

Solar Monitor

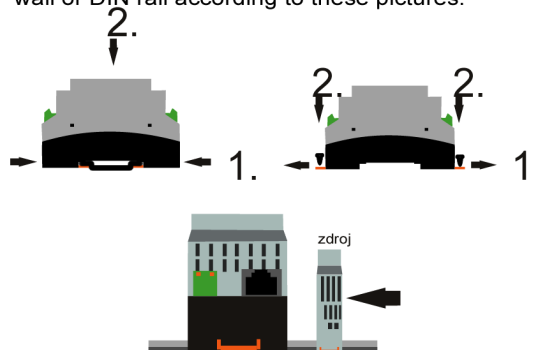
Installation manual SM2-RM

Package content Remote measurement

- SM2-RM
- installation manual

1. Step Mechanical fastening

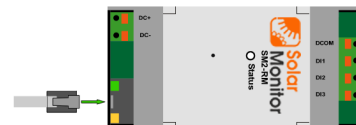
SM2-RM and source can be fixed to the wall or DIN rail according to these pictures.



2. Step LAN network

Connect the unit to the LAN network (to the switch, to PC) by straight or cross UTP cable.

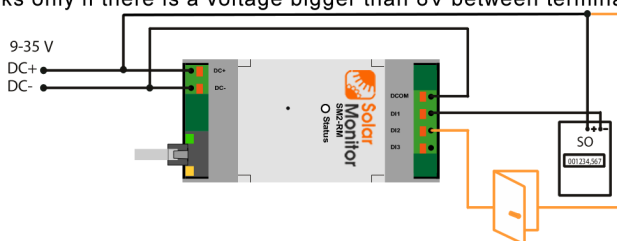
Connect the UTP cable to the SM2-RM into the RJ45 connector. LAN connection works correctly if green diode „LINK” on RJ45 connector lights on the device SM2-RM (after power connection see further).



3. Step Digital inputs

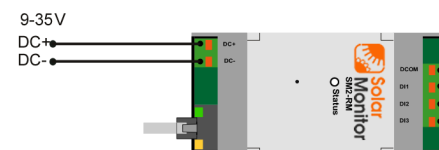
SM2-RM has 3 digital DI inputs. You can easily connect the movement sensor, lightning arrester, optical barrier, door sensor and other types of devices which signalize their state by contact output. These 3 digital inputs can be used for electrometer, gasmeter and watermeter energy reading. It is necessary that all these counters have pulse output, named S0 with electrometers. We bring power signal DC- to the terminal DCOM.

Switching on works only if there is a voltage bigger than 8V between terminals DCOM and DI (DI1-DI3).



4. Step Power

Connect the power (9-35 V) to the SM2-RM unit according to this picture.



5. Step First startup

After power switching the green diode Status will light. The green LED diode of ethernet connector will light also and orange will flash at the same time. The unit has DHCP client status allowed in the default setting - it gets the IP address automatically from DHCP server in the local network (if available).

In case you don't have DHCP server in your network, the device tries to get IP address for 20 seconds firstly and then it is possible to connect on 192.168.1.99 address. By writing this IP address to your internet browser you can see the unit web interface.

You can use Etool application for searching for units in network (download here: <http://www.solarmonitor.cz>, section Support/ Download/Utility). Utility ETool can search for devices in network, configure net setting, set the initial configuration of the device and device restart. Searching is possible only if the device is configured to any other network than connected into. You can open device web interface by using Etool application.

Open Etool and click on Find Devices upper left. Mark the line with found unit and click on the device picture down on the left or click on the picture that is at the end of the IP address line. You can get into the device web interface this way.

6. Step Configuration

The device has 3 optoelectronically isolated inputs, that can be configured for pulse reading of input status reading. You can name the input arbitrarily.

Pulse reading

Up to 3 different counters can be connected to the SM2-RM. Each of them can be electrometer, gasmeter or watermeter.

Open the menu "System Settings/ Inputs and Meters" in your internet browser.

Set the input function – Counter. Choose the impulse counter according to the counted media (electricity, gas, water). Set the pulse number for one unit (kWh, m³), generated by your counter on S0 output. You can find this information from the counter label or from the counter documentation. If you set wrong value, the SM2-RM will show wrong data about produced energy.

Then it is necessary to write the actual counter status into the field "Meter Correction". If the device serves for counting of electricity produced by your plant, write the parameter Nominal Plant Power.

INPUT 1

Function: Counter ?

Name: Electrometer ?

Counter Type: Elmeter Supply ?

Pulse count per 1 kWh: 1000 ?

Meter Correction [kWh]: 89.5 ?

Nominal Plant Power [kWp]: 5 ?

Note: counted pulses can be deleted by energy correction change, by input function change (counter, non-active) or by pushing and holding the reset button (for approx. 4 sec), it is on the cap below the Status diode (you can use e.g. paperclip).

Inputs setting

If the user chooses the Input function, it will have 0 or 1 value (connected, disconnected). Choose the allowed value of the input. Write the input name.

INPUT 2

Function: Input ?

Name: Door sensor ?

Solar Monitor SM2-RM INPUTS & METERS - Home Info

Overview

System Settings

Network & Time

Email & SMS

Inputs & Meters

Alarms

Restart

Apply Changes

INPUT 1

Function: Counter ?

Name: Electrometer ?

Counter Type: Elmeter Supply ?

Pulse count per 1 kWh: 1000 ?

Meter Correction [kWh]: 89.5 ?

Nominal Plant Power [kWp]: 5 ?

INPUT 2

Function: Input ?

Name: Door sensor ?

INPUT 3

Function: Input ?

Name: Counter ?

Inactive

7. Step Sending to the Portal

On the address <http://portal.solarmonitor.cz> you can find information from the SM2-RM unit always available without need of having public IP address. You have possibility of detailed analyses and OTE reporting.

How to set sending

In the SM2-RM enter the menu System Settings/Network and time.

Enable the sending to the portal...

PORTAL SETUP

Sending Enabled: ?

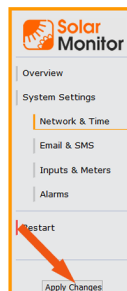
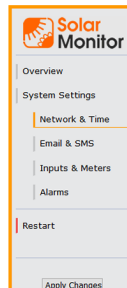
Portal Address: portal.solarmonitor.cz ?

Service Path: /service/server.php ?

Remote Port: 80 ?

Sending Period: 5 min ?

...press the button **Apply Changes**. From that moment the unit will send data to the Portal with the set period.



Test the sending function:

PORTAL COMMUNICATION TEST

State : [] ?

Test now

The test message will be sent to the Portal and the delivery status will be shown. If data were sent correctly, the new account on the address <http://portal.solarmonitor.cz> would be created. Data will be saved there.

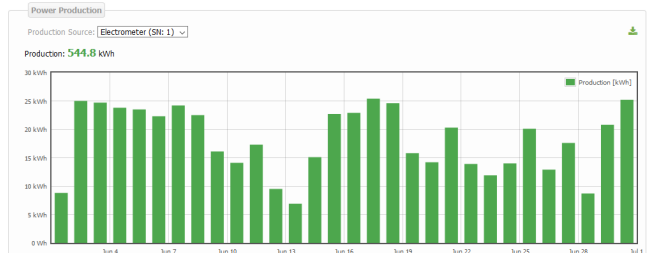
PORTAL COMMUNICATION TEST

State : Úspěšně odesláno

Test now

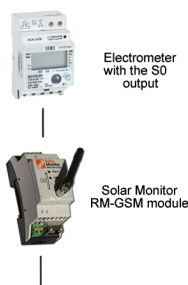
For login to Portal use the default user name. It is the 6 last characters of SM2-RM MAC address (without double dots, it is below the unit). Password is heslo. Use these login information for the first login. Then we recommend to change login information.

You can also watch counted values in the clear graph with the Portal.

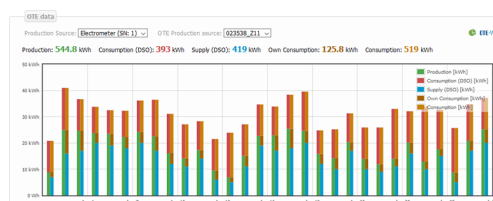


8. Step OTE

SM2-RM sends electrometer data to the Portal Solar Monitor, they pair with data from the Electricity market operator (OTE). As soon as OTE gives needed data, Portal Solar Monitor will send you authorization e-mail.



There is a clear graphic image on the Portal incl. values from electrometer for consumption and production.



You can use service Portal Solar Monitor incl. OTE reporting also in your smartphones with Android operation system.



More information:
<http://wiki.solarmonitor.cz>