

# PowerNest H3

Hybrid Inverter for Sodium-ion Battery



|  | Datasheet                                  | PNH-8-05                        | PNH-10-05         | PNH-12-05         |
|--|--|---------------------------------|-------------------|-------------------|
| Input data (PV)                          | Max. recommended PV power (for module STC) | 12,800W                         | 16,000W           | 19,200W           |
|  | Max. input voltage                         | 1,000V                          |                   |                   |
|  | Start voltage                              | 180V                            |                   |                   |
|  | Nominal voltage                            | 600V                            |                   |                   |
|  | MPPT voltage range                         | 150V-850V                       |                   |                   |
|  | Max. input current per MPP tracker         | 20A                             |                   | 40A               |
|  | Max. short-circuit current per MPP tracker | 25A                             |                   | 50A               |
|  | No. of PV strings per MPP tracker          | 1                               |                   | 2/1               |
|  | No. of MPP trackers                        | 2                               |                   |                   |
| Input/Output AC (Including the Gen Port) | AC input/output nominal power(Grid)        | 16,000W/8,000W                  | 20,000W/10,000W   | 24,000W/12,000W   |
|  | Max. AC input/output apparent power(Grid)  | 17,600VA/8,800VA                | 22,000VA/11,000VA | 26,400VA/13,200VA |
|  | Max. input/output current(Grid)            | 26.6A/13.3A                     | 33.3A/16.7A       | 40.0A/20.0A       |
|  | Max. input current(GEN/AC couple)          | 24.2A                           | 30.4A             | 36.4A             |
|  | Max. continuous AC passthrough current     | 50.1A                           |                   |                   |
|  | Nominal AC voltage/range                   | 220V/380V, 230V/400V, -15%~+10% |                   |                   |
|  | Nominal AC grid frequency/range            | 50/60Hz, 45~55Hz/55-65 Hz       |                   |                   |
|  | Adjustable power factor                    | -1...+1                         |                   |                   |
|  | THDi                                       | <3%                             |                   |                   |
|  | AC grid connection type                    | 3P3W+PE/3P4W+PE                 |                   |                   |



## Hybrid Inverter H3 (PNH-8/10/12-05 ), Three Phase, On-Grid

| Datasheet          |   | PNH-8-05                                   | PNH-10-05              | PNH-12-05                |
|--------------------|---|--|------------------------|--------------------------|
| Battery data (DC)  | Battery type                                  | Sodium ion battery                         |                        |                          |
|                    | Battery voltage range/Rated voltage           | 33-60V /48V                                |                        |                          |
|                    | Max charging and discharging current          | 200A                                       | 220A                   | 250A                     |
|                    | BMS communication                             | RS485/CAN                                  |                        |                          |
| Backup power (AC)  | Rated AC output power                         | 8,000W                                     | 10,000W                | 12,000W                  |
|                    | Max. AC apparent power                        | 2 time of rated power, 10s                 |                        |                          |
|                    | Rated AC output voltage                       | 220V/380V, 230V/400V                       |                        |                          |
|                    | Nominal AC output frequency                   | 50/60Hz                                    |                        |                          |
|                    | Max. output current                           | 24.2A@220V<br>23.2A@230V                   | 30.3A@220V<br>29A@230V | 36.4A@220V<br>34.8A@230V |
|                    | THDv  | 3% (Linear load)                           |                        |                          |
|                    | Load unbalance                                | 100% three-phase unbalanced                |                        |                          |
|                    | On/off grid transfer time                     | 10ms                                       |                        |                          |
| Efficiency         | Max. efficiency                               | 97.60%                                     |                        |                          |
|                    | European efficiency                           | 97.00%                                     |                        |                          |
|                    | MPPT efficiency                               | 99.90%                                     |                        |                          |
| Protection devices | PV reverse polarity protection                | Yes  |                        |                          |
|                    | DC switch                                     | Yes  |                        |                          |
|                    | DC/AC surge protection                        | Type II/Type III                           |                        |                          |
|                    | Insulation resistance monitoring              | Yes  |                        |                          |
|                    | Residual-current monitoring unit              | Yes  |                        |                          |
|                    | AC short-circuit protection                   | Yes  |                        |                          |
|                    | AC short-circuit protection                   | Yes  |                        |                          |
|                    | Ground fault monitoring                       | Yes  |                        |                          |
|                    | Grid monitoring                               | Yes  |                        |                          |
|                    | Strings monitoring                            | Yes  |                        |                          |
|                    | Anti-islanding protection                     | Yes  |                        |                          |
|                    | PID protection                                | Opt  |                        |                          |
| AFCI function      | Opt   |  |                        |                          |
| General            | Dimensions (W x H x D)                        | 475 x 698 x 240 mm (18.7 x 27.4 x 9.45 in) |                        |                          |
|                    | Weight  | 43kg                                       |                        |                          |
|                    | Operating temperature range                   | -30°C ... +60°C (> 45°C, derating)         |                        |                          |
|                    | Noise   | ≤50dB(A)                                   |                        |                          |
|                    | Relative humidity                             | 0~100%                                     |                        |                          |
|                    | Altitude                                      | 3,000m                                     |                        |                          |
|                    | Topology                                      | Transformerless                            |                        |                          |
|                    | Cooling                                       | Smart air cooling                          |                        |                          |
|                    | IP degree                                     | IP66                                       |                        |                          |
|                    | Display                                       | OLED/LED+APP                               |                        |                          |
|                    | Interfaces: RS485/USB                         | Yes  |                        |                          |
|                    | Interfaces: WIFI/LAN                          | Yes  |                        |                          |
| Certification      | IEC62109、IEC61000、EN50549-1/-10、EN50549、N4105 |  |                        |                          |