Remote Power Control (RPC) blue'Log XC

Item no. 557.122 – 557.129, 557.131

Switch from the German EEG feed-in tariff to the market premium model by adding our Remote Power Control (RPC) interface to your monitoring system.

Description

Remote Power Control (RPC) can be used to remotely reduce the feed-in power of a system, such as for energy trading. This is done in parallel with the grid operator's feed-in management without influencing its control commands. The controller interprets the power control setpoints, for example from an energy trader, and prioritizes their transmission to the system. The smaller setpoint command value always takes precedence.

Additionally, RPC facilitates the retrieval of master data and measured values, including legally required data for the current actual feed-in within the context of energy trading.

Features

- Communication via Modbus TCP interface
- Use of existing blue'Log interfaces when switching to energy trading
- Interface certified according to VDE-AR-N 4110 / 4120
- Visualization and long-term logging / archiving of power control events in meteocontrol's remote monitoring portal VCOM (Virtual Control Room)
- Certified plant controller and energy trading interface combined in one device
- Compatible with a wide range of energy traders
- Encrypted communication in conjunction with the integrated OpenVPN Client

Requirements

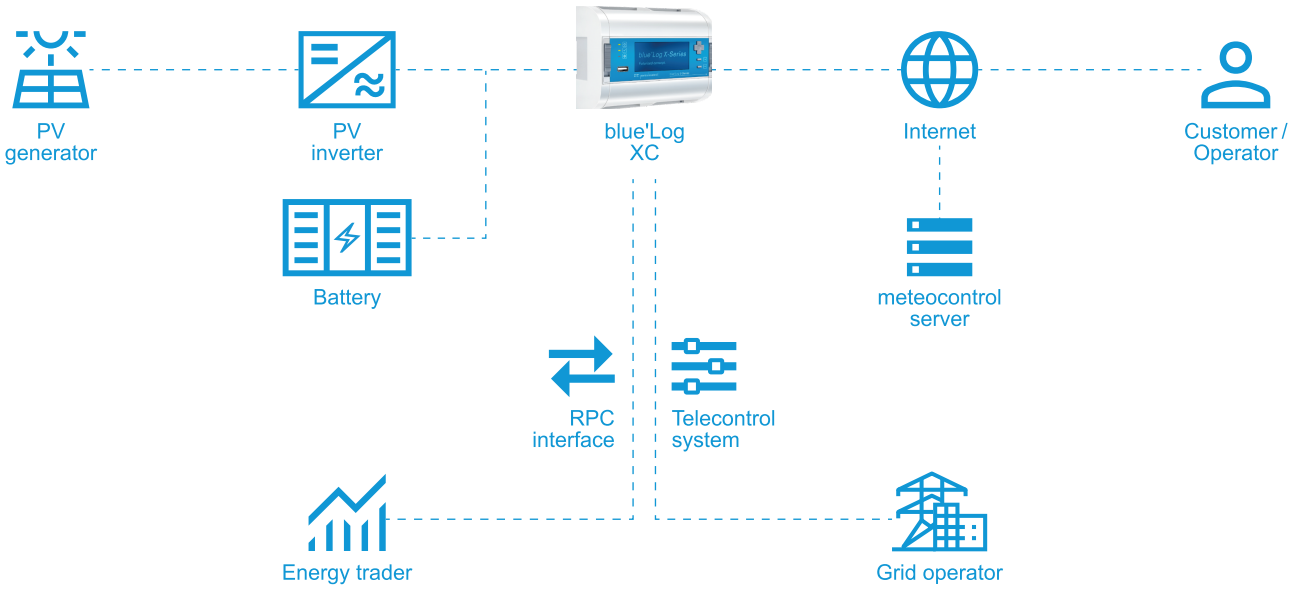
- blue'Log XC controller with firmware ≥ 6.0.2
- Active power and feed-in management (power control) are handled by the blue'Log XC controller.
- OpenVPN license.
- When using the license, the OpenVPN connection to the energy trader is established directly via the blue'Log. A VPN configuration in the router is therefore not necessary.
- Remote Power Control (RPC) license blue'Log XC

Overview of licenses

The license depends on the maximum AC power of the plant in kW. When ordering, please provide the 14-digit hardware serial number of the blue'Log XC controller.

Item no.	License (maximum AC active power of the plant)
557.122	Remote Power Control (RPC) license ≤ 200 kW blue'Log XC
557.123	Remote Power Control (RPC) license ≤ 1 MW blue'Log XC
557.124	Remote Power Control (RPC) license ≤ 3 MW blue'Log XC
557.125	Remote Power Control (RPC) license ≤ 5 MW blue'Log XC
557.126	Remote Power Control (RPC) license ≤ 10 MW blue'Log XC
557.127	Remote Power Control (RPC) license ≤ 20 MW blue'Log XC
557.128	Remote Power Control (RPC) license ≤ 50 MW blue'Log XC
557.129	Remote Power Control (RPC) license ≤ 100 MW blue'Log XC
557.131	Remote Power Control (RPC) license Utility blue'Log XC

Communications scheme



VPN encrypted communication

To ensure secure VPN data transmission to the energy trader, there is no need for an extra VPN router. All that is required is the OpenVPN license to activate the integrated OpenVPN client on the blue'Log XC. If you wish, we will also gladly assist you in requesting the required VPN certificates from the energy trader.

Item no.	License
557.005	OpenVPN blue'Log XM/XC license
428.098	Certificate for energy trading system

Modbus specification

Communication parameters

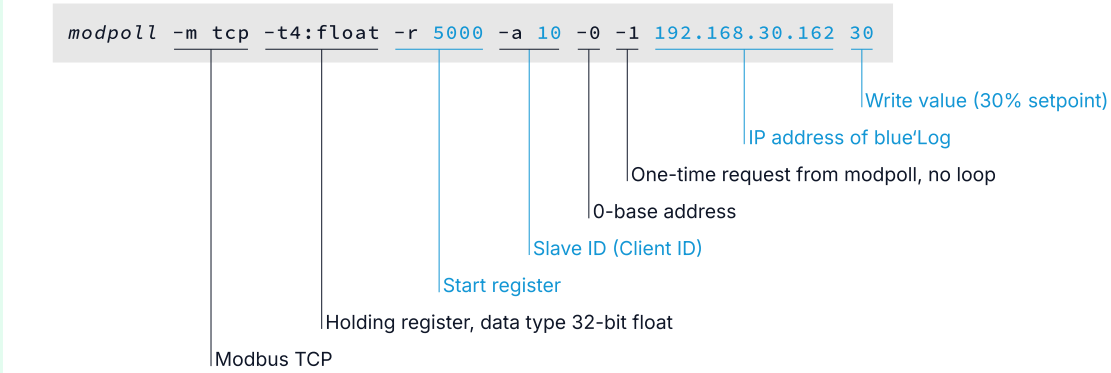
- Slave ID (Client ID): 10
- Port: 502
- Delay: 1,000 ms

General register definition

- If a device does not deliver a measured value, a missing value will be sent instead. See table “Data types” below.
  - Missing values int: 0x80000000 | float: 0x7FC00000
- Read values: Function code 03 - Read holding registers
- Write values: Function code 16 - Preset multiple registers
- Register and byte order:
  - The word order is LOW register before HIGH register (Little Endian)
  - The byte order is HIGH byte before LOW byte (Big Endian) → 0xCCDDAABB

Example

Write command of 30% setpoint for remote power control.
Built with the open source tool modpoll:



Data types

Abbreviation	Description	Missing values
U16	16-bit unsigned integer	0xFFFF
U32	32-bit unsigned integer	0xFFFFFFFF
I16	16-bit signed integer	0x8000
I32	32-bit signed integer	0x80000000
F32	32-bit float	0x7FC00000
String	• String, ASCII encoding. • If the whole length of the field is used, then the end of the string will be filled with 0x00. • If a value (for example model name) does not fit in the register, then it will be cut off.	0x00

Interface registers

You can find the list of Remote Power Control registers in the mc Help Center (available in English only).

Note

The register list contains two separate sections:

- Registers for the blue'Log XC without the Hybrid EMS licence.
- Registers for the blue'Log XC with the Hybrid EMS licence.