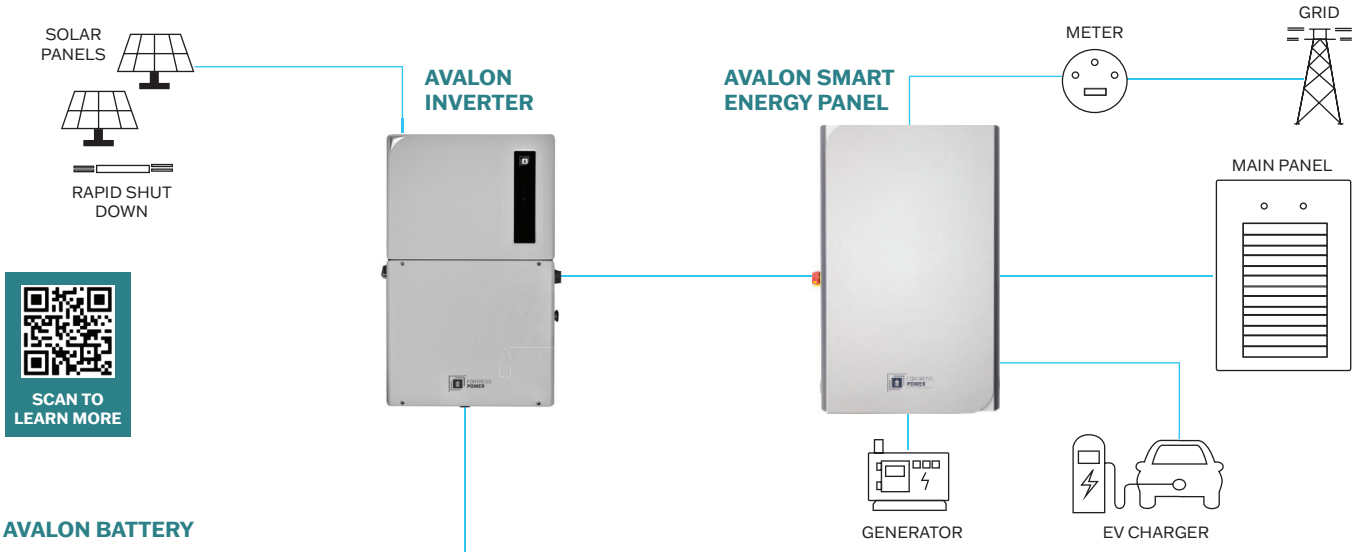
FORTRESS POWER
Secure your energy

AVALON

SMART WHOLE-HOME ENERGY STORAGE



SCAN TO LEARN MORE

AVALON BATTERY

The Avalon is the newest innovation from Fortress Power. The system combines a hybrid inverter, high-voltage battery, and a smart energy panel. **The Avalon is truly an all-in-one, whole-home backup system.**

- One smart, user-friendly App for the entire energy storage system
- Indoor / outdoor installation
- Storage capacity is scalable up to 176.4 kWh
- Stackable, ultra-thin space-saving design allows for easy installation and logistics
- 4 MPPTs for maximum efficiency (max 18.24 kW PV array)
- AC or DC Coupled with 200A pass-through & grid transfer switch
- Smart load management to control up to 12 circuits (HVAC, pump, water heater, etc.)
- Integrated module level rapid shutdown transmitter

FORTRESS POWER MOBILE APP

Simple: One App for the entire energy storage system! The Fortress Power App uses straightforward descriptions and images to help you set-up and operate your energy storage system. We've simplified the process so that you can have quicker installs, fewer callbacks, and fewer confused customers.

Visual: No more hard-to-interpret screens of confusing numbers. The Fortress Power App presents users with an intuitive visualization of the flow of power through their system.

Configurable: Take control of your energy usage during a blackout. Automatically shed loads when your battery gets low to preserve power for other critical devices. Automatically turn them back on when your battery is charged back up. The most powerful way yet to Secure Your Energy.

** DATASHEETS ARE SUBJECT TO CHANGE

FORTRESS POWER
AVALON SMART ENERGY PANEL

The Fortress Power Avalon Smart Energy Panel is the easiest and least expensive way to backup a whole home.

- No separate critical load panel needed, or add more circuits in critical load panel with load management. The Avalon Smart Energy Panel intelligently manages large loads in the house to stop the inverter from tripping off.
- No automatic transfer switch (ATS) needed. Safely connect and operate a gas generator without the need for a separate transfer switch.
- No separate AC combiner box needed. AC couple an existing PV installation or add an EV charger directly to the Avalon Smart Energy Panel.
- LED indicator and LCD screen for system status.

Performance

AC voltage	120/240 V
feed-in type	split phase
grid frequency	60 Hz
current rating	200 A
max input short circuit current	10 kA, 15 kA, or 25 kA*
overcurrent protection device	100 - 200A; service entrance rated
AC meter	non-RGM is standard, Revenue Grade Meter is optional
primary connectivity	ethernet / wifi / bluetooth
user interface	Fortress App
backup transition	automatic transfer for backup
expandability	supports up to 3 Avalon HV hybrid inverters, up to 35 kW backup load
limited warranty	5 years

Electrical Connections

smart load control	12 positions. Control up to 12 single phase loads (120V), 6 split phase loads (240V), or any combination, up to 50A**
smart load control modes	automatic, scheduled, or manual control
EV charging smart load provision	up to 50A
AC coupling smart load provision	up to 50A
generator smart load provision	up to 50A
non-backup lug connections	included

Environmental

operating temperature	-4°F to 122°F (-20°C to 50°C)
operating humidity	up to 100%, condensing
maximum elevation	9,843 ft (3000m)
environment	indoor and outdoor rated
enclosure type	NEMA 3R

Mechanical

dimensions	35.4 x 22.2 x 9.45in (900 x 565 x 240mm)
weight	55 lbs (25 kg)
mounting options	wall mount

Compliance & Certificates

certifications	UL67, UL1741 PCS, UL869A, UL916
emissions	FCC Part 15, ICES 003

Accessories (not included, unless otherwise noted)

main breaker	Eaton CSR2200N, 2pole/200A
PCS inverter backup breaker	Eaton BR260orBR2125, 1or2or3pole/60Aor125A/25kAIC
PCS inverter DIN rail breaker (included in inverter packaging)	B1N1C40, 1 pole / 40A, for 7.6kW Avalon inverter B1N1C60, 1 pole / 60A, for 11.4kW Avalon inverter
other system components (EV, AC coupled inverter, generator)	based on component spec
hold down kit	Eaton X-IQ-NA-HD-200A with screws

*Depending on local jurisdiction and choice of breaker, this rating will vary.

** Promotion offer, may terminate without notice.
Standard offer: 6 positions. Control up to 6 single phase loads (120V), 3 split phase loads (240V), or any combination, up to 50A. Addition load control optional.

FORTRESS POWER
AVALON HYBRID INVERTER

- 7.6kW or 11.4kW inverter
- 4 MPPTs for maximum efficiency (max 18.24 kW PV array)
- AC or DC coupled for flexible design and retrofitting
- Integrated module level rapid shutdown transmitter

DC Input (PV)

max. input voltage	600 V
rated voltage	380 V
start-up voltage	80 V
MPPT voltage range	80 - 520 V A
max. input current per string	16 A
max. short circuit current per string	25.6 A
number of MPPTs/number of strings per MPPT	4/1

AC Output	7.6	11.4
rated output power	7.6 kW	11.4 kW
max. apparent output power (grid)	7.6 kVa	11.4 kVa
max. apparent output power (off-grid)	12.2 kVa, 10 sec	18.2 kVa, 10 sec
back-up switch time	<10 ms	
rated output voltage (L1-L2)	240 V	
rated output voltage (L1/L2-N)	120 V	
AC output voltage range	211 - 264 V	
rated frequency	60 Hz	
frequency range	55 - 65 Hz	
rated output current	31.7 A	47.5 A
max. output current (grid)	31.7 A	47.5 A
max. output overcurrent, 10 sec (off-grid)	50.7 A	76 A
max. allowance phase configurations	100 %	
backup support configurations	whole-home and dedicated loads	
power factor	>0.99 (0.8 leading - 0.8n lagging)	
THD	<3%	

AC Input (Grid)	7.6	11.4
input voltage range	211 - 264 V	
frequency range	58.8 - 61.2 Hz	

Efficiency

PV max. efficiency	97.6%
PV CEC efficiency	97.2 %
battery charged by PV max. efficiency	98.5%
battery charged/discharged to AC max. efficiency	97.0%

Protection

ground fault detection	yes
residual (leakage) current detection	yes
integrated AFCI (DC arc-fault circuit protection)	yes
DC reverse-polarity protection	yes (PV only)
rapid shutdown NEC 2017	integrated sunspec-certified transmitter
RSD receiver	APSmart or Tigo
manual inverter bypass switch	yes

Energy Storage

battery voltage range	120-315 V
maximum charge/discharge current	50 A
battery communication	CAN/RS485

General Data	7.6	11.4
part number	**AVALON HV PC076**	**AVALON HV PC114**
dimensions (W*H*D)	21.87*34.88*8.62 in (555.5*866*219mm)	
weight	89.59 lbs (40.64 kgs)	
mounting	wall mount	
topology	transformerless	
operation temperature range	-13°F to 140°F (-25°C to 60°C)	
ingress protection	TYPE 4X (IP66)	
noise emission	fan-less, <30 dB(A)	
cooling method	natural convection	
maximum elevation	9,843 ft (3000m)	
compliance	UL 1741, UL 1741 SA, UL 1741 SB, UL9540, IEEE 1547-2018, IEEE 1547.1-2020, UL 1699B, UL 1998, California Rule 21, HECO Rule 14H, NEC 690.12-2020, CAN/CSA C22.2107.1-1, FCC Part 15 Class B	
generator support	yes	
limited warranty	10 years	

Features

DC connection	1 in. knockouts for conduit (x2) on the side and bottom; Spring clamp terminals
AC connection	1.5 in. (or 1.25 in. with reducer) knockouts for conduit (x3) on the side and bottom; Spring clamp terminals
interface	Fortress App
communication	RS485, Cellular, Wi-Fi, Optional: LAN

AVALON BMS AND BATTERY PACK

- Ultra-thin space saving design
- 14.7 - 29.4 kWh (scalable up to 176.4 kWh)
- Sealed IP65 rated enclosure protects against dust, water, and humidity
- Active heating & passive cooling temperature management for outdoor installs
- 8,000+ cycle life with tier 1 automotive grade Lithium Iron Phosphate (LFP) battery
- Modular design that is easily stackable and expandable
- Easy installation & logistics
- Maximum safety with built-in fire suppression system

BMS with four 4.9kWh modules shown

Specifications	HV-BAT-14.7P1M3	HV-BAT-19.6P1M4	HV-BAT-24.5P1M5	HV-BAT-29.4P1M6
battery modules	3	4	5	6
nominal voltage (V)	144	192	240	288
operation voltage range (V)	119.25 ~ 157.5	159 ~ 210	198.75 ~ 262.5	238.5 ~ 315
nominal capacity (Ah)	102	102	102	102
nominal energy (kWh)	14.7	19.6	24.5	29.4
nominal charge/discharge current (A)	50	50	50	50
maximum surge rate	80A, 15 sec	80A, 15 sec	80A, 15 sec	80A, 15 sec
maximum units in parallel	4	4	4	4
limited warranty (years)	15	15	15	15
cycle life @ EOL 70%	8,000	8,000	8,000	8,000
communication protocol	CAN	CAN	CAN	CAN
weight	302 lbs (137 kg)	392.4 lbs (178 kg)	482.8 lbs (219 kg)	573.2 lbs (260 kg)
size (LxHxD)	43 x 28.15 x 10.96 in (1092 x 715 x 278.4 mm)	43 x 34.72 x 10.96 in (1092 x 881.8 x 278.4 mm)	43 x 41.3 x 10.96 in (1092 x 1049 x 278.4 mm)	43 x 47.87 x 10.96 in (1092 x 1215.9 x 278.4 mm)
ingress protection	IP65	IP65	IP65	IP65
operation temperature	charge: -10°C to 50°C discharge: -20°C to 55°C	charge: -10°C to 50°C discharge: -20°C to 55°C	charge: -10°C to 50°C discharge: -20°C to 55°C	charge: -10°C to 50°C discharge: -20°C to 55°C
certifications	UL1973, UL9540. UL9540A, CEC, SGIP, AC156	UL1973, UL9540. UL9540A, CEC, SGIP, AC156	UL1973, UL9540. UL9540A, CEC, SGIP, AC156	UL1973, UL9540. UL9540A, CEC, SGIP, AC156
transportation classification	UN3480, Class 9	UN3480, Class 9	UN3480, Class 9	UN3480, Class 9