



Energy Storage Solutions

Megawatt PCS / EPCS1500

- 1000 to 1725 kVA power conversion capacity
- Scalable system configuration, compatible with various battery types and models
- Designed for utility-scale energy storage applications



Utility Grid



PV Plants



Optimizing the Value & Efficiency of Energy Storage Systems

Delta Power Conditioning System (PCS) is a bi-directional energy storage inverter for grid applications including power backup, peak shaving, PV self-consumption, PV smoothing, etc. Delta PCS1500 Series provides power conversion capacity from 1000 to 1725 kVA with 98.4% efficiency.

Featuring high availability and adaptability, the PCS is battery technology independent and can precisely connect AC and DC power of an energy storage system.



Applications



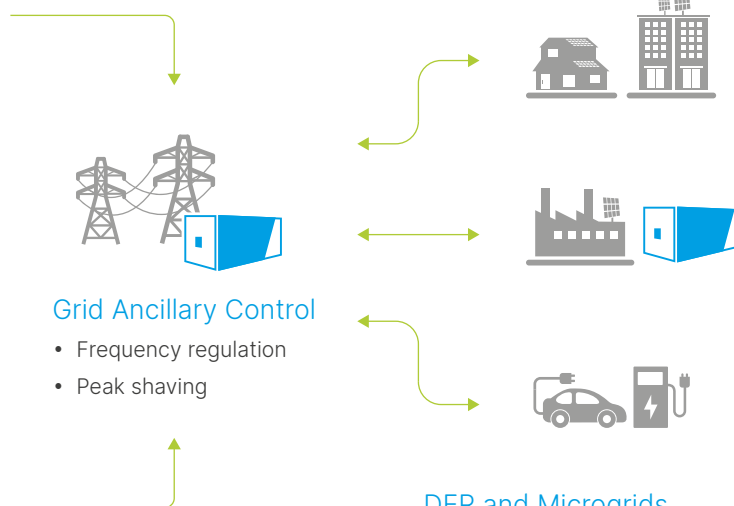
Renewable Power Plant Integration

- Ramp rate control
- Energy shifting
- Renewable energy smoothing
- Capacity firming



Hybrid Thermal Power Plant

- Black start
- AGC improvement



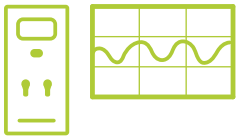
Grid Ancillary Control

- Frequency regulation
- Peak shaving

DER and Microgrids

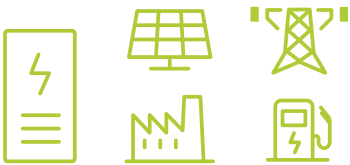
- Peak shaving
- Autonomous operation

Features



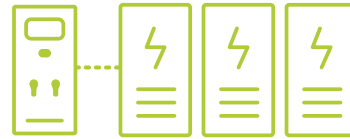
Efficient and Precise Power Control

- Power capacity: 1000 to 1725 kVA
- DC voltage up to 1500 V
- AC voltage: 400 to 690 Vac
- Peak efficiency: 98.5%



Designed for Energy Storage Applications

- Advanced P/Q, Frequency/Voltage control
- Utility-grade protection designed for harsh environment
- DC and AC-coupled storage applications
- Automatic voltage and frequency regulation
- Active and reactive power compensation
- Anti-islanding detection, off-grid operation



Flexible System Configuration

- Modular design enables scalability and availability
- Battery independence provide high adaptability for energy storage

Supported Applications

1. Power Dispatch

Respond to external power commands and meet the system load with short reaction time.

2. Peak Shaving

Scheduled operation for shaving load peaks to avoid costly demand surcharges.

3. Hertz-Watt, Volt-Watt, Volt-VAr

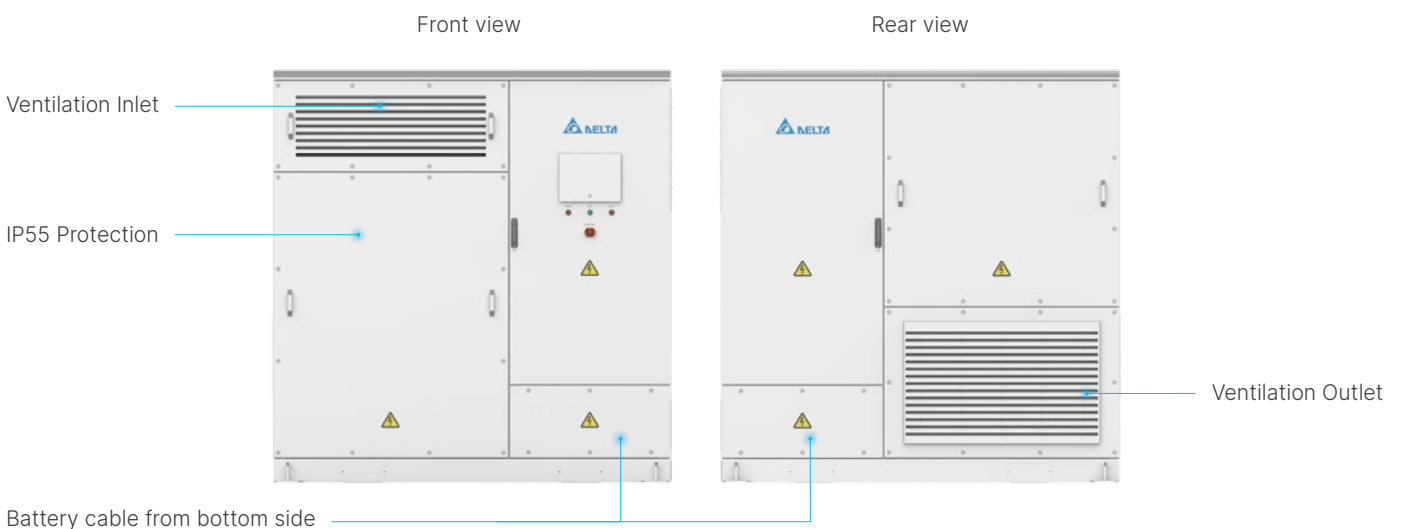
Monitor grid frequency or voltage continuously and adjust its output power based on the user-configured parameters dynamically.

4. Off-grid

By using an internal UPS supplying emergency power, PCS can black start and provide power from battery to local loads.

And more...

Product at a Glance



Specifications

Part Number	EPCS1000-IEC	EPCS1200-IEC	EPCS1500-IEC	EPCS1725-IEC
DC Connection				
Full Power DC Voltage Range ⁽¹⁾	623 to 1500 V	762 to 1500 V	952 to 1500 V	1052 to 1500 V
Max. DC Charge Continuous Current	1617 A			
Max. DC Discharge Continuous Current	1666 A			
AC Connection				
AC Output Power	1000 kW / kVA	1200 kW / kVA	1500 kW / kVA	1725 kW / kVA
Max. AC Output Continuous Current	1672 A			1448 A
Nominal AC Voltage Vrms ⁽²⁾	400 V	480 V	600 V	690 V
Nominal AC Frequency	50 / 60 Hz			
Current Harmonic Distortion (THDi) ⁽³⁾	< 3% IEEE519			
Power Factor	Four quadrants			
Efficiency				
Max. Efficiency	98.30%	98.35%	98.50%	98.52%
CEC Efficiency	98.00%	98.14%	98.37%	98.38%
Protection				
DC Side	DC load break switch with DC fuses			
AC Side	AC circuit breaker			
DC Overvoltage	Surge arrester, class II as standard			
AC Overvoltage	Surge arrester, class II as standard			
Ingress Protection	IP55 / IP34 / IP34 (electronics / air duct / connection area)			
General				
Dimensions (W x H x D)	2200 × 2260 × 1100 mm			
Approximate Weight	2600 kg			
Environment				
Operating Temperature ⁽⁴⁾	-30 °C to +60 °C			
Storage Temperature	-30 °C to +70 °C			
Relative Humidity	0% to 95% RH, non-condensing			
Altitude ⁽⁵⁾	< 4000 m			
Acoustic Noise (1 m)	< 79 dB(A) @ 25 °C, full power			
Cooling	Forced air cooling			
Compliance				
Safety / EMC	IEC 62477, IEC 61000-6-2, IEC 61000-6-4			
Grid Connection	VDE-AR-N 4110:2018, G99			G99

Specifications are subject to change without prior notice

Subject to change based on customer's requirements

(1) Minimum DC voltage at nominal AC voltage and unit PF=1. The minimum DC voltage depends on AC voltage and power factor.

(2) An isolation transformer is required between the PCS and loads.

(3) THDi at nominal power

(4) Power de-rating above 50 °C

(5) Power de-rating above 2000 m



More information

Delta Electronics (Thailand) PCL.

909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z), Pattana 1 Rd.,

T.Phraksa, A.Muang, Samutprakarn 10280, Thailand

TEL : +66 (0) 2709-2800 | FAX: +66 (0) 2709-3200

For more product information and sales inquiries, Please contact products_info@deltathailand.com



2023/03