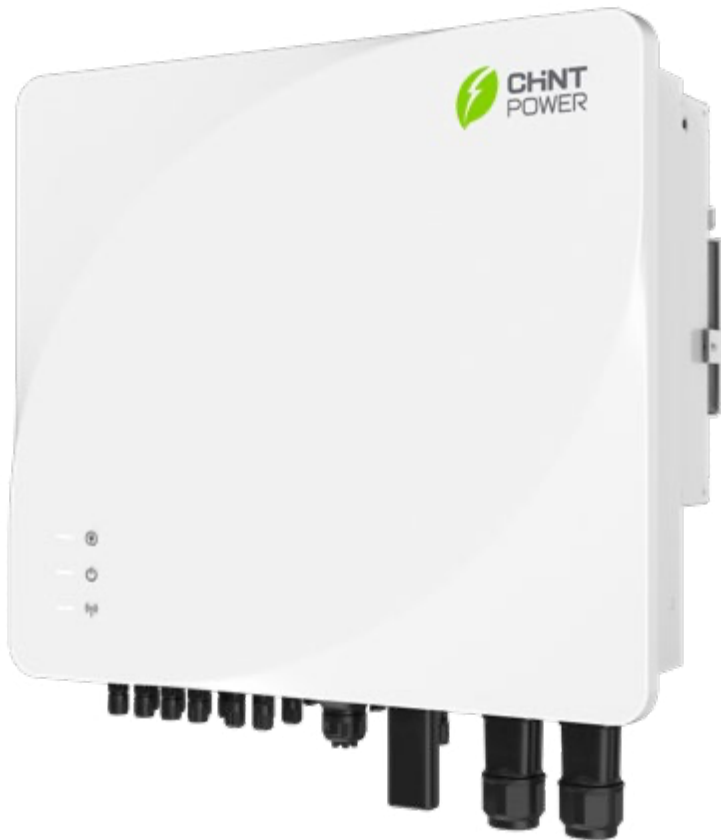


# ECH8~20K-TH-EU

## Three Phase Residential Hybrid Inverter



### High Return

- Max efficiency 98.3%, Battery efficiency 97.5%
- 5 basic modes to meet the needs of various scenarios
- Smart TOU mode, further increasing revenue

### High Capability

- Up to 40kW output power in backup port with grid supply
- Save cost of separating loads, freedom of electricity in case of power failure
- Supports SG Ready heat pump and smart load control
- Three-phase unbalance capacity, single-phase up to 50% of rated power

### High Protection

- Standard AFCI to protect your home
- Built-in Type II SPD on DC side
- IP66 protection for challenging environments

| Model                                                                                                       | ECH8K-TH-EU                                                                                                   | ECH10K-TH-EU    | ECH12K-TH-EU    | ECH15K-TH-EU    | ECH18K-TH-EU    | ECH20K-TH-EU    |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Efficiency                                                                                                  |                                                                                                               |                 |                 |                 |                 |                 |
| Max. Efficiency (PV to Grid)                                                                                | 98.20%                                                                                                        | 98.30%          | 98.30%          | 98.30%          | 98.30%          | 98.30%          |
| Eur.Efficiency (PV to Grid)                                                                                 | 97.50%                                                                                                        | 97.60%          | 97.70%          | 97.70%          | 97.70%          | 97.70%          |
| Max. Efficiency (Battery to Load)                                                                           | 97.50%                                                                                                        | 97.50%          | 97.80%          | 97.80%          | 97.80%          | 97.80%          |
| PV                                                                                                          |                                                                                                               |                 |                 |                 |                 |                 |
| Rated Input Voltage                                                                                         | 600V                                                                                                          | 600V            | 600V            | 600V            | 600V            | 600V            |
| Max. Input Voltage                                                                                          | 1100V                                                                                                         | 1100V           | 1100V           | 1100V           | 1100V           | 1100V           |
| Max. Input Power                                                                                            | 12.80kW                                                                                                       | 16.00kW         | 19.20kW         | 24.00kW         | 28.80kW         | 30.00kW         |
| Max. Input Current per MPPT                                                                                 | 16A/16A/16A/16A                                                                                               | 16A/16A/16A/16A | 16A/16A/16A/16A | 16A/16A/16A/16A | 16A/16A/16A/16A | 16A/16A/16A/16A |
| Max.Short Circuit Current per MPPT                                                                          | 24A/24A/24A/24A                                                                                               | 24A/24A/24A/24A | 24A/24A/24A/24A | 24A/24A/24A/24A | 24A/24A/24A/24A | 24A/24A/24A/24A |
| No. of MPPTs                                                                                                | 4                                                                                                             | 4               | 4               | 4               | 4               | 4               |
| No. of Strings per MPPT                                                                                     | 1                                                                                                             | 1               | 1               | 1               | 1               | 1               |
| Start Input Voltage                                                                                         | 160V                                                                                                          | 160V            | 160V            | 160V            | 160V            | 160V            |
| PV Operating Voltage Range                                                                                  | 160-1000V                                                                                                     | 160-1000V       | 160-1000V       | 160-1000V       | 160-1000V       | 160-1000V       |
| Battery                                                                                                     |                                                                                                               |                 |                 |                 |                 |                 |
| Battery Type                                                                                                | Lithium-ion/Lead-Acid                                                                                         |                 |                 |                 |                 |                 |
| Battery Voltage Range                                                                                       | 160-600V                                                                                                      | 160-600V        | 160-600V        | 160-600V        | 160-600V        | 160-600V        |
| Max. Charge/Discharge Curren                                                                                | 50A/50A                                                                                                       | 50A/50A         | 50A/50A         | 50A/50A         | 50A/50A         | 50A/50A         |
| Max. Charge/Discharge Power                                                                                 | 20kW/8kW                                                                                                      | 20kW/10kW       | 20kW/12kW       | 20kW/15kW       | 20kW/18kW       | 20kW/20kW       |
| Grid                                                                                                        |                                                                                                               |                 |                 |                 |                 |                 |
| Max. Input Current                                                                                          | 60.8A                                                                                                         | 60.8A           | 60.8A           | 60.8A           | 60.8A           | 60.8A           |
| Rated Output Apparent Power                                                                                 | 8.0kVA                                                                                                        | 10.0kVA         | 12.0kVA         | 15.0kVA         | 18.0kVA         | 20.0kVA         |
| Max. Output Apparent Power                                                                                  | 8.8kVA                                                                                                        | 11.0kVA         | 13.2kVA         | 16.5kVA         | 19.8kVA         | 20.0kVA         |
| Rated Output Voltage                                                                                        | 3W / N / PE; 220 / 380<br>3W / N / PE; 230 / 400<br>3W / N / PE; 240 / 415<br>adjustable                      |                 |                 |                 |                 |                 |
| Rated Grid Frequency                                                                                        | 50Hz/60Hz                                                                                                     |                 |                 |                 |                 |                 |
| THDI                                                                                                        | <3% (Rated Power)                                                                                             |                 |                 |                 |                 |                 |
| Power Factor                                                                                                | > 0.99 Rated power (Adjustable 0.8 Leading - 0.8Lagging)                                                      |                 |                 |                 |                 |                 |
| Backup Port                                                                                                 |                                                                                                               |                 |                 |                 |                 |                 |
| Max. Output Current (On Grid)                                                                               | 60.8A                                                                                                         | 60.8A           | 60.8A           | 60.8A           | 60.8A           | 60.8A           |
| Max. Output Apparent Power (On Grid)                                                                        | 40.0kVA                                                                                                       | 40.0kVA         | 40.0kVA         | 40.0kVA         | 40.0kVA         | 40.0kVA         |
| Max. Output Apparent Power (Off Grid)                                                                       | 8.8kVA                                                                                                        | 11.0kVA         | 13.2 kVA        | 16.5kVA         | 19.8kVA         | 20.0kVA         |
| Peak Output Apparent Power                                                                                  | 22kVA @60s                                                                                                    | 22kVA @60s      | 22kVA @60s      | 22kVA @60s      | 22kVA @60s      | 22kVA @60s      |
| Rated Output Voltage                                                                                        | 380V/400V/415V, 3W+N+PE                                                                                       |                 |                 |                 |                 |                 |
| Rated Output Frequency                                                                                      | 50Hz/60Hz                                                                                                     |                 |                 |                 |                 |                 |
| Max. Output Single Phase Apparent Power                                                                     | 4.0kVA                                                                                                        | 5.0kVA          | 6.0kVA          | 7.5kVA          | 9.0kVA          | 9.0kVA          |
| THDV                                                                                                        | <2% @100% R Load                                                                                              |                 |                 |                 |                 |                 |
| Switching Time                                                                                              | 10ms                                                                                                          | 10ms            | 10ms            | 10ms            | 10ms            | 10ms            |
| Protection                                                                                                  |                                                                                                               |                 |                 |                 |                 |                 |
| DC Switch                                                                                                   | Support                                                                                                       |                 |                 |                 |                 |                 |
| Anti-islanding Protection                                                                                   | Support                                                                                                       |                 |                 |                 |                 |                 |
| AC Overcurrent Protection                                                                                   | Support                                                                                                       |                 |                 |                 |                 |                 |
| AC Short Circuit Protection                                                                                 | Support                                                                                                       |                 |                 |                 |                 |                 |
| PV String Reverse Protection                                                                                | Support                                                                                                       |                 |                 |                 |                 |                 |
| Surge protection                                                                                            | AC Type II, DC Type II                                                                                        |                 |                 |                 |                 |                 |
| AFCI                                                                                                        | Support                                                                                                       |                 |                 |                 |                 |                 |
| RSD Function                                                                                                | Option                                                                                                        |                 |                 |                 |                 |                 |
| General                                                                                                     |                                                                                                               |                 |                 |                 |                 |                 |
| Topology                                                                                                    | Non-Isolated                                                                                                  |                 |                 |                 |                 |                 |
| IP Rating                                                                                                   | IP66                                                                                                          |                 |                 |                 |                 |                 |
| Cooling                                                                                                     | Forced airflow                                                                                                |                 |                 |                 |                 |                 |
| Operating Temperature Range                                                                                 | -25°C-60°C                                                                                                    |                 |                 |                 |                 |                 |
| Relative Humidity Range                                                                                     | 0-100%                                                                                                        |                 |                 |                 |                 |                 |
| Max. Operating Altitude                                                                                     | 4000m                                                                                                         |                 |                 |                 |                 |                 |
| Noise (Typical)                                                                                             | <45dB                                                                                                         |                 |                 |                 |                 |                 |
| Dimensions (W*H*D)                                                                                          | ≈580/500/250mm                                                                                                |                 |                 |                 |                 |                 |
| Weight                                                                                                      | ≈37kg                                                                                                         |                 |                 |                 |                 |                 |
| Display                                                                                                     | LED&APP                                                                                                       |                 |                 |                 |                 |                 |
| Communication                                                                                               | RS485,CAN, WIFI/4G(optional)                                                                                  |                 |                 |                 |                 |                 |
| Certification                                                                                               |                                                                                                               |                 |                 |                 |                 |                 |
| Safety                                                                                                      | IEC62109-1&2, IEC61000, IEC 62477, IEC61727/62116, IEC 61683, IEC63027                                        |                 |                 |                 |                 |                 |
| Grid Code                                                                                                   | EN50549, VDE4105, Tor erzeuger typeA+R25 Tor erzeuger type B, EIFS2018-2, CEI 021, NC RfG, PTPiREE, EN50549-1 |                 |                 |                 |                 |                 |
| * The certificates are for reference only. Please consult the local sales staff for detailed certification. |                                                                                                               |                 |                 |                 |                 |                 |

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