

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
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 | ✓ |
| 1034 | software version inverter | R | STRING17 | 17 | | example: 1.2.2.12 | one char per modbus register starting at block 1034 | ✓ | ✓ | ✓ | 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 | | ✓ | ✓ | ✓ | ✓ | ✓ |
| 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. | | x | ✓ | x | x | x |
| 1083 | available AC charging power | R | UINT16 | 1 | W | actual available charging power (AC) | | x | ✓ | x | x | x |
| 1084 | available AC discharging power | R | UINT16 | 1 | W | actual available discharging power (AC) | | x | ✓ | x | x | x |
| 1085 | usable energy for charging | R | UINT16 | 1 | Wh | energy which is available for charging | | x | ✓ | x | x | x |

| | | | | | | | | | | | | |
|------|-------------------------------|----|--------|---|-----|---|---|---|---|---|---|---|
| 1086 | usable energy for discharging | R | UINT16 | 1 | Wh | energy which is available for discharging | | x | ✓ | x | x | x |
| 1087 | reactive power | R | UINT16 | 1 | var | measured at internal inverter | | x | ✓ | x | x | x |
| 1102 | PV-sensor power | R | UINT16 | 1 | W | current AC production power measured by VARTA's PV-sensor | | x | ✓ | 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 | ✓ |