

DS3 Series

The most powerful Dual Microinverter

- One microinverter connects to two solar modules
- Max output power reaching 640VA, 768VA or 880VA
- Two independent input channels (MPPT)
- CA Rule 21 (UL 1741 SA) compliant
- NEC 2020 690.12 Rapid Shutdown Compliant
- Encrypted Wireless ZigBee Communication
- Phase Monitored and Phase Balanced

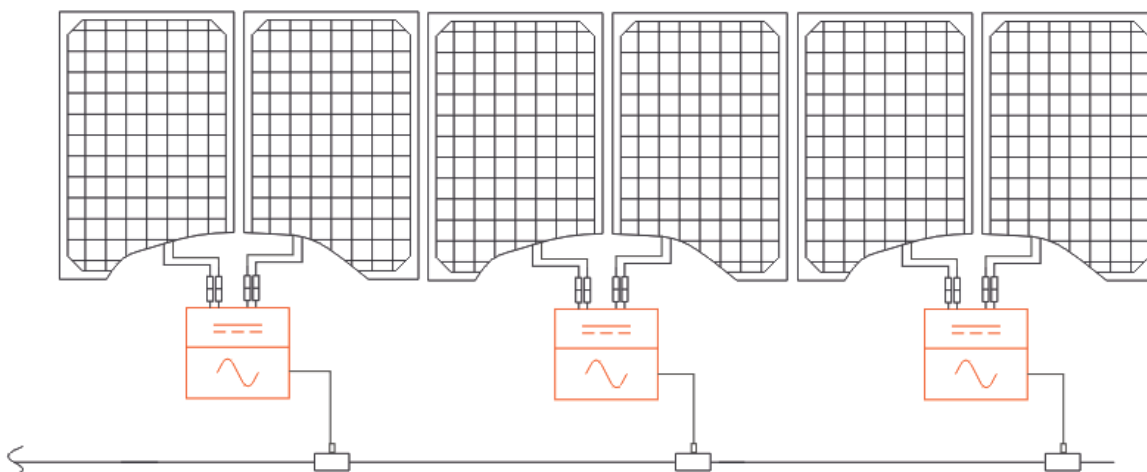
PRODUCT FEATURES

APsystems' 3rd generation of dual-module microinverters, the DS3 product family represents the culmination of years of power conversion expertise and innovation in high-efficiency, high-density power conversion to maximize the peak performance of today's high-capacity PV modules.

The DS3 series reaches unprecedented levels of power output and is fully backwards compatible with QS1 and YC600 microinverters and accessories. It features 2 input channels, each with independent MPPT, and encrypted wireless ZigBee communication. An innovative and compact design makes the product lighter while maximizing power production, and silicone-encapsulated components reduce stress on electronics, facilitate thermal dissipation, and enhance weatherproofing. Reliability is significantly increased thanks to 20% fewer components than previous generations. A 24/7 energy access through apps or web based portal facilitate remote diagnosis and maintenance.

The DS3 series is grid-interactive and fully compliant with CA Rule 21 requirements. With its unparalleled performance, efficiency of 97.3%, and increased reliability, the APsystems DS3 series is a gamechanger for residential and commercial solar.

WIRING SCHEMATIC



Datasheet | DS3 Microinverter Series

Model	DS3-S	DS3-L	DS3
Region	USA / Canada		

Input Data (DC)

Recommended PV Module Power (STC) Range	250Wp-480Wp+	265Wp-570Wp+	300Wp-660Wp+
Peak Power Tracking Voltage ⁽¹⁾	28V-45V		
Operating Voltage Range	26V-60V		
Maximum Input Voltage	60V		
Maximum Input Current	16A x 2	18A x 2	20A x 2
Maximum input short circuit current	20A per input	22.5A per input	25A per input

Output Data (AC)

Maximum Continuous Output Power	640VA	768VA	880VA
Nominal Output Voltage/Range ⁽²⁾	240V / 211V-264V		
Nominal Output Current	2.66A	3.2A	3.7A
Nominal Output Frequency/ Range ⁽²⁾	60Hz/59.3Hz-60.5Hz		
Power Factor (Default/Adjustable)	0.99/0.8 leading...0.8 lagging		
Maximum Units per 20A Branch ⁽³⁾	6	5	4
Maximum Units per 30A Branch ⁽³⁾	9	7	6
AC Bus Cable	12AWG / 10AWG		

Efficiency

Peak Efficiency	97.3%		
CEC Efficiency	97%		
Nominal MPPT Efficiency	99.5%		
Night Power Consumption	20mW		

Mechanical Data

Operating Ambient Temperature Range ⁽⁴⁾	-40°F to +149°F (-40°C to +65°C)		
Storage Temperature Range	-40°F to +185°F (-40°C to +85°C)		
Dimensions (W x H x D)	10.3" x 8.6" x 1.6" (263mm x 218mm x 41.2mm)	10.3" x 8.6" x 1.7" (263mm x 218mm x 42.5mm)	
Weight	5.7lbs(2.7kg)	6.8lbs(3.1kg)	
DC Connector Type	Stäubli MC4 PV-ADBP4-S2&ADSP4-S2		
Cooling	Natural Convection - No Fans		
Enclosure Environmental Rating	Type 6		

Features

Communication (Inverter To ECU) ⁽⁵⁾	Encrypted ZigBee		
Isolation Design	High Frequency Transformers, Galvanically Isolated		
Energy Management	Energy Management Analysis (EMA) system		
Warranty ⁽⁶⁾	10 Years Standard ; 25 Years Optional		

Compliance

Safety and EMC Compliance	UL1741; CSA C22.2 No. 107.1-16;CA Rule 21 (UL 1741 SA); FCC Part15; ICES-003; IEEE1547; NEC2014&NEC2017&NEC2020 Section 690.11 DC Arc-Fault circuit Protection; NEC2014&NEC2017&NEC2020 Section 690.12 Rapid Shutdown of PV systems on Buildings		
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⁽¹⁾ VMP values may be different on previous DS3 models with a 34 -45V range for microinverters not connected to an ECU and 30-45V range for devices upgraded with an ECU.

⁽²⁾ Nominal voltage/frequency range can be extended beyond nominal if required by the utility.

⁽³⁾ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

⁽⁴⁾ The inverter may enter to power de-grade mode under poor ventilation and heat dissipation installation environment.

⁽⁵⁾ Recommend no more than 80 inverters register to one ECU for stable communication.

⁽⁶⁾ To be eligible for the warranty, APsystems microinverters need to be monitored via the EMA portal.

Please refer to our warranty T&Cs available on emea.APsystems.com.

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