REMOTE POWER CONTROL LICENSE (RPC) BLUE'LOG XC

Item no.: 557.122 – 557.129

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

LICENSE 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.

The Remote Power Control (RPC) license enables this function on the blue'Log XC controller.

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
+ Active power and feed-in management (power control) are handled by the blue'Log XC controller
+ Firmware ≥ 6.0.2
+ 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

Overview of licenses

The license depends on the capacity of the battery in MWh and is linked to a specific device. When ordering, please provide the 14-digit hardware serial number of the blue'Log XC controller.

557.122	Remote Power Control (RPC) license ≤ 0.2 MW 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) Utility blue'Log XC license

CONFIGURATION

Depending on whether you have installed the HEMS license or not, remote power control is activated at different locations on the user interface:

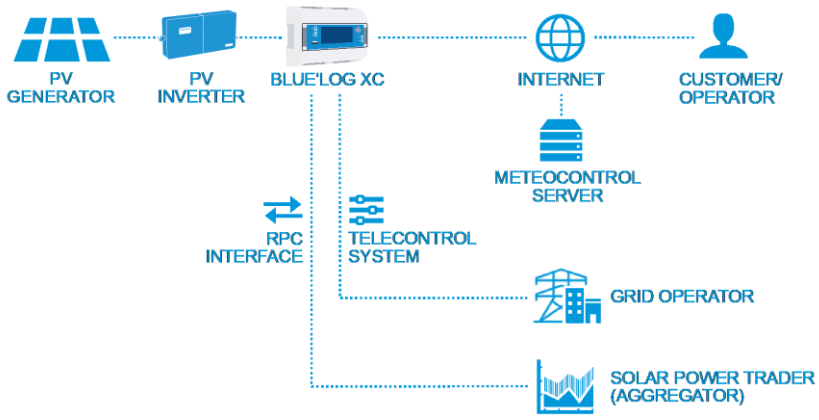
+ With HEMS license:

Navigate to **Power control** > **Active power** > **Active power management >** Activate the **RPC** toggle.

+ Without HEMS license:

Navigate to **Power Control** > **Active power** > **Extended controller parameterization** > **Options** > Activate the **RPC** toggle.

COMMUNICATION 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.

557.005	OpenVPN blue'Log XM/XC license
428.098	Certificate for energy trading system

MODBUS SPECIFICATION

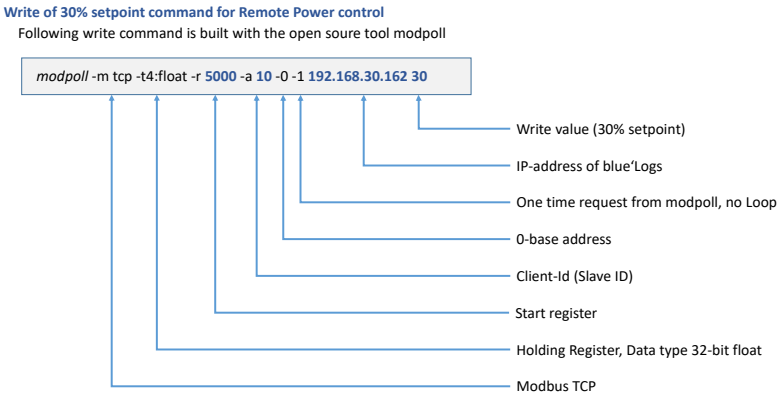
Communication parameter

+ Slave-Adresse (Client-ID): 10
+ Port: 502
+ Delay: 1.000 ms

General register definition

+ 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



WRITE AND READ VALUES

Address	Data type[1)]	Designation	Description	Unit	Value range
5000	float 32	PPC_P_SET_RPC_REL	Setpoint command via Remote Power Control	%	-10,000.00 … 125.000 % [2)]
Register 5002 to 5005 are reserved but it is possible to write / read them since Firmware 16.0.4					
5006	float 32	PPC_RPC_VALID_TIME	Valid time of setpoint command	min	1 … 255 min (Default: 10 min)
5008	float 32	PPC_RPC_WATCHDOG	Watchdog register	-	-

- If the setpoint is written to register 5000, it remains valid for the valid time (register 5006)
- A further setpoint command resets the expiration timer and the setpoint command is active again for the valid time (register 5006)
- Alternatively, register 5008 (watchdog) can be written instead of sending a new setpoint command to reset the expiration timer
- In case a new value gets written into register 5006 this will reset the expiration timer
- If the watchdog register is written after the valid time has expired, the setpoint remains invalid and a new setpoint command must be set

[1)] Little-endian, byte swapped.

[2)] Write values between 0 ... 100 % up to firmware 14.0.5. Write values between 0 ... 125 % from firmware 15.1.8. Write values between -10,000 ... 125 % from firmware 23.2.11.

READ VALUES

Address	Data type[1)]	Designation	Description	Unit	Value range
0	float 32	PPC_P_AC_INV	Sum of actual inverter active power	W	0… 1,000,000,000.000 W
2	float 32	PPC_P_AC	Actual active power	W	Value from power analyzer [14)]
4	float 32	PPC_P_SET_REL	Actual valid active power setpoint	%	-10,000.000 … 125.000 % [3)]
6	float 32	PPC_P_SET_GRIDOP_REL	Relative active power setpoint (grid operator)	%	-10,000.000 … 125.000 % [3)]
8	float 32	PPC_P_SET_RPC_REL	Relative active power setpoint (3rd party, e.g. Energy trader)	%	-10,000.000 … 125.000 % [3)]
10	float 32	PPC_P_AC_GRIDOP_MAX	Maximum active power at power limitation (grid operator) [4)]	W	0… 1,000,000,000.000 W
12	float 32	PPC_P_AC_RPC_MAX	Maximum active power at power limitation (3rd party) [5)]	W	0… 1,000,000,000.000 W
14	float 32	PPC_P_SET_MODUS	Actual active power setpoint mode [6)]	-	0: No configuration found 1: Fixed value method without interface (continuous limitation) 2: Fixed value method via DI 3: Fixed value method via AI 4: Fixed value method via Modbus 5: Remote Power Control (RPC) 100: LFSM-O [7)] 101: LFSM-U [8)] 102: FSM [9)] 200: Fail-safe operation (last valid setpoint) 201: Fail-safe operation (default setpoint) 202: Fail-safe operation (system fallback setpoint) 203: Fail-safe operation (Automatic grid disconnection)
16	float 32	PPC_P_SET_LFSMO_REL	Relative active power setpoint (LFSM-O)	%	
18	float 32	PPC_P_SET_LFSMU_REL	Relative active power setpoint (LFSM-U)	%	
20	float 32	PPC_GHI	Actual global irradiation [10)]	W/m²	
22	float 32	PPC_T_AMBIENT	Actual ambient temperature [11)]	°C	
24	float 32	PPC_P_AC_AVAIL	Available active power [9)]	W	
26	float 32	PPC_Q_AC_AVAIL	Available reactive power [9)]	Var	
28	float 32	PPC_INV_INST	Number of installed inverters [12)]	-	
30	float 32	PPC_INV_AVAIL	Number of active inverters [13)]	-	
Register 32 to 99 are reserved					
Address	**Data type[1)]**	**Designation**	**Description**	**Unit**	**Value range**

[3)] Read values between 0 ... 100 % up to firmware 14.0.5. Read values between 0 ... 125 % from firmware 15.1.8. Read values between -10,000 ... 125 % from firmware 23.2.11.

[4)] PPC_P_AV x PPC_P_SET_GRIDOP_REL (P_{AV} = 1.000.000 W, PPC_P_SET_GRIDOP_REL = 50 % → PPC_P_AC_GRIDOP_MAX = 500.000 W).

[5)] PPC_P_AV x PPC_P_SET_RPC_REL (P_{AV} = 1.000.000 W, PPC_P_SET_RPC_REL = 60 % → PPC_P_AC_RPC_MAX = 600.000 W).

[6)] From Firmware 16.0.4
[7)] From Firmware 17.0.11
[8)] From Firmware 19.2.10
[9)] From Firmware 25.0.13
[10)] From Firmware 23.0.8
[11)] From Firmware 23.0.8
[12)] From firmware 29.0.9
[13)] From firmware 29.0.9

100	int 32	PPC_P_AC_INV	Sum of actual inverter active power	W	0… 1,000,000,000.000 W
102	int 32	PPC_P_AC	Actual active power	W	Value from power analyzer [14)]
104	int 32	PPC_P_SET_REL	Actual valid active power setpoint	%	-10,000.000 … 125.000 % [3)]
106	int 32	PPC_P_SET_GRIDOP_REL	Relative active power setpoint (grid operator)	%	-10,000.000 … 125.000 % [3)]
108	int 32	PPC_P_SET_RPC_REL	Relative active power setpoint (3rd party, e.g. Energy trader)	%	-10,000.000 … 125.000 % [3)]
110	int 32	PPC_P_AC_GRIDOP_MAX	Maximum active power at power limitation (grid operator) [4)]	W	0… 1,000,000,000.000 W
112	int 32	PPC_P_AC_RPC_MAX	Maximum active power at power limitation (3rd party) [5)]	W	0… 1,000,000,000.000 W
114	int 32	PPC_P_SET_MODUS	Actual active power setpoint mode [6)]	-	0: No configuration found 1: Fixed value method without interface (continuous limitation) 2: Fixed value method via DI 3: Fixed value method via AI 4: Fixed value method via Modbus 5: Remote Power Control (RPC) 100: LFSM-O [7)] 101: LFSM-U [8)] 102: FSM [9)] 200: Fail-safe operation (last valid setpoint) 201: Fail-safe operation (default setpoint) 202: Fail-safe operation (system fallback setpoint) 203: Fail-safe operation (Automatic grid disconnection)
116	int 32	PPC_P_SET_LFSMO_REL	Relative active power setpoint (LFSM-O)	%	
118	int 32	PPC_P_SET_LFSMU_REL	Relative active power setpoint (LFSM-U)	%	
120	int 32	PPC_GHI	Actual global irradiation [10)]	W/m²	
122	int 32	PPC_T_AMBIENT	Actual ambient temperature [11)]	°C	
124	int 32	PPC_P_AC_AVAIL	Available active power [9)]	W	
126	int 32	PPC_Q_AC_AVAIL	Available reactive power [9)]	Var	
128	int 32	PPC_INV_INST	Number of installed inverters [12)]	-	
130	int 32	PPC_INV_AVAIL	Number of active inverters [13)]	-	
Register 132 to 3999 are reserved					
4000	float 32	PPC_P_AV	Agreed connected active power P_{AV}	W	0… 1,000,000,000.000 W

Further information: www.meteocontrol.com

[14)] Negative values = import, positive values = export.