

Modbus TCP documentation

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Table version (Reg. #1051) 13
Last author SM

Format all registers 16bit

Network port 502
Modbus Unit ID any unit IDs,
unit ID 255 recommended
Modbus Function Codes 3 ("Read Holding Registers"), 6 ("Write Single Holding Register")
Request interval <= 1/s
(VARTA link: <= 1/5s)

note:

We reserve the right to make changes.
We strive to make the protocols backwards compatible, but do not guarantee compliance with this compatibility. Please understand that advice or support of individual cases cannot be provided.
Änderungen sind vorbehalten.
Wir sind bestrebt, die Protokolle rückwärtskompatibel zu gestalten, garantieren aber nicht die Einhaltung dieser Kompatibilität. Bitte haben Sie Verständnis, dass Beratung bzw. Support einzelner Fälle nicht geleistet werden kann.

state of
implementation
on different

register	variable	read /write	format	size	unit	description	comments	VARTA element, one L, one XL	VARTA pulse	VARTA pulse neo	VARTA link	VARTA flex storage
1000	software version EMS	R	STRING17	17		example: 2.2.2.12	one char per modbus register starting at block 1000	✓	✓	✓	X	✓
1017	software version ENS	R	STRING17	17		example: 3.2.2.12	one char per modbus register starting at block 1017	✓	✓	✓	X	X
1034	software version inverter	R	STRING17	17		example: 1.2.2.12	one char per modbus register starting at block 1034	✓	✓	✓	X	X
1051	table version	R	UINT16	1		as defined above		✓	✓	✓	✓	✓
1052	timestamp	R	UINT16	1		32bit unix timestamp; lower word		✓	✓	✓	✓	✓
1053	timestamp	R	UINT16	1		32bit unix timestamp; higher word		✓	✓	✓	✓	✓
1054	serial number	R	STRING10	10		9-digit serial number of the energy storage system	one char per modbus register starting at block 1054	✓	✓	✓	✓	✓
1064	BM installed	R	UINT16	1		number of installed battery modules		✓	✓	✓	✓	X
1065	state	R	UINT16	1		"BUSY" (e.g. during startup) = 0/ "RUN" (ready to charge / discharge) = 1/ "CHARGE" = 2/ "DISCHARGE" = 3/ "STANDBY" = 4 / "ERROR" = 5 / "PASSIVE" (service) = 6/ "ISLANDING" = 7		✓	✓	✓	✓	✓
1066	active power	R	SINT16	1	W	measured at internal inverter	positive: charge negative: discharge	✓	✓	✓	✓	✓
1067	apparent power	R	SINT16	1	VA	measured at internal inverter	positive: charge negative: discharge	✓	✓	✓	✓	✓
1068	SOC	R	UINT16	1	%	total state of charge		✓	✓	✓	✓	✓
1069	energy counter AC->DC	R	UINT16	1	Wh	total charge energy (32-bit lower word)		✓	✓	✓	✓	✓
1070	energy counter AC->DC	R	UINT16	1	Wh	total charge energy (32-bit higher word)		✓	✓	✓	✓	✓
1071	installed capacity	R	UINT16	1	10 Wh	sum of all installed battery modules		✓	✓	✓	✓	✓
1078	grid power	R	SINT16	1	W	measured at household grid connection point	residential systems. commercial systems: see register 2078 positive: backfeed into grid negative: consumption from grid	✓	✓	✓	✓	✓
1082	grid frequency	R	UINT16	1	0.01 Hz	average grid frequency over the last X waves.	precision of measurement: pulse / pulse neo: <= +/- 10mHz	X	✓	✓	X	✓
1083	available AC charging power	R	UINT16	1	W	actual available charging power (AC)		X	✓	✓	X	✓

1084	available AC discharging power	R	UINT16	1	W	actual available discharging power (AC)		X	✓	✓	X	✓
1085	usable energy for charging	R	UINT16	1	Wh	energy which is available for charging		X	✓	✓	X	✓
1086	usable energy for discharging	R	UINT16	1	Wh	energy which is available for discharging		X	✓	✓	X	✓
1087	reactive power	R	SINT16	1	var	measured at internal inverter		X	✓	✓	X	X
1102	PV-sensor power	R	UINT16	1	W	current AC production power measured by VARTA's PV-sensor		X	✓	✓	X	X
2066	active power SF	WR	SINT16	1	-	exponent for active power	active power = (value in #1066) * 10 ^ (value in #2066)	X	X	✓	X	✓
2067	apparent power SF	WR	SINT16	1	-	exponent for app. power	like active power	X	X	✓	X	✓
2069	energy counter SF	WR	SINT16	1	-	exponent for energy counter	like active power	X	X	✓	X	✓
2071	capacity SF	WR	SINT16	1	-	exponent for capacity	like active power	X	X	✓	X	✓
2078	grid power SF	WR	SINT16	1	-	exponent for grid power	like active power	X	X	✓	X	✓
2083	available AC charging power SF	WR	SINT16	1	-	exponent for available AC charging power	like active power	X	X	✓	X	✓
2084	available AC discharging power SF	WR	SINT16	1	-	exponent for discharging AC charging power	like active power	X	X	✓	X	✓
2085	usable energy for charging SF	WR	SINT16	1	-	exponent for Frequency Control / usable energy for charging (#1085)	like active power	X	X	✓	X	✓
2086	usable energy for discharging SF	WR	SINT16	1	-	exponent for Frequency Control / usable energy for discharging (#1086)	like active power	X	X	✓	X	✓