

VANGUARD™

Fi Series – Fixed Battery Packs

Leader of the pack in power, safety, and performance.

Durable

- > Multiple protective features tested to withstand harsh conditions, including extreme temperatures, impact, vibration and dirt.

Battery Management System

- > Monitors temperatures and voltages of each cell bank to ensure safe operations.

Unique CMA (Cell Module Assembly) Design

- > For efficient power and safety.

Flexibility

- > Single CANbus J1939 communication protocol allows OEMs to communicate with the battery's J1939 (automotive standard) CANbus.

Assembled In The U.S.A.

- > Designed, engineered, and assembled in the U.S.A. at Vanguard's advanced battery manufacturing facility with automation capabilities that improve product quality and safety.



BATTERY TECHNICAL SPECIFICATIONS



SPECIFICATION

	48V 1.5 kWh ^{††}	24V 3.5 kWh ^{††}	48V 3.5 kWh ^{††}
ENCLOSURE MATERIALS	Aluminum	Aluminum	Aluminum
NOMINAL VOLTAGE	51.4 V	25.8 V	51.6 V
DISCHARGE CUTOFF VOLTAGE	35.0 V	17.5 V	35.0 V
DISCHARGE CURRENT, NOMINAL	29 A	134 A	67 A
DISCHARGE CURRENT, MAX. CONTINUOUS	100 A	200 A	134 A
DISCHARGE CURRENT, 10S SURGE	‡	400 A	200 A
NOMINAL CAPACITY (PER IEC 61960)	28.4Ah	135.9 Ah	67.5 Ah
NOMINAL ENERGY (PER IEC 61960)	1.5 kWh	3.5 kWh	3.5 kWh
DISCHARGE TEMPERATURE RANGE	-40°C to +60°C	-20°C to +60°C	-20°C to +60°C
PARALLEL CAPABLE	Yes	Yes	Yes
MARKETED DURABILITY	Up to 1,000 cycles to 80% initial capacity	Up to 2,000 cycles to 80% initial capacity	Up to 2,000 cycles to 80% initial capacity

CHARGING

CHARGE VOLTAGE (PER IEC 61960)	58.8 V	29.4 V	58.8 V
CHARGE TEMPERATURE RANGE	0°C to +45°C	0°C to +45°C	0°C to +45°C
CHARGE TIME WITH 1050W VANGUARD™ CHARGER	N/A	6 Hours	4 Hours
CHARGE TIME WITH 1425W VANGUARD CHARGER	1.25 Hours	5 Hours	3 Hours
CHARGE TIME WITH 3000W VANGUARD CHARGER	N/A	4 Hours	2 Hours

DIMENSIONS/WEIGHT

PACK FRAME DIMENSIONS (L×W×H), INCHES	10.1 x 5.1 x 14.6	19.9 x 11.5 x 10.5	19.9 x 11.5 x 10.5
PACK FRAME DIMENSIONS (L×W×H), MILLIMETERS	256 x 131 x 371	482 x 272 x 266	482 x 272 x 266
PACK WEIGHT	11.6kg (25.5 lbs)	26.3kg (58lbs)	26.3kg (58lbs)

	48V 5.0 kWh ^{††}	48V 5.0 kWh ^{††}	48V 7.0 kWh ^{††}	48V 7.0 kWh ^{††}
ENCLOSURE MATERIALS	Aluminum	Aluminum	Aluminum	Aluminum
NOMINAL VOLTAGE	51.6 V	51.6 V	51.6 V	51.6 V
DISCHARGE CUTOFF VOLTAGE	35.0 V	35.0 V	35.0 V	35.0 V
DISCHARGE CURRENT, NOMINAL	100 A	100 A	134 A	134 A
DISCHARGE CURRENT, MAX. CONTINUOUS	200 A	200 A	200 A	200 A
DISCHARGE CURRENT, 10S SURGE	300 A	300 A	400 A	400 A
NOMINAL CAPACITY (PER IEC 61960)	98.7 Ah	98.7 Ah	135.9 Ah	135.9 Ah
NOMINAL ENERGY (PER IEC 61960)	5.1 kWh	5.1 kWh	7.0 kWh	7.0 kWh
DISCHARGE TEMPERATURE RANGE	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
PARALLEL CAPABLE	Yes	Yes	Yes	Yes
MARKETED DURABILITY	Up to 2,000 cycles to 80% initial capacity	Up to 2,000 cycles to 80% initial capacity	Up to 2,000 cycles to 80% initial capacity	Up to 2,000 cycles to 80% initial capacity

CHARGE VOLTAGE (PER IEC 61960)	58.8 V	58.8 V	58.8 V	58.8 V
CHARGE TEMPERATURE RANGE	0°C to +45°C	0°C to +45°C	0°C to +45°C	0°C to +45°C
CHARGE TIME WITH 1050W VANGUARD™ CHARGER	5.5 Hours	5.5 Hours	8 Hours	8 Hours
CHARGE TIME WITH 1425W VANGUARD CHARGER	4 Hours	4 Hours	6 Hours	6 Hours
CHARGE TIME WITH 3000W VANGUARD CHARGER	2.5 Hours	2.5 Hours	3 Hours	3 Hours

PACK FRAME DIMENSIONS (L×W×H), INCHES	23.3 x 10.5 x 14.4	34.5 x 11.2 x 10.4	23.3 x 10.5 x 14.4	34.5 x 11.2 x 10.4
PACK FRAME DIMENSIONS (L×W×H), MILLIMETERS	597 x 266 x 362	877 x 281 x 262	597 x 266 x 362	877 x 281 x 262
PACK WEIGHT	39kg (86lbs)	40.8kg (90lbs)	46.3kg (102lbs)	47.6kg (105lbs)

^{††}Total energy measured using a 0.2C discharge per IEC 61960-3:2017. [†]Battery packs are not currently in production are subject to changes at time of production launch. [‡]3S surge of 180A. [§]See vanguardpower.com for warranty details.

VANGUARD

BRIGGS & STRATTON

Milwaukee, WI 53201-0702 USA
(414) 259-5333

Wolleraustrasse 41
8807 Freienbach, Switzerland
+41 (0)55 415 1200

Copyright ©2023. All rights reserved.
WWW.VANGUARDPOWER.COM

