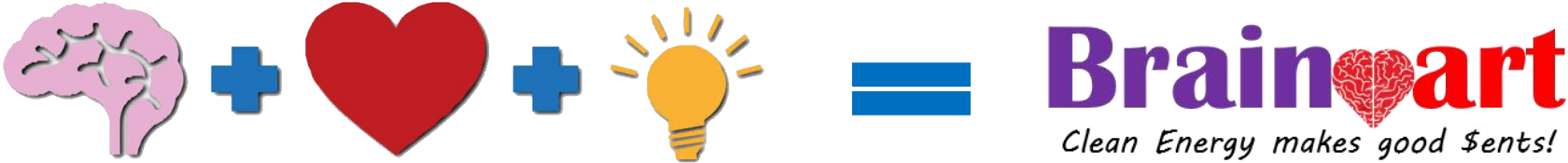


CIR 250/500 Series Central Inverter Retrofitting Solution

Background

Brain & Heart of your system



Bring together with 25+ years of experience in Solar business.



Company Introduction

Brainart was created by renewable energy industry stalwarts with extensive experience in systems design, hardware, software, product and project development, and most importantly Service and Support of renewable energy products for the past 18 years.

The company was formed as a partnership between two US based companies. One, a software developer in the Silicon Valley, focused on renewable energy for the past decade or more, and the other, an international customer support organization that maintains an installed base of 6GW of industry leading Residential and Commercial PV Inverters.

System Feature



Plug and Play

Focus on swapping only the old inverters which makes the job easy and simple. The modular system can be just “plugged in” as a direct replacement which reduces a lot of installation time.



Modular Design

Fully Modular design with Voltage booster (DC/DC Converter), PCS, Battery module which can accommodate a wide range of configurations.



600Vdc Compatible

Upgrade PV array performance and replace old inverters without having to change PV array configuration. Compatible with most older, 600V inverters

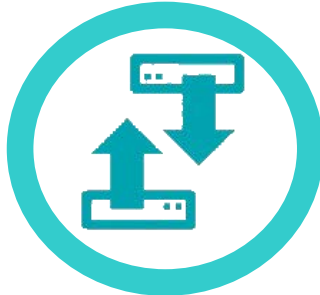


Benefits



Battery Option

While making replacement, you can choose to add a battery system immediately or expand that option later on. By adding the battery, you can run your business longer during grid outages since the battery is charged by the sun.



Hot-swap

With modular design in both DC/DC (DC to DC Converter) and PCS, the modules can easily be swapped, even while the system is operating. This reduces O&M costs and increases uptime.



No restring/RSD

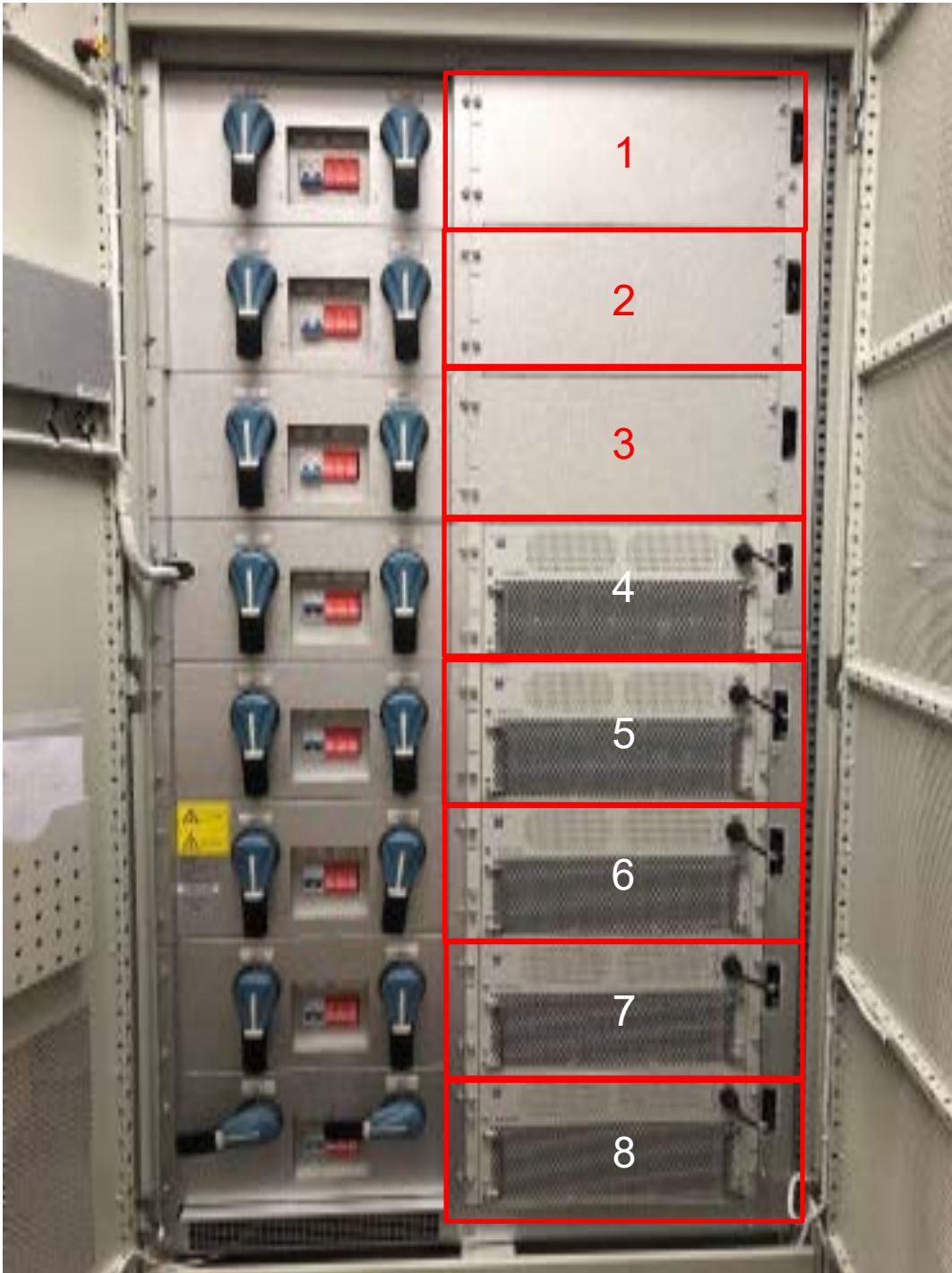
A direct replacement for the older, 600VDC inverter without having to change the PV array strings or comply with new NEC requirements such as Rapid Shutdown.

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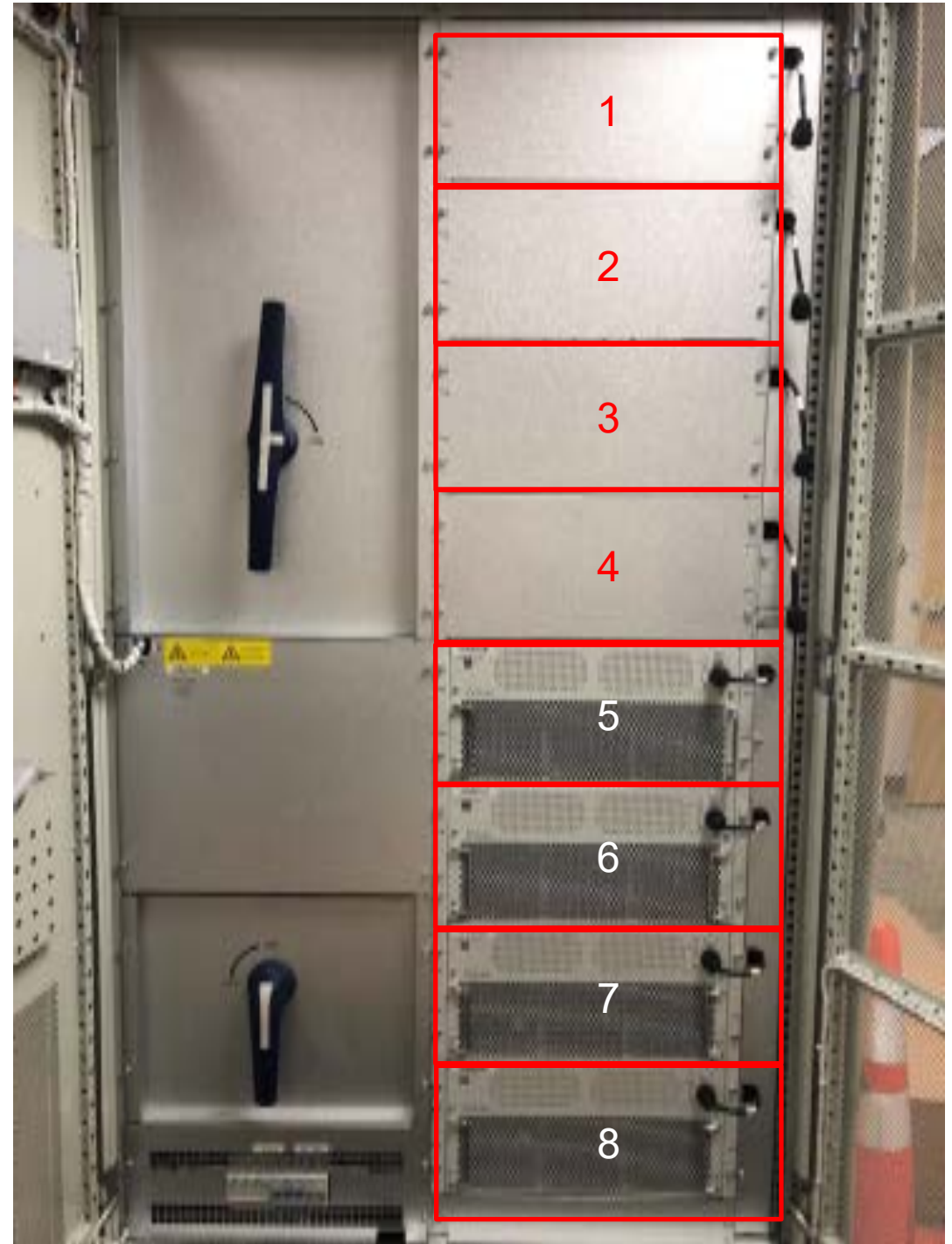
Features

- Plug and Play, easy to replace old central inverters
- Modular design 500kW max per block
- 62.5kW per module for both Voltage Booster and Power Converter Modules.
- No need to restring PV modules
- 600Vdc compatible

Modular Design



Voltage Booster Module



Power Converter Module

Brainart's fully modular system provides the following advantages

- The system solution is easily customized to match the specific requirements of each location and application. Operating set points can be easily adjusted
- Certified/proven master controller (Energy Management System) optimizes the performance and maximizes the capabilities of the end to end system.
- Lowest downtime – power modules can be safely removed/replaced without having to shut down the system
- Highest up-time – failed power modules are automatically isolated while system continues to operate at a reduced capacity
- Low time to repair = lower O&M costs
- PV array output is maximized through the inherent multiple MPPT circuits (five MPPTs compared to a single MPPT in competitor's systems)
- Indoor or outdoor configurations are available. Easy installation.
- Can supply power to more loads for a longer time during off-grid operations

CIR 250/500 Series

DC Module Spec

Item	Spec	Note
Power Rated	250kW and 500kW	62.5kW Building Block
PV Mode		
PV Voltage	250V to 840V	
PV Discharge Current	100A (120A Max.)	
DC Bus Voltage	700V to 840V	
DC Bus Current	67A (100A Max)	
DC Bus Power	50kW to 500kW	50kW Building Block
Charge/Discharge Mode		
DC Bus Voltage	700V to 840V	
DC Bus Current	67A (100A Max.)	
DC Bus Power	50kW to 500kW	50kW Building Block
Battery Charge Voltage	250V to 840V	
Battery Charge Current	100A (120A Max.)	
System		
Max. Efficiency	98.5%	
Isolation	Non-isolated	
Cooling	Forced air cooling	
Noise	≤75dB	
Communication Protocol	Modbus TCP/IP	
Working Temperature	-4°F to 122°F	-20°C to 50°C

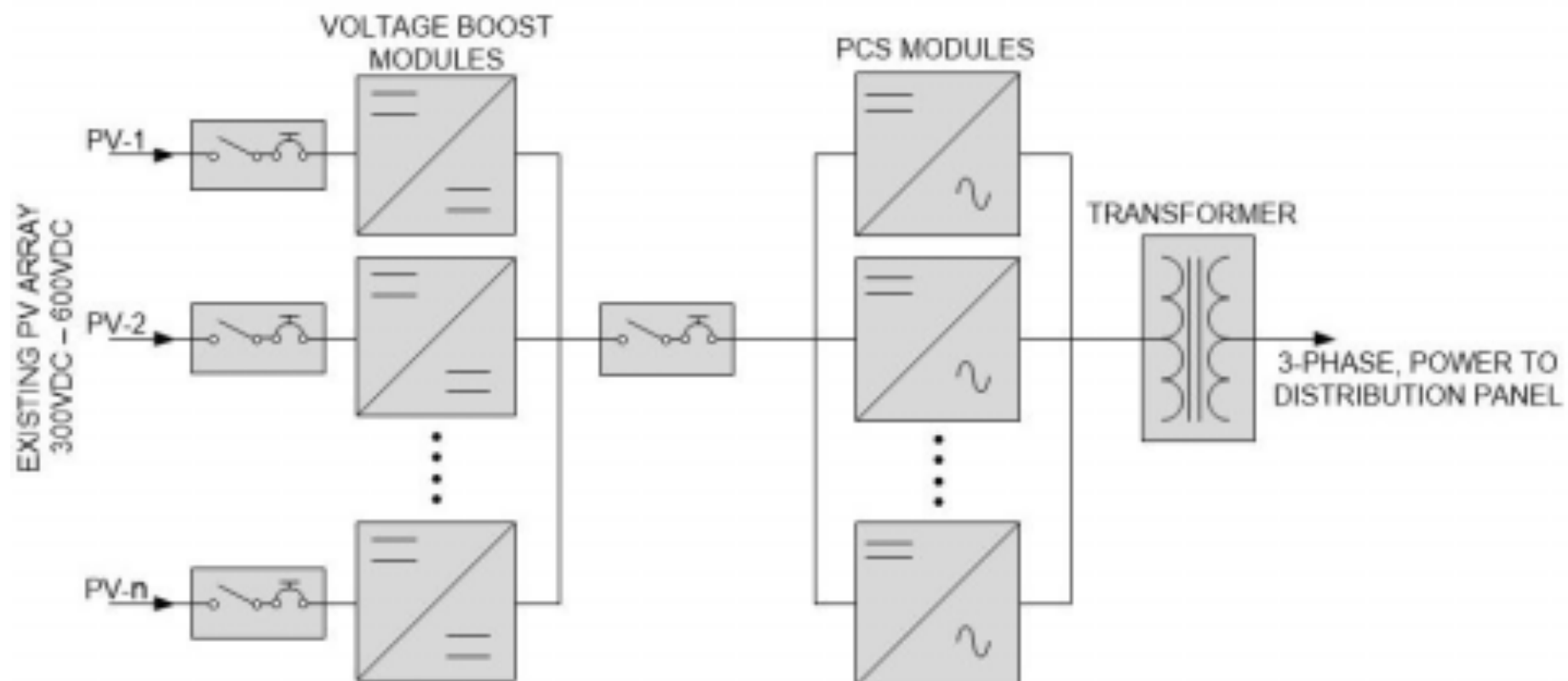
PCS Spec

Item	Spec	Note
Battery voltage range	600V to 900V	
DC Max. current	110A to 873A	
AC Output Voltage	480V Nominal	423V to 500V
AC Output Current	60A to 720A	
Nominal Power	50kVA to 500kVA	
AC Frequency	59.5Hz to 60.5Hz	
Cooling	Forced air cooling	
Noise	70dB	
Operating Temperature	-4°F to 122°F	-20°C to 50°C
Peak Efficiency	98.2%	
CEC Efficiency	97%	
AC Connection	3Phase 3 wire or 4 wires	
Communication	RS485, CAN, Ethernet	

Enclosure Spec

Item	Spec	Note
NEMA Rating	NEMA3R	
Cooling	Forced air cooling	
Installation	Floor Standing	
Dimension		

Diagram



Brain♥art

Clean Energy makes good \$ents!