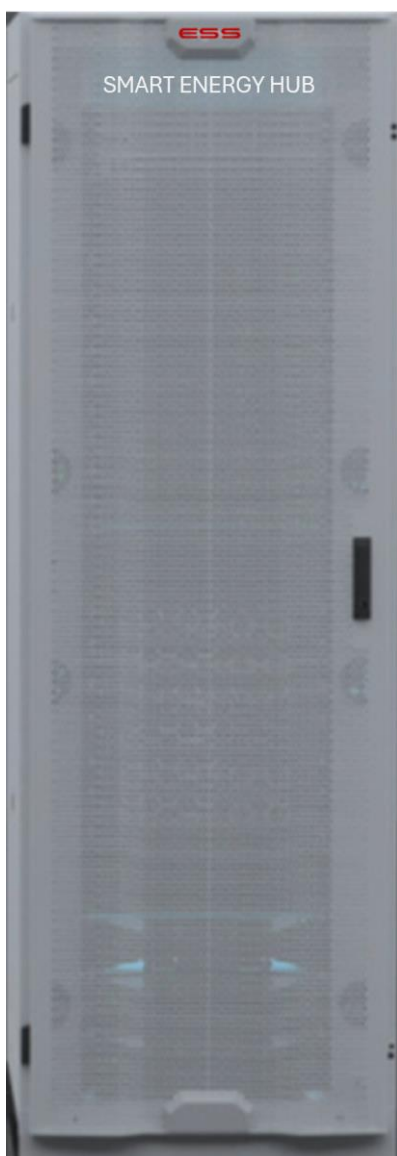


POWERLITE

SMART ENERGY HUB

By

ESS



SEH 10/12/20-20/41/62

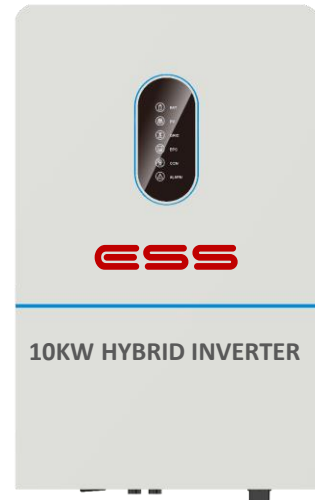
- 20/41/62KWH CATL LFP BATTERIES
- 10/20KW - 120/240/208V HYBRID INVERTER
- 15/30KW PV INPUT VIA 3 MPPT (MAX)
- SUPPORTS AC COUPLED PV INPUT
- INTEGRATED AFCI & RAPID SHUTDOWN
- STANDBY GENSET CONNECTION
- SEAMLESS BACKUP TRANSITION (<10ms)
- ANTI-ISLANDING PROTECTION
- INTEGRATED LOAD MANAGEMENT
- LUMIN SMART PANEL(S)
- PRIORITIZE LOADS IN A GRID OUTAGE
- UP TO 2 x 12 CONTROL CIRCUITS
- ROLLING FLOOR CABINET
- SMART APP
- 10-YEAR WARRANTY

POWERLITE

SMART ENERGY HUB

SPS 10 - 20

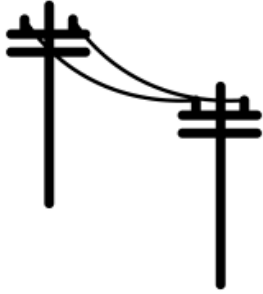
- 10KW HYBRID INVERTER (CHG / DISCHG)
- 15KW PV INPUT (MAX)
- 210A CHARGE / DISCHARGE (MAX)
- 98% ROUND TRIP EFFICIENCY
- HIGH MPPT CURRENT
- ADVANCED PARALLEL FUNCTION
- AC, DC, SURGE, AFCI & RSD PROTECTION
- REMOTE MONITORING (OTA UPDATES)
- INDOOR / OUTDOOR (IP65)



- 10.25KWH LFP BATTERY BANK
- CATL LFP CELLS (30-YEAR LIFE)
- EASY INSTALLATION
- PLUG-N-PLAY OPERATION
- UP TO 16 UNITS IN PARALLEL
- BUILT-IN HEATER FOR LOW TEMP
 - CHARGE: -5°C ~ 55°C
 - DISCHARGE: -15°C ~ 55°C
- CLEAN, CONSISTENT & SAFE POWER
- RELIABLE, RESILIENT & REDUNDANT
- REMOTE MONITORING (OTA UPDATES)
- FLOOR / WALL MOUNTABLE (IP65)



INTEGRATE WITH GRID – SOLAR – GENERATOR



- 10.25KWH LFP BATTERY
- 10KW HYBRID INVERTER

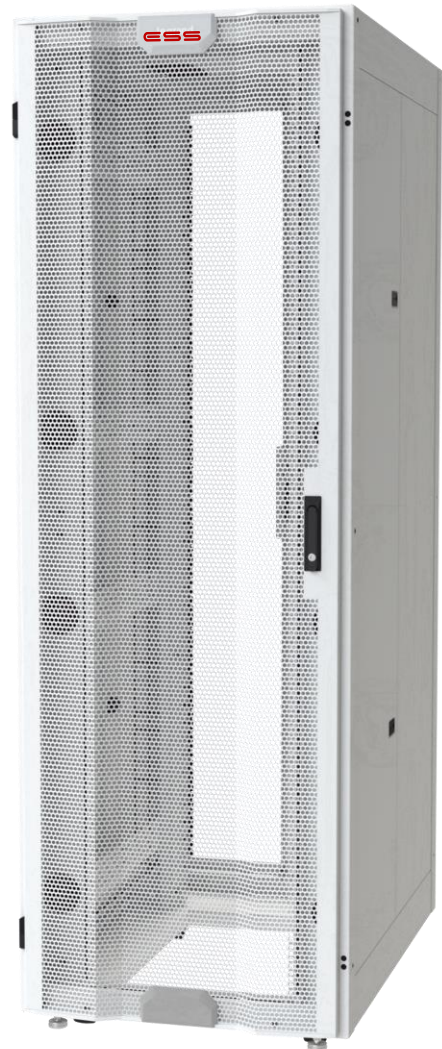
❑ RESIDENTIAL APPLICATIONS

- HOMES
- APARTMENT
- CONDOMINIUM

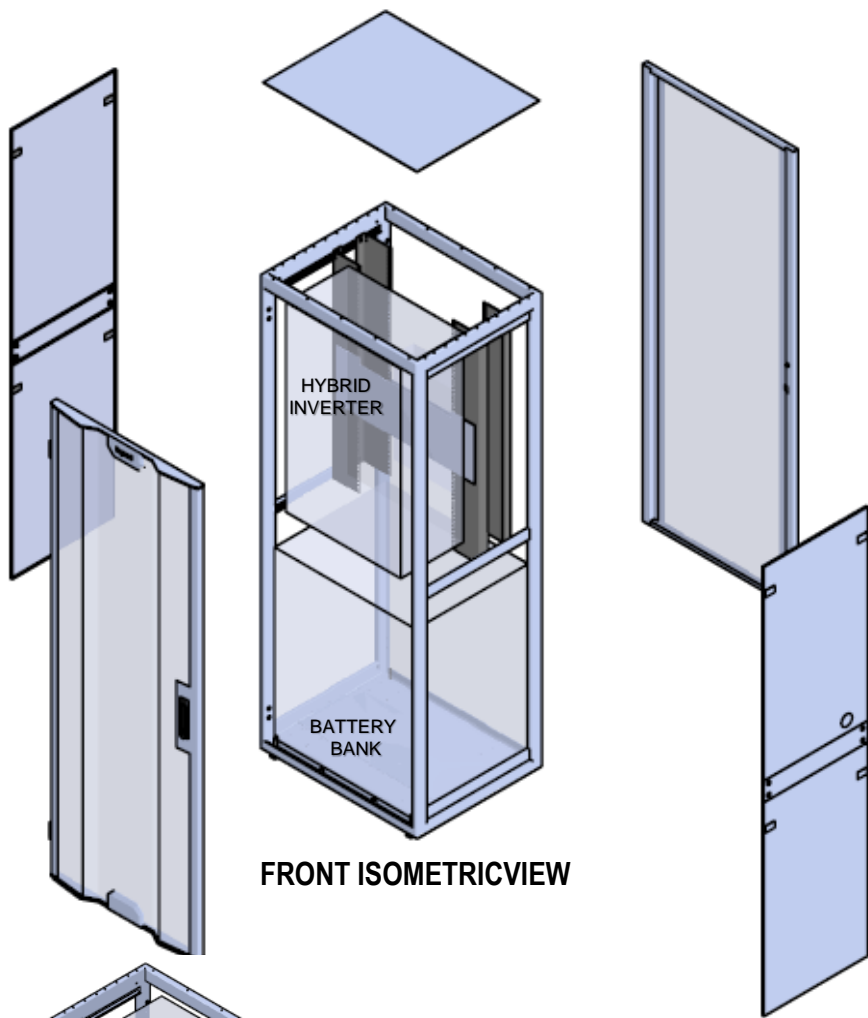
❑ COMMERCIAL APPLICATIONS

- OFFICE, RETAIL

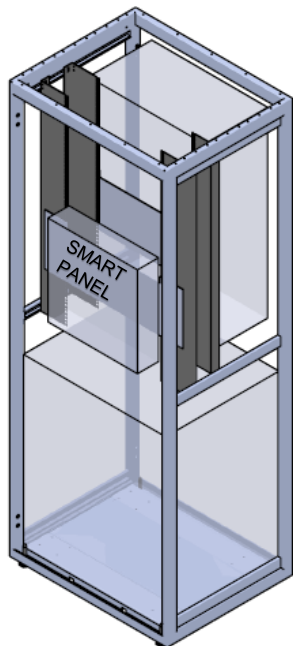
- FANS & LIGHTS
- TV, CABLE MODEM, STEREO
- COMPUTER & INTERNET MODEM
- SMALL APPLIANCES
- REFRIGERATOR / FREEZER
- HVAC UNIT
- GARAGE DOOR OPENER
- PUMPS, ALARMS & SENSORS
- MEDICAL EQUIPMENT
- POWER TOOLS
- RETAIL POINT-OF-SALE SYSTEMS



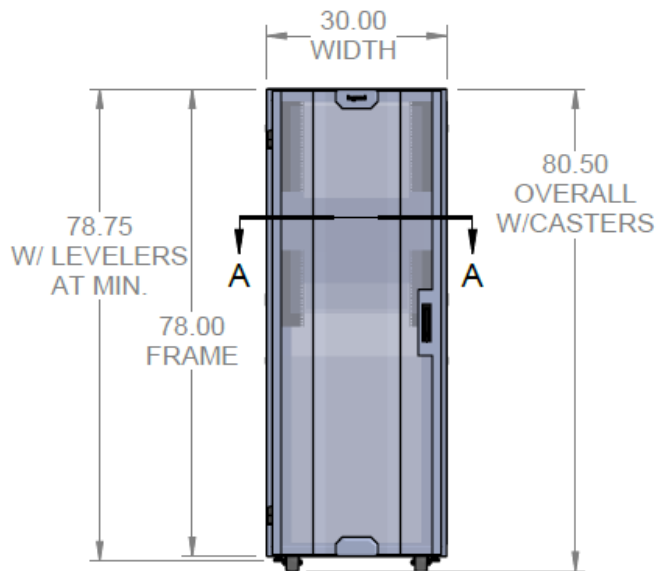
INTEGRATE WITH GRID - SOLAR - GENERATOR



FRONT ISOMETRICVIEW



REAR ISOMETRIC VIEW



BATTERY SPECIFICATIONS

| | | |
|-------------------------------------|--|---|
| Working Voltage Range | 44.8 - 58.4 V | |
| Rated Energy | 1024kWh | |
| Max.ParallelQuantity | Max.16 Units In Parallel - 165 kWh | |
| Rated Charging Current | 0.6C, 120 A | |
| Max. Charging Continuous Current | 0.6C, 120 A | |
| Rated Discharge Current | 0.6C, 120 A | |
| Max. Discharge Continuous Current | 0.6C, 120 A | |
| Battery Max. Charge/Discharge Power | 6.14kW/6.14kW | |
| Peak Discharge Current / Power | 160A / 8.19 kW, 1 min | |
| Standard Charging Method | 0.5C CC to 57.6V; CV at 57.6V Till Current Is 0.05C | |
| Available SOC Range | 0%~ 100% | Recommend 90% DOD |
| SOC Transportation Range | 50% | |
| Dimensions [W*D*H] | Width : 21.65 in Depth : 6.50 in Height : 31.21 in | |
| Weight | ~ 206 lb. | |
| Operating Temperature ¹ | Charging Temperature : -5°C ~ 55°C ; Discharge Temperature : -15°C ~ 55°C | |
| Storage Temperature ² | -15°C ~ 55°C | |
| Working Humidity | <95% RH (Non-Condensing) | |
| Altitude ³ | ≤2000 m | |
| Communication | CAN, RS485, Dry Contact, WiFi | WiFi Stick Option |
| Certificate | TUV, IEC 62619, IEC62040, IEC61000, UN38.3, UL | |
| Designed Cycle Life: (25°C±2°C) | > 8,000 Cycles | 0.5C / 80% DOD / 80% SOH @ 1 cycle per day |
| Heating Power | Max. 230.4W | |
| IP Rating | IP65 | |

INVERTER SPECIFICATIONS

| Model | SE5KH-B-130-D2/UL | SE6KH-B-130-D2/UL | SE7K6H-B-180 T2/UL | SE10KH-B-210-2/UL | SE12KH-B-210-T2/UL |
|---------------------------------|---|-------------------|--------------------|-------------------|--------------------|
| Efficiency | | | | | |
| Max. Efficiency (PV to AC) | | | | 98.0% | |
| Max. Efficiency (BAT to AC) | | | | 94.5% | |
| Input (PV) | | | | | |
| Max. PV Configuration | | | | 200% | |
| Max. PV Input Power | 7,500W | 9,000W | 12,000W | 15,000W | 15,000W |
| Max. PV Voltage | | | | 600V | |
| Start-up Voltage | | | | 90V | |
| MPPT Operating Voltage Range | | | | 70V-550V | |
| Max. Input Current per MPPT | 30A/22A | | | 30A/22A/22A | |
| Max. Short Current per MPPT | 40A/30A | | | 40A/30A/30A | |
| String per MPPT | 4(2/2) | | | 6(2/2/2) | |
| Nos. of MPPT | 2 | | | 3 | |
| Input/Output (BAT) | | | | | |
| Battery Type | | | | Lithium-ion | |
| Nominal Battery Voltage | | | | 48V | |
| Battery Voltage Range | | | | 40V-64V | |
| Max. Charge/Discharge Current | 210A/130A | 210A/130A | 210A/180A | 210A/210A | 210A/210A |
| Max. Charge/Discharge Power | 10,000W/5,000W | 10,000W/6,000W | 10,000W/8,000W | 10,000W/10,000W | 11,400W/12,000W |
| Output (Grid) | | | | | |
| Nominal AC Output Power | 5,000W | 6,000W | 7,600W | 10,000W | 11,400W |
| Max. AC Output Apparent Power | 5,500VA | 6,600VA | 7,600VA | 11,000VA | 11,400VA |
| Max. AC Output Power (PF=1) | 5,500W | 6,600W | 7,600W | 11,000W | 11,400W |
| Nominal AC Output Current | 20.9A/24.1A | 25A/28.9A | 31.7A/36.6A | 41.7A/47.5A | 47.5A/54.8A |
| Max. AC Output Current | 26.5A | 31.8A | 36.6A | 47.5A | 54.8A |
| Nominal Grid Voltage | 120V / 240 (Split phase) / 208V (2/3 phase) | | | | |
| Nominal Grid Frequency | 50Hz / 60Hz | | | | |
| Grid Frequency Range | 45Hz-55Hz / 55Hz-65Hz (Adjustable) | | | | |
| Power Factor | > 0.99 @ rated power (Adjustable 0.8LD - 0.8LG) | | | | |
| THDI | <3% (Rated Power) | | | | |
| Output (Back up) | | | | | |
| Nominal Output Power | 5,000W | 6,000W | 7,600W | 10,000W | 11,400W |
| Nominal Output Current | 20.9A / 24.1A | 25A / 28.9A | 31.7A / 36.6A | 41.7A / 47.5A | 47.5A / 54.8A |
| Peak Output Apparent Power (1s) | 10,000VA | 12,000VA | 15,200VA | 20,000VA | 20,000VA |
| Nominal Output Voltage | 120V / 240V (Split phase) / 208V (2/3 phase) | | | | |
| Nominal Output Frequency | 50Hz / 60Hz | | | | |
| Transfer Time | <10ms | | | | |
| THDV | <3% @100% RLoad | | | | |
| Protection | | | | | |
| Protection Category | Class I | | | | |
| DC Switch | Yes | | | | |
| Anti-islanding Protection | Yes | | | | |
| AC Overcurrent Protection | Yes | | | | |
| DC/AC Overvoltage Protection | DC Type II, AC Type III | | | | |
| AC Short Circuit Protection | Yes | | | | |
| DC Reverse Protection | Yes | | | | |
| Surge Arrester | DC Type II, AC Type II | | | | |
| Insulation Resistance Detection | Yes | | | | |
| Leakage Current Protection | Yes | | | | |
| AFCI | Yes | | | | |
| RSD | Yes (AP systems, Sunspec) | | | | |
| Generator | Yes | | | | |
| General | | | | | |
| Max. Operation Altitude | 2000m | | | | |
| Ingress Protection Degree | IP65 / NEMA 3R | | | | |
| Operating Temperature Range | -25°C-60°C (>45°C derating) | | | | |
| Relative Humidity | 0-100% | | | | |
| Cooling Method | Fan Cooling | | | | |
| Mounting | Wall bracket | | | | |
| Dimensions (W*H*D) | 16.5 * 31.5 * 9.4 inches | | | | |
| Weight | 88lb | | | | |
| PV Connection Way | Terminals | | | | |
| HMI & COM | | | | | |
| Display | Bluetooth & APP + LED, LCD (optional) | | | | |
| Communication Interface | RS485 / CAN (for BMS), DRM / RS485 (for meter), RS485, Optional: WiFi / LAN | | | | |
| Certification | | | | | |
| Safety | UL 1741 / CSA C22.2 / UL 1699B | | | | |
| Grid | UL 1741 SB, IEEE 1547: 2018, HECC SRD 2.0 | | | | |
| EMC | FCC Part 15 Class B | | | | |
| Warranty | 10 Years | | | | |

Responsive Energy Management



Empowering users to manage their daily energy consumption based on numerous factors such as grid outages, electricity pricing, maximum battery output, battery state of charge and solar production.

The Lumin Smart Panel transforms any standard electrical panel into an affordable smart panel capable of providing real-time energy consumption data and circuit-level control while boosting the performance of home microgrids through advanced load control and energy automation.

The integrated Lumin Smart Panel uses specialized sensor boards to measure current, voltage and provides control through relays housed within the Lumin Smart Panel enclosure. It's aware of power events such as grid outages, power surges, electricity pricing changes, maximum battery output, battery state of charge, and solar production and provides an up-to-date overview of electricity consumption through the Lumin Smart app for your phone or tablet.

- Whole home backup
- Up to 12 circuits of control
- 24/7 Circuit monitoring, control and scheduling
- Prioritize loads in a grid outage
- Protect against overload
- Extended battery run-time

SMART PANEL SPECIFICATIONS

Technical Specifications

INSTALLATION

| | |
|-------------------------|--|
| Type | Cabinet Integrated |
| Installer Qualification | Local Electrical Codes and Lumin Certified Installer |
| Typical Time Required | 1.5–4 Hours |
| Temperature | 0°C to 60°C (32°F to 140°F) |
| Humidity | < 80% RH (Non-Condensing) |
| Altitude | < 3000m |
| Dimensions | (17.5 in × 17.5 in × 4.0 in) |
| Weight | 12 kg (27 lb) |
| Conductor Length | All Extend 76 cm (30 in) Beyond Conduit End |
| Additional Units | Use of Multiple Lumin Smart Panels Supported |

ELECTRICAL SYSTEM

| | |
|-----------------------|----------------------------------|
| AC Voltage | 120/240 VAC Split-Phase, 50–60Hz |
| Supply Breaker Rating | 15–20 A (non-GFCI) |

CONNECTIVITY AND SECURITY

| | |
|--------------------|-----------------------------|
| Connection Options | Wi-Fi or Ethernet |
| Internet Bandwidth | Approx. 0.02 Mbps |
| Wi-Fi Protocols | 802.11 b/g/n, 2.4 GHz |
| Wi-Fi Encryption | WPA and WPA2 Methods |
| Ethernet Port | 1× RJ-45 (10/100/1000 Mbps) |
| IP Addressing | Dynamic (DHCP) |

MANAGED LOADS

| | |
|---------------------------------------|---|
| Max. Load Breaker Ratings up to 50 °C | 60 A per Line × 6 Lines and 30 A per Line × 6 Lines |
| Load Breaker Ratings at 50–60 °C | 50 A per Line × 6 Lines and 20 A per Line × 6 Lines |
| Breaker Types | Single Pole (1 Line) and Dual Pole (2 Lines) |

MEASUREMENT

| | |
|----------------------|---|
| Accuracy | ± 0.5% of Load |
| Monitoring Type | Separate Measurement of Lines (Including Dual-Pole) |
| Split-Phase Voltage | Separate Line-to-Neutral Potential Measurement |
| Current Transformers | 2 Split-Core 200 A Included; Up to 2 Additional Available |

SUPPORT & COMPLIANCE

| | |
|---------------------------|---|
| Warranty | 10-Year Limited |
| Compatible Equipment | All Makes/Models/Brands of Electrical Panels and Breakers |
| Safety Compliance | Listed to UL and CSA C22.2: 61010-1 & 61010-2-030 |
| Radiofrequency Compliance | 47 CFR 15 (FCC) RSS-Gen and RSP-100 (ISED) |

USER ACCESS

| | |
|---------------|---|
| Local Network | Live Data and Controls |
| Applications | iOS, Android, and Web |
| Data | 1-Second Granularity (Averaged from 16 kHz) |
| Load Controls | Manually/Directly, Automated Schedules, and Automated Modes |

*CONTACT
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