1. **Why?**
   In rare cases there might be no way to route an additional cable from a power distribution cabinet to the outside world. E.g. to connect a grid meter via RS485. In my case the ductwork foreseen for the cable was squeezed, i.e. blocked. WIFI wasn't an option either due to the solid the steel cabinet.
   So I checked out another option.

2. **Final configuration:**

   ET340 Meter -> RS485/Ethernet Converter -> Ethernet/Powerlan -- >Powerlan/Ethernet - > Ethernet/RS485 Converter- >RS485/USB cable -> Venus GX
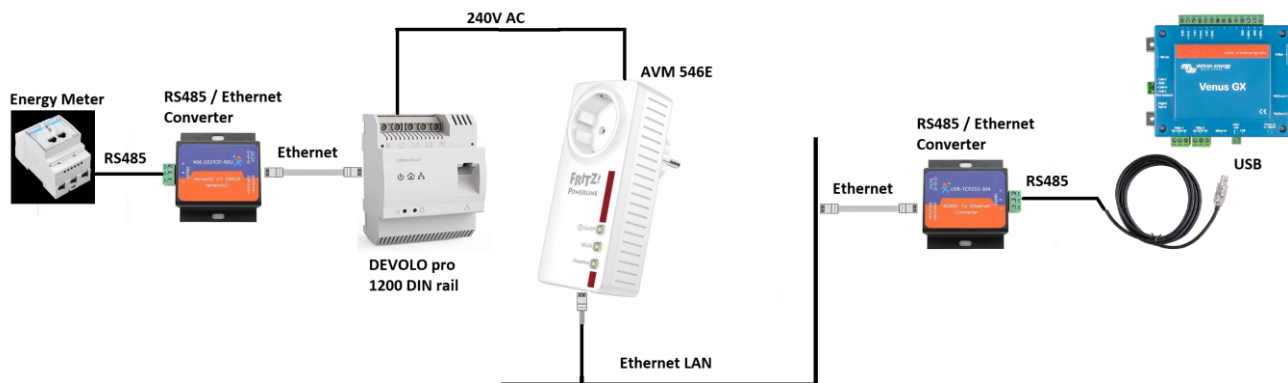
3. **Partslist:**
   - 1 pc. RS485 / USB Cable Victron   € 40.-
   - 2 pc. USR-TCP232-304 RS485 / Ethernet converter   € 53..
   - 1 pc. Devolo pro 1200 DINrail Powerline   €150.-
   - 1pc. AVM 546E Powerline   € 50.-
   - 2 pc. Ethernet cable, length depending on your location(s)   € 20.-

4. **Let's get it set up:**

   -> Assumption is you have a network router providing IP addresses by DHCP <-
   Else you will have to manually manage the IPs.

   My sequence was Set up TCP 232, Connect RS485 BUS to ET340 and Venus GX, Setup Powerline, Connect Adapters to Ethernet, Done (skipped the learning curve…)

   a. Set up TCP 232
      To set up the TCP 232 RS485, simply follow this instruction
      https://www.usriot.com/support/downloads/Transparent-transmission-between-USRIOT-Serial%20to%20Ethernet-products.html
      During the setup you will go to configuration via browser, here it is IMPORTANT to change the default baud rate from 115200 to 9600 on both adapters !! Else communication won't work.
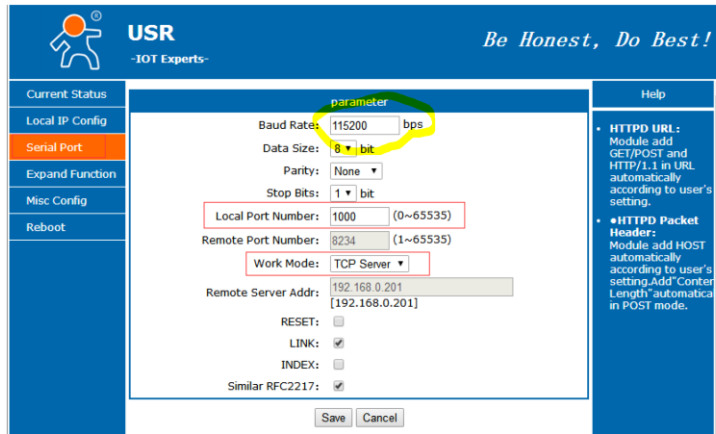
Save and restart both devices, wait a couple of seconds until they are back on line-done here.

b. Connect RS485 BUS to ET340 and Venus GX

Now you can connect the TCP232-304 RS485 / Ethernet converters to the Victron RS485 converter cable –and to the ET340Meter . Plug in the USB into the VENUS GX.


c. Powerline setup:

You can take any other powerline product to bridge the Ethernet of course. Recommendation is always to use the same brand. I just had an old AVM sitting on the shelf, which I reused. The coupling of Devolo 1200 and AVM 546E works by using the Sec.ID of the Devolo, which is entered when you add the device in the 564E Web interface. This is required, else the AVM doesn't recognize the Devolo.

As soon as the powerline devices are connected over power, usually there are LEDs indicate the status, you are ready to plug in the Ethernet cables of the TCP 232-403 adapters.
Both adapters will find each other and start to transmit data from ET340 to the Venus GX.

If everything went well, after proper connection and powering up, the meter will be automatically visible on the CCGX in the Settings → Energy Meters menu:
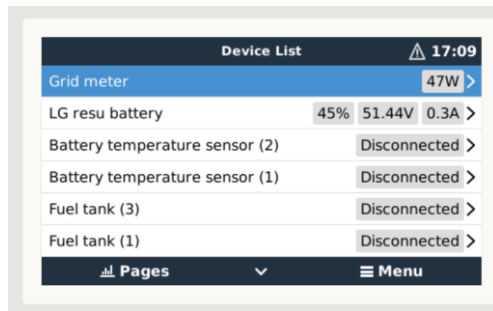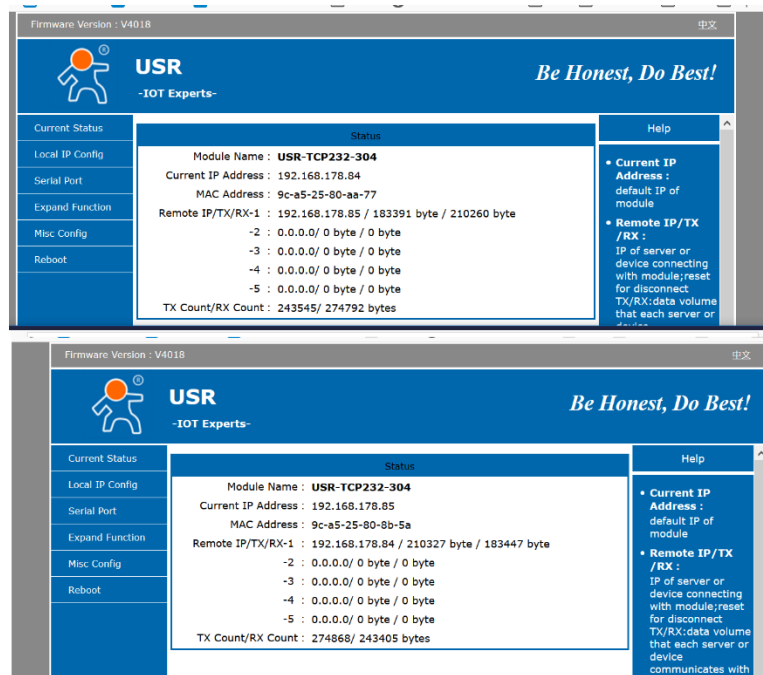

In case you have a problem it will show "Not Connected"
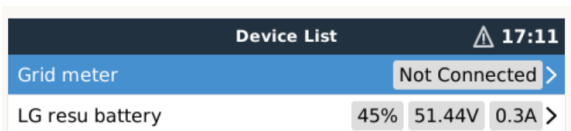
5. Troubleshooting:
   To check if data flows, just start two browser windows with the IPs of the adapters and you'll see the TX / RX count increasing slowly on both devices.

If there is no data, I recommend to check wires, make sure you did not push the electrical insulation of the wires to far into the connector. ;o)

Hope this was a bit of help.
In case of question you can e-mail me mailto:victron@ac427.de