



## ENERGY STORAGE SOLUTION

### Megawatt PCS / PCS2000

#### Features

- Power capacity 2100-2800 kVA
- 98% efficiency for bi-directional power conversion
- Advanced P/Q, Frequency/Voltage, VSG control increase power quality
- Modular design realizes scalability and non-stop availability
- Battery independence provide high adaptability for energy storage
- Utility-grade protection designed for harsh environment
- DC and AC coupled storage application



Utility Grid



PV Plant

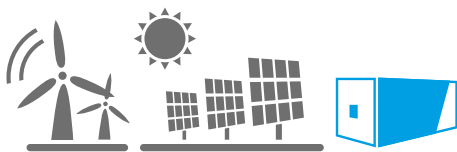


# Optimizing the Value & Efficiency of Energy Storage System in Grid Applications

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 Megawatt PCS provides power capacity from 2100 to 2800 kVA with 98% efficiency. Featuring high availability and adaptability, it is battery technology independent and can control energy storage system exactly when it is required.



## Applications



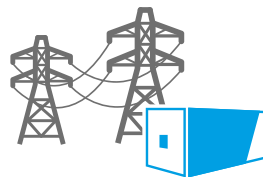
### Renewable Power Plant Integration

- Ramp rate control
- Energy shifting
- Smoothing
- Capacity firming



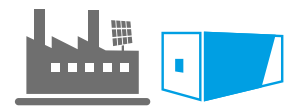
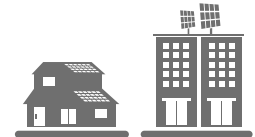
### Hybridized Thermal Power Plant

- Black start
- AGC improvement



### Grid Ancillary Control

- Frequency regulation
- Peak shaving



### Distributed Network and Microgrid

- Peak shaving
- Autonomous operation

## Operating Modes

### 1. Power Dispatch Mode

#### Respond to External Power Demand

PCS can provide the optimal output to meet the system load at the short-term determination

### 3. Frequency-Watt / Voltage-Watt / Voltage-Var Mode

#### Dynamically Output Power Adjustment

PCS can monitor grid frequency or voltage continuously and adjust its output power based on the user-configured parameters dynamically

### 2. Peak Shaving Mode

#### Schedule for Demand Charge Reduction

PCS will dispatch battery power to shave the peak and avoid high demand charge once detected consumption overload

### 4. Standalone Mode

#### A Reliable Backup Power

PCS will disconnect itself from grid when grid blackouts. With an external UPS supplying emergency power, PCS can black start and continuously provide power from battery to critical loads

# Advance Power Control for Improving Power Quality

- Automatic voltage and frequency regulation
- Active and reactive power compensation
- Anti-Islanding detection, islanding control operation
- VSG control

## Specifications

Part Number	DWE2100-US	DWE2800-US
<b>DC Connection</b>		
Input Voltage V <sub>DC, min</sub>	760 V	
Input Voltage V <sub>DC, max</sub>	1200 V	
Nominal DC Voltage	900 V	
DC Voltage Ripple	< 1%	
Max. Input Current I <sub>DC, max</sub> (at 50°C)	2528 A	3370 A
Number of DC Inputs	2	
<b>AC Connection</b>		
AC Power / Current (at 25°C)	2100 kW / 2100 kVA	2800 kW / 2800 kVA
AC Power / Current (at 50°C)	1875 kW / 1875 kVA	2500 kW / 2500 kVA
Max. AC Current I <sub>AC, max</sub> (at 50°C)	2526 A	3368 A
Max. Total Harmonic Distortion	< 3% at full load	
Nominal AC Voltage	480 V	
AC Power Frequency	50 Hz / 60 Hz	
Power Factor	0 to 1 leading or lagging	
<b>Performance</b>		
Max. Efficiency	> 98%	
CEC Efficiency	97%	
Standby Loss	< 350 W	
<b>Protection</b>		
Input-side DC	DC load breaker switch + fuses	
Output-side AC	AC circuit breaker	
DC Overvoltage	Surge arrester, class II	
AC Overvoltage	Surge arrester, class II	
Ingress Protection	IP 65 , Type 3R	
<b>General</b>		
Dimensions (W x H x D)	4230 x 2290 x 1650 mm / 166.5 x 90 x 65 inches	
Weight	5500 kg / 12125.4 lbs	6500 kg / 14330 lbs
Power Module	3	4
<b>Environment</b>		
Operating Temperature	-30°C to +60°C, de-rating > 50°C	
Storage Temperature	-40°C to +70°C	
Relative Humidity	5 to 100% RH, non-condensing	
Altitude	< 3000 m, de-rating > 2000 m	
Acoustic Noise	< 79 dB(A)	
Cooling	Liquid cooling (integration)	
<b>Compliance</b>		
Safety	UL 1741	
EMC	FCC class A	
Grid Interconnection	IEEE 1547 / UL 1741 SA	

\* Specifications are subject to change without prior notice



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