



Fortress Power

Energy Storage Systems

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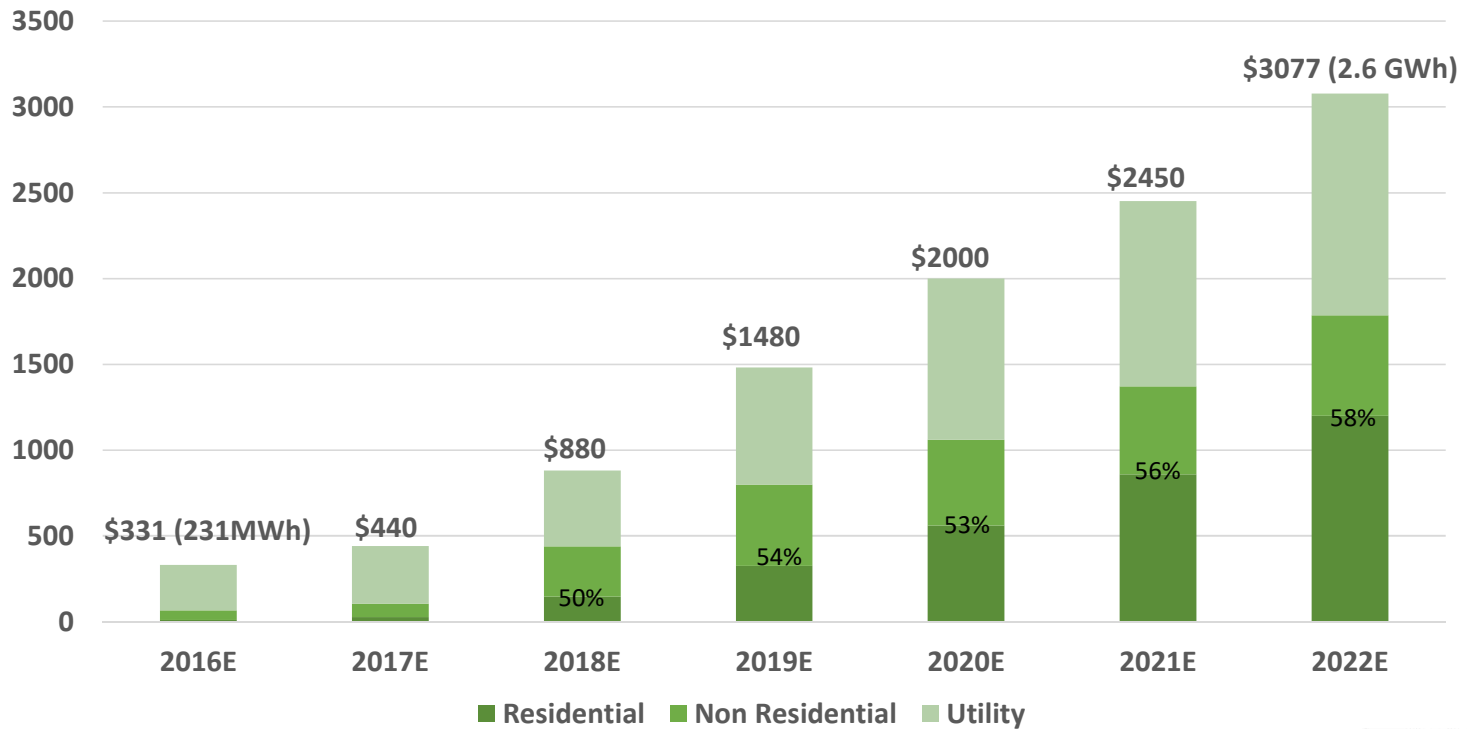
TOPICS

- POLICY AND MARKET OPPORTUNITIES
- FORTRESS POWER BATTERY SYSTEMS
- DARFON HYBRID INVERTER
- DEALER BENEFITS



MARKET OPPORTUNITIES

U.S Annual Energy Storage Market Size, 2016-2022E (Million \$)

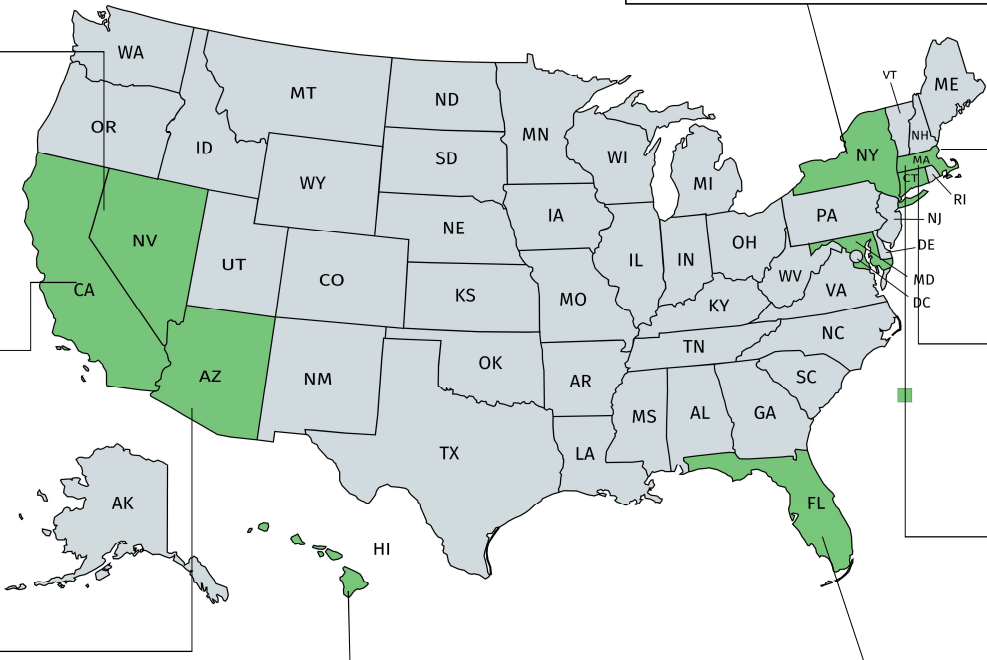


Source: GTM Research



POLICY

States with favorable policy ■



Nevada PUC approved new NEM rules

California approved SGIP Budget for funding low-income communities. Governor signed AB 546 into law to streamline storage permitting.

Arizona proposed tariff program to encourage adoption of non-residential storage to address peak demand.

Hawaii PUC issued new program rules for net metering: Smart Export and CGS+.

New York targets 1.5GW energy storage by 2025

Massachusetts investigates if energy storage should be net metered and if net metered systems can have capacity bid into ISO-NE's Forward Capacity Market.

Connecticut DEEP opened round 4 of its microgrid program which includes an incentive for storage

Maryland passes 30% tax credit for residential and commercial storages.

Florida JEA approved a storage incentive and new NEM compensation structure for early 2018

Source: GTM Research



BENEFITS OF ENERGY STORAGE



Back Up Your Facility



Save Money on your Electric Bill



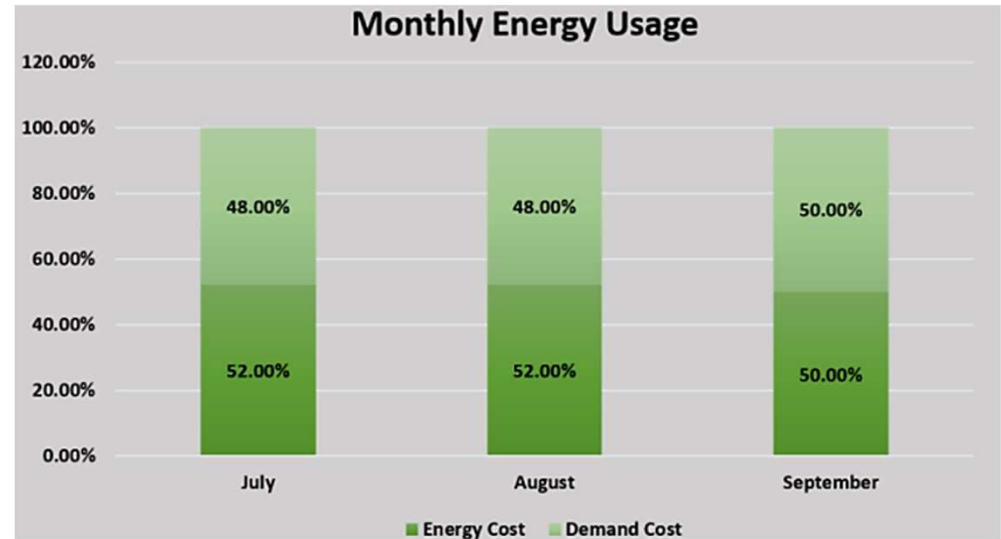
Maximize Your PV Production



Tax and Incentives

Additional Benefits for Business

- Reduce Demand Charge
- Demand Response
- Bonus Depreciation



COMPANY INTRODUCTION

We are a world-leading battery manufacturer that brings high power density automotive lithium ferrite phosphate batteries to the energy sector.



U.S Headquarters
Southampton, PA



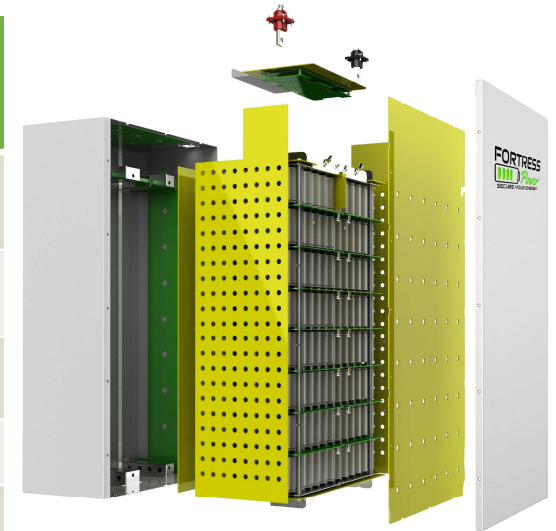
Manufacturing Facility
Hangzhou, China



TECHNOLOGICAL ADVANTAGES

We Use The Safest Lithium Technology – Lithium Ferrite Phosphate

| | FORTRESS Lithium Ferrite Phosphate (LFP) | OTHERS (i.e. Tesla, LG Chem) Lithium Nickel Manganese Cobalt (NMC) |
|-----------------------|---|--|
| Safety | ✓ | X |
| Eco-friendly | ✓ | X |
| Operating Temperature | -4 – 140 °F | 14 – 113 °F |
| Peak Power Output | LFP > Lithium Ion | |
| Rate of Capacity Loss | LFP < Lithium Ion | |
| Life Cycles | LFP > Lithium Ion | |



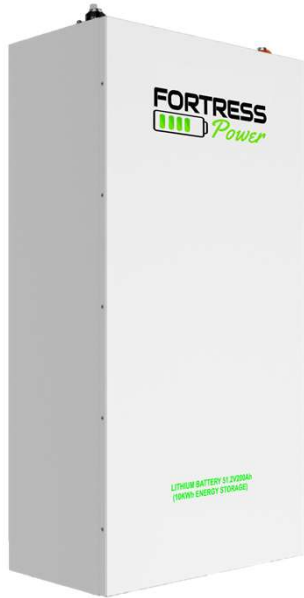
Fortress Power Battery - 10 KWH



PRODUCTS

Here are some of the products we offer to homes:

Fortress**Power** Lithium Battery



(10/15 KWh)

Fortress**LIT** series – Stand-alone solar LED lamps



Fortress**GO** series – Portable storage systems

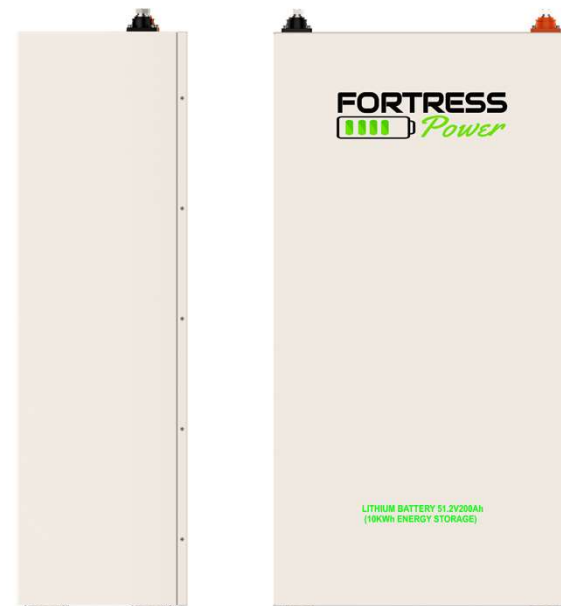


FORTRESS POWER LITHIUM BATTERY

SAFE • AFFORDABLE • EASY TO INSTALL

| Size | LFP- 10 | LFP- 15 |
|---|-----------------|------------------|
| Total Energy (kWh) | 10.24 | 15.36 |
| Max. Charge Current (Continuous) [A] | 100 | 100 |
| Max. Discharge Current (Continuous) [A] | 100 | 100 |
| Max. Pulse Current (for 10 sec) [A] | 200 | 200 |
| Capacity [Ah] | 200 | 200 |
| Voltage [V] | 48 | 48 |
| Charging Temperature [F] | -4 to 140 | |
| Storage Temperature [F] | -4 to 131 | |
| Dimension [H xW x D, inch] | 33 x 16.4 x 9.4 | 33 x 16.6 x 13.4 |
| Weight [lbs] | 286 | 429 |
| Depth of Discharge | 100% | |
| Warranty | 10 years | |

FortressPower Lithium Battery



FORTRESSGO SERIES



FortressGo – 444 Wh
(500W AC output)

Compact and portable lithium smart battery systems are made for your home or the outdoors with a built-in inverter, charger and battery management system.

Multiple outlets allow you to connect your appliances easily.

FortressGo – 5000 Wh
(3000W AC output)



FORTRESS
 **Power**
SECURE YOUR ENERGY

FORTRESSLIT SERIES

- Approx. 5 Minutes to Install
- No Wiring
- Affordable



- 25W Solar Panel
- 10W LED; 1100 Lumens
- 3.2 Volts/25 amp hour LFP Battery
- 8 hours operating time
- 5 year Warranty

COMPETITIVE ADVANTAGES



Competitively Priced
& Affordable



Easy to Install & User
Friendly



High Performance



Consistent Reliability



Highest Safety Standard



Compatible with Many
Inverters & Chargers

DARFON HYBRID INVERTER – H5001



The compact, easy to install, and efficient smart hybrid inverter.



Darfon Company Profile

Darfon Solar



About Darfon Electronics

A BenQ Group Company

Darfon Electronics Corp.

| | |
|----------------|-------------------|
| Established | May, 1997 |
| Revenue | \$800 Million |
| Employees | 12,000 (2017) |
| Global Patents | 1,200 (2017) |
| Headquarter | Taoyuan, Taiwan |
| US Office | Mountain View, CA |

BenQ Group

| | |
|----------------|---------------------------|
| Established | 2001 (Spun off from Acer) |
| Revenue | > \$25 Billion |
| Employees | > 100,000 |
| Global Patents | 15,000 |
| Headquarter | Taiwan |



Core Products

OEM/ODM Business

| Input Devices | Integrated Components & Materials | LED Lighting |
|-------------------------------|-----------------------------------|-------------------------|
| Keyboards (Desktop, Laptops) | Ceramic Capacitors | Industrial Can Lighting |
| Mice | Power Inductors | Light Bulbs |
| Cases (Smart Phones, Tablets) | Transformers | Track Lighting |
| Power Adapters | Solar Paste | Bay Lamps |
| Battery Packs | | LED Bars |
| TV & PC Power Modules | | Warehouse Lighting |
| | | Office/Household Lamps |

Branded Business

| Darfon Solar | Darfon Innovation |
|--------------------------|---------------------|
| Micro Inverters | BESV Electric Bikes |
| Hybrid Inverter Products | |

Worldwide Core Customers





DC vs AC coupled

❑ DC-coupled solution

A DC coupled solution is where the PV array connects directly to the Hybrid inverter.

- More efficient
- Cheaper in a new installation
- Simpler to install as a new installation

❑ AC-coupled solution

An AC coupled solution allows for an easier interface for a previously installed system by using the existing inverter.

- Less efficient as there is an extra conversion taking place.
- Easier and less expensive as you can typically use the existing inverter as it is
- Simpler to install in front of an existing inverter
- No high voltage DC

Darfon's DC-coupled Solution

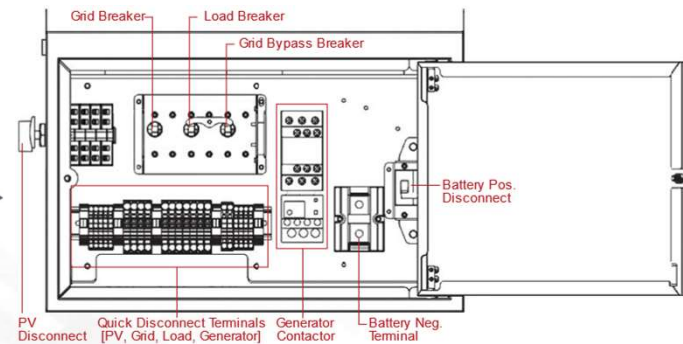
H5001 Hybrid Inverter



Simplicity & Easy-to-install

It integrates PV inverter, charger inverter, control, communication, distribution box, and auto-transfer, all in one unit.

Distribution Box





Prioritize Power Balance

H5001 Modes of Operation

It prioritizes flow and balances supply and demand from the batteries, PV modules and utility. It supports a wide range of applications.

| Operating Mode | | Priority from PV input to | | | Priority for load from | | |
|-----------------------------------|-----------------|---------------------------|-------|------|------------------------|------|-------|
| | | Load | Batt. | Grid | PV | Grid | Batt. |
| 1. Back-up (default) | | 2 | 1 | 3 | 1 | 2 | 3 |
| 2. Residential | | 1 | 2 | 3 | 1 | 3 | 2 |
| 3. Back-up w/o Feed-in | | 2 | 1 | x | 1 | 2 | 3 |
| 4. Residential w/o Feed-in | | 1 | 2 | x | 1 | 3 | 2 |
| 5. Time of Use | Off-peak Period | 2 | 1 | 3 | 1 | 2 | 3 |
| | Peak Period | 1 | 2 | 3 | 1 | 3 | 2 |
| 6. Time of Use w/Batt. Feed-in | Off-peak Period | 2 | 1 | 3 | 1 | 2 | 3 |
| | Peak Period | 1 | 3 | 2 | 1 | 3 | 2 |



Specifications

| PV Input | Grid Input | Grid Output | Critical Load |
|---------------------|---------------------------------|-------------------------------|--|
| Up to 6.5kW | Up to 5kW | 0 to 24A Feed-in Current | 5kW Cont. Output |
| 2 independent MPPTs | Auto-transfer Relay Rating: 48A | L-L: 211 to 264VAC \pm 3.0V | 5.5/6.5/7.5kW Surge power at (40/5/1sec) |
| Max. 13A per string | 20ms Typical Transfer Time | 59.4 to 60.4Hz \pm .05 Hz | 0 - 21A Output Current |
| Voc: 120~500V | 240 Split Phase | Rule 21 Compliant | Voltage 240 2P |
| Mppt: 250 - 430 | 50/60 Hz | | 50/60 Hz |



H5001 Battery Charger Specifications

- Max charge current: 60A
- Max discharge Current: 150A
- DCV range: 42 – 60 (48 nominal)
- Battery Types
 - AGM
 - Gel
 - Li-ion
 - LFP
 - Custom



Why Darfon ESS Solutions

Solutions on the market

- Are difficult to install
- Are expensive
- Evolved from off-grid market
- Are not reliable
- Have volatile battery chemistries

Darfon ESS solutions

- Are Easy to install
- Are affordable
- Have Solid Engineering
 - Programmable operation
 - Simple connectivity
- Work with all common chemistries



G-Series Micro Inverters

Features & Benefits

G320

- Handles new higher powered modules
- 60 or 72 cell modules
- 240, 208, 277 VAC
- Up to 19 inverters per circuit with 30A breaker
- Maximum AC extraction!

G640

- 2 modules per inverter
- Lower cost per watt
- Faster installation
- Lower cabling costs
- Up to 9 inverters per circuit with 30A breaker
- Separate MPPT for each module

DEALER BENEFITS

Dealer Benefits

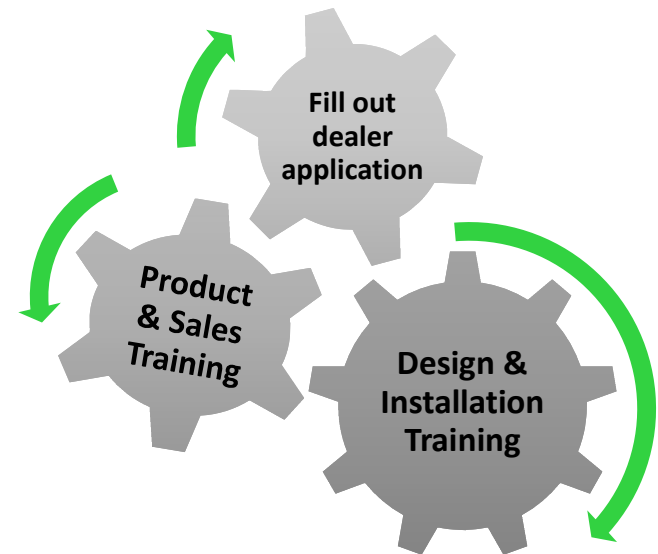
Sales & Marketing Support

Product & Webinar Training

Great Dealer Discount Price

Logistic Support

How to Become an Authorized Dealer



THANK YOU – Contact Us!

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