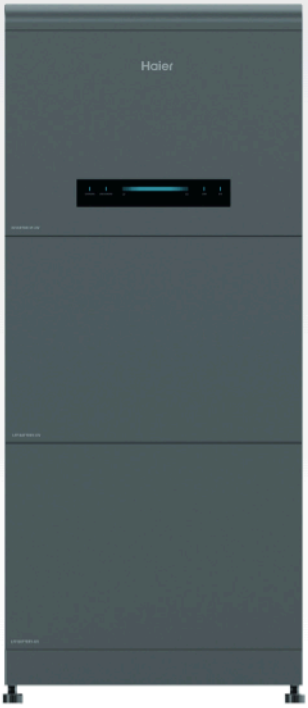
Haier Energy

# E-Tower (HV)

## All-in-One ESS




## Cost-efficient performance in an All-In-One solution

### Smart
Dynamic tariffs ready
Faulty battery modules can be bypassed, ensuring uninterrupted system functionality for the user

### Fast installation
Fast installation, modular design

### Efficient
DC:AC ratio up to 2.0 for a fully charged battery at all times and 3MPPTs for all roof types

### Flexible
IP65 for outdoor applications ground or wall mounted. Scalable capacity from 1 module 4.8kWh up to 6 modules 28,8kWh on 2 clusters

### Worry-free
Backup available at maximum power size in <10ms and AFCI included in both PV and battery sides

### All-In-One
It combines a hybrid inverter and battery packs into one elegant all-in-one unit – also available in a split version for flexible installations

### Advance load balancing
Supports up to 150% 3ph unbalanced loads

# Haier Energy

| Hybrid Inverter | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Model** | HAH3P-4KB1/HU9 | HAH3P-5KB1/HU9 | HAH3P-6KB1/HU9 | HAH3P-8KB1/HU9 | HAH3P-10KB1/HU9 | HAH3P-12KB1/HU9 | HAH3P-15KB1/HU9 |
| **PV String Input Data** | | | | | | | |
| Max. PV Input Power | 8kW | 10kW | 12kW | 16kW | 20kW | 22.5kW | 22.5kW |
| Max PV Input Voltage | 1100V | | | | | | |
| Full load MPPT Voltage Range | 140~950V | | | | | | |
| Startup Voltage | 85V | | | | | | |
| Max. Input Current | 16A / 16A / 16A | | | | | | |
| Max. Short Circuit Current | 24A / 24A / 24A | | | | | | |
| Number of string per MPPT | 1 / 1 / 1 | | | | | | |
| **Battery port** | | | | | | | |
| Battery Type | LiFePO4 | | | | | | |
| Battery Voltage Range | 90~700V | | | | | | |
| Max. Charging Current | 50A | | | | | | |
| Max. Discharging Current | 50A | | | | | | |
| **GRID PORT** | | | | | | | |
| Rated Output Power | 4kVA | 5kVA | 6kVA | 8kVA | 10kVA | 12kVA | 15kVA |
| Max. Output Current | 6.7A | 8.3A | 10A | 13.3A | 16.7A | 20A | 22.8A |
| Max. Output Apparent Power | 4.4kVA | 5.5kVA | 6.6kVA | 8.8kVA | 11kVA | 13.2kVA | 15.75kVA |
| Max.Input Pow | 8kVA | 10kVA | 12kVA | 16kVA | 20kVA | 20kVA | 20kVA |
| Rated Grid Voltage | 220V, 230/400Vac, 3L/N/PE | | | | | | |
| Grid Voltage Range | 150~288Vac | | | | | | |
| Rated Grid Frequency | 50/60Hz | | | | | | |
| Power Factor | Leading -0.8 ~ Lagging+0.8 <3% | | | | | | |
| THDi | | | | | | | |
| **Backup port** | | | | | | | |
| Grid Max Power | 8kVA | 10kVA | 12kVA | 16kVA | 20kVA | 20kVA | 20kVA |
| Rated Backup Power | 4kVA | 5kVA | 6kVA | 8kVA | 10kVA | 12kVA | 15kVA |
| Rated Backup Voltage | 220/380Vac, 230/400Vac, 3L/N/PE | | | | | | |
| Rated Backup Frequency | 50/60Hz | | | | | | |
| THDv | <3% (Linear Load) / <5% (Non-linear Load) | | | | | | |
| Switching Time | <10ms | | | | | | |
| **Efficiency** | | | | | | | |
| Max. Efficiency | 98% | | 98.2% | 98.4% | | | |
| Europe Efficiency | 97.5% | | 97.7% | 97.9% | | | 98% |
| MPPT Efficiency | 99,9% | | | | | | |
| **General data** | | | | | | | |
| Operating Temperature[1] | -25°C~60°C | | | | | | |
| Relative Humidity | 0~100% (No Condensing) | | | | | | |
| Operating Altitude | ≤3000m(Without Derating) | | | | | | |
| Cooling | Natural Convection | | | | | Intelligent Air Cooling | |
| Noise | <30dB | | | | | <45dB | |
| Topology | Transformerless | | | | | | |
| Dimensions WxHxD (mm) | 590x416x205 | | | | | | |
| Protection Degree | IP65 | | | | | | |
| Weight | 29kg | | | | | | |
| Warranty | 10 Years | | | | | | |
| **HMI&COMM.** | | | | | | | |
| Communication With BMS | CAN / RS-485 | | | | | | |
| External Communication | RS-485 / WIFI / Ethernet | | | | | | |
| User Interface | LED | | | | | | |
| **Certificate** | | | | | | | |
| Grid Regulation | VDE-AR-N 4105:2018, G98, G99, C10/11:2021, NTS 631, RD647:2020<br>UNE 217002:2020, CEI 0-21, VDE 0126-1-1, NRS 097-2-1, AS/NZS 4777.2:2020, EN 50549-1 | | | | | | |
| Certification | EC/EN 61000-6, IEC/EN 62109-1&2, IEC/62477-1:2012 | | | | | | |

| **Battery module** | |
|---|---|
| Model | HBHS-4.8KB1/LPP |
| Battery Type | LiFePO4 |
| Rated Voltage | 96V |
| Rated Energy | 4.8kWh |
| Usable Capacity | 4.5kWh |
| Working Voltage Range | 90~108V |
| Rated Charging/ Discharging Current | 50A |
| Max.Charging/ Discharging Current | 50A |
| Depth Of Discharge(DoD) | 95% |
| Life Cycles | 8000 |
| Operating Temperature[1] | Charging 0°C<T<50°C<br>Discharging -10°C<T<50°C |
| Dimensions WxHxD (mm) | 620x430x206 |
| Protection Rate | IP 65 |
| Communication | CAN |
| Warranty | 10 Years |
| Weight(kg) | 54±2 |
| Certification | UN 38.3, EN 61000-6, IEC 62619 |

| **System Parameters** | | | | | | |
|---|---|---|---|---|---|---|
| Production Configuration | HAH3P-4/5/6/8/10/12/15 KB1/HU9 | | | | | |
| | HBHS-4.8KB1/LPP | 2x HBHS-4.8KB1/LPP | 3x HBHS-4.8KB1/LPP | 4x HBHS-4.8KB1/LPP | 5x HBHS-4.8KB1/LPP | 6x HBHS-4.8KB1/LPP |
| System Capacity | 4.8kWh | 9.6kWh | 14.4kWh | 19.2kWh | 24kWh | 28.8kWh |
| System Weight (kg) | 82±2 | 136±2 | 190±2 | 244±2 | 298±2 | 352±2 |
| No. of battery modules | 1 | 2 | 3 | 4 | 5 | 6 |
| Working Humidity | 0~95% (No Condensing) | | | | | |
| Dimensions WxHxD (mm) | 620x935x206 | 620x1365x206 | 629x1795x206 | 629x1795x206 (cluster 1)<br>629x519x206 (cluster 2) | 629x1795x206 (cluster 1)<br>629x949x206 (cluster 2) | 629x1795x206 (cluster 1)<br>629x1379x206 (cluster 2) |

[1] Possible derating ocurring