

## Single Phase Low Voltage Energy Storage Inverters

New PLUS model provides solutions for demanding power scenarios

### Features:

- Generator-compatible to extend backup duration during grid power outage
- Multiple inverters can operate together to form a microgrid
- Supports dual backup ports for intelligent control of critical and non-critical loads
- 10 seconds of 200% overload capability
- Automatic switchover time is <4ms, providing seamless transitions from grid to backup
- Ensures excellent power supply stability, keeping the load unaffected by a weak grid or generator supply fluctuations

### Models:

1P3K, 1P5K, 1P6K, 1P8K



# DATASHEET

# 1P(3-8)K

| Models                                   | 3K                                                                                                | 5K              | 6K                      | 8K              |
|------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------|-------------------------|-----------------|
| <b>Input DC (PV side)</b>                |                                                                                                   |                 |                         |                 |
| Recommended max. PV array size           | 6 kW                                                                                              | 10 kW           | 12 kW                   | 16 kW           |
| Max. usable PV input power               | 4.8 kW                                                                                            | 8 kW            | 9.6 kW                  | 12.8 kW         |
| Max. input voltage                       | 500 V                                                                                             |                 |                         |                 |
| Rated voltage                            | 330 V                                                                                             |                 |                         |                 |
| Start-up voltage                         | 90 V                                                                                              |                 |                         |                 |
| MPPT voltage range                       | 90 - 435 V                                                                                        |                 |                         |                 |
| Max. input current                       | 16 A / 16 A                                                                                       |                 |                         | 32 A / 32 A     |
| Max. short circuit current               | 20 A / 20 A                                                                                       |                 |                         | 40 A / 40 A     |
| MPPT number / Max. input strings number  | 2 / 2                                                                                             |                 |                         | 2 / 4           |
| <b>Battery</b>                           |                                                                                                   |                 |                         |                 |
| Battery type                             | Li-ion / Lead-acid                                                                                |                 |                         |                 |
| Battery voltage range                    | 40 - 60 V                                                                                         |                 |                         |                 |
| Max. charge / discharge power            | 3 kW                                                                                              | 5 kW            | 6 kW                    | 8 kW            |
| Max. charge / discharge current          | 70 A                                                                                              | 112 A           | 135 A                   | 190 A           |
| Communication                            | CAN / RS485                                                                                       |                 |                         |                 |
| <b>Output AC (Grid side)</b>             |                                                                                                   |                 |                         |                 |
| Rated output power                       | 3 kW                                                                                              | 5 kW            | 6 kW                    | 8 kW            |
| Max. apparent output power               | 3 kVA                                                                                             | 5 kVA           | 6 kVA                   | 8 kVA           |
| Operation phase                          | L/N/PE                                                                                            |                 |                         |                 |
| Rated grid voltage                       | 220 V / 230 V                                                                                     |                 |                         |                 |
| Rated grid frequency                     | 50 Hz / 60 Hz                                                                                     |                 |                         |                 |
| Rated grid output current                | 13.7 A / 13.1 A                                                                                   | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Max. output current                      | 13.7 A / 13.1 A                                                                                   | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Power factor                             | > 0.99 (0.8 leading - 0.8 lagging)                                                                |                 |                         |                 |
| THDi                                     | < 2%                                                                                              |                 |                         |                 |
| <b>Input AC (Grid side)</b>              |                                                                                                   |                 |                         |                 |
| Input voltage range                      | 187 - 253 V                                                                                       |                 |                         |                 |
| Max. input current                       | 21 A                                                                                              | 32 A            | 40 A                    | 50 A            |
| Frequency range                          | 45 - 55 Hz / 55 - 65 Hz                                                                           |                 |                         |                 |
| <b>Output AC (Back-up)</b>               |                                                                                                   |                 |                         |                 |
| Rated output power                       | 3 kW                                                                                              | 5 kW            | 6 kW                    | 8 kW            |
| Max. apparent output power               | 2 times of rated power, 10 s                                                                      |                 |                         |                 |
| Back-up switch time                      | < 4 ms                                                                                            |                 |                         |                 |
| Rated output voltage                     | L/N/PE, 220 V / 230 V                                                                             |                 |                         |                 |
| Rated frequency                          | 50 Hz / 60 Hz                                                                                     |                 |                         |                 |
| Rated output current                     | 13.7 A / 13.1 A                                                                                   | 22.8 A / 21.8 A | 27.3 A / 26.1 A         | 36.4 A / 34.8 A |
| Max. AC passthrough current              | 35 A                                                                                              | 40 A            | 40 A                    | 50 A            |
| THDv (@linear load)                      | < 2%                                                                                              |                 |                         |                 |
| <b>Efficiency</b>                        |                                                                                                   |                 |                         |                 |
| Max. efficiency                          | 96.2%                                                                                             |                 |                         |                 |
| EU efficiency                            | 96.1%                                                                                             |                 |                         |                 |
| BAT charged by PV / AC max. efficiency   | 95.3% / 93.9%                                                                                     |                 |                         |                 |
| BAT discharged to AC max. efficiency     | 93.8%                                                                                             |                 |                         |                 |
| <b>Protection</b>                        |                                                                                                   |                 |                         |                 |
| Ground fault monitoring                  | Yes                                                                                               |                 |                         |                 |
| Residual current detection               | Yes                                                                                               |                 |                         |                 |
| DC reverse-polarity protection           | Yes                                                                                               |                 |                         |                 |
| Integrated AFCI 2.0                      | Optional                                                                                          |                 |                         |                 |
| Protection class / Over voltage category | I / II (PV and BAT), III (MAINS and BACKUP and GEN)                                               |                 |                         |                 |
| <b>General Data</b>                      |                                                                                                   |                 |                         |                 |
| Dimensions (W*H*D)                       | 335 × 560 × 227 mm                                                                                |                 |                         |                 |
| Weight                                   | 21.6 kg                                                                                           |                 |                         | 22.2 kg         |
| Topology                                 | High frequency isolation (for battery)                                                            |                 |                         |                 |
| Operating ambient temperature range      | - 40 - +60°C                                                                                      |                 |                         |                 |
| Ingress protection                       | IP66                                                                                              |                 |                         |                 |
| Cooling concept                          | Natural cooling                                                                                   |                 | Intelligent fan-cooling |                 |
| Max. operation altitude                  | 3000 m                                                                                            |                 |                         |                 |
| Grid connection standard                 | NRS 097-2-1, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530, MEA, PEA, NBR 16149, NBR 16150 |                 |                         |                 |
| Safety / EMC standard                    | IEC/EN 62109-1/-2, EN 61000-6-2/-3                                                                |                 |                         |                 |
| <b>Features</b>                          |                                                                                                   |                 |                         |                 |
| DC connection                            | MC4 plug (PV port) / Terminal Block (BAT port)                                                    |                 |                         |                 |
| AC connection                            | Terminal Block                                                                                    |                 |                         |                 |
| Display                                  | 7.0" LCD display & Bluetooth + APP                                                                |                 |                         |                 |
| Communication                            | RS485, CAN, Optional: S3-WiFi-ST, S3-GRPS-ST, LAN                                                 |                 |                         |                 |