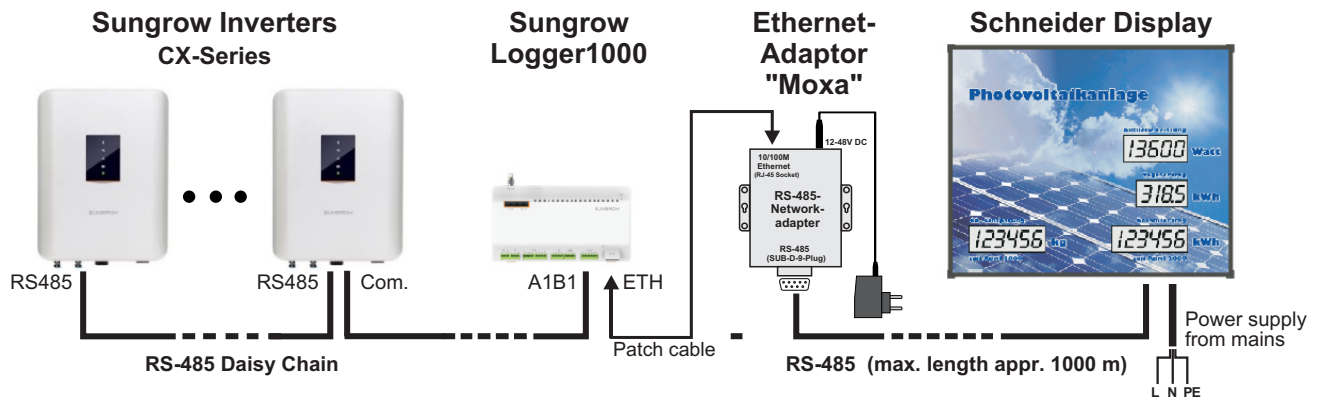


Connection diagram: Display for Sungrow Logger1000 via LAN - Modbus TCP

The display unit is equipped with two cables, each about 3 m long, which provide the connection to mains and to the data source. The display with an additional adaptor "Moxa" has to be connected to the ETH-Port of the Logger1000 by a patch cable (directly or via switch anywhere inside the building's LAN).



mains cable	H03VV-F3 x 0.75 mm ²	brown L blue N yellow/green PE	Mains 230V, 50 Hz LCD: typ. 1,5 Watt LED: typ. 11 Watt
data cable (from the display)	4 x 0.34 mm ²	brown A (Pin 3) blue B (Pin 4) grey Gnd (Pin 5) black Config.	Interface RS-485 (Sub-D) to Moxa N-Port / Adaptor Cable Contact for Display Configuration (default: EE=0; SE=08; O2=0.563)

Concept of data connection:

The Sungrow Logger collects data from all the inverters, whereas the display connects to the Logger1000 via the ETH-Port, where it gets the summarized data of the whole plant - using Modbus-TCP.

All the data which are transmitted via interface (e.g. "actual power", "daily" or "total energy") can be visualized 1:1 on the display unit. Additional data can be calculated in the display, such as the "CO₂ -equivalent value".

Advices for installation:

Each inverter has to get its own unique device-ID in the address-range 1 to 246. The Logger itself has device-ID 247.

Register into the Logger by Browser interface (default IP address is 12.12.12.12):

- > Login -> Password -> Main Menu (left column)
- > System -> Transfer Configuration -> MODBUS (tab)
- > Server (tab) -> Local Port: 502, Switch: ON (orange)
- > Port Parameters (left column) -> Ethernet: IP-address of the logger can be adjusted here - according to the requirements of the building's network (LAN).

Whitelist: Setting should be disabled (= every connection call is allowed), or - if enabled - the specific IP-address of the Moxa has to be registered at this step.

Com.-Port: The "Communication accessory port" can only do one thing at a time: Either connecting via RS485 to the display or to a Logger (this handout) or connecting to a WiFi- or E-Net-module ("Dongle" from Sungrow).

The **RS485-Port** at the inverters is different: it is intended for using a smart energy meter or can be used for a connection between several inverters in a daisy chain manner.

Remark: Daisy chain mode between inverters is not available for all types (please request Sungrow for details)

Configuration:

The following parameters are adjustable at the display:

- "EE": Offset for the total energy value - default is: EE=0
- "SE": Serial mode - Baudrate: 9600, 8, n, 1 (fix)
 - SE = 05: Modbus RTU direct to inverter (extra handout)
 - SE = 07: Modbus RTU to Logger 1000 (extra handout)
 - SE = 08: LAN connection TCP to Logger (this handout)
- "O2": Factor of CO₂-avoidings (equivalent value, depending on the regional energy mix, e.g. 0563 = 0,563 kg/kWh)

Check of configuration:

- x Keep button pressed without any interrupt
- x after 4 sec. "EE" appears (Energy offset); after another 4 sec. "SE" (serial mode) or "IP" (Impulse Rate) appears and then "O2" (CO₂ multiplier).
- x after altogether 16 sec. the display switches back to normal operating mode without any change

Change of configuration:

- x Press the button until you reach the value you want to change; then release button - the leading digit of the current value starts to blink and is changeable.
- x Short contact: the next digit starts to blink
- x Long contact (appr. 1 sec.): the blinking digit is increased by one. "0" follows "9".
- x Approx. 10 sec. after last action the edit mode ends. All changes are stored secure against power failure.

Safety Information:

Installation of the display unit by skilled staff only. Relevant rules for electrical safety have to be followed.

Disconnect from mains before opening.