

CPS 7.6-12 kW Single-Phase Hybrid Inverters for North America



CPS ECH7.6-12K/US Hybrid Inverter

CPS is excited to introduce the 7.6 kW, 9.6 kW, and 12 kW single-phase hybrid inverters to the North American market. The new Power Leaf solution includes a hybrid inverter that allows the connection of solar PV, battery storage, and/or generator power.

High energy density, flexible configuration, and an advanced energy management system (EMS) enables seamless transfer between grid-tied and off-grid modes. The single-phase hybrid inverter can be AC or DC coupled with an onsite PV array and has a generator input terminal allowing flexibility.

Key Features

- NEC 2017/2020 PVRSS certified for rapid shutdown
- NEC compliant and UL listed arc-fault circuit protection
- Integrated AC and DC disconnect switches
- Separable wire box design for fast service
- 3 MPPTs with 2 PV inputs each for maximum flexibility
- Internal automatic double bypass function with no need for an external gateway or bypass switch
- Advanced EMS with configurable modes
- PV, Battery, and Generator inputs
- Full power capacity up to 113° (45°C)
- NEMA Type 4X outdoor rated enclosure
- UL 9540 certified with CPS 5-60 kWh battery

Product Model	CPS ECH7.6K/US	CPS ECH9.6K/US	CPS ECH12K/US
PV Input			
Max. PV input power	11.4 kW (7.5 kW per MPPT)	14.4 kW (7.5 kW per MPPT)	18 kW (7.5 kW per MPPT)
Max. PV input voltage	600 V _{DC}		
Operating PV input voltage range	120-550 V _{DC}		
MPPT voltage range	150-480 V _{DC}		
Startup voltage	150 V _{DC}		
Number of PV inputs	6 inputs, 2 per MPPT, non-fused		
Max. input current (clipping point)	30 A		
DC disconnection type	DC switch		
Short-circuit current per MPPT	40 A		
Battery Input			
Battery type	Lithium-ion (CPS 5-20 kWh batteries)		
Battery voltage range	40-60 V		
Max. charge/discharge current	200 A / 152 A	200 A / 192 A	200 A / 200 A
Max. charge/discharge power	10 kW / 7.6 kW	10 kW / 9.6 kW	10 kW / 10 kW
Generator Input			
Max. input current	100 A		
Max. input power	24 kW @ 240 Vac		
Operating input voltage range	211.2-264 Vac (@ 240 Vac)		
Full power input voltage range	240-264 Vac (@ 240 Vac)		
AC Output (Grid)			
Max. input current (on grid)	200 A		
Max. output current	31.7 A	40 A	50 A
Max. output apparent power	7.6 kVA	9.6 kVA	12 kVA
Standby / night consumption	< 50 W	< 50 W	< 60 W
Output voltage range	183-228.8 Vac (@ 208 Vac) / 211.2-264 Vac (@ 240 Vac)		
Max. OCPD rating	200 A	250 A	250 A
Output frequency	60 Hz		
Grid connection type	Split phase with N		
Rated grid frequency range	57-63 Hz		
Output voltage	240 V / 208 V (120 Vac)		
Current TRD @ rated load	< 3%		
Power factor	> 0.99 (adjustable ±0.8)		
Backup Port			
Max. output current (on grid)	200 A		
Max. output current (off grid)	31.7 A	40 A	50 A
Max. output apparent power (off grid)	7.6 kVA	9.6 kVA	12 kVA
On-grid / off-grid switching time	20 ms		
General Data			
Operating temperature range	-13°F to 140°F (-25°C to 60°C) / humidity up to 100%		
Cooling method	Variable speed cooling fan		
Audible noise	< 45 dB @ 1 m and 77°F (25°C)		
Dimensions (H × W × D)	36 × 20.4 × 9.3 in (912 × 518 × 234 mm)		
Weight	Inverter: 101.7 lb (46.2 kg) Wire box: 37.2 lb (16.9 kg)		
User interface and display	LED, app, and web portal via Wi-Fi connection ¹		
Inverter monitoring	Wi-Fi		
Protection degree	NEMA 4X		
Max. efficiency	97.5%		
CEC efficiency	96.5%		
Surge protection	DC Type II / AC Type II		
Standard Compliance			
Certifications and standards	CSA 107.1-16, UL 1741/SA, UL 1741 SB, UL 1998, UL 1699B, FCC Part 15		
Selectable grid standards	IEEE 1547-2018, HECO, CA Rule 21		
Warranty			
Standard	10 years		

1) Wi-Fi network connection required for web portal communication.

CPS 5-20 kWh Battery for North America



CPS ESSR-05-20KL1/US Battery

CPS is excited to introduce the 5-20 kWh modular batteries for use with CPS single-phase hybrid inverters to the North American market. The Power Leaf solution is scalable from 7.6 kW/5 kWh to 12 kW/20 kWh with up to four stackable battery units when connected to the CPS single-phase hybrid inverters.

The 5-20 kWh batteries are UL9540 certified with the CPS 7.6-12 kW single-phase hybrid inverters as a complete energy storage system (ESS).

Key Features

- Fully integrated turnkey ESS solution when used with CPS single-phase hybrid inverters
- LFP batteries with high thermal stability and high energy density
- Parallel up to 60 kWh of energy storage with no junction boxes required
- Maximum up to 180 kWh by using multiple energy storages in parallel
- UL9540A tested
- 200 A AC passthrough
- Stackable batteries for simple installation and O&M
- UL 9540 certified with CPS 7.6-12 kW hybrid inverters
- Expandable capacity for small commercial applications

CPS ESSR-05-20KL1/US Battery Data

Product Model	CPS ESSR-05KL1/US	CPS ESSR-10KL1/US	CPS ESSR-15KL1/US	CPS ESSR-20KL1/US
General Data				
Nominal voltage	51.2 V			
Operating voltage range	44.8-57.6 V			
Max. current	50 A	100 A	150 A	200 A
Max. power	2.5 kW	5 kW	7.5 kW	10 kW
Rated energy	5 kWh	10 kWh	15 kWh	20 kWh
Usable energy	5 kWh	10 kWh	15 kWh	20 kWh
Depth of discharge	Up to 100%			
C-Rate	0.5			
Max. charge/discharge power	2.5 kW	5 kW	7.5 kW	10 kW
Discharging temperature range	14°F to 122°F (-10°C to 50°C)			
Charging temperature range	32°F to 122°F (0°C to 50°C)			
Recommended storage temperature	68°F to 86°F (20°C to 30°C)			
Operating humidity range	5-95%			
Interface and display	LED and mobile app (with CPS single-phase hybrid inverters)			
Communication	CAN (with CPS single-phase hybrid inverters)			
Installation Specifications				
Max. parallel extensions	Up to 60 kWh			
Weight ¹	132.3 lb (60 kg)	229.3 lb (104 kg)	326.3 lb (148 kg)	423.3 lb (192 kg)
Dimensions (W × D × H) ¹	26.4 × 7.1 × 25.6 in (670 × 180.3 × 650 mm)	26.4 × 7.1 × 40.2 in (670 × 180.3 × 1020 mm)	26.4 × 7.1 × 54.7 in (670 × 180.3 × 1390 mm)	26.4 × 7.1 × 69.3 in (670 × 180.3 × 1760 mm)
Operating altitude	9842 ft / 3000 m			
Installation method	Floor- or wall-mounted			
Cooling method	Natural convection			
Protection	NEMA 3R / IP65			
Black start mode	Yes			
Standard Compliance				
Certificates	UN 38.3, UL 1973, UL 9540, UL 9540A, UL 60730, FCC Part 15			
Warranty				
Standard	10 years			

1) Weight and dimensions include battery module, control module, and base.