



Energy Storage Solutions

Power Conditioning System / PCS100HV

- 100 kW power conversion capacity with 400 Vac
- Scalable system configuration, compatible with various battery types and models
- Black start capability for power backup and microgrid applications



Commercial
Buildings



Hospitals



Charging
Stations



Campuses



Factories



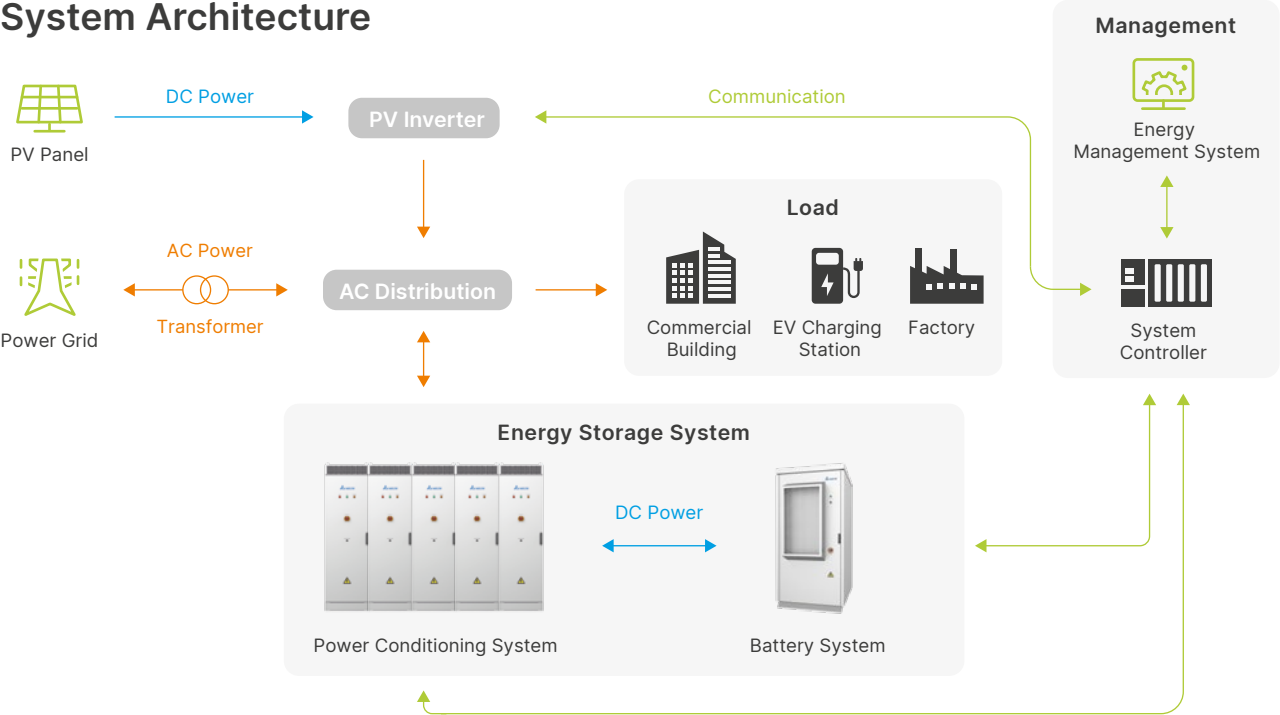
Powerful Conversion for Energy Storage

Delta Power Conditioning System (PCS) is a bi-directional energy storage inverter for grid-tied and off-grid applications including power backup, peak shaving, load shifting, PV self-consumption, and PV smoothing. It demonstrates industrial-leading power performance with

high power efficiency and low stand-by power losses. Its compact form factor saves space and offers scalability for various system configurations and its compatibility features enables smooth integration with multiple battery types and models.



System Architecture

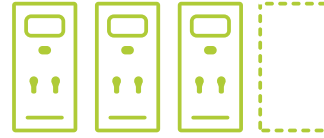


Features



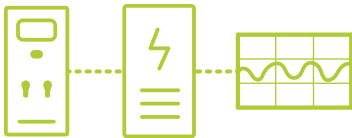
Efficient and Precise Power Control

- Power capacity: 100 kW
- AC voltage: 400 Vac
- Peak efficiency: 98%
- High power density: 167 W/l, 435 W/kg
- Quick power response time : < 20 ms



Flexible System Configuration

- Scalable configuration with multiple units
- Support for 3-phase, 4-wire load without transformer



Designed for Energy Storage Applications

- Real/reactive power compensation to improve power quality
- Peak shaving/demand charge management
- Load shifting for time-of-use savings
- Black start capability for power backup and microgrid applications
- Both grid-tied mode and power backup mode operation



Product at a Glance



Specifications

Model Name	PCS100HV
AC Connection	
Rated Grid Voltage	400 Vac (3P-N-PE or 3P-PE)
Grid Voltage Range	310 to 450 Vac
Rated Grid Frequency	50 Hz, 60 Hz (60 Hz has not been certified for local grid connection)
Rated AC Active Power	100 kVA / kW
Rated AC Current	145 A
Max. Continuous AC Current	167 A
Maximum AC Apparent Power	110 kVA / kW
Current THD	< 3%
DC Current Injection	< 0.5% of rated current
Power Factor	-1 to 1, continuously adjustable
DC Connection	
DC Voltage Range	650 to 1,350 Vdc for 3P3W ¹⁾ / 700 to 1,350 Vdc for 3P4W in Off-grid mode ^{1), 2)}
Rated Discharge / Charge Power	102 kW / 98 kW
Max. Discharge / Charge Current	157 A / 151 A
Standalone Operation	
Rated Output Voltage	400 Vac (3P-N-PE)
Rated Output Power	100 kVA / kW with linear load ; 80 kVA with non-linear loads (I _{pk} ≤ 240 A) ³⁾
Rated Output Current	145 A
Output Voltage THD	< 3% @ rated linear load
Performance	
Peak Efficiency	98%
Standby Loss	< 25 W @ in cold mode
Environment	
Maximum Altitude	4,000 m, de-rating > 2,000 m
Operating Temperature	-30 °C to +60 °C, de-rating > 45 °C
Humidity	0 to 95% RH, non-condensing
Acoustic Noise	Maximum < 70 dBA @ 1 m
Cooling	Forced air with speed control
Enclosure Rating	IP55
General	
User Interface	LED, EPO, Ethernet
Communication	Ethernet/Modbus TCP
Dimensions (W x H x D)	600 × 2000 × 500 mm
Net Weight	230 kg
Certifications	Safety: IEC 62477-1, EN 62477-1 Grid: AS/NZS 4777.2:2020, EN 50549-1:2019, G99, VDE-AR-N 4105:2018 EMC: IEC/EN 61000-6-2, IEC/EN 61000-6-4 Vibration: IEC 60068-2-6:2007
Protection	DC reverse protection/OVP/UVP/OCP/DC insulation detection
Product Conformity	CE, RCM, UKCA
Compatible Battery Chemistries	Lithium-ion, lead-acid, flow battery

- 1) Output power will be de-rated if DC voltage is higher than 1250 V
 2) The minimum DC voltage should be larger than 750 V, if the load is 100% unbalanced
 3) Transformer, motor or rectifier loads with large inrush currents (I_{pk} > 240 A) are not supported

Delta Electronics, Inc. (Chungli)

16 Tungyuan Rd., Chungli Industrial Zone,
 Taoyuan City 32063, Taiwan
 TEL : +886 3 452 6107

www.deltaww.com | PCS@deltaww.com

All information and specifications are subjected to change without prior notice.



2023/08