

NEC Energy Solution's Distributed Storage Solution (DSS®) enables advanced energy management and resiliency services for commercial & industrial customers and the utilities that serve them.

The relationship between utilities and commercial & industrial customers is being transformed as enterprises produce as well as consume electricity and actively manage the amount and timing of their energy use. The fully integrated DSS® platform enables next-generation energy storage-based services on both sides of the electricity meter: reducing energy costs and increasing resiliency for commercial & industrial enterprises, while improving efficiency, predictability, and distributed resource dispatchability for utilities.

The DSS® platform integrates energy storage, power conversion and system controls into a range of flexible outdoor-rated configurations that are simpler, smarter, and safer than other point products. DSS® systems may operate autonomously, within an enterprise energy management system, under utility or local SCADA control, as part of an aggregator's virtual power plant, or any combination of these.



**EXAMPLE APPLICATIONS**

The DSS® platform allows integrators and service providers to deliver advanced energy management services to enterprises and/or utilities.

**For commercial & industrial enterprises, DSS® systems support emerging 'behind-the-meter' services including:**

- Demand charge management
- Demand response
- Power quality and resiliency
- Distributed/renewable generation integration
- Time-of-use management

**For utilities, DSS® systems deliver distribution grid 'front-of-the-meter' services including:**

- Dispatchable load and demand management
- T&D congestion relief and upgrade deferral
- Voltage support
- Renewable capacity firming/ramp management
- Distributed ancillary services

**KEY FEATURES**

2 BAY UNIT		4 BAY UNIT		6 BAY UNIT	
ENERGY (kWh)	POWER (kW)	ENERGY (kWh)	POWER (kW)	ENERGY (kWh)	POWER (kW)
85	100	255	100	425	100
			280		280
170	100	340	100	510	100
			280		280
	280		710		710

**NOTES**

- The 710kW option requires separate MV transformer (not included).
- In addition to PCS options shown above, DSS® systems are offered without a PCS enabling custom configurations. The AC interconnect is replaced by a 720V (nominal) DC bus.

## Proven Battery Technology

The DSS® platform uses proven industry-leading lithium-ion battery storage technologies, leveraging years of operational experience of NEC Energy Solution's leading GSS® product lines. In the DSS® system, NEC Energy Solutions offers the optimal technology for typical demand charge management and similar peak shaving applications.

## Flexible Power Conversion

Pre-integrated, 4 quadrant, bi-directional inverters are available within the DSS® systems. Choose from remote-mounted 100kW, 280kW, or 710W component PCS options, all provided as fully integrated, ready-to-install systems.

## Powerful AEROS® Controls

NEC Energy Solution's AEROS® Controls, with C&I optimized Demand Charge Reduction, Peak Shaving, and Load Limiting applications, is provided with every DSS system. The complete AEROS® application suite, including functions for grid ancillary services, volt/VAR control, ramp rate management, and other applications is also available.

## Pre-Engineered Environmental Control

Mechanical system optimization and serviceability is key to maximizing overall system life and availability. DSS pre-engineered systems leverage NEC Energy's years of experience developing systems used in harsh environments around the world.

## Robust Safety

System safety can never be compromised, and DSS® systems use the same multi-level safety approach — at the cell, module, rack, and system level — for which NEC Energy Solutions is known. Integrated fire suppression is also available as an option.

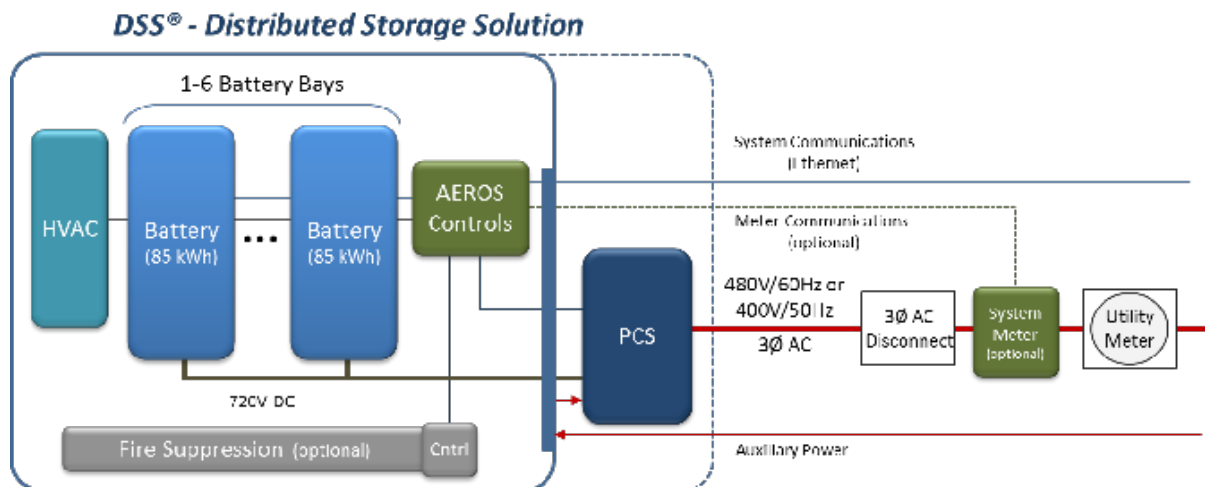
## Installation Simplicity

DSS® systems are designed for fast, straightforward installation by typical commercial electrical contractors. Power and communications connections are conventional and common to standard industrial grade facility products.

System Characteristics	
Energy Options	85, 170, 255, 340, 425 and 510 kWh
Power Conversion Options	100, 280, and 710 kW <sup>1</sup>
DC Voltage	720 V
Controls	AEROS® Applications Suite
AC Interfaces	480V / 60Hz or 400VAC / 50Hz 3Ø, 4 wire
Communications	Ethernet/IP HTTP/HTTPS Modbus (TCP/IP) Options for DNP3.0, IEC61850
Enclosures	NEMA 4 / IP65, in 2, 4 and 6 bay configurations Separate PCS cabinets rated IP54
Operating Temp	-25°C to 50°C
Standards and Compliance (partial list)	UL 9540, 1973, 1642 IEC 61508, 62040-1; UN 38.3, CE, NFPA 70 FCC CPR Part 15, Class A IEC 61000-6-2,4,5 & -7 PCS: UL 1741(SA), G59/3, IEEE 1547 Seismic: IEEE 693-2005

1. 100, 280 and 710 kW PCS options provided in separate, pre-integrated, remotely mounted cabinets.

## EXAMPLE INSTALLATION



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