Dooya Installation and Usage Guide

DOOYA®

TUBULAR MOTOR

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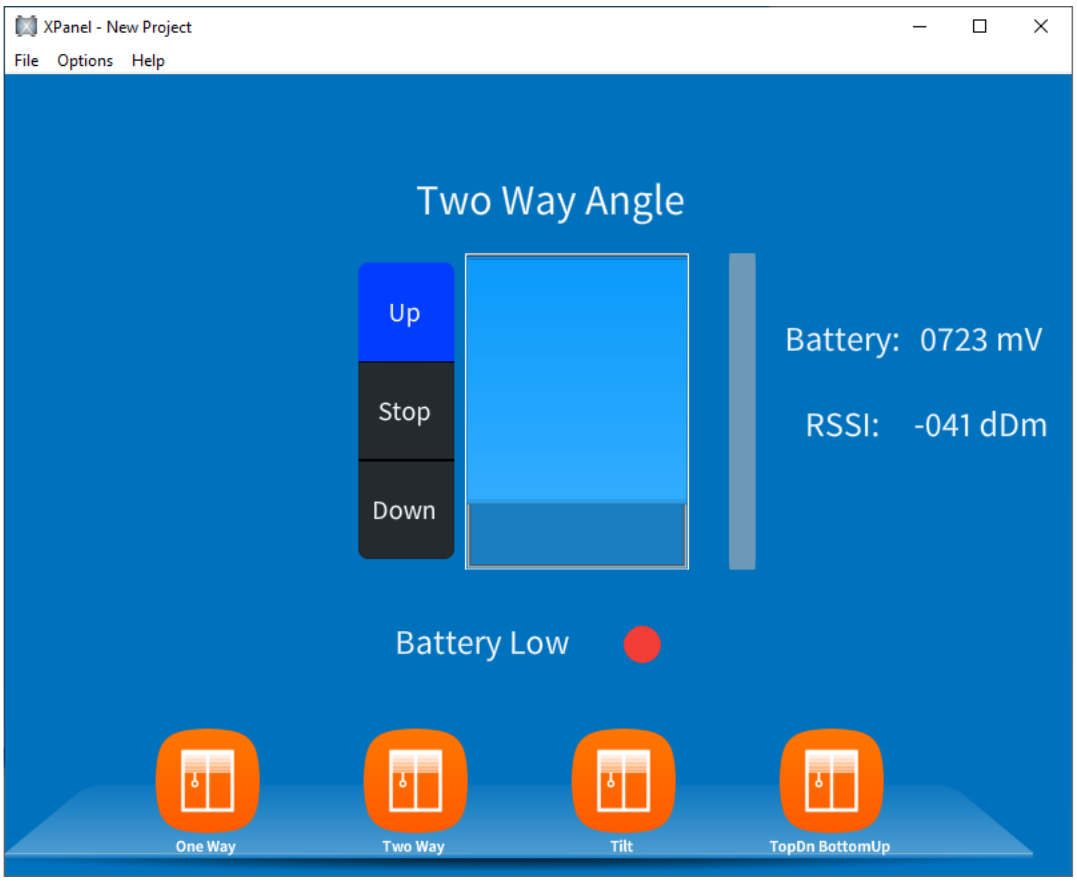
Contents

Overview

Operating in the Home & Building and Access Activities, Dooya is the leading Chinese brand in tubular motors, particularly at the entry-level. Dooya specializes in the design of control systems for rolling shutters, rolling doors, curtains and interior blinds.

Dooya is part of the Somfy Group's portfolio of complimentary brands. Together, they cover most automation needs for openings and closures of homes and buildings around the world. They also allow the Group to service its distribution channels—manufacturers, installers, DIY superstores, e-commerce, architects—with suitable solutions.



Features

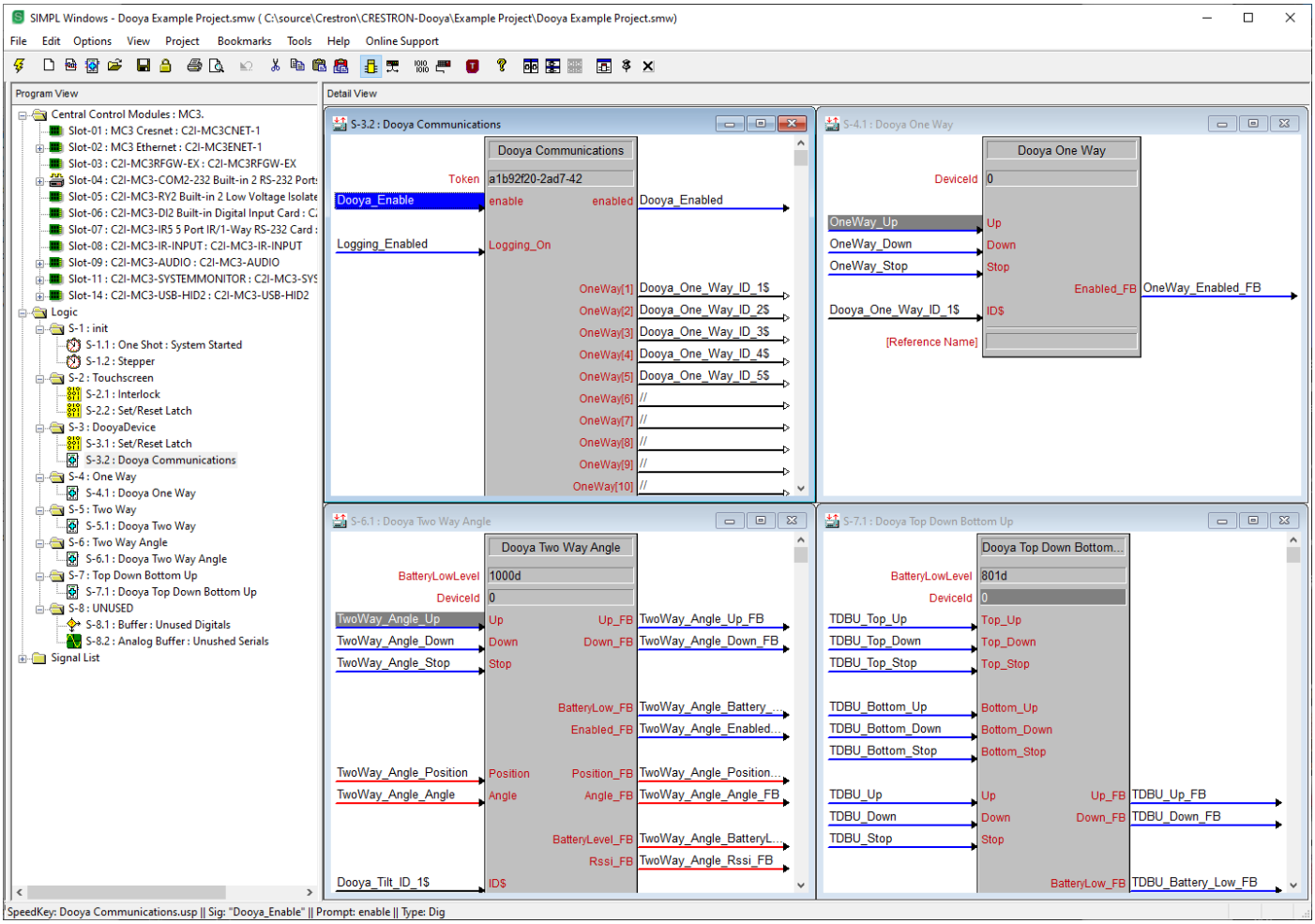
- Manufacturer Sponsored FREE Driver
    - Uni Directional Shade Driver
    - One Way Driver
    - Commands
        - Up
        - Down
        - Stop
    - Bi Directional Shade Driver
    - Two Way Driver
    - Commands
        - Up
        - Down
        - Stop
        - Position
    - Feedback
        - Position
        - Battery mAh
        - Signal Strength
    - Bi Directional Tilt Shade Driver
    - Two Way Driver
    - Commands
        - Up
        - Down
        - Stop
        - Position
        - Tilt
    - Feedback
        - Position
        - Tilt
        - Battery mAh
        - Signal Strength
    - Bi Directional TDBU (Top Down, Bottom Up) Shade Driver
        - Two Way Driver
        - Commands
        - Up
        - Down
        - Stop
        - Position for Top and Bottom
        - Feedback
        - Top Motor Position

        - Bottom Motor Position
        - Battery mAh
        - Signal Strength
- Position feedback for bi-directional motors
    - Event fire on Open
    - Event Fire on Close
- Battery mAh feedback for bi-directional motors with batteries installed.
    - Event fire on low battery

Installation

The zip file that included this documentation has the simpl# (.clz file) and simpl+ (.usp file) module that needs to be copied in to your project folder. The files were built and tested on a Crestron 3-series processor, but have been compiled with 4-series support.

The zip file also contains a SIMPL project and a VT-Pro touchscreen design that you can use for testing.



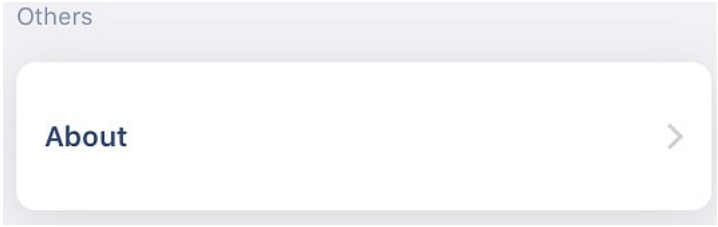
Setup

Getting the Token

1. Install and configure your Dooya phone app (or the appropriate rebranded version of the app) adding the available blinds to the rooms
2. Tap the hamburger menu button (three horizontal bars)

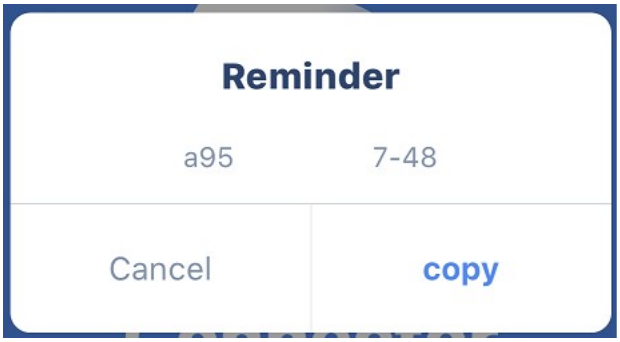
3. Tap you profile icon

4. Tap **About**



5. Tap the logo 5 times

6. This will display the token that is required as part of the confuguration.



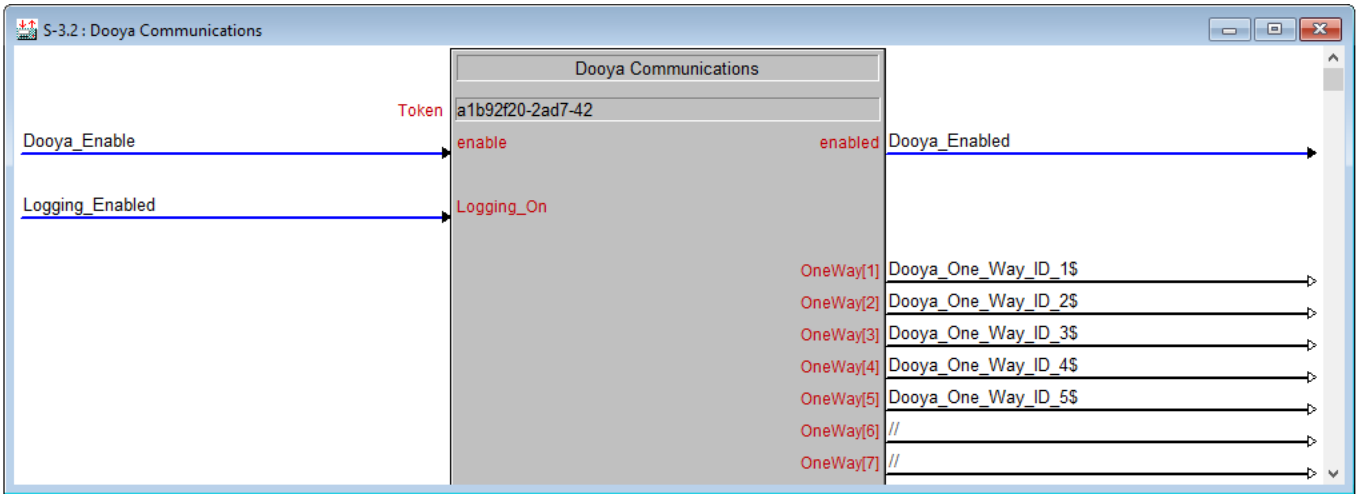
Configuration - Communication Module

The Dooya blind module actually consists of serval modules, one for communication and one for each of the supported blind types.

Not matter what the system type you are using you will need to include the Dooya Communications module. This is used to connect to the web service and is a requirement for all setups. This module handles all the communication between Crestron and the Dooya gateways.

To configure the system you will need to provide the Dooya Token. Please see the previous section for details of how to find the token.

Once connected the Communication module will scan for all of the connected blinds and provide the ID's of the discovered blinds categorised into the various blind types. You can use these discovered blind ID's to drive the ID$ input of the various blind modules.

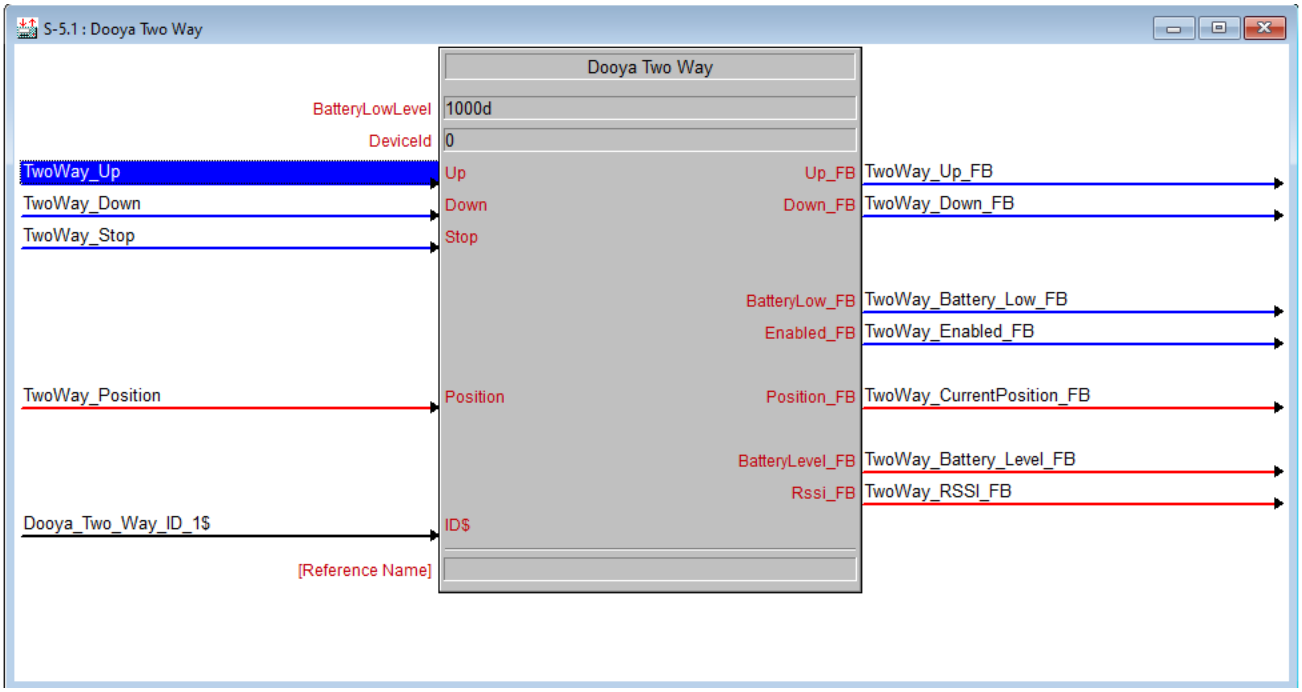


Configuration - Blinds

The various blind modules will communicate with the communication module automatically, no signals need to be joined in SIMPL for these to work correctly. The module does need to be enabled and, until it is, the blind module will not function - the blind modules have enabled signals to indicate they are ready and in connected to the Communication module.

The Blind modules included are designed for each of the supported motor type, One Way, Two Way, Tilt and Top Down / Bottom Up type. You will need to select the correct module for each supported blind motor.

For each blind motor you will need to provide an ID. You can attach the ID in two way, one is to hard code it in the module using the ID parameter. The other is to provide the ID to the serial join ID$ on each of the modules.



Communications Module Inputs

Parameters

Token
Enter the secret key found on the mobile app. This can be found by tapping the logo 5 times on the about page of the mobile app. See the Setup section for details.

Digital Inputs

enable
The enable signal will enable the module. This will send the commands that control discovery and secret passphrase to communicate to the gateway.

Logging_On
The Logging_On signal will turn on logging. While this signal is high all actions will by sent to the console.

Communications Module Outputs

Digital Outputs

enabled
The enabled signal will be high when the module is enabled.

String Outputs

OneWay[1-50]
The OneWay[1-50] signal will list the ID's of the One Way Module that is connected to the Communications Module.

TwoWay[1-50]
The TwoWay[1-50] signal will list the ID's of the Two Way Module that is connected to the Communications Module.

Tilt[1-50]
The Tilt[1-50] signal will list the ID's of the Two Way Angle Module that is connected to the Communications Module.

TDBU[1-50]

The TDBU[1-50] signal will list the ID's of the Top Down Bottom Up Module that is connected to the Communications Module.

One Way Module Inputs

Digital Inputs

Up
The Up signal will send the Up/Open command to the module.

Down
The Down signal will send the Down/Closed command to the module.

Stop
The Stop signal will send the Stop command to the module.

String Inputs

ID
The ID signal will send the ID command to the module. This can be left blank if using the device discovery method. Otherwise enter the 16 character Mac value found in the device settings on the mobile app.

One Way Module Outputs

Digital Outputs

Enabled_FB
The Enabled_FB signal will be true when the module is enabled. This will only trigger when the gateway sucessfuly responds to a status update using the secret key.

Two Way Module Inputs

Digital Inputs

Up
The Up signal will send the Up/Open command to the module.

Down
The Down signal will send the Down/Closed command to the module.

Stop
The Stop signal will send the Stop command to the module.

Analog Inputs

Position
The Position signal will send the Position command to the module. This must be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

String Inputs

ID$
The ID signal will send the ID command to the module. This can be left blank if using the device discovery method. If you are required to hard code the Id's enter the Mac value found in the device settings on the mobile app.

Two Way Module Outputs

Digital Outputs

Up_FB

The Up_FB signal will be true when the module is in the Up/Open position. For top down bottom up modules this is when either top or bottom motors are not in their fully closed positions.

Down_FB

The Down_FB signal will be true when the module is in the Down/Closed position. For top down bottom up modules this is when both top and bottom motors are in their fully closed positions.

BatteryLow_FB

The BatteryLow_FB signal will be true when the battery level is below the BatteryLowLevel parameter entered for the module.

Enabled_FB

The Enabled_FB signal will be true when the module is enabled. This will only trigger when the gateway sucessfuly responds to a status update using the secret key.

Analog Outputs

Position_FB

The Position_FB signal will be the current position of the top motor. This will be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

BatteryLevel_FB

The BatteryLevel_FB signal will be the current battery level of the motor. This will be a value between 0 and the current total capacity of the shades battery.

Rssi_FB

The Rssi_FB signal will be the current signal strength of the module. This will be a value between 30 and 90, where 30 is the best signal strength and 90 is the worst signal strength.

Two Way Angle Module Inputs

Digital Inputs

Up
The Up signal will send the Up/Open command to the module.

Down
The Down signal will send the Down/Closed command to the module.

Stop
The Stop signal will send the Stop command to the module.

Analog Inputs

Position
The Position signal will send the Position command to the module. This must be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

Angle
The Angle signal will send the Angle command to the module. This must be a value between 0 and 180, where 0 is fully up and 180 is fully down. The Angle command is only available once the blind has reached the fully closed position.

String Inputs

ID
The ID signal will send the ID command to the module. This can be left blank if using the device discovery method. If you are required to hard code the Id's enter the Mac value found in the device settings on the mobile app.

Two Way Angle Module Outputs

Digital Outputs

Up_FB

The Up_FB signal will be true when the module is in the Up/Open position. For top down bottom up modules this is when either top or bottom motors are not in their fully closed positions.

Down_FB

The Down_FB signal will be true when the module is in the Down/Closed position. For top down bottom up modules this is when both top and bottom motors are in their fully closed positions.

BatteryLow_FB

The BatteryLow_FB signal will be true when the battery level is below the BatteryLowLevel parameter entered for the module.

Enabled_FB

The Enabled_FB signal will be true when the module is enabled. This will only trigger when the gateway sucessfuly responds to a status update using the secret key.

Analog Outputs

Position_FB

The Position_FB signal will be the current position of the top motor. This will be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

Angle_FB

The Angle_FB signal will be the current angle of the top motor. This will be a value between 0 and 180, where 0 is fully up and 180 is fully down.

BatteryLevel_FB

The BatteryLevel_FB signal will be the current battery level of the motor. This will be a value between 0 and the current total capacity of the shades battery.

Rssi_FB

The Rssi_FB signal will be the current signal strength of the module. This will be a value between 30 and 90, where 30 is the best signal strength and 90 is the worst signal strength.

Top Down Bottom Up Module Inputs

Digital Inputs

Top_Up
The Top_Up signal will send the top portion of the shade to the Up/Close position.

Top_Down
The Down signal will send the top portion of the shade Down/Open this level will not exceed the current position of the bottom portion of the shade.

Top_Stop
The Top_Stop signal will send the Stop command to the top motor of the module.

Bottom_Up
The Bottom_Up signal will send the bottom portion of the shade to the Up/Open position. This level will not exceed the current position of the top portion of the shade.

Bottom_Down
The Bottom_Down signal will send the top portion of the shade to the Down/Close position.

Bottom_Stop
The Bottom_Stop signal will send the Stop command to the bottom motor of the module.

Up
The Up signal will send the Up/Open command to the module. This will set the top motor to the Up/Close position and the bottom motor to the Up/Open position.

Down
The Down signal will send the Down/Closed command to the module. This will set the top motor to the Up/Close position and the bottom motor to the Down/Close position.

Stop
The Stop signal will send the Stop command to the module. This will send the stop command to both the top and bottom motors.

Analog Inputs

Top_Position

The Top_Position signal will send the Position command to the top motor module. This must be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

Bottom_Position

The Bottom_Position signal will send the Position command to the bottom motor module. This must be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

String Inputs

ID

The ID signal will send the ID command to the module. This can be left blank if using the device discovery method. Otherwise enter the 16 character Mac value found in the device settings on the mobile app.

Top Down Bottom Up Module Outputs

Digital Outputs

Up_FB

The Up_FB signal will be true when the module is in the Up/Open position. For top down bottom up modules this is when either top or bottom motors are not in their fully closed positions.

Down_FB

The Down_FB signal will be true when the module is in the Down/Closed position. For top down bottom up modules this is when both top and bottom motors are in their fully closed positions.

BatteryLow_FB

The BatteryLow_FB signal will be true when the battery level is below the BatteryLowLevel parameter entered for the module.

Enabled_FB

The Enabled_FB signal will be true when the module is enabled. This will only trigger when the gateway sucessfuly responds to a status update using the secret key.

Analog Outputs

Top_Position_FB

The Top_Position_FB signal will be the current position of the top motor. This will be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

Bottom_Position_FB

The Bottom_Position_FB signal will be the current position of the bottom motor. This will be a value between 0 and 100, where 0 is fully closed and 100 is fully opened.

Top_BatteryLevel_FB

The Top_BatteryLevel_FB signal will be the current battery level of the top motor. This will be a value between 0 and the current total capacity of the shades battery.

Bottom_BatteryLevel_FB

The Bottom_BatteryLevel_FB signal will be the current battery level of the bottom motor. This will be a value between 0 and the current total capacity of the shades battery.

Rssi_FB

The Rssi_FB signal will be the current signal strength of the module. This will be a value between 30 and 90, where 30 is the best signal strength and 90 is the worst signal strength.