

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







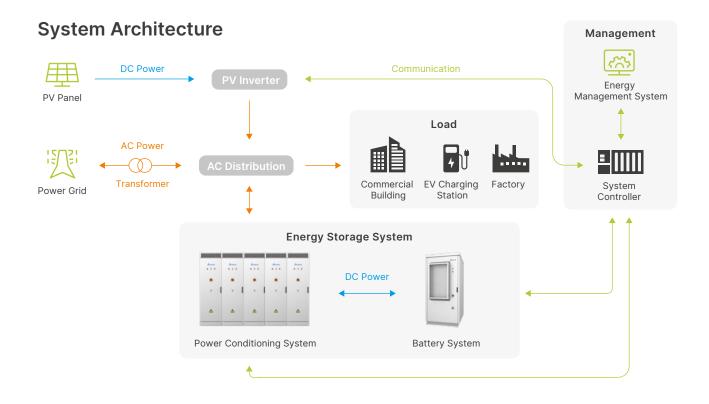




Powerful Conversion for Energy Storage

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.





Features



Efficient and Precise Power Control

- Power capacity: 100 kW
- AC voltage: 400 Vac
- Peak efficiency: 98%
- High power density: 167 W/I, 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









Specifications

AC connectionRated Orid Voltage400 Vac (3P-N-PE or 3P-PE)Roted Orid Voltage Range310 to 450 VacRoted Orid Frequency50 Hz, 60 Hz (60 Hz has not been certified for local grid connection)Roted AC Active Power100 KW / KWRoted AC Current145 AMax: Continuous AC Current167 AMaximum AC Apparent Power110 kW / KWCurrent Ti-PO<3%DC Current Injection<0.5% of rated currentPower Facior-1 to 1, continuously adjustableDC ConnectDC ConnectionDC Connect157 A / 151 AStandalone Operation100 kW / B kWRoted Otuput Voltage400 Vac (3P-N-PE)Roted Otuput Voltage400 Vac (3P-N-PE)Roted Otuput Voltage400 Vac (3P-N-PE)Roted Otuput Current145 AOutput Voltage ThD<3% @ rated linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) .®Roted Otuput Current145 AOutput Voltage ThD<3% @ rated linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) .®Roted Otuput Current145 AOutput Voltage ThD<3% @ rated linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) .®Performance100 kW / kW with linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) .®Roted Otuput Current145 AOutput Voltage ThD<3% @ rated linear loadPerformance100 kW / kW with linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) .®Roted Otuput Current145 AOutput Voltage ThD<3% @ rated linear loadPerformance	Model Name	PCS100HV
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 Active Power 107 A Max. Continuous AC Current 167 A Maximum AC Apparent Power 110 kVA / kW Current Injection < 0.5% of rated current	AC Connection	
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 Active Power 107 A Max. Continuous AC Current 167 A Maximum AC Apparent Power 110 kVA / kW Current Injection < 0.5% of rated current	Rated Grid Voltage	400 Vac (3P-N-PE or 3P-PE)
Rated Grid Frequency 50 Hz, 60 Hz (60 Hz has not been certified for local grid connection) Rated AC Active Power 100 kWA / kW Rated AC Current 145 A Max. Continuous AC Current 167 A Maximum AC Apparent Power 110 kWA / kW Current Injection < 0.5% of rated current	-	310 to 450 Vac
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Max. Continuous AC Current167 AMaximum AC Apparent Power110 KVA / KWCurrent THD< 3%		-
Maximum AC Apparent Power110 kWA / kWCurrent THD< 3%	Rated AC Current	145 A
Current THD< 3%DC Current Injection< 0.5% of rated current	Max. Continuous AC Current	167 A
DC Current Injection< 0.5% of rated currentPower Factor-1 to 1, continuously adjustableDC ConnectionDC Voltage Range650 to 1,350 Vdc for 3P3W ¹¹ / 700 to 1,350 Vdc for 3P4W in Off-grid mode ^{10, 21} Rated Discharge / Charge Power102 kW / 98 kWMax. Discharge / Charge Current157 A / 151 AStandalone Operation400 Vac (3P-N-PE)Rated Output Voltage400 Vac (3P-N-PE)Rated Output Voltage The43% arated linear load 2Performance98%Standalo Loss< 25 W @ in cold mode	Maximum AC Apparent Power	110 kVA / kW
Power Factor-1 to 1, continuously adjustableDC ConnectionDC Voltage Range650 to 1,350 Vdc for 3P3W " / 700 to 1,350 Vdc for 3P4W in Off-grid mode "J.2]Rated Discharge / Charge Power102 kW / 98 kWMax. Discharge / Charge Current157 A / 151 AStandalone OperationIterationRated Output Voltage400 Vac (3P-N-PE)Rated Output Voltage100 kVA / kW with linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) alRated Output Current145 AOutput Voltage THD< 3% @ rated linear loadPerformancePerformancePeak Efficiency98%Standby Loss< 25 W @ in cold modeEnvironment4,000 m, de-rating > 2,000 mOperating Temperature-30 °C to +60 °C, de-rating > 45 °CHumidity0 to 5% RH, non-condensingAcoustic NoiseMaximum <70 dBA @ 1 mCoolingForced air with speed controlEnclosure RatingIP55CentralUser InterfaceLDE, EPO, EthernetCommunicationEthernet/Modbus TCPDimensions (W X H X D)600 × 2000 × 500 mmNet weight230 kgCertificationsSafety: IEC 62477-1, EN 62477-1 Grid: AS/NZS 47772:2000, EN 50549-1:2019, G99, VDE-AR-N 4105:2018 EVC: IEC/IN 61000-6-2, IEC/IN 61000-6-4, Vibration: IEC 60006-6-4, Vibration: IEC 60066-2-6:2007ProtectionDC reverse protection/OVP/JUVP/OCP/JDC insulation detectionProtectionDC reverse protection/OVP/JUVP/OCP/JDC insulation detectionProtectionDC reverse protection/OVP/JUVP/OCP/JDC insulati	Current THD	< 3%
DC ConnectionDC Voltage Range650 to 1,350 Vdc for 3P3W " / 700 to 1,350 Vdc for 3P4W in Off-grid mode "L21Rated Discharge / Charge Power102 kW / 98 kWMax. Discharge / Charge Current157 A / 151 AStandalone Operation157 A / 151 ARated Output Voltage400 Vac (3P-N-PE)Rated Output Power100 kVA / kW with linear load ; 80 kVA with non-linear loads (lpk \leq 240 A) 31Rated Output Current145 AOutput Voltage THD $< 3\%$ @ rated linear loadPerformancePeak Efficiency98%Standbare Quiput Multitude4,000 m, de-rating > 2,000 mOperating Temperature-30 °C to +60 °C, de-rating > 45 °CHumidity0 to 95% RH, non-condensingAcoustic NoiseMaximum <70 dBA @ 1 m	DC Current Injection	< 0.5% of rated current
DC Voltage Range 650 to 1,350 Vdc for 3P3W 1 / 700 to 1,350 Vdc for 3P4W in Off-grid mode 120 Rated Discharge / Charge Courent 102 KW / 98 kW Max. Discharge / Charge Current 157 A / 151 A Standalone Operation Rated Output Voltage Rated Output Voltage 400 Vac (3P-N-PE) Rated Output Voltage 100 kVA / kW with linear load ; 80 kVA with non-linear loads (lpk ≤ 240 A) 30 Rated Output Current 145 A Output Voltage THD < 3% @ rated linear load	Power Factor	-1 to 1, continuously adjustable
Rated Discharge / Charge Power102 kW / 98 kWMax. Discharge / Charge Current157 A / 151 AStandatone OperationRated Output Voltage400 Vac (3P-N-PE)Rated Output Voltage ThD100 kVA / kW with linear load ; 80 kVA with non-linear loads (lpk \leq 240 A) ³¹ Rated Output Current145 AOutput Voltage THD< 3% @ rated linear loadPerformancePreak Efficiency98%Standby Loss< 25 W @ in cold modeEnvironmentMaximum Altitude4,000 m, de-rating > 2,000 mOperating Temperature-30 °C to +60 °C, de-rating > 45 °CHumidity0 to 95% RH, non-condensingAcoustic NoiseMaximum a 70 dBA @ 1 mCoolingForced air with speed controlEnclosure RatingIE55CentralUser InterfaceLED, EPO, EthermetCommunicationEthernet/Modbus TCPDimensions (W x H x D)600 × 2000 x 500 mmNet Weight230 kgCertificationsSafety: IEC 62477-1, EN 62477-1 Grid: AS/NZS 47772:202, EN 50549-1:2019, G99, VDE-AR-N 4105:2018 Krid: AS/NZS 47772:202, EN 50549-1:2019, G99, VDE-AR-N 4105:2018 Vibration: IEC 60068-2-6:2007ProtectionDC reverse protection/OVP/UVP/OCP/DC insulation detectionProtectionDC reverse protection/OVP/UVP/OCP/DC insulation detection	DC Connection	
Max. Discharge / Charge Current157 A / 151 AStandalone OperationRated Output Voltage400 Vac (3P-N-PE)Rated Output Power100 kVA / kW with linear load ; 80 kVA with non-linear loads (lpk \leq 240 A) 30Rated Output Current45 AOutput Voltage THD< 3% @ rated linear loadPerformancePeak Efficiency98%Standby Loss< 25 W @ in cold modeEnvironmentMaximum Altitude4,000 m, de-rating > 2,000 mOperating Temperature- 30 °C to +60 °C, de-rating > 45 °CHumidity0 to 95% RH, non-condensingAcoustic NoiseMaximum < 70 dBA @ 1 mCoolingForced air with speed controlEnclosure RatingIP55CeneralUUser InterfaceLED, EPO, EthernetCommunicationEthernet/Modbus TCPDimensions (W x H x D)600 × 2000 × 500 mmNet Weight230 kgCertificationsSafety: IEC 62477-1, EN 62477-1 Grid: X6/NZS 4777:22020, EN 50549-1:2019, G99, VDE-AR-N 4105:2018 CVIbration: IEC 60068-2-6:2007ProtectionDC reverse protection/OVP//UVP//OCP/DC insulation detectionProduct ConformityCE, RCM, UKCA	DC Voltage Range	650 to 1,350 Vdc for 3P3W ¹⁾ / 700 to 1,350 Vdc for 3P4W in Off-grid mode ^{1), 2)}
Standalone OperationRated Output Voltage 400 Vac (3P-N-PE)Rated Output Power 100 KVA / kW with linear load ; 80 kVA with non-linear loads (lpk \leq 240 A) 31 Rated Output Current 145 AOutput Voltage THD $< 3\%$ @ rated linear loadPerformacePerformacePeak Efficiency98%Standby Loss < 25 W @ in cold modeEnvironment $4,000$ m, de-rating > 2,000 mOperating Temperature -30 °C to $+60$ °C, de-rating > 45 °CHumidity0 to 95% RH, non-condensingAcoustic NoiseMaximum <70 dBA @ 1 m	Rated Discharge / Charge Power	102 kW / 98 kW
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Peak Efficiency 98% Standby Loss < 25 W @ in cold mode	Output Voltage THD	< 3% @ rated linear load
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Net Weight230 kgCertificationsSafety: 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 60068-2-6:2007ProtectionDC reverse protection/OVP/UVP/OCP/DC insulation detectionProduct ConformityCE, RCM, UKCA	Communication	Ethernet/Modbus TCP
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Product Conformity CE, RCM, UKCA	Protection	DC reverse protection/OVP/UVP/OCP/DC insulation detection
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Litiliuni-lon, leau-aciu, now ballery	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 (lpk > 240 A) are not supported

Delta Electronics, Inc. (Chungli)

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

