

# SCADA Interface Register V2.7.0

## General Values

### READ VALUES (Function Code 03)

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	40000	1	U16		Device type	0	0	[0; 6]	---	Possible values:  0 = Datalogger (blue'Log) 1 = Inverter 2 = Sensor 3 = Meter 4 = String 5 = Tracker
2	40001	32	String		Vendor	---	---		---	
3	40033	32	String		Model	---	---		---	
4	40065	16	String		Serial	---	---		---	
5	40081	16	String		Firmware Version	---	---		---	Formatted firmware version of this device
6	40097	16	String		PortId	---	---		---	Internal Port-ID of the blue'Log e.g. 'BM_RS485_1' or '192.168.23.42:502'
7	40113	1	U16		Busadresse	0	0		---	
8	40114 - 40489				Reserved					Unused. 0xFFFF
9	40490 - 40499	1	U16	D_IN1-10	Digital Input	---	0	[0;1]	---	Values:  0: Normal state 1: Active state
10	40500 - 40538	2	U32	ERROR1-20	Error Registers	---	0		---	Raw value read from the device.  Mapping to alarms/events according to the specification of the device
11	40540 - 40578	2	U32	STATE1-20	Status Registers	---	0		---	meteocontrol-internal: CSV file, see alarms section below
12	40580	2	F32	T	Temperature	---	0		°C	Temperature of all devices except Sensors
13	40582 - 40620	2	F32	T1-20	Temperatures	0	0		°C	Temperatures of all devices except Sensors
14	40622 - 40660	2	U32	STATE21-40	Status Registers	---	0		---	
15	40662 - 40700	2	U32	ERROR21-40	Error Registers	---	0		---	
16	40702 - 40741	1	U16	D_IN1-40	Digital Input	---	0	[0;1]	---	Values:  0: Normal state 1: Active state

## Inverter

### READ VALUES (Function Code 03)

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	41000	2	F32	P_AC		0	0		W	
2	41002	2	F32	Q_AC		0	0		VAr	
3	41004	2	F32	S_AC		0	0		VA	
4	41006	2	F32	COS_PHI		0	0		---	
5	41008	2	F32	U_AC		0	0		V	
6	41010	2	F32	I_AC		0	0		A	
7	41012	2	F32	F_AC		0	0		Hz	
8	41014	2	F32	R_ISO		0	0		mA	
9	41016	2	F32	P_AC1		0	0		W	
10	41018	2	F32	P_AC2		0	0		W	
11	41020	2	F32	P_AC3		0	0		W	
12	41022	2	F32	Q_AC1		0	0		VAr	
13	41024	2	F32	Q_AC2		0	0		VAr	
14	41026	2	F32	Q_AC3		0	0		VAr	
15	41028	2	F32	S_AC1		0	0		VA	
16	41030	2	F32	S_AC2		0	0		VA	
17	41032	2	F32	S_AC3		0	0		VA	
18	41034	2	F32	COS_PHI1		0	0		---	
19	41036	2	F32	COS_PHI2		0	0		---	
20	41038	2	F32	COS_PHI3		0	0		---	
21	41040	2	F32	U_AC1		0	0		V	
22	41042	2	F32	U_AC2		0	0		V	
23	41044	2	F32	U_AC3		0	0		V	
24	41046	2	F32	U_AC L1L2		0	0		V	
25	41048	2	F32	U_AC L2L3		0	0		V	
26	41050	2	F32	U_AC L3L1		0	0		V	
27	41052	2	F32	I_AC1		0	0		A	
28	41054	2	F32	I_AC2		0	0		A	
29	41056	2	F32	I_AC3		0	0		A	
30	41058	2	F32	F_AC1		0	0		Hz	
31	41060	2	F32	F_AC2		0	0		Hz	
32	41062	2	F32	F_AC3		0	0		Hz	
33	41064	2	F32	E_DAY		0	0		Wh	
34	41066	2	F32	E_TOTAL		0	0		Wh	
35	41068	2	F32	OT_AC TOTAL		0	0		h	
36	41070	2	F32	FT_AC TOTAL		0	0		h	

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
37	41072	2	F32	U_DC_PE		0	0		V	
38	41074	2	F32	U_DC_NE		0	0		V	
39	41076	2	F32	P_AC_SET_ABS		0	0		W	
40	41078	2	F32	P_AC_SET_REL		0	0		%	
41	41080	2	F32	P_DC		0	0		W	
42	41082	2	F32	U_DC		0	0		V	
43	41084	2	F32	I_DC		0	0		A	
44	41086 - 41089	4			Reserved					Unused. 0xFFFF
45	41090	1	U16		MPPT Count	0	0	[1, 12]	---	MPPT Count: number of MPPTs at this Inverter
46	41091	1	U16		String Count	0	0	[1, 30]	---	String Count: total number of strings
47	41092-41099	8			Reserved					Unused. 0xFFFF
48	41100 - 41xxx	2	F32	P_DC1-12		0	0		W	<p><b>Repeating Block:</b> Block of P_DCx, U_DCx and I_DCx will be repeated 12 times.</p> <p><b>Example:</b></p> <p>41100: P_DC1 41102: U_DC1 41104: I_DC1</p> <p>41106: P_DC2 41108: U_DC2 41110: I_DC2</p> <p>41112: P_DC3 41114: U_DC3 41116: I_DC3</p> <p>...</p> <p>41166: P_DC12 41168: U_DC12 41170: I_DC12</p>
49	41102 - 41xxx	2	F32	U_DC1-12		0	0		V	41168: U_DC12
50	41104 - 41xxx	2	F32	I_DC1-12		0	0		A	41170: I_DC12

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
51	41172-41230	2	F32	I_DCx_y		0	0		A	<p><b>Repeating Block:</b>  Starts directly after the P_DCx, U_DCx and I_DCx Block (41172)  Repeats for all String values of the MPPTs  String count is the total string count of all MPPTs and has to be dispensed evenly</p> <p><b>Example:</b></p> <p>MPPT Count (Reg. 41090) = 4  String Count (Reg. 41091) = 11</p> <p>41172: I_DC1_1  41174: I_DC1_2  41176: I_DC1_3</p> <p>41178: I_DC2_1  41180: I_DC2_2  41182: I_DC2_3</p> <p>41184: I_DC3_1  41186: I_DC3_2  41188: I_DC3_3</p> <p>41190: I_DC4_1  41192: I_DC4_2</p> <p>// no I_DC4_3 because there are only 11 strings</p>

*WRITE VALUES (Function Code 16)*

52	41999	1	U16	SCADA_START_STOP	Start / Stop individual Inverter	0	0		-	<p>0 = Stop  1 = Start</p> <p>If driver doesn't offer the StartStopFeature: ModbusException with ErrorCode</p> <p>4</p>
----	-------	---	-----	------------------	----------------------------------	---	---	--	---	---

## Sensor

### READ VALUES (Function Code 03)

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	42000	2	F32	E_W_D		0	0		°	
2	42002	2	F32	E_W_S		0	0		m/s	
3	42004	2	F32	E_ALT1		0	0		m	
4	42006	2	F32	E_PRECIPITATION		0	0		---	
5	42008	2	F32	E_RF_ABS1		0	0		mm	
6	42010	2	F32	E_RF_I1		0	0		mm/h	
7	42012	2	F32	E_AH_ABS1		0	0		g/m <sup>2</sup>	
8	42014	2	F32	E_AH_REL1		0	0		%	
9	42016	2	F32	E_AP_ABS1		0	0		hPa	
10	42018	2	F32	E_AP_REL1		0	0		hPa	
11	42020	2	F32	E_IP_ABS		0	0		hPa	
12	42022	2	F32	E_IH_REL		0	0		%	
13	42024	2	F32	E_F_S		0	0		rpm	
14	42026 - 42029	4			Reserved					Unused. 0xFFFF
15	42030	2	F32	SUN_H		0	0		h	
16	42032	2	F32	E_TILT		0	0		°	
17	42034	2	F32	E_SRAD		0	0		Wh/m <sup>2</sup>	
18	42036	2	F32	SRAD		0	0		W/m <sup>2</sup>	
19	42038	2	F32	SRAD1		0	0		W/m <sup>2</sup>	
20	42040	2	F32	SRAD2		0	0		W/m <sup>2</sup>	
21	42042	2	F32	SRAD3		0	0		W/m <sup>2</sup>	
22	42044	2	F32	SRAD4		0	0		W/m <sup>2</sup>	
23	42046	2	F32	SRAD5		0	0		W/m <sup>2</sup>	
24	42048	2	F32	T		0	0		°C	
25	42050	2	F32	T1		0	0		°C	
26	42052	2	F32	T2		0	0		°C	
27	42054	2	F32	T3		0	0		°C	
28	42056	2	F32	T4		0	0		°C	
29	42058	2	F32	T5		0	0		°C	
30	42060	2	F32	T6		0	0		°C	
31	42062	2	F32	T7		0	0		°C	
32	42064	2	F32	T8		0	0		°C	
33	42066	2	F32	T9		0	0		°C	
34	42068	2	F32	T10		0	0		°C	
35	42070	2	F32	T11		0	0		°C	
36	42072	2	F32	T12		0	0		°C	
37	42074	2	F32	T13		0	0		°C	
38	42076	2	F32	T14		0	0		°C	

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
39	42078	2	F32	T15		0	0		°C	
40	42080	2	F32	T16		0	0		°C	
41	42082	2	F32	T17		0	0		°C	
42	42084	2	F32	T18		0	0		°C	
43	42086	2	F32	T19		0	0		°C	
44	42088	2	F32	T20		0	0		°C	
45	42090	2	F32	I SC1		0	0		A	
46	42092	2	F32	I SC2		0	0		A	
47	42094	2	F32	SLI_RAW		0	0		%	
48	42096	2	F32	SLI		0	0		%	
49	42098	2	F32	SLI1		0	0		%	
50	42100	2	F32	SLI2		0	0		%	
51	42102	2	F32	E_RF_DIF		0	0		mm	
52	42104	2	F32	E_RF_DIF1		0	0		mm	
53	42106	2	F32	E_RF_DIF2		0	0		mm	
54	42108	2	F32	E_RF_DIF3		0	0		mm	
55	42110	2	F32	E_RF_DIF4		0	0		mm	
56	42112	2	F32	E_RF_DIF5		0	0		mm	
57	42114	2	F32	E_W_S_MAX		0	0		m/s	
58	42116	2	F32	E_W_S1_MAX		0	0		m/s	
59	42118	2	F32	E_W_S2_MAX		0	0		m/s	
60	42120	2	F32	E_W_S3_MAX		0	0		m/s	
61	42122	2	F32	E_W_S4_MAX		0	0		m/s	
62	42124	2	F32	E_W_S5_MAX		0	0		m/s	
63	42126	2	F32	E_W_S1		0	0		m/s	
64	42128	2	F32	E_W_S2		0	0		m/s	
65	42130	2	F32	E_W_S3		0	0		m/s	
66	42132	2	F32	E_W_S4		0	0		m/s	
67	42134	2	F32	E_W_S5		0	0		m/s	
68	42136	2	F32	E_W_D1		0	0		°	
69	42138	2	F32	E_W_D2		0	0		°	
70	42140	2	F32	E_W_D3		0	0		°	
71	42142	2	F32	E_W_D4		0	0		°	
72	42144	2	F32	E_W_D5		0	0		°	
73	42146- 42149	4			Reserved					Unused. 0xFFFF
74	42150	2	F32	E_SNOW_DEPTH		0	0		m	
75	42152	2	F32	SNOW_LOAD1		0	0		g/m <sup>2</sup>	
76	42154	2	F32	SNOW_LOAD2		0	0		g/m <sup>2</sup>	
77	42156	2	F32	SNOW_LOAD3		0	0		g/m <sup>2</sup>	
78	42158	2	F32	SNOW_LOAD4		0	0		g/m <sup>2</sup>	
79	42160-42169	10			Reserved					Unused. 0xFFFF
80	42170	2	F32	WATER_DEPTH		0	0		m	

## Meter

### READ VALUES (Function Code 03)

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	43000	2	F32	M_AC_P		0	0		W	
2	43002	2	F32	M_AC_Q		0	0		VAr	
3	43004	2	F32	M_AC_S		0	0		VA	
4	43006	2	F32	M_AC_PF_COSPHI		0	0		---	
5	43008	2	F32	M_AC_U		0	0		V	
6	43010	2	F32	M_AC_I		0	0		A	
7	43012	2	F32	M_AC_I_N		0	0		A	
8	43014	2	F32	M_AC_F		0	0		Hz	
9	43016	2	F32	M_AC_P1		0	0		W	
10	43018	2	F32	M_AC_P2		0	0		W	
11	43020	2	F32	M_AC_P3		0	0		W	
12	43022	2	F32	M_AC_Q1		0	0		VAr	
13	43024	2	F32	M_AC_Q2		0	0		VAr	
14	43026	2	F32	M_AC_Q3		0	0		VAr	
15	43028	2	F32	M_AC_S1		0	0		VA	
16	43030	2	F32	M_AC_S2		0	0		VA	
17	43032	2	F32	M_AC_S3		0	0		VA	
18	43034	2	F32	M_AC_PF_COSPHI1		0	0		---	
19	43036	2	F32	M_AC_PF_COSPHI2		0	0		---	
20	43038	2	F32	M_AC_PF_COSPHI3		0	0		---	
21	43040	2	F32	M_AC_U1		0	0		V	
22	43042	2	F32	M_AC_U2		0	0		V	
23	43044	2	F32	M_AC_U3		0	0		V	
24	43046	2	F32	M_AC_U_L1L2		0	0		V	
25	43048	2	F32	M_AC_U_L2L3		0	0		V	
26	43050	2	F32	M_AC_U_L3L1		0	0		V	
27	43052	2	F32	M_AC_I1		0	0		A	
28	43054	2	F32	M_AC_I2		0	0		A	
29	43056	2	F32	M_AC_I3		0	0		A	
30	43058	2	F32	M_AC_F1		0	0		Hz	
31	43060	2	F32	M_AC_F2		0	0		Hz	
32	43062	2	F32	M_AC_F3		0	0		Hz	
33	43064	2	F32	M_AC_E_EXP		0	0		Wh	
34	43066	2	F32	M_AC_E_IMP		0	0		Wh	
35	43068	2	F32	M_AC_ES_EXP		0	0		VAh	
36	43070	2	F32	M_AC_ES_IMP		0	0		VAh	
37	43072	2	F32	E_INT		0	0		Wh	only for S0 meters
38	43074	2	F32	E_INT_MINUTE		0	0		Wh	only for S0 meters
39	43076	2	U32	TIMESTAMP		0	0		s	UNIX Timestamp from previous minute interval (Last change of E_INT_MINUTE)
40	43078	2	F32	M_AC_E_EXP_T1		0	0		Wh	

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
41	43080	2	F32	M_AC_E_EXP_T2		0	0		Wh	
42	43082	2	F32	M_AC_E_IMP_T1		0	0		Wh	
43	43084	2	F32	M_AC_E_IMP_T2		0	0		Wh	
44	43086	2	F32	M_AC_EQ_CAP_EXP		0	0		VArh	
45	43088	2	F32	M_AC_EQ_CAP_IMP		0	0		VArh	
46	43090	2	F32	M_AC_EQ_IND_EXP		0	0		VArh	
47	43092	2	F32	M_AC_EQ_IND_IMP		0	0		VArh	
48	43094	2	F32	M_AC_E_MONTH_EXP		0	0		Wh	
49	43096	2	F32	M_AC_E_MONTH_IMP		0	0		Wh	
50	43098	2	F32	M_AC_P_DEMAND		0	0		W	
51	43100	2	F32	M_AC_P_DEMAND_T1		0	0		W	
52	43102	2	F32	M_AC_P_DEMAND_T2		0	0		W	
53	43104	2	F32	M_AC_Q_DEMAND		0	0		VAr	
54	43106	2	F32	M_AC_Q_DEMAND_T1		0	0		VAr	
55	43108	2	F32	M_AC_Q_DEMAND_T2		0	0		VAr	
56	43110	2	F32	M_AC_S_DEMAND		0	0		VA	
57	43112	2	F32	M_AC_S_DEMAND_T1		0	0		VA	
58	43114	2	F32	M_AC_S_DEMAND_T2		0	0		VA	
59	43116	2	F32	M_AC_EQ_CAP_EXP_T1		0	0		VArh	
60	43118	2	F32	M_AC_EQ_CAP_EXP_T2		0	0		VArh	
61	43120	2	F32	M_AC_EQ_CAP_IMP_T1		0	0		VArh	
62	43122	2	F32	M_AC_EQ_CAP_IMP_T2		0	0		VArh	
63	43124	2	F32	M_AC_EQ_IND_EXP_T1		0	0		VArh	
64	43126	2	F32	M_AC_EQ_IND_EXP_T2		0	0		VArh	
65	43128	2	F32	M_AC_EQ_IND_IMP_T1		0	0		VArh	
66	43130	2	F32	M_AC_EQ_IND_IMP_T2		0	0		VArh	



## String Monitoring

### READ VALUES (Function Code 03)

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	44000	2	F32	P_DC		0	0		W	
2	44002	2	F32	U_DC		0	0		V	
3	44004	2	F32	I_SUM		0	0		A	
4	44006 - 44028	23			Reserved					Unused. 0xFFFF
5	44029	1	U16	---	String Count	0	0	[1, 40]	-	String Count: number of strings
6	44030 - 44xxx		F32	I1-x					A	<p><b>Repeating Block:</b> Repeats for each string.</p> <p><b>Example:</b></p> <p>String Count (Reg 44029) = 6</p> <p>44030: I1 44032: I2 44034: I3 44036: I4 44038: I5 44040: I6</p>

## Tracker

*READ VALUES via TCP port 503 (Function Code 03)*

Index	Address	Length in registers	Datatype	Abbreviation	Description	Factor	Offset	Range	Unit	Comment
1	45000	2	F32	ELEVATION		0	0		°	
2	45002	2	F32	ELEVATION_TARGET		0	0		°	
3	45004	2	F32	ELEVATION_MANUAL		0	0		°	
4	45006	2	F32	AZIMUTH		0	0		°	
5	45008	2	F32	AZIMUTH_TARGET		0	0		°	
6	45010	2	F32	AZIMUTH_MANUAL		0	0		°	

## Status

### READ VALUES (Function Code 03)

Index	Address	Length in Registers	Datatype	Description	Factor/Offset	Comment
1	40000	1	U16	BM: DI-1	0	Values:
2	40001	1	U16	BM: DI-2	0	0x0000: Normal state
3	40002	1	U16	BM: DI-3	0	0x0001: Active state
4	40003	1	U16	BM: DI-4	0	0xFFFF: Not available
5	40004	1	U16	BM: MI-1	0	
6	40005	1	U16	BM: MI-2	0	
7	40006	1	U16	BM: MI-3	0	
8	40007	1	U16	BM: MI-4	0	
9	40008	1	U16	MI-1: MI-1	0	
10	40009	1	U16	MI-1: MI-2	0	
11	40010	1	U16	MI-1: MI-3	0	
12	40011	1	U16	MI-1: MI-4	0	
13	40012	1	U16	MI-2: MI-1	0	
14	40013	1	U16	MI-2: MI-2	0	
15	40014	1	U16	MI-2: MI-3	0	
16	40015	1	U16	MI-2: MI-4	0	
17	40016	1	U16	MI-3: MI-1	0	
18	40017	1	U16	MI-3: MI-2	0	
19	40018	1	U16	MI-3: MI-3	0	
20	40019	1	U16	MI-3: MI-4	0	
21	40020	1	U16	MI-4: MI-1	0	
22	40021	1	U16	MI-4: MI-2	0	
23	40022	1	U16	MI-4: MI-3	0	
24	40023	1	U16	MI-4: MI-4	0	
25	40024	1	U16	MI-5: MI-1	0	
26	40025	1	U16	MI-5: MI-2	0	
27	40026	1	U16	MI-5: MI-3	0	
28	40027	1	U16	MI-5: MI-4	0	