Modbus TCP communication with residential inverters trough SDongle FE.

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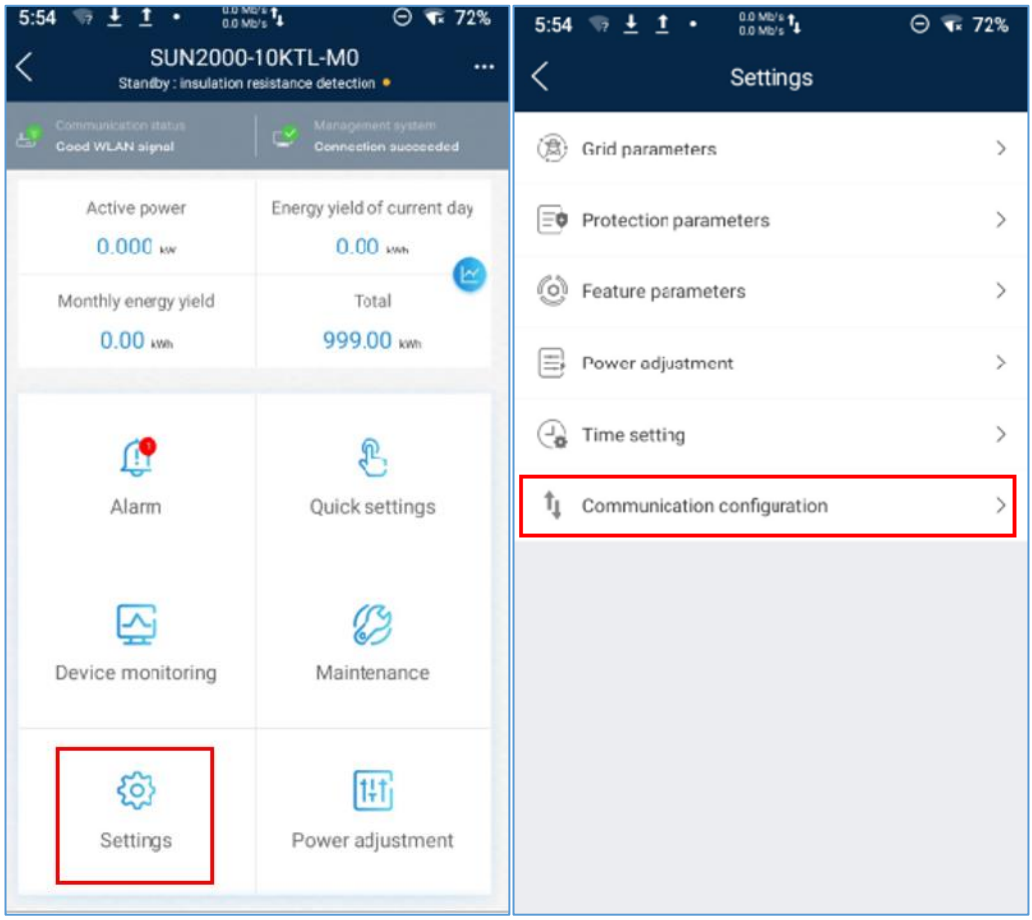
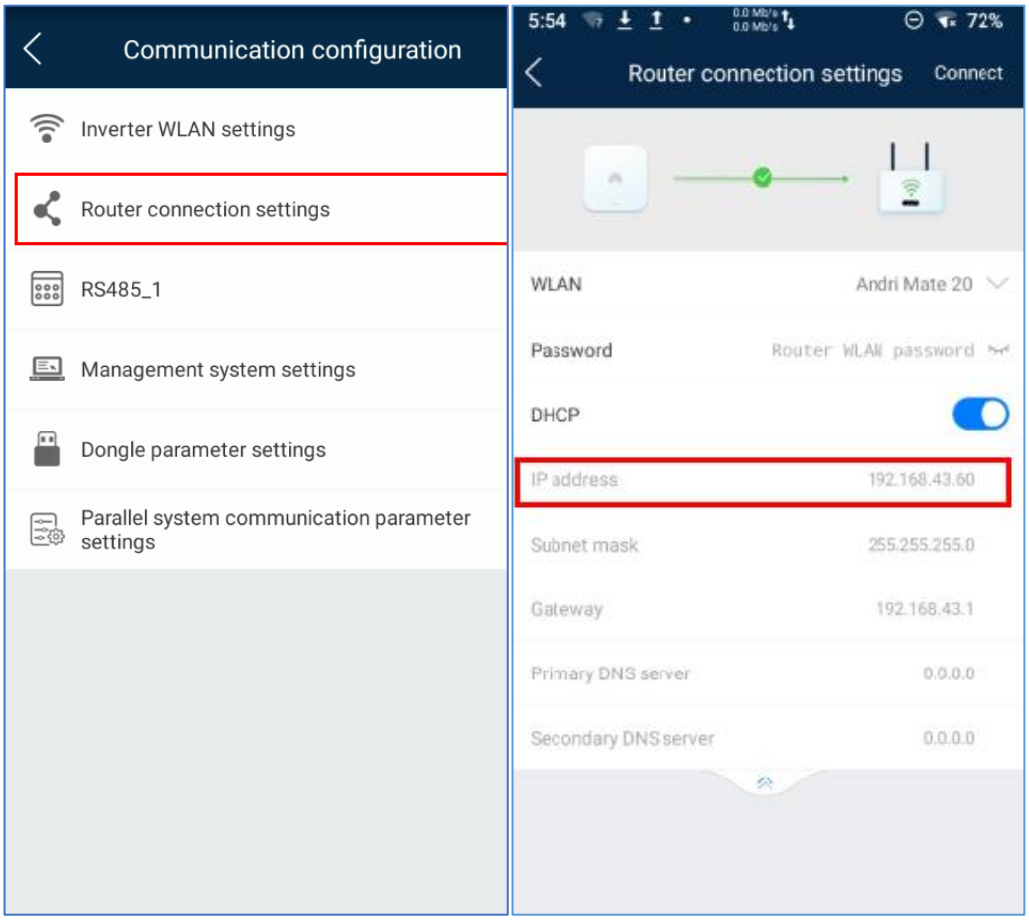
This document describe how establish the MODBUS TCP communication with residential inverters trough the SmartDongle FE.

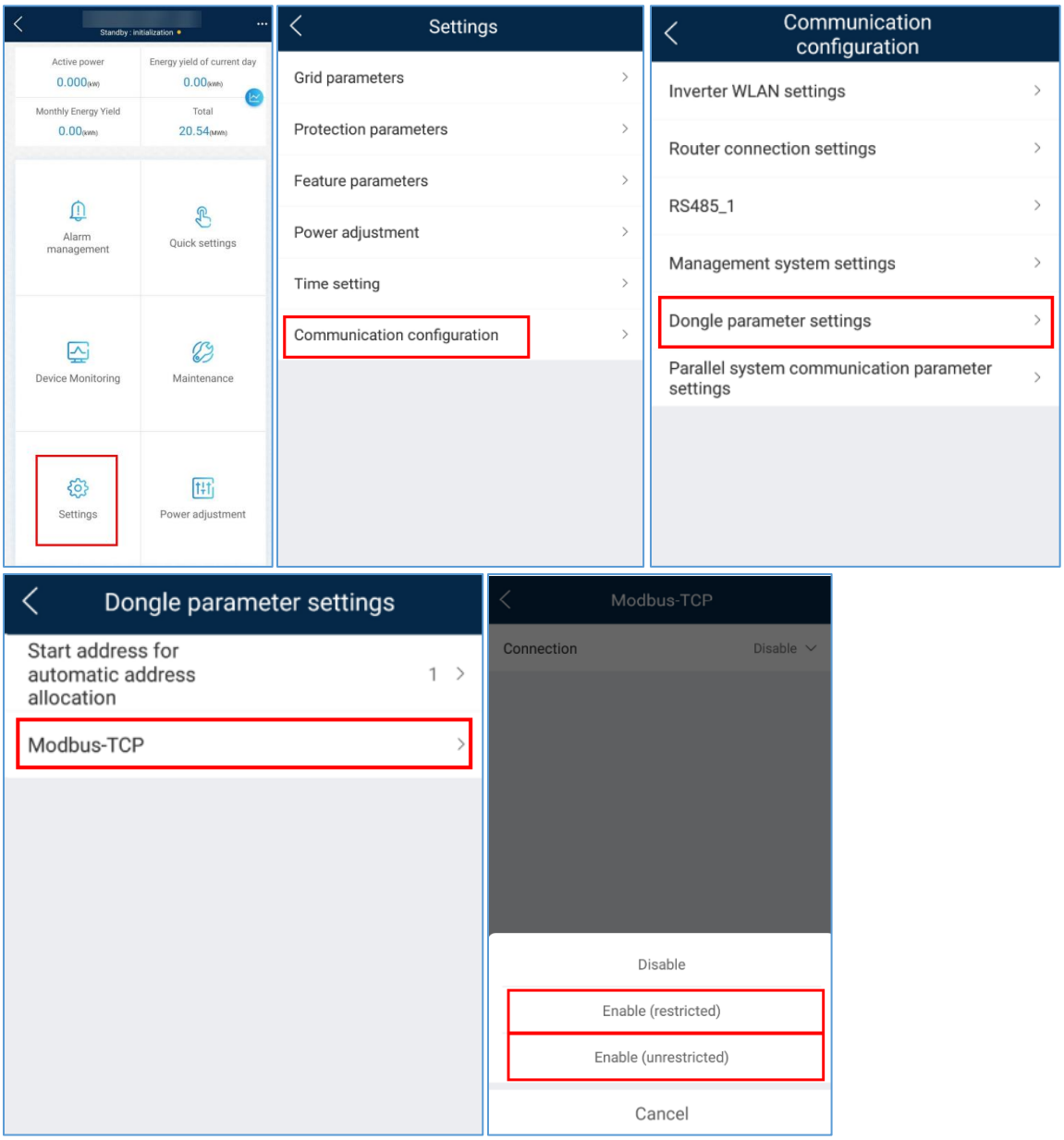
0. In order to be able to communicate with the SDongle through the MODBUS TCP the SDongle firmware should be V100R001C00SPC123 or later.
   Please contact eu_inverter_support@huawei.com for the upgrade package and for the upgrading instructions.
   The Fusion Solar app version should be 5.7.059 or later.
   The latest version of the app can be downloaded from the bellow address:
   https://intl.fusionsolar.huawei.com/pvmswebsite/nologin/assets/build/index.html#/jumppage
   Phone requrements: operating system Android 4.0 or later, the mobile phone should support the Wi-Fi function.

1. Check the inverter IP address.
   Open FusionSolar app > Me > Device commissioning > disable mobile data > Connect > Scan the inverter QR code > login under the Installer profile > the default password is “00000a”. Go to settings > Communication configuration > Router connection settings



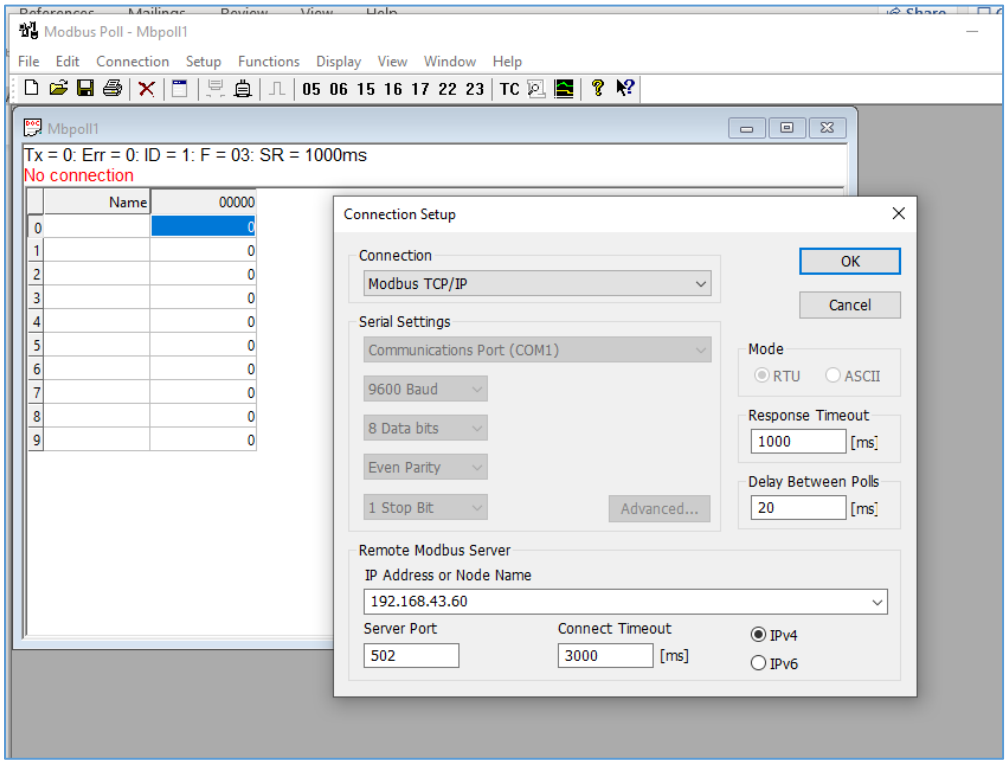

Communication configuration
Inverter WLAN settings
Router connection settings
RS485_1
Management system settings
Dongle parameter settings
Parallel system communication parameter settings
5:54
72%
Router connection settings
Connect
WLAN
Andri Mate 20
Password
Router WLAN password
DHCP
IP address
192.168.43.60
Subnet mask
255.255.255.0
Gateway
192.168.43.1
Primary DNS server
0.0.0.0
Secondary DNS server
0.0.0.0

2. Enable the SDongle MODBUS communication (if available)
   Settings > Communication configuration > Dongle parameter settings > Modbus-TCP > Set to unlimited, or limited and write the IP address of the PC or master device.

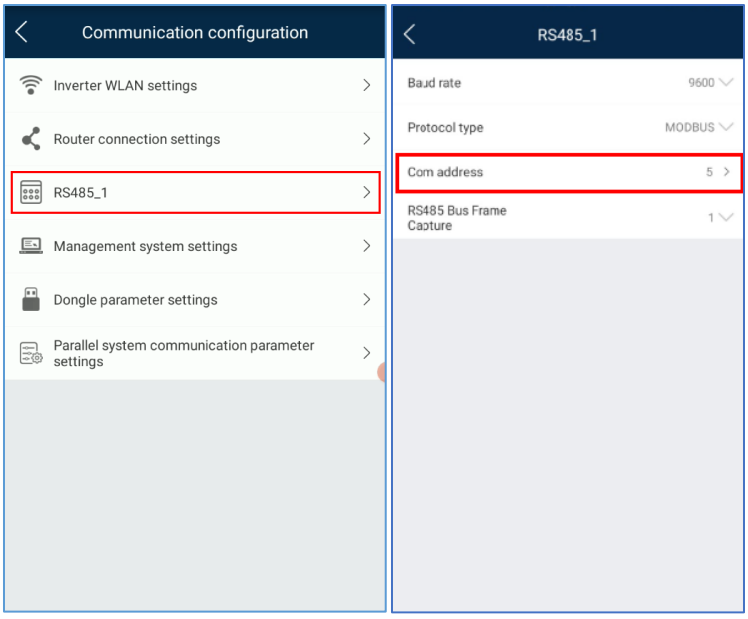


3. In order to test the communication, we will use the ModbusPoll64 app.

Open ne ModbusPoll app > Connection > Connect > Set the “inverter IP” and 502 port (the inverter and PC should be in the same network)



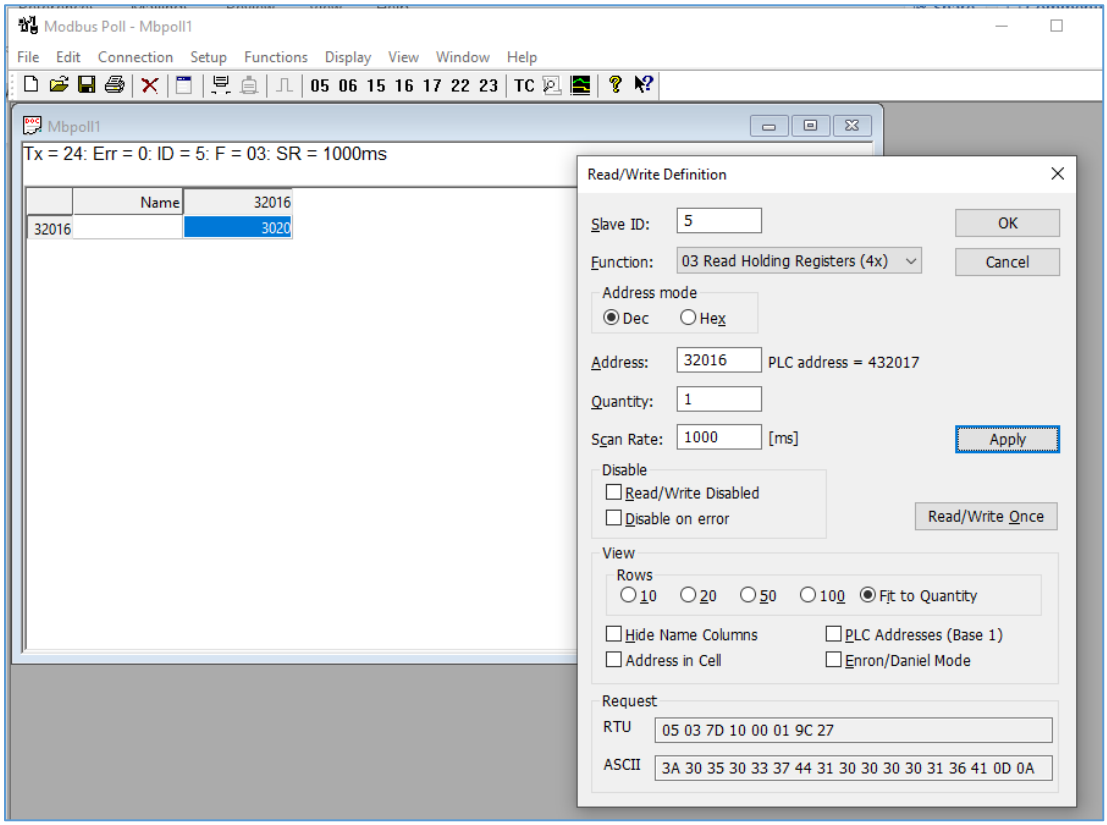
4. Check the inverter RS485 address Settings > Comm param > RS485_1



5. For example we will use the register 32016 that store the PV1 voltage for the SUN2000 10KTL-M0 inverter, the data type is Signed integer (16 bits), quantity 1.

No.	Signal Name	Read/ Write	Type	Unit	Gain	Address	Quantity
18	PV1 voltage	RO	I16	V	10	32016	1
19	PV1 current	RO	I16	A	100	32017	1
20	PV2 voltage	RO	I16	V	10	32018	1
21	PV2 current	RO	I16	A	100	32019	1
22	PV3 voltage	RO	I16	V	10	32020	1
23	PV3 current	RO	I16	A	100	32021	1
24	PV4 voltage	RO	I16	V	10	32022	1
25	PV4 current	RO	I16	A	100	32023	1

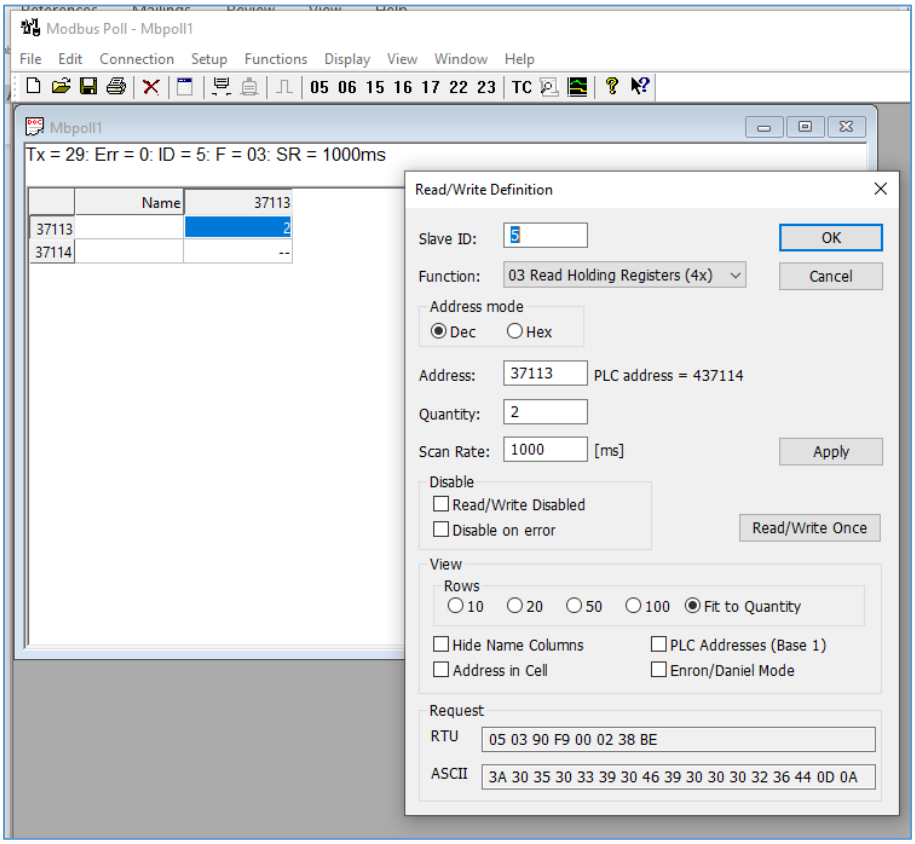
Go to Setup > Read/Write definitions > Set the inverter address (Slave ID), register address and quantity.



3020 0 = 302V

If the data is displayed wrong, please go to display and set the data type to Singed integer

6. To read the Active power from the power meter, we need to use the register 37113 data type Signed integer > Big endian



In order to obtain the Modbus Interface Definitions please contact the eu_inverter_support@huawei.com.

Thank you.