



⁸²Pb ³Li
Lead Acid Lithium

HFModular

High-Frequency
Battery Chargers





A three-phase, high frequency modular charger, suitable for all lead-acid and lithium-ion battery types.

Our new technology utilizes 6kW and 10kW modules, allowing scalability and flexibility, by connecting in parallel same module types. The modular charger can reach up to 40kW power.



Benefits of technology & design

- ü Modularity and flexibility
- ü High configurability and ease of customization to fit any combination of voltage, current and power requirements
- ü High efficiency technology for optimal energy consumption and cost savings (efficiency up to 94%) integration of Power Factor Correction (PFC) to maintain a PF close to 1 under all operating conditions
- ü High flexibility lead-acid standard / GEL & Lithium-ion curves
- ü Optimized charging profiles for quality that extends battery life
- ü Lithium battery ready (adding CAN BUS communication accessory)
- ü Easy to use with four (4) LED charging status indicators and multifunctional LCD display for monitoring real time charging curves and charging parameters
- ü Easy to install (wall mounting ready)
- ü High energy saving cost & Easy maintenance
- ü Serviceability
- ü Available for Opportunity and Fast charging
- ü Less modules in parallel connection, for high power

Technical Specifications

Input Voltage	Operational at both 400Vac and 440Vac $\pm 10\%$
Output Voltage	24V 36V 48V 72V 80V
Power	Up to 40kW
Power factory correction	Present PF~1
Efficiency	Energy efficient (efficiency up to 94%)
Lithium compatibility	Yes. Lithium battery ready (adding CAN BUS communication accessories)
Charging curve	IUI for Lead Acid Batteries. Adjustable curve for Lithium (depending on the battery needs)
Charging profiles	Five (5) preprogrammed options charging profiles and five (5) for Air-lift (8 memory slots). One (1) Lithium profile adaptable/defined by the battery BMS
Selectable charging profiles	Yes, for Lead Acid Batteries (via buttons & software)

Product features

LEDs indicator	Four (4) LED charging status indicators
Buttons	Three (3) push buttons to access the menu for programming, testing and historical data visualization
Display	Advanced LCD display with charging information (V, I, charging curve, charging time, Ah)
Cabinet sizes (mm)	Box 1A: L 490 / H 425 / W 435 Box A: L 490 / H 545 / W 435 Box 2A: L 490 / H 660 / W 435 Box B: L 520 / H 680 / W 500
Weight (kg)	Box 1A: 38, 44 Box A: 54 Box 2A: 70, 71, 72 Box B: 47, 56, 67, 90
Accessories	Leg support



Lead-acid charger selection table

Voltage	Ampere	Battery Capacity (Ah)		Box
		(7 ÷ 8 h)	(10 ÷ 12 h)	
24V	50A	300÷350	425÷500	1A
	60A	360÷420	510÷600	
	70A	420÷490	595÷700	
	80A	480÷560	680÷800	
	100A	600÷700	850÷1000	
	120A	720÷840	1020÷1200	
	140A	840÷980	1190÷1400	
	150A	900÷1050	1275÷1500	
	160A	960÷1120	1360÷1600	
	180A	1080÷1260	1530÷1800	
	200A	1200÷1400	1700÷2000	
	250A	1500÷1750	2125÷2500	A
	300A	1800÷2100	2550÷3000	
36V	50A	300÷350	425÷500	1A
	60A	360÷420	510÷600	
	70A	420÷490	595÷700	
	80A	480÷560	680÷800	
	100A	600÷700	850÷1000	
	120A	720÷840	1020÷1200	
	140A	840÷980	1190÷1400	
	150A	900÷1050	1275÷1500	
	160A	960÷1120	1360÷1600	
	180A	1080÷1260	1530÷1800	
	200A	1200÷1400	1700÷2000	
	220A	1320÷1540	1870÷2200	A
	240A	1440÷1680	2040÷2400	
	250A	1500÷1750	2125÷2500	
	300A	1800÷2100	2550÷3000	
	350A	2100÷2450	2975÷3500	A2
	400A	2400÷2800	3400÷4000	

Voltage	Ampere	Battery Capacity (Ah)		Box
		(7 ÷ 8 h)	(10 ÷ 12 h)	
48V	50A	300÷350	425÷500	1A
	60A	360÷420	510÷600	
	70A	420÷490	595÷700	
	80A	480÷560	680÷800	
	90A	540÷630	765÷900	
	100A	600÷700	850÷1000	
	110A	660÷770	935÷1100	
	120A	720÷840	1020÷1200	
	140A	840÷980	1190÷1400	
	150A	900÷1050	1275÷1500	
	160A	960÷1120	1360÷1600	
	180A	1080÷1260	1530÷1800	A
	200A	1200÷1400	1700÷2000	
	220A	1320÷1540	1870÷2200	
	240A	1440÷1680	2040÷2400	
	250A	1500÷1750	2125÷2500	A2
	300A	1800÷2100	2550÷3000	
	350A	2100÷2450	2975÷3500	
80V	40A	240÷280	340÷400	B
	50A	300÷350	425÷500	
	60A	360÷420	510÷600	
	70A	420÷490	595÷700	
	80A	480÷560	680÷800	
	90A	540÷630	765÷900	
	100A	600÷700	850÷1000	
	120A	720÷840	1020÷1200	
	140A	840÷980	1190÷1400	
	150A	900÷1050	1275÷1500	
	160A	960÷1120	1360÷1600	
	180A	1080÷1260	1530÷1800	
	200A	1200÷1400	1700÷2000	
	250A	1500÷1750	2125÷2500	
	300A	1800÷2100	2550÷3000	
	350A	2100÷2450	2975÷3500	
	400A	2400÷2800	3400÷4000	



BOX Dimensions (mm):

Type 1A 490 (L) 435 (P) 425 (H) – Wall mounting

Type A 490 (L) 435 (P) 545 (H) – Wall / Floor mounting

Type A2 490 (L) 435 (P) 660 (H) – Wall / Floor mounting

Type B 520 (L) 500 (P) 680 (H) – Wall / Floor mounting



Li-ion charger selection table

	Charger model			Charger dimension	Charger consumption
	Battery Voltage	Nominal Charging Current (A)	Input Voltage [Vac] $\pm 10\%$	Box Type	Power kW
24V50A	24V	50A	400,440	A	1,60
24V100A		100A	400,440	A	3,20
24V150A		150A	400,440	A	4,80
24V200A		200A	400,440	A	6,41
24V250A		250A	400,440	A	8,01
24V300A		300A	400,440	A	9,61
24V350A		350A	400,440	2A	11,21
24V400A		400A	400,440	2A	12,81
36V50A	36V	50A	400,440	A	2,40
36V100A		100A	400,440	A	4,80
36V150A		150A	400,440	A	7,21
36V200A		200A	400,440	A	9,61
36V250A		250A	400,440	A	12,01
36V300A		300A	400,440	A	14,41
36V350A		350A	400,440	2A	16,82
36V400A		400A	400,440	2A	19,22
48V50A	48V	50A	400,440	A	3,17
48V100A		100A	400,440	A	6,34
48V150A		150A	400,440	A	9,50
48V200A		200A	400,440	A	12,67
48V250A		250A	400,440	A	15,84
48V300A		300A	400,440	A	19,01
48V350A		350A	400,440	2A	22,18
48V400A		400A	400,440	2A	25,34
72V50A	72V	50A	400,440	B	4,70
72V100A		100A	400,440	B	9,40
72V150A		150A	400,440	B	14,10
72V200A		200A	400,440	B	18,80
72V250A		250A	400,440	B	23,50
72V300A		300A	400,440	B	28,20
72V350A		350A	400,440	B	32,90
72V400A		400A	400,440	B	37,60
80V50A	80V	50A	400,440	B	5,22
80V100A		100A	400,440	B	10,45
80V150A		150A	400,440	B	15,67
80V200A		200A	400,440	B	20,89
80V250A		250A	400,440	B	26,11
80V300A		300A	400,440	B	31,34
80V350A		350A	400,440	B	36,56
80V400A		400A	400,440	B	41,78