

## Modbus power control interface registers (bluelog Neo)

### WRITE VALUES (Function Code 16)

Register	Abbreviation	Description	Unit	Data type	Range	Comment
<b>GRID CONNECTION POINT (ACTIVE POWER)</b>						
10000	PPC_GCP_P_LIM_FEEDIN_REL	Active power feed-in limitation (grid operator, relative)	%	F32	0...125	
10002	PPC_GCP_P_LIM_FEEDIN_ABS	Active power feed-in limitation (grid operator, absolute)	W	F32	unlimited	
10004	PPC_GCP_P_LIM_IMPORT_REL	Active power import limitation (grid operator, relative)	%	F32	-125... 0	
10006	PPC_GCP_P_LIM_IMPORT_ABS	Active power import limitation (grid operator, absolute)	W	F32	unlimited	
10008-10018		Reserved				
<b>PV (ACTIVE POWER)</b>						
10020	PPC_PV_P_LIM_REL	Active power generation limitation PV (grid operator, relative)	%	F32	0... 125	
10022	PPC_PV_P_LIM_ABS	Active power generation limitation PV (grid operator, absolute)	W	F32	unlimited	
10024-10038		Reserved				
<b>BATTERY (ACTIVE POWER)</b>						
10040	PPC_BAT_P_LIM_CHARGE_REL	Active power charge limitation battery (grid operator, relative)	%	F32	-125... 0	
10042	PPC_BAT_P_LIM_CHARGE_ABS	Active power charge limitation battery (grid operator, absolute)	W	F32	unlimited	
10044	PPC_BAT_P_LIM_DISCHARGE_REL	Active power discharge limitation battery (grid operator, relative)	%	F32	0... 125	
10046	PPC_BAT_P_LIM_DISCHARGE_ABS	Active power discharge limitation battery (grid operator, absolute)	W	F32	unlimited	
10048-10058		Reserved				
10060-10098		Reserved				

Register	Abbreviation	Description	Unit	Data type	Range	Comment
<b>GRID CONNECTION POINT (REACTIVE POWER)</b>						
10200	PPC_Q_SET_MODE	Reactive power setpoint command method	-	F32	1: Variable fixed value cos $\phi$ var fix 2: Variable fixed value cos $\phi$ var DI 3: Variable fixed value cos $\phi$ var AI 4: Variable fixed value cos $\phi$ var Modbus 5: Characteristic curve cos $\phi$ var (P) 6: Characteristic curve cos $\phi$ var (V) 7: Variable fixed value Qvar fix 8: Variable fixed value Qvar DI 9: Variable fixed value Qvar AI 10: Variable fixed value Qvar Modbus 11: Characteristic curve Q (P) 12: Characteristic curve Q (V) 13: Characteristic curve Q ( $\tan \phi$ ) 14: Voltage control Q (V droop) 15: Characteristic curve Q(V) Modbus 16: Characteristic curve cos $\phi$ (P) Modbus	
10202	PPC_PF_SET	Power factor setpoint	-	F32	-0.999...1.0	Negative values = underexcited, positive values = overexcited
10204	PPC_Q_SET_REL	Reactive power setpoint	%	F32	-100... 1000	Negative values = underexcited, positive values = overexcited
10206	PPC_Q_SET_ABS	Reactive power setpoint	var	F32	unlimited	
10208	PPC_V_REF_Q_V_SHIFT	Voltage shift $\Delta V_{Q0}$ for Q(V) curve	V	F32	-16,800...24,200	The voltage shift $\Delta V_{Q0}$ is added to the nominal voltage $V_c$ to obtain the reference voltage at which the reactive power setpoint is 0 %. Example: With $V_c = 20$ kV and $\Delta V_{Q0}=200$ V a reference voltage of 20.2kV is obtained.

Register	Abbreviation	Description	Unit	Data type	Range	Comment
10210	PPC_V_SET_ABS	Absolute voltage setpoint for "Q (V droop)"	V	F32	Value range depends on the agreed supply voltage $V_c$ and the $V_{setpoint,min}$ and $V_{setpoint,max}$ settings in method Q (V droop). e.g. $V_c = 20$ kV, $V_{setpoint,min} = 0.9$ and $V_{setpoint,max} = 1.1$ : value range is 18,000...22,000 V	
10212	PPC_Q_REF_V_DROOP_SHIFT	Setpoint reference reactive power $Q\Delta V_0$ for parallel shift of the voltage droop $s_v$	var	F32	-1,000,000,000...1,000,000,000	Negative values = underexcited, positive values = overexcited
10214	PPC_QV_P_IN	Lock-in active power $P_{lock-in}$ for characteristic curve "Q(V) Modbus"	%	F32	0...125	
10216	PPC_QV_P_OUT	Lock-out active power $P_{lock-out}$ for characteristic curve "Q(V) Modbus"	%	F32	0...125	
10218	PPC_QV_V1	Reference point voltage 1 for characteristic curve "Q(V) Modbus"	$V/V_c$	F32	0.1...1.5	
10220	PPC_QV_V2	Reference point voltage 2 for characteristic curve "Q(V) Modbus"	$V/V_c$	F32	0.1...1.5	
10222	PPC_QV_V3	Reference point voltage 3 for characteristic curve "Q(V) Modbus"	$V/V_c$	F32	0.1...1.5	
10224	PPC_QV_V4	Reference point voltage 4 for characteristic curve "Q(V) Modbus"	$V/V_c$	F32	0.1...1.5	
10226		Reserved				
10228	PPC_PFP_V_IN	Lock-In voltage $V_{lock-in}$ for characteristic curve "cos $\phi$ (P) Modbus"	$V/V_c$	F32	1...1.1	
10230	PPC_PFP_V_OUT	Lock-out voltage $V_{lock-out}$ for characteristic curve "cos $\phi$ (P) Modbus"	$V/V_c$	F32	0.9...1	
10232	PPC_PFP_PF1	Reference point cos $\phi$ 1 for characteristic curve "cos $\phi$ (P) Modbus"	-	F32	-0.999 ... 1	
10234	PPC_PFP_PF2	Reference point cos $\phi$ 2 for characteristic curve "cos $\phi$ (P) Modbus"	-	F32	-0.999 ... 1	
10236	PPC_PFP_PF3	Reference point cos $\phi$ 3 for characteristic curve "cos $\phi$ (P) Modbus"	-	F32	-0.999 ... 1	
10238	PPC_PFP_P1	Reference point P 1 for characteristic curve "cos $\phi$ (P) Modbus"	$P/P_{ref}$	F32	0...1	
10240	PPC_PFP_P2	Reference point P 2 for characteristic curve "cos $\phi$ (P) Modbus"	$P/P_{ref}$	F32	0...1	
10242	PPC_PFP_P3	Reference point P 3 for characteristic curve "cos $\phi$ (P) Modbus"	$P/P_{ref}$	F32	0...1	
10244-10998		Reserved				

Register	Abbreviation	Description	Unit	Data type	Range	Comment
<i>TESTING COMMANDS</i>						
11000	PPC_V_SIM_TEST	Simulated test voltage	V	F32	0 ... 132,000	
11002	PPC_F_SIM_TEST	Simulated test frequency	Hz	F32	0 ... 70	

### READ VALUES (Function Code 03)

Register	Abbreviation	Description	Unit	Data type	Range	Comment
<b>DEVICE DATA</b>						
1000	PPC_VENDOR	Vendor		U32		"mc": meteocontrol hex: 0x6D630000
1002	PPC_MD	Model		U32		"bl": blueLog hex: 0x626C0000
1004	PPC_QS_TS	Current timestamp of device	-	U32		This value returns a current timestamp for device health detection.
1006-1016		Reserved				
<b>PLANT DATA</b>						
1018	PPC_P_AV_E	Agreed connected active power $P_{AV}$	W	F32		
1020	PPC_S_AV_E	Agreed connected apparent power $S_{AV}$	VA	F32		
1022	PPC_P_INST	Total installed active power $P_{inst}$	W	F32		
1024	PPC_P_INST_PV	Installed active power PV $P_{inst,PV}$	W	F32		
1026	PPC_P_INST_BAT	Installed active power battery $P_{inst,bat}$	W	F32		
1028	PPC_S_MAX	Total maximum apparent power $S_{max}$	VA	F32		
1030	PPC_V_C	Agreed supply voltage $V_c$	V	F32		
1028-1048		Reserved				
<b>GRID CONNECTION POINT (ACTIVE POWER)</b>						
1050	PPC_GCP_P_LIM_FEEDIN_REL	Active power feed-in limitation (grid operator, relative)	%	F32		GCP = grid connection point or location of reference meter
1052	PPC_GCP_P_LIM_FEEDIN_ABS	Active power feed-in limitation (grid operator, absolute)	W	F32		
1054	PPC_GCP_P_LIM_IMPORT_REL	Active power import limitation (grid operator, relative)	%	F32		GCP = grid connection point or location of reference meter
1056	PPC_GCP_P_LIM_IMPORT_ABS	Active power import limitation (grid operator, absolute)	W	F32		
1058-1062		Reserved				
1064	PPC_RPC_GCP_P_SET_REL_ACT	Activation "Active power setpoint at GCP (energy trader, relative)"	-	F32		0: off 1: on
1066	PPC_RPC_GCP_P_SET_REL	Active power setpoint at GCP (energy trader, relative)	%	F32		
1068	PPC_RPC_GCP_P_SET_ABS_ACT	Activation "Active power setpoint at GCP (energy trader, absolute)"	-	F32		0: off 1: on
1070	PPC_RPC_GCP_P_SET_ABS	Active power setpoint at GCP (energy trader, absolute)	W	F32		
1072-1198		Reserved				

Register	Abbreviation	Description	Unit	Data type	Range	Comment
<b>GRID CONNECTION POINT (REACTIVE POWER)</b>						
1200	PPC_Q_SET_MODE	Reactive setpoint command mode				0: No configuration found 1: Variable fixed value cos $\phi$ var fix 2: Variable fixed value cos $\phi$ var DI 3: Variable fixed value cos $\phi$ var AI 4: Variable fixed value cos $\phi$ var Modbus 5: Characteristic curve cos $\phi$ (P) 6: Characteristic curve cos $\phi$ (V) 7: Variable fixed value Qvar fix 8: Variable fixed value Qvar DI 9: Variable fixed value Qvar AI 10: Variable fixed value Qvar Modbus 11: Characteristic curve Q (P) 12: Characteristic curve Q (V) 13: Characteristic curve Q (tan $\phi$ ) 14: Voltage control Q (V droop) 15: Characteristic curve Q(V) Modbus 16: Characteristic curve cos $\phi$ (P) Modbus 100: Reactive power compensation
1202	PPC_PF_SET	Power factor setpoint	-	F32		negative values = underexcited, positive values = overexcited
1204	PPC_Q_SET_REL	Reactive power setpoint	%	F32		negative values = underexcited, positive values = overexcited
1206	PPC_Q_SET_ABS	Absolute reactive power setpoint	var	F32		negative values = underexcited, positive values = overexcited
1208		Reserved				
1210	PPC_V_SET_ABS	Absolute voltage setpoint for "Q (V droop)"	V	F32		
1212		Reserved				
1214	PPC_Q_V_LIMIT	Lower / upper limit reached "Q(V)"		F32		0: Q (V) limit not reached. 1: Q (V) lower limit reached. 2: Q (V) upper limit reached
1216	PPC_QV_P_IN	Lock-in active power Plock-in for characteristic curve "Q(V) Modbus"	%	F32		
1218	PPC_QV_P_OUT	Lock-out active power Plock-out for characteristic curve "Q(V) Modbus"	%	F32		

Register	Abbreviation	Description	Unit	Data type	Range	Comment
1220	PPC_QV_V1	Reference point voltage 1 for characteristic curve "Q(V) Modbus"	V/V <sub>c</sub>	F32		
1222	PPC_QV_V2	Reference point voltage 2 for characteristic curve "Q(V) Modbus"	V/V <sub>c</sub>	F32		
1224	PPC_QV_V3	Reference point voltage 3 for characteristic curve "Q(V) Modbus"	V/V <sub>c</sub>	F32		
1226	PPC_QV_V4	Reference point voltage 4 for characteristic curve "Q(V) Modbus"	V/V <sub>c</sub>	F32		
1228	PPC_QV_STAT	Status Q(V) control	-	F32		0: off 1: on 2: act
1230		Reserved				
1232	PPC_PFP_V_IN	Lock-in voltage V <sub>lock-in</sub> for characteristic curve "cos φ (P) Modbus"	V/V <sub>c</sub>	F32		
1234	PPC_PFP_V_OUT	Lock-out voltage V <sub>lock-out</sub> for characteristic curve "cos φ (P) Modbus"	V/V <sub>c</sub>	F32		
1236	PPC_PFP_PF1	Reference point cos φ 1 for characteristic curve "cos φ (P) Modbus"		F32		
1238	PPC_PFP_PF2	Reference point cos φ 2 for characteristic curve "cos φ (P) Modbus"		F32		
1240	PPC_PFP_PF3	Reference point cos φ 3 for characteristic curve "cos φ (P) Modbus"		F32		
1242	PPC_PFP_P1	Reference point P 1 for characteristic curve "cos φ (P) Modbus"	P/P <sub>ref</sub>	F32		
1244	PPC_PFP_P2	Reference point P 2 for characteristic curve "cos φ (P) Modbus"	P/P <sub>ref</sub>	F32		
1246	PPC_PFP_P3	Reference point P 3 for characteristic curve "cos φ (P) Modbus"	P/P <sub>ref</sub>	F32		
1248	PPC_PFP_STAT	Status cos φ (P) control		F32		0: off 1: on 2: act
1250-1298		Reserved				
<b>PV (ACTIVE POWER)</b>						
1300	PPC_PV_P_LIM_REL	Active power generation limitation PV (grid operator, relative)	%	F32		
1302	PPC_PV_P_LIM_ABS	Active power generation limitation PV (grid operator, absolute)	W	F32		
1304	PPC_RPC_PV_P_SET_REL_ACT	Activation "Active power setpoint PV (energy trader, relative)"	-	F32		0: off 1: on

Register	Abbreviation	Description	Unit	Data type	Range	Comment
1306	PPC_RPC_PV_P_SET_REL	Active power setpoint PV (energy trader, relative)	%	F32		
1308	PPC_RPC_PV_P_SET_ABS_ACT	Activation "Active power setpoint PV (energy trader, absolute)"	-	F32		0: off 1: on
1310	PPC_RPC_PV_P_SET_ABS	Active power setpoint PV (energy trader, absolute)	W	F32		
1312-1318		Reserved				
1320	PPC_PV_LFSMO_P_SET_REL	Active power setpoint (LFSM-O)	%	F32		
1322-1330		Reserved				
1332	PPC_PV_LFSMU_P_SET_REL	Active power setpoint (LFSM-U)	%	F32		
1334-1342		Reserved				
1344	PPC_PV_FSM_P_SET_REL	Active power setpoint (FSM)	%	F32		
1346	PPC_PV_FSM_STATUS	Status of Frequency Sensitive Mode (FSM)	-	F32		0: off 1: on If "Activation FSM via Modbus" is activated this values corresponds to the value set via Modbus. If "Activation via Modbus" is not activated, this value corresponds to the FSM activation toggle in ther user interface.
1348	PPC_PV_FSM_DELTA_P	Active power change calculated by FSM curve	%	F32		
1350	PPC_PV_FSM_DELTA_P_U	Active power range $ \Delta P_1 /P_{inst}$ - underfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1352	PPC_PV_FSM_DELTA_P_O	Active power range $ \Delta P_1 /P_{inst}$ - overfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1354	PPC_PV_FSM_DROOP_U	Frequency droop $s_f$ - underfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1356	PPC_PV_FSM_DROOP_O	Frequency droop $s_f$ - overfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1358	PPC_PV_FSM_DB_U	Dead band $\Delta f_{DB}$ - underfrequency	Hz	F32		Configuration parameter for FSM charactersitic curve
1360	PPC_PV_FSM_DB_O	Dead band $\Delta f_{DB}$ - overfrequency	Hz	F32		Configuration parameter for FSM charactersitic curve
1362	PPC_PV_P_REF	Reference active power $P_{ref}$ for frequency control P(f)	W	F32		If LFSM-O/LFSM-U/FSM is active, this register contains the currently used reference active power. If LFSM-O/LFSM-U/FSM is not active, this register contains the value NaN.

Register	Abbreviation	Description	Unit	Data type	Range	Comment
1364	PPC_PV_P_MOM	Momentary active power $P_{mom}$ for frequency control P(f)	W	F32		If LFSM-O/LFSM-U/FSM is active, this register contains the momentary active power when crossing the frequency threshold. If LFSM-O/LFSM-U/FSM is not active, this register contains the value NaN.
1366	PPC_PV_P_CTRL_REL	Active power correction value PV	%	F32		
1368	PPC_PV_P_AC_INV	Sum of inverter active power PV	W			This value corresponds to the sum of all inverters connected to the master and slave device.
1370-1400		Reserved				
<b>PV (REACTIVE POWER)</b>						
1402	PPC_PV_Q_CTRL_REL	Reactive power correction value PV	%	F32		
1404	PPC_PV_PF_CTRL	Power factor correction value PV	-	F32		
1406	PPC_PV_Q_AC_INV	Sum of inverter reactive power (PV)	var	F32		This value corresponds to the sum of all inverters connected to the master and slave device.
1408-1420		Reserved				
<b>PV (OTHER)</b>						
1422	PPC_PV_INV_INST	Number of installed inverters (PV)	-	F32		
1424	PPC_PV_INV_AVAIL	Number of active inverters (PV)	-	F32		
1426-1450		Reserved				
<b>BATTERY (ACTIVE POWER)</b>						
1452	PPC_BAT_P_LIM_CHARGE_REL	Active power charge limitation battery (grid operator, relative)	%			
1454	PPC_BAT_P_LIM_CHARGE_ABS	Active power charge limitation battery (grid operator, absolute)	W			
1456	PPC_BAT_P_LIM_DISCHARGE_REL	Active power discharge limitation (grid operator, relative)	%			
1458	PPC_BAT_P_LIM_DISCHARGE_ABS	Active power discharge limitation battery (grid operator, absolute)	W			
1460	PPC_RPC_BAT_P_SET_REL_ACT	Activation "Active power setpoint battery (energy trader, relative)"	-			
1462	PPC_RPC_BAT_P_SET_REL	Active power setpoint battery (energy trader, relative)	%			
1464	PPC_RPC_BAT_P_SET_ABS_ACT	Activation "Active power setpoint battery (energy trader, absolute)"	-			
1466	PPC_RPC_BAT_P_SET_ABS	Active power setpoint battery (energy trader, absolute)	W			
1468-1480		Reserved				

Register	Abbreviation	Description	Unit	Data type	Range	Comment
1482	PPC_BAT_LFSMO_P_SET_REL	Active power setpoint (LFSM-O)	%	F32		
1484-1494		Reserved				
1494	PPC_BAT_LFSMU_P_SET_REL	Active power setpoint (LFSM-U)	%	F32		
1496-1506		Reserved				
1508	PPC_BAT_FSM_P_SET_REL	Active power setpoint (FSM)	%	F32		
1510	PPC_BAT_FSM_STATUS	Status of Frequency Sensitive Mode (FSM)	-	F32		0: off 1: on If "Activation FSM via Modbus" is activated this values corresponds to the value set via Modbus. If "Activation via Modbus" is not activated, this value correponds to the FSM activation toggle in ther user interface.
1512	PPC_BAT_FSM_DELTA_P	Active power change calculated by FSM curve	%	F32		
1514	PPC_BAT_FSM_DELTA_P_U	Active power range $ \Delta P_1 /P_{inst}$ - underfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1516	PPC_BAT_FSM_DELTA_P_O	Active power range $ \Delta P_1 /P_{inst}$ - overfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1518	PPC_BAT_FSM_DROOP_U	Frequency droop $s_f$ - underfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1520	PPC_BAT_FSM_DROOP_O	Frequency droop $s_f$ - overfrequency	%	F32		Configuration parameter for FSM charactersitic curve
1522	PPC_BAT_FSM_DB_U	Dead band $\Delta f_{DB}$ - underfrequency	Hz	F32		Configuration parameter for FSM charactersitic curve
1524	PPC_BAT_FSM_DB_O	Dead band $\Delta f_{DB}$ - overfrequency	Hz	F32		Configuration parameter for FSM charactersitic curve
1526	PPC_BAT_P_REF	Reference active power $P_{ref}$ for active P(f) mode	W	F32		If LFSM-O/LFSM-U/FSM is active, this register contains the currently used reference active power. If LFSM-O/LFSM-U/FSM is not active, this register contains the value NaN.
1528	PPC_BAT_P_MOM	Momentary active power $P_{mom}$ for frequency control P(f).	W	F32		If LFSM-O/LFSM-U/FSM is active, this register contains the momentary active power when crossing the frequency threshold. If LFSM-O/LFSM-U/FSM is not active, this register contains the value NaN.
1530	PPC_BAT_P_CTRL_REL	Active power correction value battery	%	F32		

Register	Abbreviation	Description	Unit	Data type	Range	Comment
1532	PPC_BAT_P_AC_INV	Sum of inverter active power battery	W	F32		This value corresponds to the sum of all inverters connected to the master and slave device.
1534-1566		Reserved				
<b>BATTERY (REACTIVE POWER)</b>						
1568	PPC_BAT_Q_CTRL_REL	Reactive power correction value battery	%			
1570	PPC_BAT_PF_CTRL	Power factor correction value battery	-			
1572	PPC_BAT_Q_AC_INV	Sum of inverter reactive power battery	var			
1574-1584		Reserved				
<b>BATTERY (OTHER)</b>						
1586	PPC_BAT_SOC	State of charge (relative)	%			
1588	PPC_BAT_SOC_ABS	State of charge (absolute)	Wh			
1590	PPC_BAT_CAP	Battery capacity	Wh			
1592-2998		Reserved				
<b>MEASURED DATA (METER)</b>						
3000	PPC_P_AC	Actual active power	W	F32		
3002	PPC_PF	Actual power factor $\cos \varphi$	-	F32		
3004	PPC_Q_AC	Actual reactive power	var	F32		
3006	PPC_S_AC	Actual apparent power	VA	F32		
3008	PPC_F_AC	Actual grid frequency	Hz	F32		
3010	PPC_V_PHASE_AB	Actual phase voltage $V_{PhA-PhB}$	V	F32		
3012	PPC_V_PHASE_BC	Actual phase voltage $V_{PhB-PhC}$	V	F32		
3014	PPC_V_PHASE_CA	Actual phase voltage $V_{PhC-PhA}$	V	F32		
3016	PPC_I_PHASE_A	Actual current $I_{PhA}$	A	F32		
3018	PPC_I_PHASE_B	Actual current $I_{PhB}$	A	F32		
3020	PPC_I_PHASE_C	Actual current $I_{PhC}$	A	F32		
3022	PPC_V_PHASE_AN	Line-to-neutral voltage $V_{PhA-N}$	V	F32		
3024	PPC_V_PHASE_BN	Line-to-neutral voltage $V_{PhB-N}$	V	F32		
3026	PPC_V_PHASE_CN	Line-to-neutral voltage $V_{PhC-N}$	V	F32		
3028-3078		Reserved				
<b>MEASURED DATA (USED FOR SPECIFIC POWER CONTROL MODES)</b>						
3080	PPC_F_AC_PF	Frequency used for frequency control modes: LFSM-U, LFSM-O, FSM	Hz	F32		
3082-3118		Reserved				
<b>MEASURED DATA (OTHER)</b>						

Register	Abbreviation	Description	Unit	Data type	Range	Comment
3120	PPC_GHI	Actual global irradiation	W/m <sup>2</sup>	F32		
3122	PPC_T_AMBIENT	Actual ambient temperature	°C	F32		
3124-4998		Reserved				