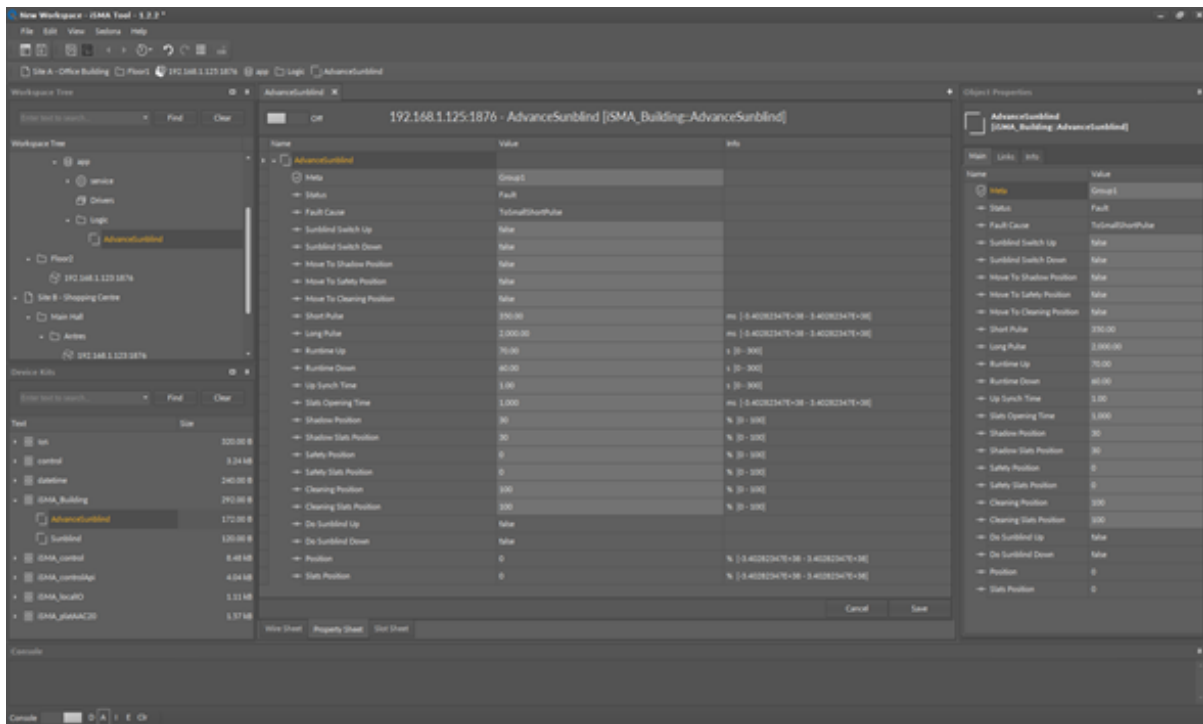

Figure 3. AdvanceSunbling component

The AdvanceSunblind component has the following configuration slots:

- **Status:** shows the component's status;
    - Available information: OK, Fault;
- **Fault Cause:** shows the description of the fault cause;
    - Available information: None (the component is working properly), TooSmallShortPulse (the ScanPeriod value is twice too big comparing to the ShortPulse value), TooSmallLongPulse (the ScanPeriod value is twice too big comparing to the LongPulse value, ShortPulseIsGreaterThenLong (the ShortPulse value is bigger or equal to the LongPulse value);
- **Sunblind Switch Up**: the Boolean input dedicated for moving the sunblind up;
- **Sunblind Switch Down:** the Boolean input dedicated for moving the sunblind down;
- **Move To Shadow Position:** the Boolean input dedicated for moving the sunblind to the shadow position (protection from sunlight); this slot has the lowest priority–while this function is in operation, it is still possible to control the sunblind with the Sunblind Switch Up and Sunblind Switch Down values;
- **Move To Safety Position:** the Boolean input dedicated for moving the sunblind to the safety position (protection from strong wind); this slot has the highest priority–while this function is in operation, it is not possible to control the sunblind with the Sunblind Switch Up and Sunblind Switch Down values;

- **Move To Cleaning Position:** the 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 the Sunblind Switch Up and Sunblind Switch Down values;
- **Short Pulse:** the time [ms] defining the length of the pulse, which will be considered as a short pulse. Such pulse causes the change of position of the slats as long as the button is pressed;
- **Long Pulse:** the time [ms] defining the length of the pulse, which will be considered as a long pulse. Such pulse causes the change of position of the sunblind for as long as the button is pressed;
- **Middle Pulse:** the pulse, which is longer than the short pulse and shorter than the long pulse Such pulse causes 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 (expressed in seconds);
- **Runtime Down:** the time of full closing of the sunblind (expressed in seconds);
- **Up Synch Time:** the additional time for moving the sunblind up 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 from close to open);
- **Shadow Position:** defines the position (%) of the sunblind for making a shadow, by default, 30%;
- **Shadow Slats Position:** defines the slats position (%) of the sunblind for making a shadow, by default, 30%;
- **Safety Position**: defines the safety position of the sunblind (protection from strong wind), by default, 0%;
- **Safety Slats Position**: defines the safety slats position of the sunblind (protection from strong wind), by default, 0%;
- **Cleaning Position:** defines the cleaning position of the sunblind, by default, 100%;
- **Cleaning Slats Position:** defines the slats cleaning position of the sunblind, by default, 100%;
- **Do Sunblind Up:** the Boolean output dedicated for moving the sunblind up;
- **Do Sunblind Down:** the Boolean output dedicated for moving the sunblind down;
- **Position:** monitors the position of the sunblind (0-100%);
- **Slats Position:** monitors the position of the slats of the sunblind (0-100%).

Note: Additionally, for the kit to operate correctly, it is required to set the Scan Period time in the app component 15-20 ms longer than the value in the Scan Time, for the logic to be responsive. According to these parameters, the position of the sunblind is calculated, so it allows controlling the sunblind precisely.
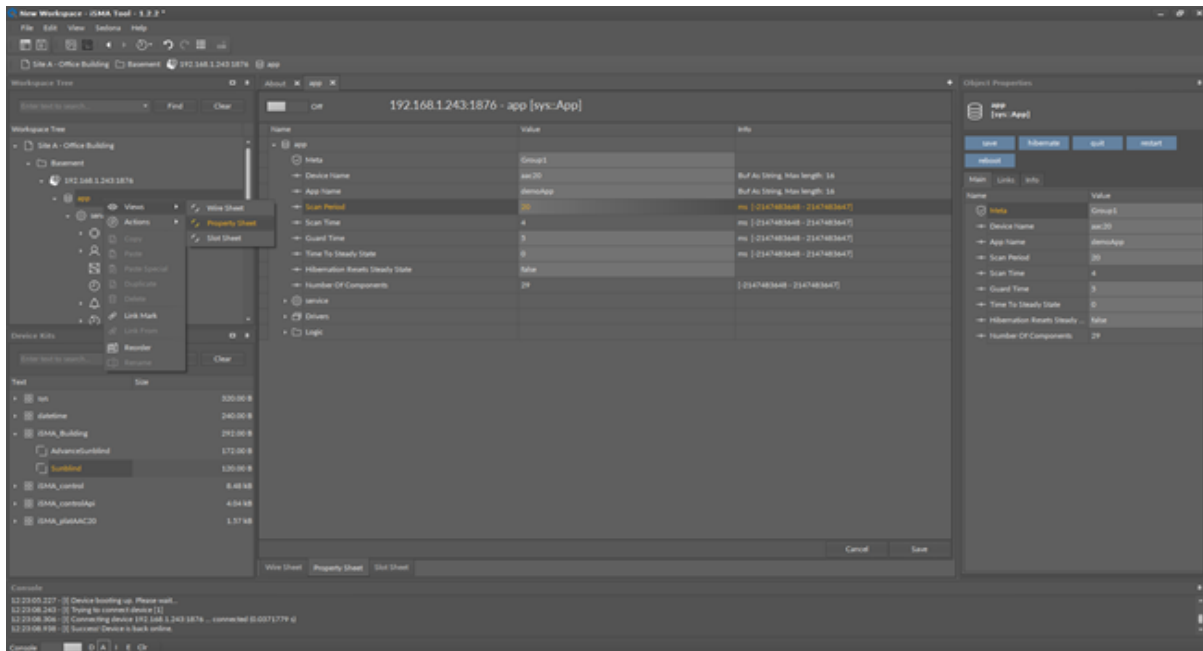
Figure 4. app component