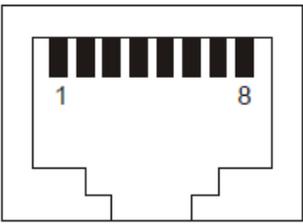


How to enable Modbus RTU on the Solaron's MOXA Front End Processor

The AE Solaron Inverters are compatible with the Modbus/TCP and the Modbus/RTU standards. By default, the Solaron inverters enable a Modbus/TCP server that handles Modbus requests via the TCP/IP interface. Solaron inverter customers that require the Modbus/RTU protocol need to enable the Modbus/RTU server in the Solaron's MOXA Front End Processor.

Custom wiring may be required to connect the Modbus/RTU default RJ45 port IDS Moxa P3 to other Modbus/RTU devices. A recommended solution is to use a rail-mountable terminal block, such as the Red Lion RJ Adapter P/N DRRJ45T8. The following illustration shows the Modbus/RTU pin assignments to RS-232, RS-422, and RS-485 serial interface connectors.

(Female)



Pin	RS-232	RS-422	RS-485
1	DSR	----	----
2	RTS	TXD+	----
3	GND	GND	GND
4	TXD	TXD-	----
5	RXD	RXD+	Data+
6	DCD	RXD-	Data-
7	CTS	----	----
8	DTR	----	----

Before you attempt to enable the Modbus/RTU server, you need to obtain the following information and tools:

- Modbus/RTU parameters:
You need to get the following parameters from the customer or the monitoring company. This information for the Acquisuite is listed in the instructions below. If these parameters are not explicitly set, the server will use the default values shown below.
 - o BAUD rate (default is 9600)
 - o parity (default is ODD)
 - o desired address (default is 22)
- Computer able to connect via crossover cable to the Moxa.
- Crossover cable plugged into your laptop and LAN 2 of the Moxa.

You need to connect to the Moxa box to make these changes. Once the AcquiSuite is set up and you are at the inverter, do the following steps to be able to connect to the Moxa box:

- Wiring: Crossover cable plugged into your laptop and LAN 2 of the Moxa.
- Set Local IP to **192.168.4.128**, subnet mask **255.255.255.0**
 - Go to "My Network Places" on your Desktop. Right click and chose "Properties".

- Right Click on Local Area Connection.
 - Scroll down the list to get to "Internet Protocol (TCP/IP).
 - Click on it and then hit "Properties". Check the "Use The Following IP Address:" button.
 - Put in the following: IP address: **192.168.4.128**, Subnet Mask: **255.255.255.0**. Hit OK.
- If you are plugged into the Moxa on LAN 2 it should say "Connected" in just a moment.
- Use a web browser and navigate to **https://192.168.4.127**

Modbus/RTU

Use the **RTU & Misc Configuration** screen to enable and configure the Modbus/RTU server, set the analog modem port, set the GPRS modem port, and set the time zone. The reactive power sign convention can also be changed from this screen for compatibility with external control systems.

Modbus/RTU configuration

Modbus/RTU enabled:

Debug mode: Output fake data in debug mode

Modbus ID:

Baud rate:

Parity:

RTU serial port:

Interface:

Other interfaces

Analog modem on port: *Make sure same ports not used twice!*

GPRS modem on port: *AT&T only. Contact AE for other ISP*

Reactive Power Sign Convention

Select Sign Convention:

Timezone configuration

Select time zone shift: *Use GMT+x for Western hemisphere (US). Mountain time is GMT+7*

To Configure for Modbus/RTU to an Acquisuite:

1. Click **RTU & Misc Configuration** to view the Modbus/RTU.
 - a. Enter level 1 username and password
UN: uadmin

PW: 7soman33

- b. Depending on the size of the browser window, you may need to scroll down to see all the data.
2. Check the **Modbus/RTU enable** box.
3. Enter the desired **Modbus ID** and **Baud rate** in the fill-in boxes.
4. Select the Parity, Baud Rate, RTU serial port, interface, and address from the drop-down menus:
 - Baud rate: 9600
 - Parity: None
 - Modbus address: DECK will configure the Acquisuite for 80 or 81 (default is 22)
 - RTU serial port: P3
 - Interface: RS4852W
5. Click the **Submit** button.
 - a. Enter level 2 username and password
 - UN: manager
 - PW: 30ehelio0791
6. Reboot MOXA. You can do this by pulling the AC power out of the MOXA. You do not need to wait to plug it back in.

That's it!

Support Numbers:

Deck Technical Support: (971) 270-3067 x2

Obvius Acquisuite Support (ask for tech support): (866) 204-8134

Advanced Energy Inverter Support: (877) 312-3832 x2