



Technical specification

Xtender serial protocol appendix

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403C\Technical specification - Xtender serial protocol appendix.pdf

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1. Appendix

The information in the appendices is valid for the latest software release. For a detailed changelog, please see the document Release_Rxxx.pdf in the latest "Studer system update" available on www.studer-innotec.com.

A major release (from R5xx to R6xx, for example) can imply significant changes that should be validated.

1.1 Xtender 120Vac specific parameters

While using Xtenders -01 (120Vac), some parameters have specific values. The following list contain them. The others are the same for all Xtender types.

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|--------|------|---|------|---------|-------|-----|-------------|-----------|
| Expert | 1286 | AC Output voltage | Vac | 120 | 55 | 140 | FLOAT | 1 |
| Expert | 1560 | Max AC voltage increase with battery voltage | Vac | 5 | 2 | 8 | FLOAT | 1 |
| Expert | 1309 | AC input low limit voltage to allow charger function | Vac | 90 | 50 | 115 | FLOAT | 5 |
| Expert | 1433 | Adaptation range of the input current according to the input voltage | Vac | 5 | 2 | 15 | FLOAT | 1 |
| Expert | 1199 | Input voltage giving an opening of the transfer relay with delay | Vac | 100 | 40 | 115 | FLOAT | 5 |
| Expert | 1200 | Input voltage giving an immediate opening of the transfer relay (UPS) | Vac | 90 | 40 | 115 | FLOAT | 5 |
| Inst. | 1432 | Absolute max limit for input voltage | Vac | 135 | 117.5 | 145 | FLOAT | 5 |

1.2 Xtender parameters

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|--------------|-------------|---|------|---------|------|-------|-------------|-----------|
| Basic | 1100 | BASIC SETTINGS | | | | | ONLY LEVEL | Menu |
| Basic | 1551 | Basic parameters set by means of the potentiometer in the XTS | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 1107 | Maximum current of AC source (Input limit) | Aac | 32 | 2 | 50 | FLOAT | 1 |
| Basic | 1138 | Battery charge current | Adc | 60 | 0 | 200 | FLOAT | 1 |
| Basic | 1126 | Smart-Boost allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 1124 | Inverter allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1125 | Charger allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|------------|-------------|----------|-------------|-------------|--|
| Basic | 1552 | Type of detection of the grid loss (AC-In) | | 2:Tolerant | 1:Slow | 4:Fast | LONG ENUM | Only 1 bit 1:Slow 2:Tolerant 4:Fast |
| Basic | 1187 | Standby level | % | 10 | 0 | 100 | FLOAT | 10 |
| Basic | 1395 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 1287 | Restore factory settings | | S | S | S | INT32 | Signal |
| Expert | 1137 | BATTERY MANAGEMENT AND CYCLE | | | | | ONLY LEVEL | Menu |
| Expert | 1125 | Charger allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1646 | Charger uses only power from AC-Out | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Basic | 1138 | Battery charge current | Adc | 60 | 0 | 200 | FLOAT | 1 |
| Expert | 1139 | Temperature compensation | mV/°C/cell | -3 | -8 | 0 | FLOAT | 1 |
| QSP | 1615 | Fast charge/inject regulation | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1645 | Pulses cutting regulation for XT (Not XTS) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1568 | Undervoltage | | | | | ONLY LEVEL | Menu |
| Expert | 1108 | Battery undervoltage level without load | Vdc | 46.3 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1531 | Battery undervoltage dynamic compensation | | | | | ONLY LEVEL | Menu |
| Expert | 1191 | Battery undervoltage dynamic compensation | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1532 | Kind of dynamic compensation | | 1:Automatic | 0:Manual | 1:Automatic | LONG ENUM | Only 1 bit 0:Manual 1:Automatic |
| QSP | 1632 | Automatic adaptation of dynamic compensation | % | 65 | 0 | 100 | FLOAT | 1 |
| Expert | 1109 | Battery undervoltage level at full load | Vdc | 42 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1190 | Battery undervoltage duration before turn off | min | 3 | 0 | 60 | FLOAT | 1 |
| Expert | 1110 | Restart voltage after batteries undervoltage | Vdc | 48 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1194 | Battery adaptive low voltage (B.L.O) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1195 | Max voltage for adaptive low voltage | Vdc | 49.9 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1307 | Reset voltage for adaptive correction | Vdc | 52.8 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1298 | Increment step of the adaptive low voltage | Vdc | 0.5 | 0 | 1.4 | FLOAT | 0.01 |
| Expert | 1121 | Battery overvoltage level | Vdc | 68.2 | 37.9 | 74.4 | FLOAT | 0.1 |
| Expert | 1122 | Restart voltage level after an battery overvoltage | Vdc | 64.8 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1140 | Floating voltage | Vdc | 54.4 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1467 | Force phase of floating | | S | S | S | INT32 | Signal |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|-------|---------|------|-------|-------------|-----------|
| Expert | 1141 | New cycle menu | | | | | ONLY LEVEL | Menu |
| Expert | 1142 | Force a new cycle | | S | S | S | INT32 | Signal |
| Inst. | 1608 | Use dynamic compensation of battery level (new cycle) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1143 | Voltage level 1 to start a new cycle | Vdc | 49.9 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1144 | Time period under voltage level 1 to start a new cycle | min | 30 | 0 | 240 | FLOAT | 1 |
| Expert | 1145 | Voltage level 2 to start a new cycle | Vdc | 49.2 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1146 | Time period under voltage level 2 to start a new cycle | sec | 60 | 0 | 600 | FLOAT | 2 |
| Expert | 1149 | New cycle priority on absorption and equalization phases | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1147 | Cycling restricted | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1148 | Minimal delay between cycles | hours | 3 | 0 | 540 | FLOAT | 1 |
| Expert | 1451 | Absorption phase | | | | | ONLY LEVEL | Menu |
| Expert | 1155 | Absorption phase allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1156 | Absorption voltage | Vdc | 57.6 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1157 | Absorption duration | hours | 2 | 0 | 18 | FLOAT | 0.25 |
| Expert | 1158 | End of absorption triggered with current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1159 | Current limit to quit the absorption phase | Adc | 4 | 1 | 200 | FLOAT | 1 |
| Expert | 1160 | Maximal frequency of absorption control | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1161 | Minimal delay since last absorption | hours | 2 | 0 | 540 | FLOAT | 1 |
| Expert | 1452 | Equalization phase | | | | | ONLY LEVEL | Menu |
| Expert | 1163 | Equalization allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1162 | Force equalization | | S | S | S | INT32 | Signal |
| Expert | 1291 | Equalization before absorption phase | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1290 | Equalization current | Adc | 60 | 1 | 200 | FLOAT | 1 |
| Expert | 1164 | Equalization voltage | Vdc | 62.4 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1165 | Equalization duration | hours | 0.5 | 0.2 | 10 | FLOAT | 0.25 |
| Expert | 1166 | Number of cycles before an equalization | | 25 | 0 | 100 | FLOAT | 1 |
| Expert | 1284 | Equalization with fixed interval | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1285 | Weeks between equalizations | weeks | 26 | 1 | 104 | FLOAT | 1 |
| Expert | 1168 | End of equalization triggered with current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1169 | Current threshold to end equalization phase | Adc | 4 | 1 | 30 | FLOAT | 1 |
| Expert | 1453 | Reduced floating phase | | | | | ONLY LEVEL | Menu |
| Expert | 1170 | Reduced floating allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|-------|---------|------|-------|-------------|-----------|
| Expert | 1171 | Floating duration before reduced floating | days | 1 | 0 | 31 | FLOAT | 1 |
| Expert | 1172 | Reduced floating voltage | Vdc | 52.8 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1454 | Periodic absorption phase | | | | | ONLY LEVEL | Menu |
| Expert | 1173 | Periodic absorption allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1174 | Periodic absorption voltage | Vdc | 57.6 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1175 | Reduced floating duration before periodic absorption | days | 7 | 0 | 31 | FLOAT | 1 |
| Expert | 1176 | Periodic absorption duration | hours | 0.5 | 0 | 10 | FLOAT | 0.25 |
| Expert | 1186 | INVERTER | | | | | ONLY LEVEL | Menu |
| Basic | 1124 | Inverter allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1286 | AC Output voltage | Vac | 230 | 110 | 280 | FLOAT | 1 |
| Expert | 1548 | AC voltage increase according to battery voltage | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1560 | Max AC voltage increase with battery voltage | Vac | 10 | 4 | 16 | FLOAT | 1 |
| Expert | 1112 | Inverter frequency | Hz | 50 | 45 | 65 | FLOAT | 0.1 |
| Expert | 1536 | Inverter frequency increase when battery full | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1549 | Inverter frequency increase according to battery voltage | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1546 | Max frequency increase | Hz | 4 | 0 | 10 | FLOAT | 0.1 |
| Expert | 1534 | Speed of voltage or frequency change in function of battery | | 0 | -4 | 3 | FLOAT | 1 |
| Expert | 1420 | Standby and turn on | | | | | ONLY LEVEL | Menu |
| Basic | 1187 | Standby level | % | 10 | 0 | 100 | FLOAT | 10 |
| Expert | 1189 | Time delay between standby pulses | sec | 0.8 | 0.2 | 10 | FLOAT | 0.2 |
| Expert | 1188 | Standby number of pulses | | 1 | 1 | 10 | FLOAT | 1 |
| Expert | 1599 | Softstart duration | sec | 0 | 0 | 1 | FLOAT | 0.25 |
| Expert | 1438 | Solsafe presence Energy source at AC-Out side | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1572 | Modulator ru_soll | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1197 | AC-IN AND TRANSFER | | | | | ONLY LEVEL | Menu |
| Expert | 1128 | Transfer relay allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1580 | Delay before closing transfer relay | min | 0 | 0 | 30 | FLOAT | 0.25 |
| Basic | 1126 | Smart-Boost allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1607 | Limitation of the power Boost | % | 100 | 0 | 100 | FLOAT | 5 |
| Basic | 1107 | Maximum current of AC source (Input limit) | Aac | 32 | 2 | 50 | FLOAT | 1 |
| Expert | 1471 | Max input current modification | | | | | ONLY LEVEL | Menu |
| Expert | 1566 | Using a secondary value for the maximum current of the AC source | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|------|-------------|-------------|--------------|-------------|--|
| Expert | 1567 | Second maximum current of the AC source (Input limit) | Aac | 16 | 2 | 50 | FLOAT | 1 |
| Expert | 1527 | Decrease max input limit current with AC-In voltage | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1554 | Decrease of the max. current of the source with input voltage activated by remote entry | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1309 | AC input low limit voltage to allow charger function | Vac | 180 | 100 | 230 | FLOAT | 5 |
| Expert | 1433 | Adaptation range of the input current according to the input voltage | Vac | 10 | 4 | 30 | FLOAT | 1 |
| Expert | 1553 | Speed of input limit increase | | 50 | 0 | 100 | FLOAT | 2 |
| Expert | 1295 | Charge current decrease coef. at voltage limit to turn back in inverter mode | % | 100 | 0 | 100 | FLOAT | 5 |
| Expert | 1436 | Overrun AC source current limit without opening the transfer relay (Input limit) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 1552 | Type of detection of the grid loss (AC-In) | | 2:Tolerant | 1:Slow | 4:Fast | LONG ENUM | Only 1 bit 1:Slow 2:Tolerant 4:Fast |
| Expert | 1510 | Tolerance on detection of AC-input loss (tolerant UPS mode) | | 100 | 2 | 120 | FLOAT | 2 |
| Expert | 1199 | Input voltage giving an opening of the transfer relay with delay | Vac | 200 | 80 | 230 | FLOAT | 5 |
| Expert | 1198 | Time delay before opening of transfer relay | sec | 8 | 0 | 30 | FLOAT | 1 |
| Expert | 1200 | Input voltage giving an immediate opening of the transfer relay (UPS) | Vac | 180 | 80 | 230 | FLOAT | 5 |
| Inst. | 1432 | Absolute max limit for input voltage | Vac | 270 | 235 | 290 | FLOAT | 5 |
| QSP | 1500 | Standby of the charger allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1505 | Delta frequency allowed above the standard input frequency | Hz | 5 | 0 | 35 | FLOAT | 0.1 |
| Expert | 1506 | Delta frequency allowed under the standard input frequency | Hz | 5 | 0 | 15 | FLOAT | 0.1 |
| Expert | 1507 | Duration with frequency error before opening the transfer | sec | 2 | 0 | 5 | FLOAT | 1 |
| Expert | 1575 | AC-IN current active filtering (Not in parallel) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1557 | Use an energy quota on AC-input | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1559 | AC-In energy quota | kWh | 1 | 0.5 | 100 | FLOAT | 0.5 |
| Expert | 1201 | AUXILIARY CONTACT 1 | | | | | ONLY LEVEL | Menu |
| Expert | 1202 | Operating mode (AUX 1) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|---------|---------------------------|---------------------------|----------------------------|-------------|---|
| Expert | 1497 | Combination of the events for the auxiliary contact (AUX 1) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 1203 | Temporal restrictions (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1204 | Program 1 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1205 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1206 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1207 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1208 | Program 2 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1209 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1210 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1211 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1212 | Program 3 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1213 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1214 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1215 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1216 | Program 4 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Inst. | 1217 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Inst. | 1218 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1219 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1220 | Program 5 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Inst. | 1221 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Inst. | 1222 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1223 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1269 | Contact active with a fixed time schedule (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1270 | Program 1 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1271 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1272 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1273 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1274 | Program 2 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1275 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1276 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 1277 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1278 | Program 3 (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1279 | Day of the week (AUX 1) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1280 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1281 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1455 | Contact active on event (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1225 | Xtender is OFF (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1518 | Xtender ON (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1543 | Remote entry (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1226 | Battery undervoltage alarm (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1227 | Battery overvoltage (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1228 | Inverter overload (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1229 | Overtemperature (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1520 | No overtemperature (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1231 | Active charger (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1232 | Active inverter (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1233 | Active Smart-Boost (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1234 | AC input presence but with fault (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1235 | AC input presence (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1236 | Transfer relay ON (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1237 | AC out presence (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1238 | Bulk charge phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1239 | Absorption phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1240 | Equalization phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1242 | Floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1243 | Reduced floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1244 | Periodic absorption (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1601 | AC-In energy quota (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1245 | Contact active according to battery voltage (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1288 | Use dynamic compensation of battery level (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1246 | Battery voltage 1 activate (AUX 1) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1247 | Battery voltage 1 (AUX 1) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|--------|---------|------|-------|-------------|-----------|
| Expert | 1248 | Delay 1 (AUX 1) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 1249 | Battery voltage 2 activate (AUX 1) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1250 | Battery voltage 2 (AUX 1) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1251 | Delay 2 (AUX 1) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 1252 | Battery voltage 3 activate (AUX 1) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1253 | Battery voltage 3 (AUX 1) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1254 | Delay 3 (AUX 1) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 1255 | Battery voltage to deactivate (AUX 1) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1256 | Delay to deactivate (AUX 1) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 1516 | Deactivate if battery in floating phase (AUX 1) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1257 | Contact active with inverter power or Smart-Boost (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 1258 | Inverter power level 1 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1259 | Power level 1 (AUX 1) | % Pnom | 120 | 20 | 120 | FLOAT | 10 |
| Expert | 1260 | Time delay 1 (AUX 1) | min | 1 | 0 | 60 | FLOAT | 1 |
| QSP | 1644 | Activated by AUX2 event partial overload | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1261 | Inverter power level 2 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1262 | Power level 2 (AUX 1) | % Pnom | 80 | 20 | 120 | FLOAT | 10 |
| Expert | 1263 | Time delay 2 (AUX 1) | min | 5 | 0 | 60 | FLOAT | 1 |
| Expert | 1264 | Inverter power level 3 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1265 | Power level 3 (AUX 1) | % Pnom | 50 | 20 | 120 | FLOAT | 10 |
| Expert | 1266 | Time delay 3 (AUX 1) | min | 30 | 0 | 60 | FLOAT | 1 |
| Expert | 1267 | Inverter power level to deactivate (AUX 1) | % Pnom | 40 | 20 | 120 | FLOAT | 10 |
| Expert | 1268 | Time delay to deactivate (AUX 1) | min | 5 | 0 | 60 | FLOAT | 5 |
| Expert | 1503 | Contact active according to battery temperature (AUX 1) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 1446 | Contact activated with the temperature of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1447 | Contact activated over (AUX 1) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 1448 | Contact deactivated below (AUX 1) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 1501 | Contact active according to SOC (AUX 1) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 1439 | Contact activated with the SOC 1 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1440 | Contact activated below SOC 1 (AUX 1) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 1581 | Delay 1 (AUX 1) | hours | 12 | 0 | 99 | FLOAT | 0.25 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|---------|----------------------|---------------------|----------------------|-------------|--|
| Expert | 1582 | Contact activated with the SOC 2 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1583 | Contact activated below SOC 2 (AUX 1) | % SOC | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 1584 | Delay 2 (AUX 1) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 1585 | Contact activated with the SOC 3 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1586 | Contact activated below SOC 3 (AUX 1) | % SOC | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 1587 | Delay 3 (AUX 1) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 1441 | Contact deactivated over SOC (AUX 1) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 1588 | Delay to deactivate (AUX 1) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 1589 | Deactivate if battery in floating phase (AUX 1) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1512 | Security, maximum time of contact (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1514 | Maximum time of operation of contact (AUX 1) | min | 600 | 10 | 1200 | FLOAT | 10 |
| Expert | 1569 | Reset all settings (AUX 1) | | S | S | S | INT32 | Signal |
| Expert | 1310 | AUXILIARY CONTACT 2 | | | | | ONLY LEVEL | Menu |
| Expert | 1311 | Operating mode (AUX 2) | | 2:Reversed automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 1498 | Combination of the events for the auxiliary contact (AUX 2) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 1312 | Temporal restrictions (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1313 | Program 1 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1314 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1315 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1316 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1317 | Program 2 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1318 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1319 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1320 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1321 | Program 3 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1322 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1323 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 1324 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1325 | Program 4 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Inst. | 1326 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Inst. | 1327 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1328 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1329 | Program 5 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Inst. | 1330 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Inst. | 1331 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1332 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1378 | Contact active with a fixed time schedule (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1379 | Program 1 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1380 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1381 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1382 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1383 | Program 2 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1384 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1385 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1386 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1387 | Program 3 (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1388 | Day of the week (AUX 2) | | None | 0 | 127 | LONG ENUM | Bit field |
| Expert | 1389 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1390 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1456 | Contact active on event (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1333 | Xtender is OFF (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1519 | Xtender ON (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1544 | Remote entry (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1334 | Battery undervoltage alarm (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1335 | Battery overvoltage (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1336 | Inverter overload (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1337 | Overtemperature (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1521 | No overtemperature (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1339 | Active charger (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|--------|---------|------|-------|-------------|-----------|
| Expert | 1340 | Active inverter (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1341 | Active Smart-Boost (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1342 | AC input presence but with fault (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1343 | AC input presence (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1344 | Transfer contact ON (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1345 | AC out presence (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1346 | Bulk charge phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1347 | Absorption phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1348 | Equalization phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1350 | Floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1351 | Reduced floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1352 | Periodic absorption (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1602 | AC-In energy quota (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1643 | Partial overload | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1353 | Contact active according to battery voltage (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1354 | Use dynamic compensation of battery level (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1355 | Battery voltage 1 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1356 | Battery voltage 1 (AUX 2) | Vdc | 48 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1357 | Delay 1 (AUX 2) | min | 5 | 0 | 60 | FLOAT | 1 |
| Expert | 1358 | Battery voltage 2 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1359 | Battery voltage 2 (AUX 2) | Vdc | 46.1 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1360 | Delay 2 (AUX 2) | min | 5 | 0 | 60 | FLOAT | 1 |
| Expert | 1361 | Battery voltage 3 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1362 | Battery voltage 3 (AUX 2) | Vdc | 44.2 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1363 | Delay 3 (AUX 2) | min | 5 | 0 | 60 | FLOAT | 1 |
| Expert | 1364 | Battery voltage to deactivate (AUX 2) | Vdc | 50.4 | 36 | 72 | FLOAT | 0.1 |
| Expert | 1365 | Delay to deactivate (AUX 2) | min | 5 | 0 | 480 | FLOAT | 5 |
| Expert | 1517 | Deactivate if battery in floating phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1366 | Contact active with inverter power or Smart-Boost (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 1367 | Inverter power level 1 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1368 | Power level 1 (AUX 2) | % Pnom | 120 | 20 | 120 | FLOAT | 10 |
| Expert | 1369 | Time delay 1 (AUX 2) | min | 0 | 0 | 60 | FLOAT | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|--------|---------|------|-------|-------------|-----------|
| Expert | 1370 | Inverter power level 2 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1371 | Power level 2 (AUX 2) | % Pnom | 80 | 20 | 120 | FLOAT | 10 |
| Expert | 1372 | Time delay 2 (AUX 2) | min | 5 | 0 | 60 | FLOAT | 1 |
| Expert | 1373 | Inverter power level 3 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1374 | Power level 3 (AUX 2) | % Pnom | 50 | 20 | 120 | FLOAT | 10 |
| Expert | 1375 | Time delay 3 (AUX 2) | min | 30 | 0 | 60 | FLOAT | 1 |
| Expert | 1376 | Inverter power level to deactivate (AUX 2) | % Pnom | 40 | 20 | 120 | FLOAT | 10 |
| Expert | 1377 | Time delay to deactivate (AUX 2) | min | 5 | 0 | 60 | FLOAT | 5 |
| Expert | 1504 | Contact active according to battery temperature (AUX 2) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 1457 | Contact activated with the temperature of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1458 | Contact activated over (AUX 2) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 1459 | Contact deactivated below (AUX 2) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 1502 | Contact active according to SOC (AUX 2) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 1442 | Contact activated with the SOC 1 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1443 | Contact activated below SOC 1 (AUX 2) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 1590 | Delay 1 (AUX 2) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 1591 | Contact activated with the SOC 2 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1592 | Contact activated below SOC 2 (AUX 2) | % SOC | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 1593 | Delay 2 (AUX 2) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 1594 | Contact activated with the SOC 3 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1595 | Contact activated below SOC 3 (AUX 2) | % SOC | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 1596 | Delay 3 (AUX 2) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 1444 | Contact deactivated over SOC (AUX 2) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 1597 | Delay to deactivate (AUX 2) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 1598 | Deactivate if battery in floating phase (AUX 2) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1513 | Security, maximum time of contact (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1515 | Maximum time of operation of contact (AUX 2) | min | 600 | 10 | 1200 | FLOAT | 10 |
| Expert | 1570 | Reset all settings (AUX 2) | | S | S | S | INT32 | Signal |
| Expert | 1489 | AUXILIARY CONTACTS 1 AND 2 EXTENDED FUNCTIONS | | | | | ONLY LEVEL | Menu |
| Expert | 1491 | Generator control active | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1493 | Number of starting attempts | | 5 | 0 | 20 | FLOAT | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|------|---------|----------|--------|-------------|----------------------------------|
| Expert | 1492 | Starter pulse duration (with AUX2) | sec | 3 | 1 | 20 | FLOAT | 1 |
| Expert | 1494 | Time before a starter pulse | sec | 3 | 1 | 20 | FLOAT | 1 |
| Expert | 1574 | Main contact hold/interrupt time | sec | 0 | 0 | 30 | FLOAT | 1 |
| Expert | 1101 | SYSTEM | | | | | ONLY LEVEL | Menu |
| Expert | 1537 | Remote entry (Remote ON/OFF) | | | | | ONLY LEVEL | Menu |
| Expert | 1545 | Remote entry active | | 1:Open | 0:Closed | 1:Open | LONG ENUM | Only 1 bit 0:Closed 1:Open |
| Expert | 1538 | Prohibits transfert relay | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1539 | Prohibits inverter | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1540 | Prohibits charger | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1541 | Prohibits Smart-Boost | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1542 | Prohibits grid feeding | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1566 | Using a secondary value for the maximum current of the AC source | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1567 | Second maximum current of the AC source (Input limit) | Aac | 16 | 2 | 50 | FLOAT | 1 |
| Expert | 1554 | Decrease of the max. current of the source with input voltage activated by remote entry | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1576 | ON/OFF command | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1578 | Activated by AUX 1 state | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1579 | Prohibits battery priority | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1600 | Disable minigrid mode | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1640 | Clear AUX2 event partial overload | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1647 | Prohibits charger using only power from AC-Out | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1296 | Batteries priority as energy source (Not recommended in parallel) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1297 | Battery priority voltage | Vdc | 51.6 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1565 | Buzzer alarm duration | min | 0 | 0 | 60 | FLOAT | 1 |
| Expert | 1129 | Auto restarts | | | | | ONLY LEVEL | Menu |
| Expert | 1130 | After battery undervoltage | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1304 | Number of batteries undervoltage allowed before definitive stop | | 3 | 1 | 20 | FLOAT | 1 |
| Expert | 1404 | Time period for batteries undervoltages counting | sec | 0 | 0 | 3000 | FLOAT | 60 |
| Expert | 1305 | Number of batteries critical undervoltage allowed before definitive stop | | 10 | 1 | 20 | FLOAT | 1 |
| Expert | 1405 | Time period for critical batteries undervoltages counting | sec | 10 | 0 | 3000 | FLOAT | 5 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|------|---------|------|-------|-------------|-----------|
| Expert | 1131 | After battery overvoltage | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1132 | After inverter or Smart-Boost overload | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1533 | Delay to restart after an overload | sec | 5 | 2 | 120 | FLOAT | 1 |
| Expert | 1134 | After overtemperature | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1111 | Autostart to the battery connection | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1484 | System earthing (Earth - Neutral) | | | | | ONLY LEVEL | Menu |
| Expert | 1485 | Prohibited ground relay | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1486 | Continuous neutral | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1628 | Xtender watchdog enabled (SCOM) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1629 | Xtender watchdog delay (SCOM) | sec | 60 | 10 | 300 | FLOAT | 10 |
| QSP | 1616 | Use of functions limited to a number of days | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1391 | Number of days without functionalitie's restrictions | days | 0 | 0 | 1300 | FLOAT | 1 |
| QSP | 1617 | Transfer relay disabled after timeout | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1618 | Inverter disabled after timeout | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1619 | Charger disabled after timeout | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1620 | Smart-Boost disabled after timeout | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1621 | Grid feeding disabled after timeout | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Basic | 1395 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 1287 | Restore factory settings | | S | S | S | INT32 | Signal |
| Inst. | 1550 | Parameters saved in flash memory | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1415 | ON of the Xtenders | | S | S | S | INT32 | Signal |
| Inst. | 1399 | OFF of the Xtenders | | S | S | S | INT32 | Signal |
| Expert | 1468 | Reset of all the inverters | | S | S | S | INT32 | Signal |
| Expert | 1282 | MULTI XTENDER SYSTEM | | | | | ONLY LEVEL | Menu |
| Expert | 1283 | Integral mode | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1461 | Multi inverters allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1462 | Multi inverters independents. Need reset {1468} | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1555 | Battery cycle synchronized by the master | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1547 | Allow slaves standby in multi-Xtender system | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1571 | Splitphase: L2 with 180 degrees phaseshift | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 1558 | Separated Batteries | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1437 | Minigrid compatible | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xtender parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|---------|-----------------------------|----------------------------|-----------------------------|-------------|-----------|
| Inst. | 1577 | Minigrid with shared battery energy | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1556 | Is the central inverter in distributed minigrid | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1522 | GRID-FEEDING | | | | | ONLY LEVEL | Menu |
| Expert | 1127 | Grid feeding allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 1523 | Max grid feeding current | Aac | 10 | 0 | 50 | FLOAT | 0.2 |
| Expert | 1524 | Battery voltage target for forced grid feeding | Vdc | 48 | 37.9 | 72 | FLOAT | 0.1 |
| Expert | 1525 | Forced grid feeding start time | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 1526 | Forced grid feeding stop time | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Inst. | 1610 | Use of the defined phase shift curve for injection | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1622 | Cos phi at P = 0% | | 0: Cos phi 1 | -0.1: Inductive 0.90 | +0.1: Capacitive 0.90 | FLOAT | 0.01 |
| Inst. | 1623 | Cos phi at the power defined by param {1613} | | 0: Cos phi 1 | -0.1: Inductive 0.90 | +0.1: Capacitive 0.90 | FLOAT | 0.01 |
| Inst. | 1613 | Power of the second cos phi point in % of Pnom | % | 50 | 20 | 85 | FLOAT | 5 |
| Inst. | 1624 | Cos phi at P = 100% | | +0.1: Capacitive 0.90 | -0.1: Inductive 0.90 | +0.1: Capacitive 0.90 | FLOAT | 0.01 |
| Inst. | 1627 | ARN4105 frequency control enabled | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 1630 | Delta from user frequency to start derating | Hz | 1 | 0 | 3.9 | FLOAT | 0.1 |
| Inst. | 1631 | Delta from user frequency to reach 100% derating | Hz | 2 | 0 | 3.9 | FLOAT | 0.1 |
| QSP | 1561 | Correction for XTS saturation Reg U | | 0 | -300 | 300 | FLOAT | 1 |
| QSP | 1562 | Correction for XTS saturation Reg I | | 0 | -300 | 300 | FLOAT | 1 |
| QSP | 1648 | Imagnet INT level adjustment for correction | | 0 | -300 | 300 | FLOAT | 1 |
| QSP | 1649 | Imagnet ERROR level adjustment for correction | | 0 | -300 | 300 | FLOAT | 1 |

The cos phi parameter range goes from -0.1 (Inductive 0.9) to +0.1 (Capacitive 0.9) by 0.01 steps.

1.3 Xtender infos

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---------------------------------|-------------|-----------------|------------------------------------|--------|---|
| 3000 | Battery voltage | Ubat | Vdc | V | FLOAT | |
| 3001 | Battery temperature | Tbat | °C | °C no sensor : return ~32767 °C | FLOAT | Value given by the external battery temperature sensor BTS-01 |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---|-------------|-----------------|--|---------------|--|
| 3002 | Temperature compensation of battery voltage | Comp°C | Ctmp | Ctmp | FLOAT | |
| 3003 | Dynamic compensation of battery voltage | Comp P | Cdyn | Cdyn | FLOAT | |
| 3004 | Wanted battery charge current | Ibat | Ausr | A | FLOAT | |
| 3005 | Battery charge current | Ibat (m) | Adc | A | FLOAT | |
| 3006 | Battery voltage ripple | Ubat ond | Vrip | V | FLOAT | |
| 3007 | State of charge | SOC | % | % | FLOAT | |
| 3008 | Low Voltage Disconnect | LVD | LVD | V | FLOAT | |
| 3010 | Battery cycle phase | Phase | | 0:Invalid value 1:Bulk 2:Absorpt. 3:Equalise 4:Floating 5:R.float. 6:Per.abs. 7:Mixing 8:Forming | SHORT ENUM | See parameter {1137} |
| 3011 | Input voltage | U in | Vac | V | FLOAT | See parameter {1197} |
| 3012 | Input current | I in | Aac | A | FLOAT | |
| 3013 | Input power | P in | kVA | kVA | FLOAT | Less accurate than info 3138 |
| 3017 | Input limit value | I Limit Val | ILim | A | FLOAT | |
| 3018 | Input limite reached | P sharing | | 0:Off 1:On | SHORT ENUM | L*, see parameter {1107} |
| 3019 | Boost active | Boost | | 0:Off 1:On | SHORT ENUM | B*, see parameter {1126} |
| 3020 | State of transfer relay | Transfert | | 0:Opened 1:Closed | SHORT ENUM | |
| 3021 | Output voltage | U out | Vac | V | FLOAT | See parameter {1286} |
| 3022 | Output current | I out | Aac | A | FLOAT | |
| 3023 | Output power | P out | kVA | kVA | FLOAT | Less accurate than info 3139 |
| 3028 | Operating state | Mode | | 0:Invalid value 1:Inverter 2:Charger 3:Boost 4:Injection | SHORT ENUM | Give the current working mode of the inverter. See {1107} for Boost, {1522} for Injection (grid-feeding), charger and inverter mode are oblivious. Only in CSV file, the value 6 indicate that the xtender is off. |
| 3030 | State of output relay | Rel out | | 0:Opened 1:Closed | SHORT ENUM | |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|--|-------------|-----------------|--|---------------|---|
| 3031 | State of auxiliary relay 1 | Aux 1 | | 0:Opened 1:Closed | SHORT ENUM | See parameter {1201} |
| 3032 | State of auxiliary relay 2 | Aux 2 | | 0:Opened 1:Closed | SHORT ENUM | See parameter {1201} |
| 3045 | Nbr. of overloads | n ovld | | | FLOAT | |
| 3046 | Nbr. overtemperature | n ovtmp | | | FLOAT | |
| 3047 | Nbr. batterie overvoltage | n ovvolt | | | FLOAT | |
| 3049 | State of the inverter | XT state | | 0:Off 1:On | SHORT ENUM | |
| 3050 | Number of battery elements | Bat cells | | | FLOAT | |
| 3051 | Search mode state | SB state | | 0:Off 1:On | SHORT ENUM | See parameter {1187} |
| 3054 | Relay aux 1 mode | Aux 1 | | 0:Invalid value 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | 0: Invalid value 1: Automatic 2: Reversed automatic 3: Manual ON 4: Manual OFF 5: Coupled for generator start |
| 3055 | Relay aux 2 mode | Aux 2 | | 0:Invalid value 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | See info (3055) |
| 3056 | Lockings flag | Lockings | | | FLOAT | Bit 0: forbidden inverter {1124} Bit 1: forbidden charger {1125} Bit 2: forbidden boost {1126} Bit 3: forbidden transfert {1128} Bit 4: forbidden injection {1127} Bit 8: forbidden multi {1461} Bit 9: multi independants allowed {1462} Bit 10: standby slave allowed {1547} |
| 3074 | State of the ground relay | Rel_gnd | | 0:Opened 1:Closed | SHORT ENUM | |
| 3075 | State of the neutral transfer relay | Rel_neutral | | 0:Opened 1:Closed | SHORT ENUM | |
| 3076 | Discharge of battery of the previous day | E out YD | kWh | kWh | FLOAT | |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---|-------------|-----------------|------------------------|---------------|----------------------------------|
| 3078 | Discharge of battery of the current day | E out Day | kWh | kWh | FLOAT | |
| 3080 | Energy AC-In from the previous day | Eac in YD | kWh | kWh | FLOAT | |
| 3081 | Energy AC-In from the current day | Eac in Day | kWh | kWh | FLOAT | |
| 3082 | Consumers energy of the previous day | Eac out YD | kWh | kWh | FLOAT | |
| 3083 | Consumers energy of the current day | Eac out Dy | kWh | kWh | FLOAT | |
| 3084 | Input frequency | F in | Hz | Hz | FLOAT | Replace info 3014 |
| 3085 | Output frequency | F out | Hz | Hz | FLOAT | Replace info 3024 |
| 3086 | Remote entry state | RME | | 0:RM EN 0 1:RM EN 1 | SHORT ENUM | |
| 3087 | Output active power | Pout a | W | W | FLOAT | Less accurate than info 3136 |
| 3088 | Input active power | P in a | W | W | FLOAT | Less accurate than info 3137 |
| 3089 | Defined phase | | | | FLOAT | 1=L1, 2=L2, 4=L3 |
| 3090 | Battery voltage (minute min) | Ubat- | Vdc | V | FLOAT | 1 minute minimum |
| 3091 | Battery voltage (minute max) | Ubat+ | Vdc | V | FLOAT | 1 minute maximum |
| 3092 | Battery voltage (minute avg) | Ubat | Vdc | V | FLOAT | 1 minute average |
| 3093 | Battery charge current (minute min) | Ibat- | Adc | A | FLOAT | 1 minute minimum |
| 3094 | Battery charge current (minute max) | Ibat+ | Adc | A | FLOAT | 1 minute maximum |
| 3095 | Battery charge current (minute avg) | Ibat | Adc | A | FLOAT | 1 minute average |
| 3096 | Output power min (minute min) | Pout- | kVA | kVA | FLOAT | 1 minute minimum |
| 3097 | Output power (minute max) | Pout+ | kVA | kVA | FLOAT | 1 minute maximum |
| 3098 | Output power (minute avg) | Pout | kVA | kVA | FLOAT | 1 minute average |
| 3099 | Output active power (minute min) | Pout-a | kW | kW | FLOAT | 1 minute minimum |
| 3100 | Output active power (minute max) | Pout+a | kW | kW | FLOAT | 1 minute maximum |
| 3101 | Output active power (minute avg) | Pout a | kW | kW | FLOAT | 1 minute average |
| 3102 | Electronic temperature 1 (minute min) | Dev1- | °C | °C | FLOAT | 1 minute minimum |
| 3103 | Electronic temperature 1 (minute max) | Dev1+ | °C | °C | FLOAT | 1 minute maximum |
| 3104 | Electronic temperature 1 (minute avg) | Dev1 | °C | °C | FLOAT | 1 minute average |
| 3105 | Electronic temperature 2 (minute min) | Dev2- | °C | °C | FLOAT | 1 minute minimum |
| 3106 | Electronic temperature 2 (minute max) | Dev2+ | °C | °C | FLOAT | 1 minute maximum |
| 3107 | Electronic temperature 2 (minute avg) | Dev2 | °C | °C | FLOAT | 1 minute average |
| 3108 | Output frequency (minute min) | Fout- | Hz | Hz | FLOAT | 1 minute minimum |
| 3109 | Output frequency (minute max) | Fout+ | Hz | Hz | FLOAT | 1 minute maximum |
| 3110 | Output frequency (minute avg) | Fout | Hz | Hz | FLOAT | 1 minute average |
| 3111 | Input voltage (minute min) | Uin- | Vac | V | FLOAT | 1 minute minimum |
| 3112 | Input voltage (minute max) | Uin+ | Vac | V | FLOAT | 1 minute maximum |
| 3113 | Input voltage (minute avg) | Uin | Vac | V | FLOAT | 1 minute average |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|--|-------------|-----------------|------|--------|---|
| 3114 | Input current (minute min) | lin- | Aac | A | FLOAT | 1 minute minimum |
| 3115 | Input current (minute max) | lin+ | Aac | A | FLOAT | 1 minute maximum |
| 3116 | Input current (minute avg) | lin | Aac | A | FLOAT | 1 minute average |
| 3117 | Input active power (minute min) | Pin-a | kW | kW | FLOAT | 1 minute minimum |
| 3118 | Input active power (minute max) | Pin+a | kW | kW | FLOAT | 1 minute maximum |
| 3119 | Input active power (minute avg) | Pin a | kW | kW | FLOAT | 1 minute average |
| 3120 | Input frequency (minute min) | Fin- | Hz | Hz | FLOAT | 1 minute minimum |
| 3121 | Input frequency (minute max) | Fin+ | Hz | Hz | FLOAT | 1 minute maximum |
| 3122 | Input frequency (minute avg) | Fin | Hz | Hz | FLOAT | 1 minute average |
| 3124 | ID type | Idt | | | FLOAT | XTH family = 1, XTM family = 256 et XTS family = 512 |
| 3125 | ID Power | Power | VA | VA | FLOAT | |
| 3126 | ID Uout | Uout | Vac | V | FLOAT | |
| 3127 | ID batt voltage | Idv | Vdc | V | FLOAT | |
| 3128 | ID Iout nom | Ionom | Aac | A | FLOAT | |
| 3129 | ID HW | HW | | | FLOAT | |
| 3130 | ID SOFT msb | Smsb | | | FLOAT | See section "Software version encoding" |
| 3131 | ID SOFT lsb | Slsb | | | FLOAT | See section "Software version encoding" |
| 3132 | ID HW PWR | HWpwr | | | FLOAT | |
| 3133 | Parameter number (in code) | pCod | | | FLOAT | |
| 3134 | Info user number | iCod | | | FLOAT | |
| 3135 | ID SID | SID | | | FLOAT | |
| 3136 | Output active power | P out a | kW | kW | FLOAT | More accurate than info 3087 |
| 3137 | Input active power | P in a | kW | kW | FLOAT | More accurate than info 3088 |
| 3138 | Input power | P in | kVA | kVA | FLOAT | More accurate than info 3013 |
| 3139 | Output power | P out | kVA | kVA | FLOAT | More accurate than info 3023 |
| 3140 | System debug 1 | DBG1 | | | FLOAT | |
| 3141 | System debug 2 | DBG2 | | | FLOAT | |
| 3142 | System state machine | SSM | | | FLOAT | |
| 3154 | Input frequency | F in | Hz | Hz | FLOAT | |
| 3155 | Desired AC injection current | Injc | Aac | A | FLOAT | |
| 3156 | ID FID msb | | | | FLOAT | See section "FID encoding" |
| 3157 | ID FID lsb | | | | FLOAT | See section "FID encoding" |
| 3158 | Actual freezed current in ARN4105 P(f) | | Aac | | FLOAT | ARN4105, maximum current that can be injected actually, grid frequency dependance |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---|-------------|-----------------|---|------------|--|
| 3159 | AC injection current, type of limitation ARN4105 P(f) | Injt | | 0:No limit 1:FreezeOF 2:N_ImaxOF 3:FreezeUF 4:N_ImaxUF 5:N_IMaxST | SHORT ENUM | ARN4105, current limitation depending on grid frequency : 0 : no limitation 1 : Value was frozen, grid frequency is >= 50.2Hz 2 : Value not frozen but not at maximum, grid frequency is < 50.2Hz 3 : Value was frozen, grid frequency is <=49.8Hz 4 : Value not frozen but not at maximum, grid frequency is >49.8Hz 5 : Value not frozen but not at maximum, grid reconnection |
| 3160 | Source of limitation of the functions charger or injector | LimSrc | | 0:Invalid value 1:Ubatt 2:Ubattp 3:Ubattpp 4:lbatt 5:Pchar 6:UbattInj 7:linj 8:Imax 9:Ilim 10:Ithermal 11:PchNeg | SHORT ENUM | Limitation source is : 0: Invalid value 1: U batt (actual phase of charge cycle) 2: U batt peak 3: U batt peak peak 4: I batt ({{1138}}) 5: P charger 6: U batt injection 7: I injection ({{1523}}) 8: I max 9: I input limit ({{1107}}) 10 : I thermal 11 : Pcharger only neg ACout |
| 3161 | Battery priority active | batPr | | 0:Off 1:On | SHORT ENUM | Target voltage for charge/inject is battery priority (displayed on RCC with "BP") (Only v1.6.x) |
| 3162 | Forced grid feeding active | InjFo | | 0:Off 1:On | SHORT ENUM | Target voltage for charge/inject is forced injection (displayed on RCC with "IF") (Only v1.6.x) |
| 3164 | Battery voltage target for charger/injection | | Vdc | | FLOAT | DC voltage référence for charge and injection stage. Higher battery voltage can result in injection and lower battery voltage can result in battery charge if allowed. |
| 3165 | Allowed charge current in limited charger mode | | Aac | | FLOAT | AC max current allowed for charging stage to ensure power from Acout. |
| 3166 | Current on converter output stage DC/AC | | Aac | | FLOAT | |
| 3167 | Voltage on converter output stage DC/AC | | Vac | | FLOAT | |

| Nr | Xtender information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---|-------------|-----------------|---|------------|--|
| 3168 | Over temperature state | OvTempS | | 0:No Error 1:TR.Alarm 2:TR.Error 3:EL.Error 4:EL.Stop | SHORT ENUM | Thermal state : 0 = thermal OK 1 = Transformer alarm 2 = Transformer error 4 = Electronique error 8 = Electronique error halted |
| 3169 | AC injection current limit ARN4105 P(f) | Injm | Aac | | FLOAT | Acctual current limit in ARN4105 P(f) |

1.4 RCC parameters

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---------------------------------------|------|----------|-----------|------------|-------------|---|
| Basic | 5000 | Language | | | 0 | 3 | INT32 | 1 |
| Expert | 5036 | OTHER LANGUAGES | | | | | ONLY LEVEL | Menu |
| Basic | 5038 | Choice of the second language | | 2:French | 1:English | 128:Slovak | LONG ENUM | Only 1 bit 1:English 2:French 4:German 8:Spanish 16:Dutch 32:Latinoellinika 64:Italian 128:Slovak |
| Basic | 5039 | Choice of the third language | | 4:German | 1:English | 128:Slovak | LONG ENUM | Only 1 bit 1:English 2:French 4:German 8:Spanish 16:Dutch 32:Latinoellinika 64:Italian 128:Slovak |

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|---------|-------------|-------------|---------------|---------------|---|
| Basic | 5040 | Choice of the fourth language | | 8:Spanish | 1:English | 128:Slovak | LONG ENUM | Only 1 bit 1:English 2:French 4:German 8:Spanish 16:Dutch 32:Latinoellinika 64:Italian 128:Slovak |
| Basic | 5002 | Date | Seconds | 0 | 0 | 0 | INT32 | 1 |
| V.O. | 5012 | User level | | 16 | 0 | 111 | Not supported | |
| Expert | 5019 | Force remote control to user BASIC level | | S | S | S | INT32 | Signal |
| Expert | 5057 | DATALOGGER | | | | | ONLY LEVEL | Menu |
| Expert | 5101 | Datalogger enabled | | 1:Automatic | 1:Automatic | 4:No | LONG ENUM | Only 1 bit 1:Automatic 2:Yes 4:No |
| Expert | 5059 | Save today's datas | | S | S | S | INT32 | Signal |
| Inst. | 5109 | Datalogger reset when modifying the installation | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 5120 | Erase the 30 oldest log files from the SD card | | S | S | S | INT32 | Signal |
| Expert | 5123 | Activation of R&D tracks | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 5076 | Track 1: device | | 1:XT | 1:XT | 8:VarioString | LONG ENUM | Only 1 bit 1:XT 2:BSP 4:VarioTrack 8:VarioString |
| QSP | 5063 | Track 1: UID | | 1 | 1 | 15 | FLOAT | 1 |
| QSP | 5077 | Track 1: reference | | 140 | 0 | 255 | FLOAT | 1 |
| QSP | 5078 | Track 2: device | | 1:XT | 1:XT | 8:VarioString | LONG ENUM | Only 1 bit 1:XT 2:BSP 4:VarioTrack 8:VarioString |
| QSP | 5064 | Track 2: UID | | 1 | 1 | 15 | FLOAT | 1 |
| QSP | 5079 | Track 2: reference | | 141 | 0 | 255 | FLOAT | 1 |

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|------|-------------|-------------|---------------|-------------|--|
| QSP | 5080 | Track 3: device | | 1:XT | 1:XT | 8:VarioString | LONG ENUM | Only 1 bit 1:XT 2:BSP 4:VarioTrack 8:VarioString |
| QSP | 5065 | Track 3: UID | | 1 | 1 | 15 | FLOAT | 1 |
| QSP | 5081 | Track 3: reference | | 142 | 0 | 255 | FLOAT | 1 |
| QSP | 5082 | Track 4: device | | 1:XT | 1:XT | 8:VarioString | LONG ENUM | Only 1 bit 1:XT 2:BSP 4:VarioTrack 8:VarioString |
| QSP | 5066 | Track 4: UID | | 1 | 1 | 15 | FLOAT | 1 |
| QSP | 5083 | Track 4: reference | | 160 | 0 | 255 | FLOAT | 1 |
| Basic | 5013 | SAVE AND RESTORE FILES | | | | | ONLY LEVEL | Menu |
| Basic | 5041 | Save all files (system backup) | | S | S | S | INT32 | Signal |
| Basic | 5068 | Restore all files (system recovery) | | S | S | S | INT32 | Signal |
| Basic | 5070 | Apply configuration files (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5032 | Separator of the .csv files | | 1:Automatic | 1:Automatic | 4,; | LONG ENUM | Only 1 bit 1:Automatic 2;; 4,; |
| Expert | 5069 | Advanced backup functions | | | | | ONLY LEVEL | Menu |
| Expert | 5030 | Save messages | | S | S | S | INT32 | Signal |
| Expert | 5049 | Save and restore RCC files | | | | | ONLY LEVEL | Menu |
| Expert | 5015 | Save RCC parameters | | S | S | S | INT32 | Signal |
| Expert | 5016 | Load RCC parameters | | S | S | S | INT32 | Signal |
| Inst. | 5097 | Create RCC configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5098 | Load RCC configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5050 | Save and restore Xtender files | | | | | ONLY LEVEL | Menu |
| Expert | 5017 | Save Xtender parameters | | S | S | S | INT32 | Signal |
| Expert | 5018 | Load Xtender parameters | | S | S | S | INT32 | Signal |
| Inst. | 5033 | Create Xtender configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5034 | Load Xtender configuration file (masterfile) | | S | S | S | INT32 | Signal |

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|------|-----------|-----------|-------------|---------------|--|
| Expert | 5045 | Load Xtender parameters preset | | 1 | 1 | 1 | Not supported | |
| Expert | 5051 | Save and restore BSP files | | | | | ONLY LEVEL | Menu |
| Expert | 5052 | Save BSP parameters | | S | S | S | INT32 | Signal |
| Expert | 5053 | Load BSP parameters | | S | S | S | INT32 | Signal |
| Inst. | 5054 | Create BSP configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5055 | Load BSP configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5084 | Save and restore VarioTrack files | | | | | ONLY LEVEL | Menu |
| Expert | 5085 | Save VarioTrack parameters | | S | S | S | INT32 | Signal |
| Expert | 5086 | Load VarioTrack parameters | | S | S | S | INT32 | Signal |
| Inst. | 5087 | Create VarioTrack configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5088 | Load VarioTrack configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5114 | Save and restore VarioString files | | | | | ONLY LEVEL | Menu |
| Expert | 5115 | Save VarioString parameters | | S | S | S | INT32 | Signal |
| Expert | 5116 | Load VarioString parameters | | S | S | S | INT32 | Signal |
| Inst. | 5117 | Create VarioString configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Expert | 5118 | Load VarioString configuration file (masterfile) | | S | S | S | INT32 | Signal |
| Inst. | 5047 | Format the SD card | | S | S | S | INT32 | Signal |
| Expert | 5061 | Start update | | S | S | S | INT32 | Signal |
| Inst. | 5042 | MODIFICATION OF ACCESS LEVELS OF MANY PARAMETERS | | | | | ONLY LEVEL | Menu |
| Inst. | 5043 | Change all parameters access level to: | | 1:Choose | 1:Choose | 8:INSTALLER | LONG ENUM | Only 1 bit 1:Choose 2:BASIC 4:EXPERT 8:INSTALLER |
| Inst. | 5044 | Restore default access level of all parameters | | S | S | S | INT32 | Signal |
| Basic | 5007 | BACKLIGHT | | | | | ONLY LEVEL | Menu |
| Basic | 5093 | Backlight mode | | 1:Delayed | 1:Delayed | 4:ON | LONG ENUM | Only 1 bit 1:Delayed 2:OFF 4:ON |
| Basic | 5009 | Backlight switch off after | sec | 120 | 5 | 120 | FLOAT | 5 |
| Expert | 5026 | Red backlight flashing on Xtender off and faulty | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 5021 | EXTENDED AND SPECIAL FUNCTIONS | | | | | ONLY LEVEL | Menu |

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|---------|-------------|-------------|---------------------|-------------|---|
| Basic | 5006 | Display contrast | % | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 5073 | Choice of standard display | | 2:Xtender | 1:Clock | 16:VarioString | LONG ENUM | Only 1 bit 1:Clock 2:Xtender 4:BSP 8:VarioTrack 16:VarioString |
| Inst. | 5111 | Displaying of configuration assistant on startup | | 1:Automatic | 1:Automatic | 4:By default {5073} | LONG ENUM | Only 1 bit 1:Automatic 2:Hidden menu 4:By default {5073} |
| Expert | 5010 | Come back to standard display after | sec | 600 | 5 | 600 | FLOAT | 5 |
| Expert | 5011 | Visibility of the transitory messages | sec | 60 | 0 | 180 | FLOAT | 5 |
| Basic | 5027 | Acoustic alarm active | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 5031 | Remote control acoustic alarm duration | sec | 120 | 5 | 120 | FLOAT | 5 |
| Expert | 5056 | Switching ON and OFF of system on level "VIEW ONLY" | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 5071 | Reset of all the remotes control | | S | S | S | INT32 | Signal |
| Expert | 5121 | Reset all devices of the system | | S | S | S | INT32 | Signal |
| QSP | 5090 | Update FID (only 1 device) | | | | | ONLY LEVEL | Menu |
| QSP | 5091 | Choose device type | | 1:XT | 1:XT | 8:VarioString | LONG ENUM | Only 1 bit 1:XT 2:BSP 4:VarioTrack 8:VarioString |
| QSP | 5092 | Choose device id (UID) | | 1 | 1 | 30 | FLOAT | 1 |
| QSP | 5062 | Update device FID (only 1 device) | | S | S | S | INT32 | Signal |
| Expert | 5094 | XCOM AND SCOM | | | | | ONLY LEVEL | Menu |
| Expert | 5105 | Test of the modem's GPRS signal level (Xcom-GSM) | | S | S | S | INT32 | Signal |
| Inst. | 5067 | Clear info {17019} Maximum time interval between two scom requests | | S | S | S | INT32 | Signal |
| Inst. | 5072 | Xcom Portal watchdog activation | | 1:Automatic | 1:Automatic | 4:No | LONG ENUM | Only 1 bit 1:Automatic 2:Yes 4:No |
| Inst. | 5113 | Delay before Xcom Portal watchdog forces reconnection | minutes | 15 | 5 | 1440 | FLOAT | 5 |
| QSP | 5119 | Device identification (LEDs) with the SCOM address | | 0 | 0 | 831 | FLOAT | 1 |

| Level | Nr | RCC / Xcom-232i parameter description | Unit | Default | Min | Max | Scom format | Increment |
|-------|------|---|------|---------|------|-------|-------------|-----------|
| QSP | 5095 | Enable SCOM watchdog | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 5096 | SCOM watchdog delay before reset of Xcom-232i | sec | 60 | 10 | 300 | FLOAT | 10 |
| QSP | 5103 | Activation of the watchdog hardware (deactivation restarts the Xcom-232i) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 5104 | Clears the restart flag of Xcom-232i | | S | S | S | INT32 | Signal |
| QSP | 5035 | Erase messages | | S | S | S | INT32 | Signal |

1.5 BSP parameters

| Level | Nr | BSP parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|---|------------|-------------|-------------|-------|-------------|--|
| Basic | 6000 | BASIC SETTINGS (BSP) | | | | | ONLY LEVEL | Menu |
| Basic | 6057 | Voltage of the system | | 1:Automatic | 1:Automatic | 8:48V | LONG ENUM | Only 1 bit 1:Automatic 2:12V 4:24V 8:48V |
| Basic | 6001 | Nominal capacity | Ah | 110 | 20 | 20000 | FLOAT | 10 |
| Basic | 6002 | Nominal discharge duration (C-rating) | h | 20 | 1 | 100 | FLOAT | 1 |
| Basic | 6017 | Nominal shunt current | A | 500 | 10 | 10000 | FLOAT | 10 |
| Basic | 6018 | Nominal shunt voltage | mV | 50 | 10 | 200 | FLOAT | 10 |
| Expert | 6003 | Reset of battery history | | S | S | S | INT32 | Signal |
| Basic | 6004 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 6005 | Restore factory settings | | S | S | S | INT32 | Signal |
| Expert | 6016 | ADVANCED SETTINGS (BSP) | | | | | ONLY LEVEL | Menu |
| Expert | 6031 | Reset of user counters | | S | S | S | INT32 | Signal |
| Expert | 6055 | Manufacturer SOC for 0% displayed | % | 30 | 0 | 60 | FLOAT | 5 |
| Expert | 6056 | Manufacturer SOC for 100% displayed | % | 100 | 80 | 100 | FLOAT | 5 |
| Expert | 6042 | Activate the end of charge synchronization | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6024 | End of charge voltage level | V | 52.8 | 31.9 | 70.1 | FLOAT | 0.1 |
| Expert | 6025 | End of charge current level | %cap | 2 | 0 | 500 | FLOAT | 1 |
| Expert | 6065 | Minimum duration before end of charge | min | 5 | 5 | 300 | FLOAT | 5 |
| Expert | 6048 | Temperature correction of the end of charge voltage | mV/°C/cell | 0 | -8 | 0 | FLOAT | 1 |

| Level | Nr | BSP parameter description | Unit | Default | Min | Max | Scom format | Increment |
|--------|------|---|---------|---------|------|-------|-------------|-----------|
| Expert | 6044 | Activate the state of charge correction by the open circuit voltage | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6058 | Battery charge current centralized regulation activated | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6059 | Max battery charge current | A | 60 | 0 | 10000 | FLOAT | 10 |
| Expert | 6019 | Self-discharge rate | %/month | 3 | 0 | 25 | FLOAT | 0.1 |
| Expert | 6020 | Nominal temperature | °C | 20 | 0 | 40 | FLOAT | 1 |
| Expert | 6021 | Temperature coefficient | %cap/°C | 0.5 | 0 | 3 | FLOAT | 0.0999756 |
| Expert | 6022 | Charge efficiency factor | % | 90 | 50 | 100 | FLOAT | 1 |
| Expert | 6023 | Peukert's exponent | | 1.2 | 1 | 1.5 | FLOAT | 0.0100098 |
| Expert | 6049 | Use C20 Capacity as reference value | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |

1.6 BSP infos

| Nr | BSP information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|------------------------------|-------------|-----------------|---------|--------|--|
| 7000 | Battery voltage | Ubat | Vdc | V | FLOAT | |
| 7001 | Battery current | Ibat | Adc | Adc | FLOAT | |
| 7002 | State of Charge | SOC | % | % | FLOAT | |
| 7003 | Power | Pbat | W | W | FLOAT | |
| 7004 | Remaining autonomy | Trem | | minutes | FLOAT | in discharge, number of minutes before 0 % between -60000 and 0, in charge, always NAN |
| 7006 | Relative capacity | Crel | % | % | FLOAT | deprecated, return 100 % in version >= 1.5.6 |
| 7007 | Ah charged today | 0d< | Ah | Ah | FLOAT | |
| 7008 | Ah discharged today | 0d> | Ah | Ah | FLOAT | |
| 7009 | Ah charged yesterday | -1d< | Ah | Ah | FLOAT | |
| 7010 | Ah discharged yesterday | -1d> | Ah | Ah | FLOAT | |
| 7011 | Total Ah charged | tot< | kAh | kAh | FLOAT | |
| 7012 | Total Ah discharged | tot> | kAh | kAh | FLOAT | |
| 7013 | Total time | Ttot | days | days | FLOAT | |
| 7017 | Custom charge Ah counter | cus< | Ah | Ah | FLOAT | |
| 7018 | Custom discharge Ah counter | cus> | Ah | Ah | FLOAT | |
| 7019 | Custom counter duration | Tcus | h | h | FLOAT | |
| 7029 | Battery temperature | Tbat | °C | °C | FLOAT | |
| 7030 | Battery voltage (minute avg) | Ubat | Vdc | V | FLOAT | |
| 7031 | Battery current (minute avg) | Ibat | Adc | Adc | FLOAT | |

| Nr | BSP information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|---|-------------|-----------------|------|--------|---|
| 7032 | State of Charge (minute avg) | SOC | % | % | FLOAT | |
| 7033 | Battery temperature (minute avg) | Tbat | °C | °C | FLOAT | |
| 7034 | ID type | Idt | | | FLOAT | BSP500 and BSP1200 = 10241d (0x2801) |
| 7035 | ID batt voltage | Idv | Vdc | V | FLOAT | |
| 7036 | ID HW | HW | | | FLOAT | |
| 7037 | ID SOFT msb | Smsb | | | FLOAT | See section "Software version encoding" |
| 7038 | ID SOFT lsb | Slsb | | | FLOAT | See section "Software version encoding" |
| 7039 | Parameter number (in code) | pCod | | | FLOAT | |
| 7040 | Info user number | iCod | | | FLOAT | |
| 7041 | ID SID | SID | | | FLOAT | |
| 7047 | Manufacturer State of Charge | mSOC | % | % | FLOAT | |
| 7048 | ID FID msb | | | | FLOAT | See section "FID encoding" |
| 7049 | ID FID lsb | | | | FLOAT | See section "FID encoding" |
| 7059 | Local daily communication error counter (CAN) | locE | | | FLOAT | |
| 7060 | Number of parameters (in flash) | pFsh | | | FLOAT | |

1.7 Xcom-CAN BMS parameters

| Level | Nr | Xcom-CAN parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|-------------|--|------|---------|------|-------|-------------|-----------|
| Basic | 6060 | BASIC SETTINGS (Xcom-CAN BMS) | | | | | ONLY LEVEL | Menu |
| Basic | 6004 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 6005 | Restore factory settings | | S | S | S | INT32 | Signal |
| Expert | 6061 | ADVANCED SETTINGS (Xcom-CAN BMS) | | | | | ONLY LEVEL | Menu |
| Expert | 6070 | SOC level under which battery discharge is stopped | % | 5 | 0 | 100 | FLOAT | 1 |
| Expert | 6062 | SOC level for backup | % | 100 | 0 | 100 | FLOAT | 1 |
| Expert | 6063 | SOC level for grid feeding | % | 100 | 0 | 100 | FLOAT | 1 |
| Expert | 6071 | Use battery priority as energy source when SOC >= SOC for backup (not recommended in parallel) | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6068 | Allow user to define the maximum charge current of the battery | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6069 | Maximum charge current defined by user | A | 10 | 0 | 10000 | FLOAT | 1 |
| Expert | 6066 | Manufacturer SOC for 0% displayed | % | 0 | 0 | 60 | FLOAT | 5 |
| Expert | 6067 | Manufacturer SOC for 100% displayed | % | 100 | 80 | 100 | FLOAT | 5 |
| Expert | 6064 | Use battery current limits instead of recommended values | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | Xcom-CAN parameter description | Unit | Default | Min | Max | Scom format | Increment |
|--------|------|--|------|---------|------|-------|-------------|-----------|
| Expert | 6072 | Solar Inverter connected on AC-Out | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 6073 | Delta from user frequency to start derating of solar inverter | Hz | 1 | 0 | 5 | FLOAT | 0.1 |
| Expert | 6074 | Delta from user frequency to reach 100% derating of solar inverter | Hz | 2.7 | 0 | 5 | FLOAT | 0.1 |

1.8 Xcom-CAN BMS infos

| Nr | Xcom-CAN information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|------|--|-------------|-----------------|--|---------------|----------------------------------|
| 7000 | Battery voltage | Ubat | Vdc | V | FLOAT | |
| 7001 | Battery current | Ibat | Adc | Adc | FLOAT | |
| 7002 | State of Charge | SOC | % | % | FLOAT | |
| 7003 | Power | Pbat | W | W | FLOAT | |
| 7007 | Ah charged today | 0d< | Ah | Ah | FLOAT | |
| 7008 | Ah discharged today | 0d> | Ah | Ah | FLOAT | |
| 7009 | Ah charged yesterday | -1d< | Ah | Ah | FLOAT | |
| 7010 | Ah discharged yesterday | -1d> | Ah | Ah | FLOAT | |
| 7029 | Battery temperature | Tbat | °C | °C | FLOAT | |
| 7030 | Battery voltage (minute avg) | Ubat | Vdc | V | FLOAT | |
| 7031 | Battery current (minute avg) | Ibat | Adc | Adc | FLOAT | |
| 7032 | State of Charge (minute avg) | SOC | % | % | FLOAT | |
| 7033 | Battery temperature (minute avg) | Tbat | °C | °C | FLOAT | |
| 7047 | Manufacturer State of Charge | mSOC | % | % | FLOAT | |
| 7055 | Battery Capacity | bCap | Ah | Ah | FLOAT | |
| 7057 | State Of Health | SOH | % | | FLOAT | |
| 7058 | High resolution manufacturer State of Charge | hSOC | % | | FLOAT | |
| 7061 | Charge voltage limit | UChL | Vdc | V | FLOAT | |
| 7062 | Discharge voltage limit | UDiL | Vdc | V | FLOAT | |
| 7063 | Charge current limit | IChL | Adc | A | FLOAT | |
| 7064 | Discharge current limit | IDiL | Adc | A | FLOAT | |
| 7065 | Recommended charge current | IChR | Adc | A | FLOAT | |
| 7066 | Recommended discharge current | IDiR | Adc | A | FLOAT | |
| 7067 | Manufacturer name | name | | 0:OTHERS 1:BYD 2:PYLON 3:WECO | SHORT ENUM | |

1.9 VarioTrack parameters

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|--|------------|-------------|-------------|-------|-------------|--|
| Basic | 10000 | BASIC SETTINGS | | | | | ONLY LEVEL | Menu |
| Expert | 10054 | Block manual programming (dip-switch) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Basic | 10001 | Voltage of the system | | 1:Automatic | 1:Automatic | 8:48V | LONG ENUM | Only 1 bit 1:Automatic 2:12V 4:24V 8:48V |
| Basic | 10037 | Synchronisation battery cycle with Xtender | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 10005 | Floating voltage | Vdc | 54.4 | 37.9 | 68.2 | FLOAT | 0.1 |
| Basic | 10009 | Absorption voltage | Vdc | 57.6 | 37.9 | 68.2 | FLOAT | 0.1 |
| Basic | 10017 | Equalization allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Basic | 10021 | Equalization voltage | Vdc | 62.4 | 52.1 | 68.2 | FLOAT | 0.1 |
| Basic | 10056 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 10057 | Restore factory settings | | S | S | S | INT32 | Signal |
| Expert | 10003 | BATTERY MANAGEMENT AND CYCLE | | | | | ONLY LEVEL | Menu |
| Basic | 10037 | Synchronisation battery cycle with Xtender | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10002 | Battery charge current | Adc | 80 | 0 | 80 | FLOAT | 2 |
| Expert | 10334 | Battery undervoltage | Vdc | 40 | 34 | 68.2 | FLOAT | 0.1 |
| Expert | 10036 | Temperature compensation | mV/°C/cell | -3 | -8 | 0 | FLOAT | 1 |
| Expert | 10004 | Floating phase | | | | | ONLY LEVEL | Menu |
| Basic | 10005 | Floating voltage | Vdc | 54.4 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10006 | Force phase of floating | | S | S | S | INT32 | Signal |
| Expert | 10007 | Absorption phase | | | | | ONLY LEVEL | Menu |
| Expert | 10008 | Absorption phase allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Basic | 10009 | Absorption voltage | Vdc | 57.6 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10010 | Force absorption phase | | S | S | S | INT32 | Signal |
| Expert | 10011 | Absorption duration | min | 120 | 5 | 510 | FLOAT | 5 |
| Expert | 10012 | End of absorption triggered by the current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10013 | Current threshold to end absorption phase | Adc | 10 | 2 | 80 | FLOAT | 2 |
| Expert | 10016 | Equalization phase | | | | | ONLY LEVEL | Menu |
| Basic | 10017 | Equalization allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|--|-------|--------------|--------------|--------------------|-------------|--|
| Expert | 10018 | Force equalization | | S | S | S | INT32 | Signal |
| Basic | 10021 | Equalization voltage | Vdc | 62.4 | 52.1 | 68.2 | FLOAT | 0.1 |
| Expert | 10020 | Equalization current | Adc | 80 | 2 | 80 | FLOAT | 2 |
| Expert | 10022 | Equalization duration | min | 30 | 5 | 510 | FLOAT | 5 |
| Expert | 10052 | Equalization with fixed interval | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10025 | Days between equalizations | days | 26 | 1 | 365 | FLOAT | 1 |
| Expert | 10026 | End of equalization triggered by the current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10027 | Current threshold to end equalization phase | Adc | 10 | 4 | 30 | FLOAT | 1 |
| Expert | 10019 | Equalization before absorption phase | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10028 | New cycle | | | | | ONLY LEVEL | Menu |
| Expert | 10029 | Force a new cycle | | S | S | S | INT32 | Signal |
| Expert | 10030 | Voltage level 1 to start a new cycle | Vdc | 48.8 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10031 | Time period under voltage level 1 to start a new cycle | min | 30 | 0 | 240 | FLOAT | 1 |
| Expert | 10032 | Voltage level 2 to start a new cycle | Vdc | 47.2 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10033 | Time period under voltage level 2 to start a new cycle | min | 2 | 0 | 240 | FLOAT | 1 |
| Expert | 10034 | Cycling restricted | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10035 | Minimal delay between cycles | hours | 1 | 0 | 540 | FLOAT | 1 |
| Expert | 10085 | Battery overvoltage level | Vdc | 68.2 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10086 | Restart voltage level after a battery overvoltage | Vdc | 64.8 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 10038 | SYSTEM | | | | | ONLY LEVEL | Menu |
| Expert | 10054 | Block manual programming (dip-switch) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10060 | Check Earthing | | 1:No control | 1:No control | 8:Floating battery | LONG ENUM | Only 1 bit 1:No control 2:Neg bat pole earth 4:Pos bat pole earth 8:Floating battery |
| Inst. | 10087 | Disabling of the display button | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10312 | Remote entry (Remote ON/OFF) | | | | | ONLY LEVEL | Menu |
| Expert | 10313 | Remote entry active | | 2:Open | 1:Closed | 4:Edge | LONG ENUM | Only 1 bit 1:Closed 2:Open 4:Edge |
| Expert | 10314 | ON/OFF command | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 10315 | Activated by AUX1 state | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10316 | Start equalization | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10317 | Send a message when remote entry changes state | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10075 | Type of MPP tracking | | 1:P&O | 1:P&O | 4:Upv fixed | LONG ENUM | Only 1 bit 1:P&O 2:OC ratio 4:Upv fixed |
| Expert | 10053 | Open circuit ratio -> MPP | % | 80 | 1 | 99 | FLOAT | 1 |
| Expert | 10103 | PV voltage fixed -> MPP | Vdc | 70 | 0 | 145 | FLOAT | 1 |
| QSP | 10335 | Partial shading check | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| QSP | 10336 | Time between checks | min | 5 | 1 | 30 | FLOAT | 1 |
| Inst. | 10342 | VarioTrack watchdog enabled (SCOM) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 10343 | VarioTrack watchdog delay (SCOM) | sec | 60 | 10 | 300 | FLOAT | 10 |
| Expert | 10200 | Reset PV energy meter | | S | S | S | INT32 | Signal |
| QSP | 10201 | Reset total produced PV energy meter | | S | S | S | INT32 | Signal |
| Expert | 10043 | Reset daily solar production meters | | S | S | S | INT32 | Signal |
| Expert | 10044 | Reset daily min-max | | S | S | S | INT32 | Signal |
| Basic | 10056 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 10057 | Restore factory settings | | S | S | S | INT32 | Signal |
| Inst. | 10058 | Parameters saved in flash memory | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10039 | ON of the VarioTrack | | S | S | S | INT32 | Signal |
| Expert | 10040 | OFF of the VarioTrack | | S | S | S | INT32 | Signal |
| Expert | 10051 | Reset of all VarioTrack | | S | S | S | INT32 | Signal |
| Expert | 10088 | AUXILIARY CONTACT 1 | | | | | ONLY LEVEL | Menu |
| Expert | 10089 | Operating mode (AUX 1) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 10090 | Combination of the events for the auxiliary contact (AUX 1) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 10092 | Contact activated in night mode (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 10093 | Activated in night mode (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 10094 | Delay of activation after entering night mode (AUX 1) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10095 | Activation time for the auxiliary relay in night mode (AUX 1) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10318 | Contact active with a fixed time schedule (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 10319 | Contact activated with fixed time schedule (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10320 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10321 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10096 | Contact active on event (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 10198 | VarioTrack is ON (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10091 | VarioTrack is OFF (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10308 | Remote entry (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10097 | Battery undervoltage (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10098 | Battery overvoltage (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10099 | Earth fault (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10100 | PV error (48h without charge) (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10102 | Overtemperature (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10104 | Bulk charge phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10105 | Absorption phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10106 | Equalization phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10107 | Floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10108 | Reduced floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10109 | Periodic absorption (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10110 | Contact active according to battery voltage (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 10111 | Battery voltage 1 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10112 | Battery voltage 1 (AUX 1) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10113 | Delay 1 (AUX 1) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 10114 | Battery voltage 2 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10115 | Battery voltage 2 (AUX 1) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10116 | Delay 2 (AUX 1) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 10117 | Battery voltage 3 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10118 | Battery voltage 3 (AUX 1) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10119 | Delay 3 (AUX 1) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 10120 | Battery voltage to deactivate (AUX 1) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 10121 | Delay to deactivate (AUX 1) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 10122 | Deactivate if battery in floating phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10123 | Contact active according to battery temperature (AUX 1) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 10124 | Contact activated with the temperature of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10125 | Contact activated over (AUX 1) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 10126 | Contact deactivated below (AUX 1) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 10127 | Only activated if the battery is not in bulk phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10128 | Contact active according to SOC (AUX 1) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 10129 | Contact activated with the SOC 1 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10130 | Contact activated below SOC 1 (AUX 1) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 10131 | Delay 1 (AUX 1) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10132 | Contact activated with the SOC 2 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10133 | Contact activated below SOC 2 (AUX 1) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 10134 | Delay 2 (AUX 1) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10135 | Contact activated with the SOC 3 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10136 | Contact activated below SOC 3 (AUX 1) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 10137 | Delay 3 (AUX 1) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10138 | Contact deactivated over SOC (AUX 1) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 10139 | Delay to deactivate (AUX 1) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 10140 | Deactivate if battery in floating phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10141 | Reset all settings (AUX 1) | | S | S | S | INT32 | Signal |
| Expert | 10142 | AUXILIARY CONTACT 2 | | | | | ONLY LEVEL | Menu |
| Expert | 10143 | Operating mode (AUX 2) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 10144 | Combination of the events for the auxiliary contact (AUX 2) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 10146 | Contact activated in night mode (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 10147 | Activated in night mode (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 10148 | Delay of activation after entering night mode (AUX 2) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10149 | Activation time for the auxiliary relay in night mode (AUX 2) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10322 | Contact active with a fixed time schedule (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 10323 | Contact activated with fixed time schedule (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10324 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10325 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10150 | Contact active on event (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 10199 | VarioTrack is ON (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10145 | VarioTrack is OFF (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10309 | Remote entry (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10151 | Battery undervoltage (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10152 | Battery overvoltage (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10153 | Earth fault (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10154 | PV error (48h without charge) (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10156 | Overtemperature (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10158 | Bulk charge phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10159 | Absorption phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10160 | Equalization phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10161 | Floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10162 | Reduced floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10163 | Periodic absorption (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10164 | Contact active according to battery voltage (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 10165 | Battery voltage 1 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10166 | Battery voltage 1 (AUX 2) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10167 | Delay 1 (AUX 2) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 10168 | Battery voltage 2 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10169 | Battery voltage 2 (AUX 2) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10170 | Delay 2 (AUX 2) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 10171 | Battery voltage 3 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10172 | Battery voltage 3 (AUX 2) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10173 | Delay 3 (AUX 2) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 10174 | Battery voltage to deactivate (AUX 2) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 10175 | Delay to deactivate (AUX 2) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 10176 | Deactivate if battery in floating phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10177 | Contact active according to battery temperature (AUX 2) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 10178 | Contact activated with the temperature of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10179 | Contact activated over (AUX 2) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 10180 | Contact deactivated below (AUX 2) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 10181 | Only activated if the battery is not in bulk phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10182 | Contact active according to SOC (AUX 2) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 10183 | Contact activated with the SOC 1 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10184 | Contact activated below SOC 1 (AUX 2) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 10185 | Delay 1 (AUX 2) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10186 | Contact activated with the SOC 2 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10187 | Contact activated below SOC 2 (AUX 2) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 10188 | Delay 2 (AUX 2) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10189 | Contact activated with the SOC 3 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10190 | Contact activated below SOC 3 (AUX 2) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 10191 | Delay 3 (AUX 2) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10192 | Contact deactivated over SOC (AUX 2) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 10193 | Delay to deactivate (AUX 2) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 10194 | Deactivate if battery in floating phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10195 | Reset all settings (AUX 2) | | S | S | S | INT32 | Signal |
| Expert | 10202 | AUXILIARY CONTACT 3 | | | | | ONLY LEVEL | Menu |
| Expert | 10203 | Operating mode (AUX 3) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 10204 | Combination of the events for the auxiliary contact (AUX 3) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 10205 | Contact activated in night mode (AUX 3) | | | | | ONLY LEVEL | Menu |
| Expert | 10206 | Activated in night mode (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 10207 | Delay of activation after entering night mode (AUX 3) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10208 | Activation time for the auxiliary relay in night mode (AUX 3) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10326 | Contact active with a fixed time schedule (AUX 3) | | | | | ONLY LEVEL | Menu |
| Expert | 10327 | Contact activated with fixed time schedule (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10328 | Start hour (AUX 3) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10329 | End hour (AUX 3) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10209 | Contact active on event (AUX 3) | | | | | ONLY LEVEL | Menu |
| Expert | 10210 | VarioTrack is ON (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10211 | VarioTrack is OFF (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10310 | Remote entry (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10212 | Battery undervoltage (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10213 | Battery overvoltage (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10214 | Earth fault (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10215 | PV error (48h without charge) (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10216 | Overtemperature (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10217 | Bulk charge phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10218 | Absorption phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10219 | Equalization phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10220 | Floating (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10221 | Reduced floating (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10222 | Periodic absorption (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10223 | Contact active according to battery voltage (AUX 3) | | | | | ONLY LEVEL | Menu |
| Expert | 10224 | Battery voltage 1 activate (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10225 | Battery voltage 1 (AUX 3) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10226 | Delay 1 (AUX 3) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 10227 | Battery voltage 2 activate (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10228 | Battery voltage 2 (AUX 3) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10229 | Delay 2 (AUX 3) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 10230 | Battery voltage 3 activate (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10231 | Battery voltage 3 (AUX 3) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10232 | Delay 3 (AUX 3) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 10233 | Battery voltage to deactivate (AUX 3) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 10234 | Delay to deactivate (AUX 3) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 10235 | Deactivate if battery in floating phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10236 | Contact active according to battery temperature (AUX 3) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 10237 | Contact activated with the temperature of battery (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10238 | Contact activated over (AUX 3) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 10239 | Contact deactivated below (AUX 3) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 10240 | Only activated if the battery is not in bulk phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10241 | Contact active according to SOC (AUX 3) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 10242 | Contact activated with the SOC 1 of battery (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10243 | Contact activated below SOC 1 (AUX 3) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 10244 | Delay 1 (AUX 3) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10245 | Contact activated with the SOC 2 of battery (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10246 | Contact activated below SOC 2 (AUX 3) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 10247 | Delay 2 (AUX 3) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10248 | Contact activated with the SOC 3 of battery (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10249 | Contact activated below SOC 3 (AUX 3) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 10250 | Delay 3 (AUX 3) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10251 | Contact deactivated over SOC (AUX 3) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 10252 | Delay to deactivate (AUX 3) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 10253 | Deactivate if battery in floating phase (AUX 3) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10254 | Reset all settings (AUX 3) | | S | S | S | INT32 | Signal |
| Expert | 10255 | AUXILIARY CONTACT 4 | | | | | ONLY LEVEL | Menu |
| Expert | 10256 | Operating mode (AUX 4) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 10257 | Combination of the events for the auxiliary contact (AUX 4) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 10258 | Contact activated in night mode (AUX 4) | | | | | ONLY LEVEL | Menu |
| Expert | 10259 | Activated in night mode (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 10260 | Delay of activation after entering night mode (AUX 4) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10261 | Activation time for the auxiliary relay in night mode (AUX 4) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 10330 | Contact active with a fixed time schedule (AUX 4) | | | | | ONLY LEVEL | Menu |
| Expert | 10331 | Contact activated with fixed time schedule (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10332 | Start hour (AUX 4) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10333 | End hour (AUX 4) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 10262 | Contact active on event (AUX 4) | | | | | ONLY LEVEL | Menu |
| Expert | 10263 | VarioTrack is ON (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10264 | VarioTrack is OFF (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10311 | Remote entry (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10265 | Battery undervoltage (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10266 | Battery overvoltage (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10267 | Earth fault (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10268 | PV error (48h without charge) (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10269 | Overtemperature (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10270 | Bulk charge phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10271 | Absorption phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10272 | Equalization phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10273 | Floating (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10274 | Reduced floating (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10275 | Periodic absorption (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10276 | Contact active according to battery voltage (AUX 4) | | | | | ONLY LEVEL | Menu |
| Expert | 10277 | Battery voltage 1 activate (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10278 | Battery voltage 1 (AUX 4) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10279 | Delay 1 (AUX 4) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 10280 | Battery voltage 2 activate (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10281 | Battery voltage 2 (AUX 4) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10282 | Delay 2 (AUX 4) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 10283 | Battery voltage 3 activate (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10284 | Battery voltage 3 (AUX 4) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 10285 | Delay 3 (AUX 4) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 10286 | Battery voltage to deactivate (AUX 4) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |

| Level | Nr | VarioTrack parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------|------|-------|-------------|-----------|
| Expert | 10287 | Delay to deactivate (AUX 4) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 10288 | Deactivate if battery in floating phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10289 | Contact active according to battery temperature (AUX 4) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 10290 | Contact activated with the temperature of battery (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10291 | Contact activated over (AUX 4) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 10292 | Contact deactivated below (AUX 4) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 10293 | Only activated if the battery is not in bulk phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10294 | Contact active according to SOC (AUX 4) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 10295 | Contact activated with the SOC 1 of battery (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10296 | Contact activated below SOC 1 (AUX 4) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 10297 | Delay 1 (AUX 4) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10298 | Contact activated with the SOC 2 of battery (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10299 | Contact activated below SOC 2 (AUX 4) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 10300 | Delay 2 (AUX 4) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10301 | Contact activated with the SOC 3 of battery (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10302 | Contact activated below SOC 3 (AUX 4) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 10303 | Delay 3 (AUX 4) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 10304 | Contact deactivated over SOC (AUX 4) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 10305 | Delay to deactivate (AUX 4) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 10306 | Deactivate if battery in floating phase (AUX 4) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 10307 | Reset all settings (AUX 4) | | S | S | S | INT32 | Signal |

1.10 VarioTrack infos

| Nr | VarioTrack information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|------------------------------------|-------------|-----------------|------|--------|----------------------------------|
| 11000 | Battery voltage | Ubat | Vdc | V | FLOAT | |
| 11001 | Battery current | Ibat | Adc | A | FLOAT | |
| 11002 | Voltage of the PV generator | Upv | Vdc | V | FLOAT | |
| 11003 | Current of the PV generator | Ipv | Adc | A | FLOAT | |
| 11004 | Power of the PV generator | Psol | kW | kW | FLOAT | |
| 11005 | Battery temperature | Tbat | °C | °C | FLOAT | |

| Nr | VarioTrack information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|--|-------------|-----------------|--|---------------|---|
| 11006 | Production in (Ah) for the current day | Cd | Ah | Ah | FLOAT | |
| 11007 | Production in (kWh) for the current day | Ed | kWh | kWh | FLOAT | |
| 11008 | Produced energy resettable counter | kWhR | kWh | kWh | FLOAT | |
| 11009 | Total produced energy | MWhT | MWh | MWh | FLOAT | |
| 11010 | Production in (Ah) for the previous day | Cd-1 | Ah | Ah | FLOAT | |
| 11011 | Production in (Wh) for the previous day | Ed-1 | kWh | kWh | FLOAT | |
| 11012 | Number of parameters (in code) | pCod | | | FLOAT | |
| 11013 | Number of parameters (in flash) | pFla | | | FLOAT | |
| 11014 | Number of infos users | iCod | | | FLOAT | |
| 11015 | Model of VarioTrack | Type | | 0:VT-80 1:VT-65 2:VT-40 3:VT-HV | SHORT ENUM | |
| 11016 | Operating mode | Mode | | 0:Night 1:StartUp 2:--- 3:Charger 4:--- 5:Security 6:OFF 7:--- 8:Charge 9:Charge V 10:Charge I 11:Charge T 12:Ch. lbsp | SHORT ENUM | See the VarioTrack user manual for a description of the modes. Mode 3: is available up to VT code version 1.5.8. Modes 8: to 11: are available from VT code version 1.5.10. |
| 11017 | Max PV voltage for the current day | PVmx | Vdc | V | FLOAT | |
| 11018 | Max battery current of the current day | lbmx | Adc | A | FLOAT | |
| 11019 | Max power production for the current day | PVxP | kW | kW | FLOAT | |
| 11020 | Max battery voltage for the current day | Bmax | Vdc | V | FLOAT | |
| 11021 | Min battery voltage for the current day | Bmin | Vdc | V | FLOAT | |
| 11025 | Number of irradiation hours for the current day | Sd | h | h | FLOAT | |
| 11026 | Number of irradiation hours for the previous day | Sd-1 | h | h | FLOAT | |

| Nr | VarioTrack information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|---|-------------|-----------------|---|------------|--|
| 11034 | Type of error | Err | | 0:No Error 1:BatOverV 2:Earth 3:No Batt 4:OverTemp 5:BatOverV 6:PvOverV 7:Others 8:--- 9:--- 10:--- 11:--- 12:HardErr | SHORT ENUM | See the VarioTrack user manual for a description of these errors |
| 11037 | Number of days before next equalization | EqIn | days | days | FLOAT | |
| 11038 | Battery cycle phase | Phas | | 0:Bulk 1:Absorpt. 2:Equalize 3:Floating 4:--- 5:--- 6:R.float. 7:Per.abs. 8:--- 9:--- 10:--- 11:--- | SHORT ENUM | |
| 11039 | Battery voltage (minute avg) | UbaM | Vdc | V | FLOAT | |
| 11040 | Battery current (minute avg) | IbaM | Adc | A | FLOAT | |
| 11041 | PV voltage (minute avg) | UpvM | Vdc | V | FLOAT | |
| 11043 | PV power (minute avg) | PsoM | kW | kW | FLOAT | |
| 11044 | Battery temperature (minute avg) | TbaM | °C | °C | FLOAT | |
| 11045 | Electronic temperature 1 (minute avg) | Dev1 | °C | °C | FLOAT | |
| 11046 | Electronic temperature 2 (minute avg) | Dev2 | °C | °C | FLOAT | |
| 11047 | ID type | Idt | | | FLOAT | VT65 and VT80 = 9079d (0x2601) |
| 11048 | ID batt voltage | Idv | Vdc | V | FLOAT | |
| 11049 | ID HW | HW | | | FLOAT | |
| 11050 | ID SOFT msb | Smsb | | | FLOAT | See section "Software version encoding" |

| Nr | VarioTrack information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|---|-------------|-----------------|---|---------------|---|
| 11051 | ID SOFT lsb | Slsb | | | FLOAT | See section "Software version encoding" |
| 11052 | ID SID | SID | | | FLOAT | |
| 11061 | State of auxiliary relay 1 | Aux 1 | | 0:Opened 1:Closed | SHORT ENUM | |
| 11062 | State of auxiliary relay 2 | Aux 2 | | 0:Opened 1:Closed | SHORT ENUM | |
| 11063 | Relay aux 1 mode | Aux 1 | | 0:-- 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | |
| 11064 | Relay aux 2 mode | Aux 2 | | 0:-- 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | |
| 11066 | Synchronisation state | Sync | | 0:-- 1:-- 2:-- 3:-- 4:XTslave 5:VTslave 6:-- 7:-- 8:VTmaster 9:Autonom. 10:VSslave 11:VSmaster | SHORT ENUM | |
| 11067 | ID FID msb | | | | FLOAT | See section "FID encoding" |
| 11068 | ID FID lsb | | | | FLOAT | See section "FID encoding" |
| 11069 | State of the VarioTrack | VT state | | 0:Off 1:On | SHORT ENUM | |
| 11076 | Local daily communication error counter (CAN) | locEr | | | FLOAT | |
| 11077 | State of auxiliary relay 3 | Aux 3 | | 0:Opened 1:Closed | SHORT ENUM | |

| Nr | VarioTrack information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|------------------------------------|-------------|-----------------|---|------------|----------------------------------|
| 11078 | State of auxiliary relay 4 | Aux 4 | | 0:Opened 1:Closed | SHORT ENUM | |
| 11079 | Relay aux 3 mode | Aux 3 | | 0:-- 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | |
| 11080 | Relay aux 4 mode | Aux 4 | | 0:-- 1:A 2:I 3:M 4:M 5:G | SHORT ENUM | |
| 11082 | Remote entry state | RME | | 0:RM EN 0 1:RM EN 1 | SHORT ENUM | |

1.11 VarioString parameters

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|--|------|-------------|-------------|------------|-------------|--|
| Basic | 14000 | BASIC SETTINGS | | | | | ONLY LEVEL | Menu |
| Expert | 14174 | Block manual programming (dip-switch) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14001 | Battery charge current (VS-120) | Adc | 120 | 0 | 120 | FLOAT | 2 |
| Expert | 14217 | Battery charge current (VS-70) | Adc | 70 | 0 | 70 | FLOAT | 1 |
| Basic | 14002 | Configuration of PV modules (VS-120) | | 1:Automatic | 1:Automatic | 8:Parallel | LONG ENUM | Only 1 bit 1:Automatic 2:Independent 4:Serial 8:Parallel |
| Basic | 14067 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 14068 | Restore factory settings | | S | S | S | INT32 | Signal |
| Expert | 14003 | BATTERY MANAGEMENT AND CYCLE | | | | | ONLY LEVEL | Menu |
| Basic | 14036 | Synchronisation battery cycle with Xtender | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14001 | Battery charge current (VS-120) | Adc | 120 | 0 | 120 | FLOAT | 2 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|--|------------|---------|------|-------|-------------|-----------|
| Expert | 14217 | Battery charge current (VS-70) | Adc | 70 | 0 | 70 | FLOAT | 1 |
| Expert | 14216 | Battery undervoltage | Vdc | 40 | 34 | 68.2 | FLOAT | 0.1 |
| Expert | 14035 | Temperature compensation | mV/°C/cell | -3 | -8 | 0 | FLOAT | 1 |
| Expert | 14004 | Floating phase | | | | | ONLY LEVEL | Menu |
| Expert | 14005 | Floating voltage | Vdc | 54.4 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14006 | Force phase of floating | | S | S | S | INT32 | Signal |
| Expert | 14007 | Absorption phase | | | | | ONLY LEVEL | Menu |
| Expert | 14008 | Absorption phase allowed | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14009 | Absorption voltage | Vdc | 57.6 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14010 | Force absorption phase | | S | S | S | INT32 | Signal |
| Expert | 14011 | Absorption duration | min | 120 | 5 | 510 | FLOAT | 5 |
| Expert | 14012 | End of absorption triggered by the current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14013 | Current threshold to end absorption phase | Adc | 10 | 2 | 120 | FLOAT | 2 |
| Expert | 14016 | Equalization phase | | | | | ONLY LEVEL | Menu |
| Expert | 14017 | Equalization allowed | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14018 | Force equalization | | S | S | S | INT32 | Signal |
| Expert | 14021 | Equalization voltage | Vdc | 62.4 | 52.1 | 68.2 | FLOAT | 0.1 |
| Expert | 14020 | Equalization current | Adc | 80 | 2 | 120 | FLOAT | 2 |
| Expert | 14022 | Equalization duration | min | 30 | 5 | 510 | FLOAT | 5 |
| Expert | 14023 | Equalization with fixed interval | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14024 | Days between equalizations | days | 26 | 1 | 365 | FLOAT | 1 |
| Expert | 14025 | End of equalization triggered by the current | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14026 | Current threshold to end equalization phase | Adc | 10 | 4 | 30 | FLOAT | 1 |
| Expert | 14019 | Equalization before absorption phase | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14027 | New cycle | | | | | ONLY LEVEL | Menu |
| Expert | 14028 | Force a new cycle | | S | S | S | INT32 | Signal |
| Expert | 14029 | Voltage level 1 to start a new cycle | Vdc | 48.8 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14030 | Time period under voltage level 1 to start a new cycle | min | 30 | 0 | 240 | FLOAT | 1 |
| Expert | 14031 | Voltage level 2 to start a new cycle | Vdc | 47.2 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14032 | Time period under voltage level 2 to start a new cycle | min | 2 | 0 | 240 | FLOAT | 1 |
| Expert | 14033 | Cycling restricted | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14034 | Minimal delay between cycles | hours | 1 | 0 | 540 | FLOAT | 1 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|------|--------------|--------------|----------------|-------------|--|
| Expert | 14065 | Battery overvoltage level | Vdc | 68.2 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14066 | Restart voltage level after a battery overvoltage | Vdc | 64.8 | 37.9 | 68.2 | FLOAT | 0.1 |
| Expert | 14037 | SYSTEM | | | | | ONLY LEVEL | Menu |
| Expert | 14174 | Block manual programming (dip-switch) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14040 | Type of battery grounding | | 1:No control | 1:No control | 8:Bat floating | LONG ENUM | Only 1 bit 1:No control 2:Bat+ grounded 4:Bat- grounded 8:Bat floating |
| Expert | 14194 | Configuration for VS-120 | | | | | ONLY LEVEL | Menu |
| Expert | 14041 | Type of PV grounding | | 1:No control | 1:No control | 8:PV floating | LONG ENUM | Only 1 bit 1:No control 2:PV+ grounded 4:PV- grounded 8:PV floating |
| Expert | 14175 | Type of PV1 grounding | | 1:No control | 1:No control | 8:PV floating | LONG ENUM | Only 1 bit 1:No control 2:PV+ grounded 4:PV- grounded 8:PV floating |
| Expert | 14042 | Type of PV2 grounding | | 1:No control | 1:No control | 8:PV floating | LONG ENUM | Only 1 bit 1:No control 2:PV+ grounded 4:PV- grounded 8:PV floating |
| Expert | 14180 | Type of MPPT algorithm | | | | | ONLY LEVEL | Menu |
| Expert | 14043 | Type of MPP tracking algorithm PV | | 8:LSF | 1:P&O | 8:LSF | LONG ENUM | Only 1 bit 1:P&O 2:OC ratio 4:Upv fixed 8:LSF |
| Expert | 14044 | PV voltage fixed (for PV in series) | Vdc | 700 | 200 | 900 | FLOAT | 10 |
| Expert | 14179 | PV voltage fixed (for PV in //) | Vdc | 500 | 100 | 600 | FLOAT | 10 |
| Expert | 14045 | Ratio of PV open circuit voltage | | 0.7 | 0.5 | 1 | FLOAT | 0.010009766 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|------------------------------------|------|--------------|--------------|---------------|-------------|---|
| Expert | 14176 | Type of MPP tracking algorithm PV1 | | 8:LSF | 1:P&O | 8:LSF | LONG ENUM | Only 1 bit 1:P&O 2:OC ratio 4:Upv fixed 8:LSF |
| Expert | 14177 | PV1 voltage fixed | Vdc | 500 | 100 | 600 | FLOAT | 10 |
| Expert | 14178 | Ratio of PV1 open circuit voltage | | 0.7 | 0.5 | 1 | FLOAT | 0.010009766 |
| Expert | 14046 | Type of MPP tracking algorithm PV2 | | 8:LSF | 1:P&O | 8:LSF | LONG ENUM | Only 1 bit 1:P&O 2:OC ratio 4:Upv fixed 8:LSF |
| Expert | 14047 | PV2 voltage fixed | Vdc | 500 | 100 | 600 | FLOAT | 10 |
| Expert | 14048 | Ratio of PV2 open circuit voltage | | 0.7 | 0.5 | 1 | FLOAT | 0.010009766 |
| Inst. | 14192 | Establishment time (Algo MPPT) | sec | 0 | 0 | 300 | FLOAT | 1 |
| Inst. | 14193 | Averaging time (Algo MPPT) | sec | 0 | 0 | 300 | FLOAT | 1 |
| Inst. | 14190 | PV wiring type erased from memory | | S | S | S | INT32 | Signal |
| Expert | 14195 | Configuration for VS-70 | | | | | ONLY LEVEL | Menu |
| Expert | 14196 | Type of PV grounding | | 1:No control | 1:No control | 8:PV floating | LONG ENUM | Only 1 bit 1:No control 2:PV+ grounded 4:PV- grounded 8:PV floating |
| Expert | 14180 | Type of MPPT algorithm | | | | | ONLY LEVEL | Menu |
| Expert | 14197 | Type of MPP tracking algorithm PV | | 8:LSF | 1:P&O | 8:LSF | LONG ENUM | Only 1 bit 1:P&O 2:OC ratio 4:Upv fixed 8:LSF |
| Expert | 14198 | PV voltage fixed | Vdc | 500 | 100 | 600 | FLOAT | 10 |
| Expert | 14199 | Ratio of PV open circuit voltage | | 0.7 | 0.5 | 1 | FLOAT | 0.010009766 |
| Inst. | 14192 | Establishment time (Algo MPPT) | sec | 0 | 0 | 300 | FLOAT | 1 |
| Inst. | 14193 | Averaging time (Algo MPPT) | sec | 0 | 0 | 300 | FLOAT | 1 |
| Expert | 14200 | Remote entry (Remote ON/OFF) | | | | | ONLY LEVEL | Menu |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 14201 | Remote entry active | | 2:Open | 1:Closed | 4:Edge | LONG ENUM | Only 1 bit 1:Closed 2:Open 4:Edge |
| Expert | 14202 | ON/OFF command | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14203 | Activated by AUX1 state | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14204 | Start equalization | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14205 | Send a message when remote entry changes state | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 14218 | VarioString watchdog enabled (SCOM) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Inst. | 14219 | VarioString watchdog delay (SCOM) | sec | 60 | 10 | 300 | FLOAT | 10 |
| Expert | 14182 | Reset PV energy meter | | S | S | S | INT32 | Signal |
| QSP | 14183 | Reset total produced PV energy meter | | S | S | S | INT32 | Signal |
| Expert | 14051 | Reset daily solar production meters | | S | S | S | INT32 | Signal |
| Expert | 14052 | Reset daily min-max | | S | S | S | INT32 | Signal |
| Basic | 14067 | Restore default settings | | S | S | S | INT32 | Signal |
| Inst. | 14068 | Restore factory settings | | S | S | S | INT32 | Signal |
| Inst. | 14069 | Parameters saved in flash memory | | 1:Yes | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14038 | ON of the VarioString | | S | S | S | INT32 | Signal |
| Expert | 14039 | OFF of the VarioString | | S | S | S | INT32 | Signal |
| Expert | 14059 | Reset of all VarioString | | S | S | S | INT32 | Signal |
| Expert | 14070 | AUXILIARY CONTACT 1 | | | | | ONLY LEVEL | Menu |
| Expert | 14071 | Operating mode (AUX 1) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 14072 | Combination of the events for the auxiliary contact (AUX 1) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 14073 | Contact activated in night mode (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 14074 | Activated in night mode (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14075 | Delay of activation after entering night mode (AUX 1) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 14076 | Activation time for the auxiliary relay in night mode (AUX 1) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 14206 | Contact active with a fixed time schedule (AUX 1) | | | | | ONLY LEVEL | Menu |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 14207 | Contact activated with fixed time schedule (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14208 | Start hour (AUX 1) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 14209 | End hour (AUX 1) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 14077 | Contact active on event (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 14188 | VarioString is ON (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14078 | VarioString is OFF (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14214 | Remote entry (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14079 | Battery undervoltage (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14080 | Battery overvoltage (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14081 | Earth fault (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14082 | PV error (48h without charge) (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14083 | Overtemperature (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14084 | Bulk charge phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14085 | Absorption phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14086 | Equalization phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14087 | Floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14088 | Reduced floating (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14089 | Periodic absorption (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14090 | Contact active according to battery voltage (AUX 1) | | | | | ONLY LEVEL | Menu |
| Expert | 14091 | Battery voltage 1 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14092 | Battery voltage 1 (AUX 1) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14093 | Delay 1 (AUX 1) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 14094 | Battery voltage 2 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14095 | Battery voltage 2 (AUX 1) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14096 | Delay 2 (AUX 1) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 14097 | Battery voltage 3 activate (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14098 | Battery voltage 3 (AUX 1) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14099 | Delay 3 (AUX 1) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 14100 | Battery voltage to deactivate (AUX 1) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14101 | Delay to deactivate (AUX 1) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 14102 | Deactivate if battery in floating phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------------------|---------------------|----------------------|-------------|--|
| Expert | 14103 | Contact active according to battery temperature (AUX 1) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 14104 | Contact activated with the temperature of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14105 | Contact activated over (AUX 1) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 14106 | Contact deactivated below (AUX 1) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 14107 | Only activated if the battery is not in bulk phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14108 | Contact active according to SOC (AUX 1) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 14109 | Contact activated with the SOC 1 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14110 | Contact activated below SOC 1 (AUX 1) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 14111 | Delay 1 (AUX 1) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14112 | Contact activated with the SOC 2 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14113 | Contact activated below SOC 2 (AUX 1) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 14114 | Delay 2 (AUX 1) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14115 | Contact activated with the SOC 3 of battery (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14116 | Contact activated below SOC 3 (AUX 1) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 14117 | Delay 3 (AUX 1) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14118 | Contact deactivated over SOC (AUX 1) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 14119 | Delay to deactivate (AUX 1) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 14120 | Deactivate if battery in floating phase (AUX 1) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14121 | Reset all settings (AUX 1) | | S | S | S | INT32 | Signal |
| Expert | 14122 | AUXILIARY CONTACT 2 | | | | | ONLY LEVEL | Menu |
| Expert | 14123 | Operating mode (AUX 2) | | 1:Automatic | 1:Automatic | 8:Manual OFF | LONG ENUM | Only 1 bit 1:Automatic 2:Reversed automatic 4:Manual ON 8:Manual OFF |
| Expert | 14124 | Combination of the events for the auxiliary contact (AUX 2) | | 0:Any (Function OR) | 0:Any (Function OR) | 1:All (Function AND) | LONG ENUM | Only 1 bit 0:Any (Function OR) 1:All (Function AND) |
| Expert | 14125 | Contact activated in night mode (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 14126 | Activated in night mode (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14127 | Delay of activation after entering night mode (AUX 2) | min | 1 | 0 | 1440 | FLOAT | 1 |
| Expert | 14128 | Activation time for the auxiliary relay in night mode (AUX 2) | min | 1 | 0 | 1440 | FLOAT | 1 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|---------|------------|---------|------------|-------------|-----------|
| Expert | 14210 | Contact active with a fixed time schedule (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 14211 | Contact activated with fixed time schedule (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14212 | Start hour (AUX 2) | Minutes | 420=07:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 14213 | End hour (AUX 2) | Minutes | 1200=20:00 | 0=00:00 | 1440=24:00 | INT32 | 1 |
| Expert | 14129 | Contact active on event (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 14189 | VarioString is ON (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14130 | VarioString is OFF (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14215 | Remote entry (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14131 | Battery undervoltage (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14132 | Battery overvoltage (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14133 | Earth fault (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14134 | PV error (48h without charge) (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14135 | Overtemperature (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14136 | Bulk charge phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14137 | Absorption phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14138 | Equalization phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14139 | Floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14140 | Reduced floating (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14141 | Periodic absorption (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14142 | Contact active according to battery voltage (AUX 2) | | | | | ONLY LEVEL | Menu |
| Expert | 14143 | Battery voltage 1 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14144 | Battery voltage 1 (AUX 2) | Vdc | 46.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14145 | Delay 1 (AUX 2) | min | 1 | 0 | 60 | FLOAT | 1 |
| Expert | 14146 | Battery voltage 2 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14147 | Battery voltage 2 (AUX 2) | Vdc | 47.8 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14148 | Delay 2 (AUX 2) | min | 10 | 0 | 60 | FLOAT | 1 |
| Expert | 14149 | Battery voltage 3 activate (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14150 | Battery voltage 3 (AUX 2) | Vdc | 48.5 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14151 | Delay 3 (AUX 2) | min | 60 | 0 | 60 | FLOAT | 1 |
| Expert | 14152 | Battery voltage to deactivate (AUX 2) | Vdc | 54 | 36 | 72 | FLOAT | 0.1 |
| Expert | 14153 | Delay to deactivate (AUX 2) | min | 60 | 0 | 480 | FLOAT | 5 |
| Expert | 14154 | Deactivate if battery in floating phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |

| Level | Nr | VarioString parameter description | Unit | Default | Min | Max | Scom format | Increment |
|---------------|--------------|---|-------|---------|------|-------|-------------|-----------|
| Expert | 14155 | Contact active according to battery temperature (AUX 2) With BSP or BTS | | | | | ONLY LEVEL | Menu |
| Expert | 14156 | Contact activated with the temperature of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14157 | Contact activated over (AUX 2) | °C | 3 | -10 | 50 | FLOAT | 1 |
| Expert | 14158 | Contact deactivated below (AUX 2) | °C | 5 | -10 | 50 | FLOAT | 1 |
| Expert | 14159 | Only activated if the battery is not in bulk phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14160 | Contact active according to SOC (AUX 2) Only with BSP | | | | | ONLY LEVEL | Menu |
| Expert | 14161 | Contact activated with the SOC 1 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14162 | Contact activated below SOC 1 (AUX 2) | % SOC | 50 | 0 | 100 | FLOAT | 5 |
| Expert | 14163 | Delay 1 (AUX 2) | hours | 12 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14164 | Contact activated with the SOC 2 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14165 | Contact activated below SOC 2 (AUX 2) | % | 30 | 0 | 100 | FLOAT | 5 |
| Expert | 14166 | Delay 2 (AUX 2) | hours | 0.2 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14167 | Contact activated with the SOC 3 of battery (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14168 | Contact activated below SOC 3 (AUX 2) | % | 20 | 0 | 100 | FLOAT | 5 |
| Expert | 14169 | Delay 3 (AUX 2) | hours | 0 | 0 | 99 | FLOAT | 0.25 |
| Expert | 14170 | Contact deactivated over SOC (AUX 2) | % SOC | 90 | 0 | 100 | FLOAT | 5 |
| Expert | 14171 | Delay to deactivate (AUX 2) | hours | 0.2 | 0 | 10 | FLOAT | 0.25 |
| Expert | 14172 | Deactivate if battery in floating phase (AUX 2) | | 0:No | 0:No | 1:Yes | BOOL | 1 |
| Expert | 14173 | Reset all settings (AUX 2) | | S | S | S | INT32 | Signal |

1.12 VarioString infos

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|-------------------------------------|-------------|-----------------|------|--------|----------------------------------|
| 15000 | Battery voltage | Ubat | Vdc | V | FLOAT | |
| 15001 | Battery current | Ibat | Adc | A | FLOAT | |

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|-------------------------------------|-------------|-----------------|--|---------------|----------------------------------|
| 15002 | Battery cycle phase | Phas | | 0: Bulk 1: Absorpt. 2: Equalize 3: Floating 4: --- 5: --- 6: R.float. 7: Per.abs. 8: --- 9: --- 10: --- 11: --- | SHORT ENUM | |
| 15003 | PV type of wiring | conf | | 0: Unknown 1: Independ. 2: Series 3: Parallel 4: Error | SHORT ENUM | |
| 15004 | PV voltage | Upv | Vdc | V | FLOAT | |
| 15005 | PV1 voltage | Upv1 | Vdc | V | FLOAT | |
| 15006 | PV2 voltage | Upv2 | Vdc | V | FLOAT | |
| 15007 | PV current | Ipv | Adc | A | FLOAT | |
| 15008 | PV1 current | Ipv1 | Adc | A | FLOAT | |
| 15009 | PV2 current | Ipv2 | Adc | A | FLOAT | |
| 15010 | PV power | Ppv | kW | kW | FLOAT | |
| 15011 | PV1 power | Ppv1 | kW | kW | FLOAT | |
| 15012 | PV2 power | Ppv2 | kW | kW | FLOAT | |
| 15013 | PV operating mode | Mode | | 0: Night 1: Security 2: OFF 3: Charge 4: ChargeV 5: Charge I 6: ChargeP 7: ChargeIpv 8: ChargeT 9: --- 10: Ch.Ibsp | SHORT ENUM | |

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|---|-------------|-----------------|---|---------------|----------------------------------|
| 15014 | PV1 operating mode | Mod1 | | 0:Night 1:Security 2:OFF 3:Charge 4:ChargeV 5:Charge I 6:ChargeP 7:ChargeIpv 8:ChargeT 9:--- 10:Ch.lbsp | SHORT ENUM | |
| 15015 | PV2 operating mode | Mod2 | | 0:Night 1:Security 2:OFF 3:Charge 4:ChargeV 5:Charge I 6:ChargeP 7:ChargeIpv 8:ChargeT 9:--- 10:Ch.lbsp | SHORT ENUM | |
| 15016 | Production PV in (Ah) for the current day | Cd | Ah | Ah | FLOAT | |
| 15017 | Production PV in (kWh) for the current day | Ed | kWh | kWh | FLOAT | |
| 15018 | Production PV1 in (kWh) for the current day | Ed1 | kWh | kWh | FLOAT | |
| 15019 | Production PV2 in (kWh) for the current day | Ed2 | kWh | kWh | FLOAT | |
| 15020 | Produced PV energy resettable counter | kWhR | kWh | kWh | FLOAT | |
| 15021 | Produced PV1 energy resettable counter | kWh1 | kWh | kWh | FLOAT | |
| 15022 | Produced PV2 energy resettable counter | kWh2 | kWh | kWh | FLOAT | |
| 15023 | Total PV produced energy | MWhT | MWh | MWh | FLOAT | |
| 15024 | Total PV1 produced energy | MWh1 | MWh | MWh | FLOAT | |
| 15025 | Total PV2 produced energy | MWh2 | MWh | MWh | FLOAT | |
| 15026 | Production PV in (Ah) for the previous day | Cd-1 | Ah | Ah | FLOAT | |
| 15027 | Production PV in (Wh) for the previous day | Ed- | kWh | kWh | FLOAT | |
| 15028 | Production PV1 in (Wh) for the previous day | Ed1- | kWh | kWh | FLOAT | |
| 15029 | Production PV2 in (Wh) for the previous day | Ed2- | kWh | kWh | FLOAT | |
| 15030 | Number of irradiation hours for the current day | Sd | h | h | FLOAT | |

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|--|-------------|-----------------|--|---------------|----------------------------------|
| 15031 | Number of irradiation hours for the previous day | Sd-1 | h | h | FLOAT | |
| 15032 | Battery temperature | Tbat | °C | °C | FLOAT | |
| 15033 | Max PV voltage for the current day | Upmx | Vdc | V | FLOAT | |
| 15034 | Max PV1 voltage for the current day | Upm1 | Vdc | V | FLOAT | |
| 15035 | Max PV2 voltage for the current day | Upm2 | Vdc | V | FLOAT | |
| 15036 | Max battery current of the current day | Ibmx | Adc | A | FLOAT | |
| 15037 | Max PV power for the current day | Ppmx | kW | kW | FLOAT | |
| 15038 | Max PV1 power for the current day | Ppm1 | kW | kW | FLOAT | |
| 15039 | Max PV2 power for the current day | Ppm2 | kW | kW | FLOAT | |
| 15040 | Max battery voltage for the current day | UbmX | Vdc | V | FLOAT | |
| 15041 | Min battery voltage for the current day | UbmN | Vdc | V | FLOAT | |
| 15042 | Time in absorption of the current day | TabS | h | h | FLOAT | |
| 15043 | BAT- and Earth voltage | BatE | Vdc | V | FLOAT | |
| 15044 | PV- and Earth voltage | pv-E | Vdc | V | FLOAT | |
| 15045 | PV1- and Earth voltage | pv1E | Vdc | V | FLOAT | |
| 15046 | PV2- and Earth voltage | pv2E | Vdc | V | FLOAT | |
| 15049 | Type of error | Err | | 0:None 1:OverV_B 2:OverV_PV 3:OverV_PV1 4:OverV_PV2 5:OverI_PV 6:OverI_PV1 7:OverI_PV2 8:GroundBat 9:GroundPV 10:GroundPV1 11:GroundPV2 12:OverTemp 13:UnderV_B 14:Cabling 15:Other | SHORT ENUM | |
| 15050 | Synchronized with Xtender battery cycle | Sync | | 0:No 1:Yes | SHORT ENUM | |

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|---|-------------|-----------------|--|---------------|---|
| 15051 | Synchronisation state | Sync | | 0:--- 1:--- 2:--- 3:--- 4:XTslave 5:VTslave 6:--- 7:--- 8:VTmaster 9:Autonom 10:VSslave 11:VSmaster | SHORT ENUM | |
| 15052 | Number of days before next equalization | EqIn | days | days | FLOAT | |
| 15053 | Battery set point | Bset | Vdc | V | FLOAT | |
| 15054 | Battery voltage (minute avg) | Ubat | Vdc | V | FLOAT | |
| 15055 | Battery voltage (minute max) | Ubat+ | Vdc | V | FLOAT | |
| 15056 | Battery voltage (minute min) | Ubat- | Vdc | V | FLOAT | |
| 15057 | Battery current (minute avg) | Ibat | Adc | A | FLOAT | |
| 15058 | PV voltage (minute avg) | Upv | Vdc | V | FLOAT | |
| 15059 | PV1 voltage (minute avg) | Upv1 | Vdc | V | FLOAT | |
| 15060 | PV2 voltage (minute avg) | Upv2 | Vdc | V | FLOAT | |
| 15061 | PV power (minute avg) | Ppv | kW | kW | FLOAT | |
| 15062 | PV1 power (minute avg) | Ppv1 | kW | kW | FLOAT | |
| 15063 | PV2 power (minute avg) | Ppv2 | kW | kW | FLOAT | |
| 15064 | Battery temperature (minute avg) | Tbat | °C | °C | FLOAT | |
| 15065 | Electronic temperature 1 (minute avg) | Dev1 | °C | °C | FLOAT | |
| 15066 | Electronic temperature 1 (minute max) | Dev1+ | °C | °C | FLOAT | |
| 15067 | Electronic temperature 1 (minute min) | Dev1- | °C | °C | FLOAT | |
| 15068 | Electronic temperature 2 (minute avg) | Dev2 | °C | °C | FLOAT | |
| 15069 | Electronic temperature 2 (minute max) | Dev2+ | °C | °C | FLOAT | |
| 15070 | Electronic temperature 2 (minute min) | Dev2- | °C | °C | FLOAT | |
| 15071 | Number of parameters (in code) | pCod | | | FLOAT | |
| 15072 | Number of parameters (in flash) | pFla | | | FLOAT | |
| 15073 | Number of infos users | iCod | | | FLOAT | |
| 15074 | ID type | ldt | | | FLOAT | VS120 = 12801d (0x3201), VS70 = 13057d (0x3301) |
| 15075 | ID bat voltage | ldv | Vdc | V | FLOAT | |

| Nr | VarioString information description | Short desc. | Unit on the RCC | Unit | Format | Related parameter or description |
|-------|---|-------------|-----------------|----------------------------------|---------------|---|
| 15076 | ID HW | HW | | | FLOAT | |
| 15077 | ID SOFT msb | Smsb | | | FLOAT | See section "Software version encoding" |
| 15078 | ID SOFT lsb | Slsb | | | FLOAT | See section "Software version encoding" |
| 15079 | ID SID | SID | | | FLOAT | |
| 15088 | State of auxiliary Aux 1 | Aux 1 | | 0:Opened 1:Closed | SHORT ENUM | |
| 15089 | State of auxiliary Aux 2 | Aux 2 | | 0:Opened 1:Closed | SHORT ENUM | |
| 15090 | Relay Aux 1 mode | Aux 1 | | 0:-- 1:A 2:I 3:M 4:M | SHORT ENUM | |
| 15091 | Relay Aux 2 mode | Aux 2 | | 0:-- 1:A 2:I 3:M 4:M | SHORT ENUM | |
| 15102 | ID FID msb | | | | FLOAT | See section "FID encoding" |
| 15103 | ID FID lsb | | | | FLOAT | See section "FID encoding" |
| 15108 | State of the VarioString | VS state | | 0:Off 1:On | SHORT ENUM | |
| 15109 | Local daily communication error counter (CAN) | locEr | | | FLOAT | |
| 15111 | Remote entry state | RME | | 0:RM EN 0 1:RM EN 1 | SHORT ENUM | |

1.13 RCC messages

| Level | Nr | Messages |
|-------|----|--|
| V.O. | 0 | Warning (000): Battery low |
| V.O. | 1 | Warning (001): Battery too high |
| V.O. | 2 | Warning (002): Bulk charge too long |
| V.O. | 3 | (003): AC-In synchronization in progress |
| V.O. | 4 | Warning (004): Input frequency AC-In wrong |
| V.O. | 5 | Warning (005): Input frequency AC-In wrong |

| Level | Nr | Messages |
|-------|----|--|
| V.O. | 6 | Warning (006): Input voltage AC-In too high |
| V.O. | 7 | Warning (007): Input voltage AC-In too low |
| V.O. | 8 | Halted (008): Inverter overload SC |
| V.O. | 9 | Halted (009): Charger short circuit |
| V.O. | 10 | (010): System start-up in progress |
| V.O. | 11 | Warning (011): AC-In Energy quota |
| V.O. | 12 | (012): Use of battery temperature sensor |
| V.O. | 13 | (013): Use of additional remote control |
| V.O. | 14 | Halted (014): Over temperature EL |
| V.O. | 15 | Halted (015): Inverter overload BL |
| V.O. | 16 | Warning (016): Fan error detected |
| V.O. | 17 | (017): Programing mode |
| V.O. | 18 | Warning (018): Excessive battery voltage ripple |
| V.O. | 19 | Halted (019): Battery undervoltage |
| V.O. | 20 | Halted (020): Battery overvoltage |
| V.O. | 21 | (021): Transfer not authorized, AC-Out current is higher than {1107} |
| V.O. | 22 | Halted (022): Voltage presence on AC-Out |
| V.O. | 23 | Halted (023): Phase not defined |
| V.O. | 24 | Warning (024): Change the clock battery |
| V.O. | 25 | Halted (025): Unknown Command board. Software upgrade needed |
| V.O. | 26 | Halted (026): Unknown Power board. Software upgrade needed |
| V.O. | 27 | Halted (027): Unknown extension board. Software upgrade needed |
| V.O. | 28 | Halted (028): Voltage incompatibility Power - Command |
| V.O. | 29 | Halted (029): Voltage incompatibility Ext. - Command |
| V.O. | 30 | Halted (030): Power incompatibility Power - Command |
| V.O. | 31 | Halted (031): Command board software incompatibility |
| V.O. | 32 | Halted (032): Power board software incompatibility |
| V.O. | 33 | Halted (033): Extension board software incompatibility |
| V.O. | 34 | Halted (034): FID corruption, call factory |
| V.O. | 35 | (035): Memory structure modified |
| V.O. | 36 | Halted (036): Parameter file lacking |
| V.O. | 37 | Warning (037): Message file lack. SW upgrade advised |
| V.O. | 38 | Warning (038): Upgrade of the device software advised |
| V.O. | 39 | Warning (039): Upgrade of the device software advised |
| V.O. | 40 | Warning (040): Upgrade of the device software advised |
| V.O. | 41 | Warning (041): Over temperature TR |

| Level | Nr | Messages |
|-------|----|--|
| V.O. | 42 | Halted (042): Unauthorized energy source at the output |
| V.O. | 43 | (043): Start of monthly test |
| V.O. | 44 | (044): End of successfully monthly test |
| V.O. | 45 | Warning (045): Monthly autonomy test failed |
| V.O. | 46 | (046): Start of weekly test |
| V.O. | 47 | (047): End of successfully weekly test |
| V.O. | 48 | Warning (048): Weekly autonomy test failed |
| V.O. | 49 | (049): Transfer opened because AC-In max current exceeded {1107} |
| V.O. | 50 | Error (050): Incomplete data transfer |
| V.O. | 51 | (051): The update is finished |
| V.O. | 52 | (052): Your installation is already updated |
| V.O. | 53 | Halted (053): Devices not compatible, software update required |
| V.O. | 54 | (054): Please wait. Data transfer in progress |
| V.O. | 55 | Error (055): No SD card inserted |
| V.O. | 56 | Warning (056): Upgrade of the RCC software advised |
| V.O. | 57 | (057): Operation finished successfully |
| V.O. | 58 | Halted (058): Master synchronization missing |
| V.O. | 59 | Halted (059): Inverter overload HW |
| V.O. | 60 | Warning (060): Time security 1512 AUX1 |
| V.O. | 61 | Warning (061): Time security 1513 AUX2 |
| V.O. | 62 | Warning (062): Genset, no AC-In coming after AUX command |
| V.O. | 63 | (063): Save parameter XT |
| V.O. | 64 | (064): Save parameter BSP |
| V.O. | 65 | (065): Save parameter VarioTrack |
| V.O. | 71 | Error (071): Insufficient disk space on SD card |
| V.O. | 72 | Halted (072): COM identification incorrect |
| V.O. | 73 | (073): Datalogger is enabled on this RCC |
| V.O. | 74 | (074): Save parameter Xcom-MS |
| V.O. | 75 | (075): MPPT MS address changed successfully |
| V.O. | 76 | Error (076): Error during change of MPPT MS address |
| V.O. | 77 | Error (077): Wrong MPPT MS DIP Switch position |
| V.O. | 78 | (078): SMS or email sent |
| V.O. | 79 | Halted (079): More than 9 XTs in the system |
| V.O. | 80 | Halted (080): No battery (or reverse polarity) |
| V.O. | 81 | Warning (081): Earthing fault |
| V.O. | 82 | Halted (082): PV overvoltage |

| Level | Nr | Messages |
|-------|-----|--|
| V.O. | 83 | Warning (083): No solar production in the last 48h |
| V.O. | 84 | (084): Equalization performed |
| V.O. | 85 | Error (085): Modem not available |
| V.O. | 86 | Error (086): Incorrect PIN code, unable to initiate the modem |
| V.O. | 87 | Error (087): Insufficient Signal from GSM modem |
| V.O. | 88 | Error (088): No connection to GSM network |
| V.O. | 89 | Error (089): No Xcom server access |
| V.O. | 90 | (090): Xcom server connected |
| V.O. | 91 | Warning (091): Update finished. Update software of other RCC/Xcom-232i |
| V.O. | 92 | Error (092): More than 4 RCC or Xcom in the system |
| V.O. | 93 | Error (093): More than 1 BSP in the system |
| V.O. | 94 | Error (094): More than 1 Xcom-MS in the system |
| V.O. | 95 | Error (095): More than 15 VarioTrack in the system |
| V.O. | 121 | Error (121): Impossible communication with target device |
| V.O. | 122 | Error (122): SD card corrupted |
| V.O. | 123 | Error (123): SD card not formatted |
| V.O. | 124 | Error (124): SD card not compatible |
| V.O. | 125 | Error (125): SD card format not recognized. Should be FAT |
| V.O. | 126 | Error (126): SD card write protected |
| V.O. | 127 | Error (127): SD card, file(s) corrupted |
| V.O. | 128 | Error (128): SD card file or directory could not be found |
| V.O. | 129 | Error (129): SD card has been prematurely removed |
| V.O. | 130 | Error (130): Update directory is empty |
| V.O. | 131 | (131): The VarioTrack is configured for 12V batteries |
| V.O. | 132 | (132): The VarioTrack is configured for 24V batteries |
| V.O. | 133 | (133): The VarioTrack is configured for 48V batteries |
| V.O. | 134 | (134): Reception level of the GSM signal |
| V.O. | 137 | (137): VarioTrack master synchronization lost |
| V.O. | 138 | Error (138): XT master synchronization lost |
| V.O. | 139 | (139): Synchronized on VarioTrack master |
| V.O. | 140 | (140): Synchronized on XT master |
| V.O. | 141 | Error (141): More than 1 Xcom-SMS in the system |
| V.O. | 142 | Error (142): More than 15 VarioString in the system |
| V.O. | 143 | (143): Save parameter Xcom-SMS |
| V.O. | 144 | (144): Save parameter VarioString |
| V.O. | 145 | Error (145): SIM card blocked, PUK code required |

| Level | Nr | Messages |
|-------|-----|--|
| V.O. | 146 | Error (146): SIM card missing |
| V.O. | 147 | Error (147): Install R532 firmware release prior to install an older release |
| V.O. | 148 | (148): Datalogger function interrupted (SD card removed) |
| V.O. | 149 | Error (149): Parameter setting incomplete |
| V.O. | 150 | Error (150): Cabling error between PV and VarioString |
| V.O. | 162 | Error (162): Communication loss with RCC or Xcom-232i |
| V.O. | 163 | Error (163): Communication loss with Xtender |
| V.O. | 164 | Error (164): Communication loss with BSP |
| V.O. | 165 | Error (165): Communication loss with Xcom-MS |
| V.O. | 166 | Error (166): Communication loss with VarioTrack |
| V.O. | 167 | Error (167): Communication loss with VarioString |
| V.O. | 168 | (168): Synchronized with VarioString master |
| V.O. | 169 | (169): Synchronization with VarioString master lost |
| V.O. | 170 | Warning (170): No solar production in the last 48h on PV1 |
| V.O. | 171 | Warning (171): No solar production in the last 48h on PV2 |
| V.O. | 172 | Error (172): FID change impossible. More than one unit. |
| V.O. | 173 | Error (173): Incompatible Xtender. Please contact Studer Innotec SA |
| V.O. | 174 | (174): Inaccessible parameter, managed by the Xcom-CAN |
| V.O. | 175 | Halted (175): Critical undervoltage |
| V.O. | 176 | (176): Calibration setting lost |
| V.O. | 177 | (177): An Xtender has started up |
| V.O. | 178 | (178): No BSP. Necessary for programming with SOC |
| V.O. | 179 | (179): No BTS or BSP. Necessary for programming with temperature |
| V.O. | 180 | (180): Command entry activated |
| V.O. | 181 | Error (181): Disconnection of BTS |
| V.O. | 182 | (182): BTS/BSP battery temperature measurement used by a device |
| V.O. | 183 | Halted (183): An Xtender has lost communication with the system |
| V.O. | 184 | Error (184): Check phase orientation or circuit breakers state on AC-In |
| V.O. | 185 | Warning (185): AC-In voltage level with delay too low |
| V.O. | 186 | Halted (186): Critical undervoltage (fast) |
| V.O. | 187 | Halted (187): Critical overvoltage (fast) |
| V.O. | 188 | (188): CAN stage startup |
| V.O. | 189 | Error (189): Incompatible configuration file |
| V.O. | 190 | (190): The Xcom-SMS is busy |
| V.O. | 191 | (191): Parameter not supported |
| V.O. | 192 | (192): Unknown reference |

| Level | Nr | Messages |
|-------|-----|--|
| V.O. | 193 | (193): Invalid value |
| V.O. | 194 | (194): Value too low |
| V.O. | 195 | (195): Value too high |
| V.O. | 196 | (196): Writing error |
| V.O. | 197 | (197): Reading error |
| V.O. | 198 | (198): User level insufficient |
| V.O. | 199 | (199): No data for the report |
| V.O. | 200 | Error (200): Memory full |
| V.O. | 202 | Warning (202): Battery alarm arrives |
| V.O. | 203 | (203): Battery alarm leaves |
| V.O. | 204 | Error (204): Battery stop arrives |
| V.O. | 205 | (205): Battery stop leaves |
| V.O. | 206 | Halted (206): Board hardware incompatibility |
| V.O. | 207 | (207): AUX1 relay activation |
| V.O. | 208 | (208): AUX1 relay deactivation |
| V.O. | 209 | (209): AUX2 relay activation |
| V.O. | 210 | (210): AUX2 relay deactivation |
| V.O. | 211 | (211): Command entry deactivated |
| V.O. | 212 | Error (212): VarioTrack software incompatibility. Upgrade needed |
| V.O. | 213 | (213): Battery current limitation by the BSP stopped |
| V.O. | 214 | Warning (214): Half period RMS voltage limit exceeded, transfer opened |
| V.O. | 215 | Warning (215): UPS limit reached, transfer opened |
| V.O. | 216 | Warning (216): Scm watchdog caused the reset of Xcom-232i |
| V.O. | 217 | Warning (217): CAN problem at Xtender declaration |
| V.O. | 218 | Warning (218): CAN problem while writing parameters |
| V.O. | 222 | (222): Front ON/OFF button pressed |
| V.O. | 223 | (223): Main OFF detected |
| V.O. | 224 | (224): Delay before closing transfer relay in progress {1580} |
| V.O. | 225 | Error (225): Communication with lithium battery lost |
| V.O. | 226 | (226): Communication with lithium battery restored |
| V.O. | 227 | Error (227): Overload on high voltage DC side |
| V.O. | 228 | Error (228): Startup error |
| V.O. | 229 | Error (229): Short-circuit on high voltage DC side |