

Installation manual RiCo Ethernet-Converter

Version Fronius

December 2017

Firmware 1.06

Version 1.04

Scope of delivery

- RiCo Ethernet Converter
- Power supply unit (7.5 VDC / 600 mA)
- RJ45 Patch cable (2 m)
- Manual

Function

The Ethernet Converter for Fronius devices establishes a connection between the Fronius devices Datamanager 2.0, Datamanager 2.0 Box, or inverters Symo (-Hybrid), Galvo or Agilo and a RiCo large display. The Ethernet Converter communicates with the Fronius device via the network interface (10/100 Mbit), using TCP. The Ethernet Converter and the Fronius device must be in the same local area network and the same subnet. The Ethernet Converter receives the actual data from the Fronius device (actual power, daily energy, total energy). Instead of using a local area network both devices can be connected together directly via a patch cable.

The data is transmitted to the large display via the RS-485 interface. This allows a cabling length up to 1000 meters between the Ethernet Converter and the display. A shielded data cable is used for the connection, for example JY-ST-Y, CAT5. A twisted wire pair must be used for data connection.

Important hints

- The used Fronius device must have the latest firmware
- The installation of the plant and all connected devices must be finished
- The IP address of the Fronius device and the Ethernet Converter are static and both must be unique in the local area network
- The RiCo large display must be configured to data source number '7'
- The Ethernet Converter is supplied with the delivered power supply (7.5 VDC)
- The Ethernet Converter and the power supply unit are for indoor use only

Settings at delivery

IP address Converter:	192.168.1.170	_____
IP address Fronius device:	192.168.1.180	_____
Subnet mask:	255.255.255.0	_____
Factor CO ₂ saving:	0.51	_____
PV power Symo Hybrid:	no <input type="checkbox"/>	yes <input type="checkbox"/>
Use SensorCard:	no <input type="checkbox"/>	yes <input type="checkbox"/>
TCP port:	80	
Output protocol:	RiCo RS-485 9600 Baud 8N1	
Serial number:	_____	

Configuration

The following settings can be configured:

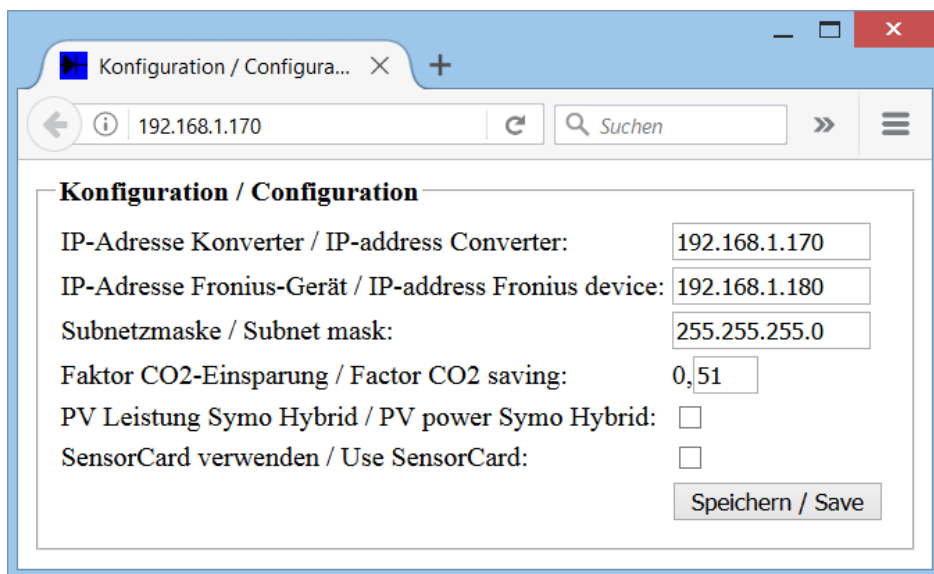
- IP address Ethernet Converters
- IP address Fronius device
- Subnet mask
- Factor CO₂ saving
- Only show PV power of Symo Hybrid
- Read and show values from a Fronius SensorCard

The settings can be changed by accessing the Ethernet Converters web interface. Establish the power supply to the Ethernet Converter and connect it to the network, or directly to your PC. Enter the IP address of the Ethernet Converter in the address line of your web browser. (Ethernet Converter and PC must be in the same subnet to gain access).

Use for **Authentication**:

Username: ***admin***

Password: ***rico***



Konfiguration / Configuration

IP-Adresse Konverter / IP-address Converter:	<input type="text" value="192.168.1.170"/>
IP-Adresse Fronius-Gerät / IP-address Fronius device:	<input type="text" value="192.168.1.180"/>
Subnetzmaske / Subnet mask:	<input type="text" value="255.255.255.0"/>
Faktor CO ₂ -Einsparung / Factor CO ₂ saving:	<input type="text" value="0,51"/>
PV Leistung Symo Hybrid / PV power Symo Hybrid:	<input type="checkbox"/>
SensorCard verwenden / Use SensorCard:	<input type="checkbox"/>

Fill in the necessary values in the corresponding fields.

Take care to fill in **correct values** especially the fields **IP address converter** and **subnet mask** otherwise the converter will not be accessible again!

At the input field for the **factor** of **CO₂ saving** only the two digits after the decimal point can be entered. The configurable range of the factor is 0.1 to 0.99.

Mark the checkbox **PV power Symo Hybrid** if the large display should show the PV power **only**, if a Symo Hybrid inverter is used. If the checkbox is unmarked at using a Symo Hybrid inverter the large display will show a power value, if the inverter is PV-powered **and** if the inverter is battery-powered.

Just mark the checkbox **Use SensorCard**, if the display shows values from the SensorCard. Otherwise leave it unchecked.

After changing the values click the **Save** button and restart the converter by unplugging the power supply unit for a few seconds.

Start-up

The start-up is done in the following order:

- If necessary change the configuration of the Ethernet Converter, described at page 4 of this manual and the RiCo large display, described at the manual of the display
- Disconnect all devices from their power supply and do the installing corresponding to the connection scheme at page 6
- Reconnect all devices to their power supply

Normally the Fronius device and the Ethernet Converter are connected via a local area network (LAN). Both devices are connected to a switch, router, etc.

It is also possible to connect both devices directly, using a patch cable.

The Ethernet Converter provides a red LED, which indicates the data flow. In the connection scheme the LED is marked with **L**. Every 15 seconds a request is sent to the Fronius device. This is indicated by a LED flash. If the Ethernet Converter gets a valid answer from the Fronius device the LED flashes a second time. So if you see these double flashes every 15 seconds, the communication between Ethernet Converter and Fronius device is successful.

If the LED flashes once every 5 seconds only, the communication via network is not possible. Please check the network settings and the LAN connection.

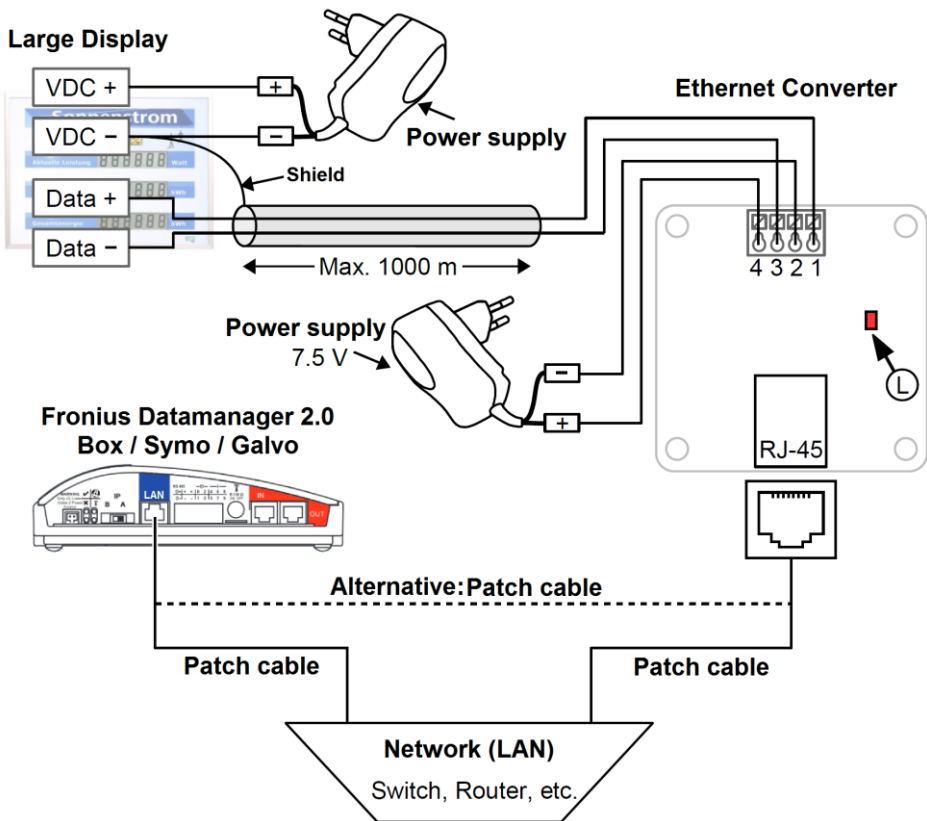
Testing the RS-485 connection between Ethernet Converter and large display

Directly after establishing the power supply to the Ethernet Converter the LED lights up for two seconds. In this time the Ethernet Converter sends zero valued protocols via RS-485 to the large display. With this option the communication between Ethernet Converter and large display can be tested independent from the communication with the Fronius device.

Do the following steps:

- Power up the ready configured and wired large display and wait until the display shows dashes in all lines
- **Only now** power up the Ethernet Converter
- After the flashing of the LED, the large display must show 0 in all lines

Connection scheme



Pin assignment:

1: Data+	↔	Data+ large display
2: GND	↔	(-) power supply unit
3: Data-	↔	Data- large display
4: +7.5V	↔	(+) power supply unit 7.5 VDC

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