Solar Monitor
Installation instructions SM2-AD v 1.0

Package contens

Inputs & Outputs module

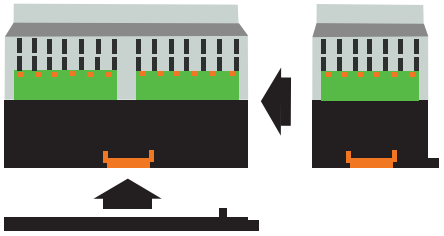
- Solar Monitor SM2-AD
- installation instructions
- configuration sheet

Bus HBUS

- part for connection to SM2-MU

1. Step

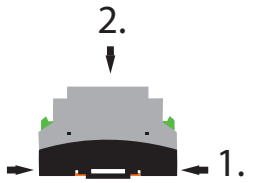
Connect the bus HBUS SM2-MU. Connect module SM2-AD with SM2-MU as shown below.

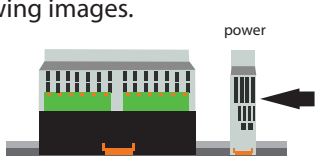


2. Step

Mechanical fastening

Solar Monitor, including any associated source modules can be mounted on wall or DIN rail mounting according to the following images.

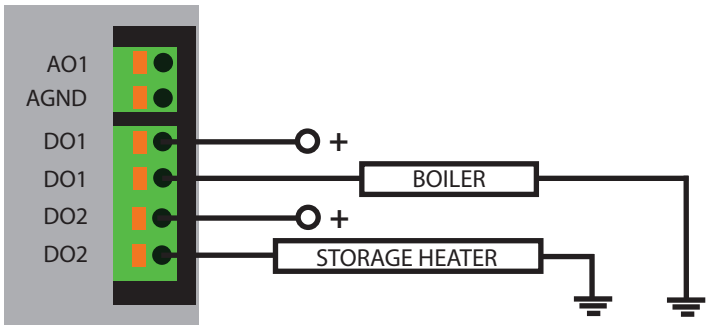




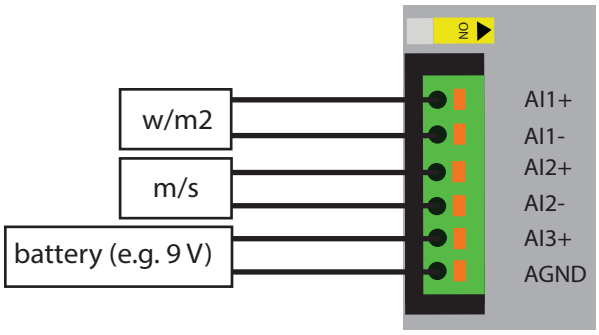
3. Step

Signal connection for Inputs & Outputs

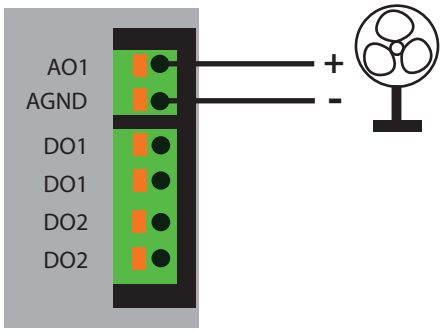
Connect digital (relay) outputs DO similar as SM2-MU, e.g. boiler or storage heater as shown below.



Analog inputs are calibrated. The accuracy of measurement of inputs is up to 0.1. Analog inputs AI1, AI2 and AI3 are used for measuring voltage and current in the following configurations: 0-20mA, 0-10V, 0-20mV, 0-100mV. Measuring ranges are set before delivery module! Their proper completion when ordering SM2-AD is necessary. These inputs can be connected with pyranometer (to accurately capture the intensity of solar radiation), anemometer (capturing wind speed) or e.g. to obtain the status of battery.



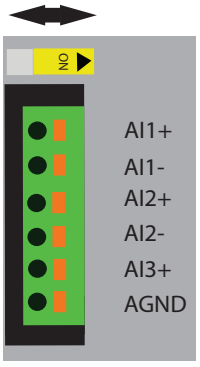
Connection of analog output A0 is similar. At the output terminals voltage 0-10V is measured. It depends on actual power plant or actual temperature. It can be used for continuous control of appliances (e.g. speed fan).



Involvement of multiple modules SM2-AD simultaneously

The SM2-MU can simultaneously connect up to 8 devices of SM2-AD. When two modules SM2-AD are connected to one Solar Monitor unit, should ensure that they have different addresses for communication with SM2-MU. This is done by switching the yellow slide switch.

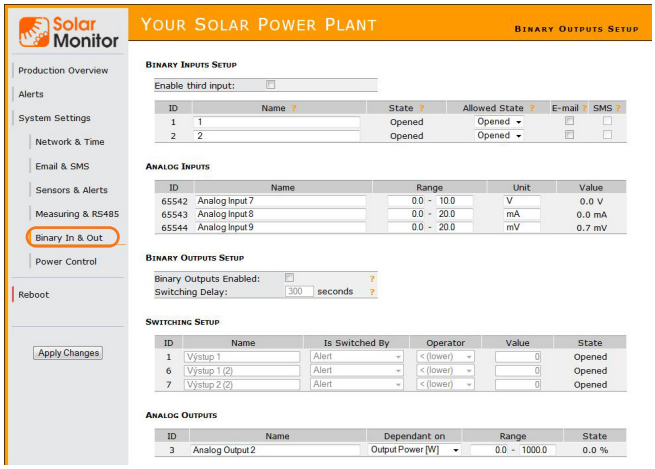
When the SM2-MU is connected to more than two modules, it is necessary to convey this information in order (slide switch then switches between the addresses 2-3, 4-5, 6-7, 8-9).



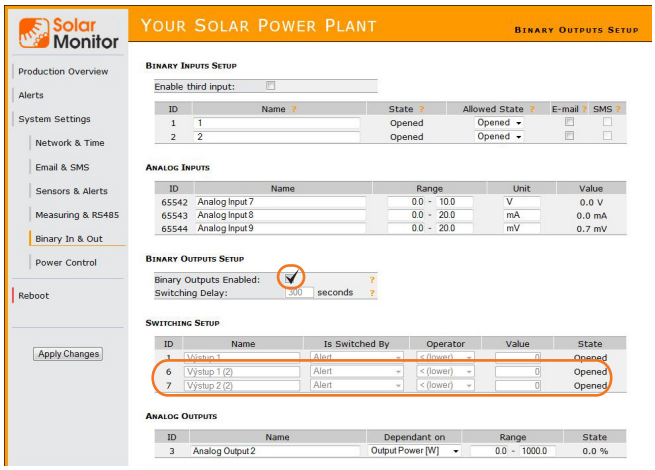
4. Step
Startup and configuration

Once the modules are connected and Solar Monitor is connected to power supply then the green LED Status should be lit. Otherwise, check the connection module SM2-MU.

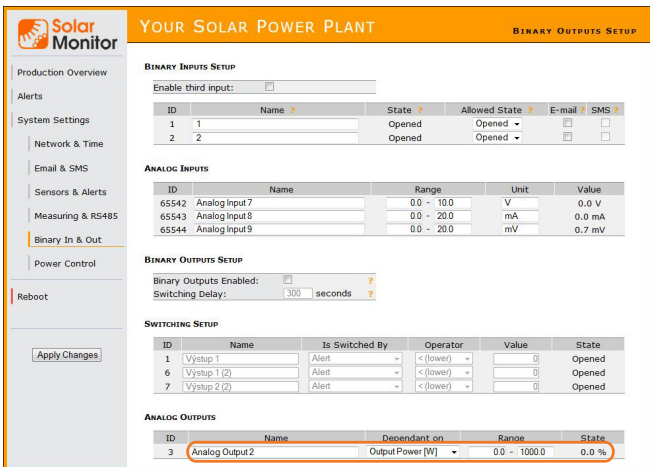
In the browser menu open the "System Settings / Binary In & Out".



The settings of the digital outputs are the same as the output DO1 of SM2 - MU. The outputs must be enabled. Then select under what conditions, the outputs are switched (e.g. from a power value).



Analog output in a similar way as for the digital. We choose depending on what the output will be set (e.g. a room temperature with inverters). For this example we set a temperature range for the output value 0 - 10 V, which will regulate the speed ventilation.



To correctly set the analog inputs a configuration list is needed. According to the configuration list, we discover the extent to which each input measure ((e. g. 0 - 20 mV). This range can be simply converted e. g. for measuring wind speed. If we know 0 m/s = 0 mV and 30 m/s = 15 mV then these values should be transferred to the measuring range:

maximum measuring range

---------- * value, which is represented by maximum measurement range.

maximum measurement range

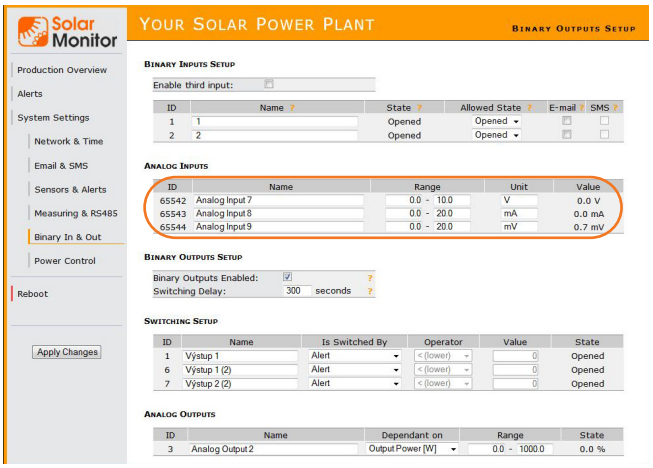
So in our example:

20

--- * 30 = 40

15

Enter this number as the upper value of the range and fill a unit that you want as the result. Then we see the measured values among of the other sensors.



Once set, you must click on the button Apply Changes.