

Modular. Efficiency.



Innovative Modular Architecture with Long Term Savings.



The **EVOLUTION Series** is an innovative line of high frequency battery chargers that incorporates cutting edge modular power design that delivers peak efficiency greater than 93% and efficiencies greater than 90% throughout the entire charge cycle. As the charge cycle progresses and the output current tapers down, the charger will turn off unneeded modules, allowing the remaining modules to operate at peak efficiency.

The **EVOLUTION Series** is a combination of cutting edge charging and energy management technologies, with a smaller footprint, lower acquisition costs, easy maintenance, and flexible configurations, which makes updating your fleet of electric lift trucks a more attractive investment than ever before. Free your operation from spare batteries, daily battery changes, battery storage areas, and energy inefficient charging!



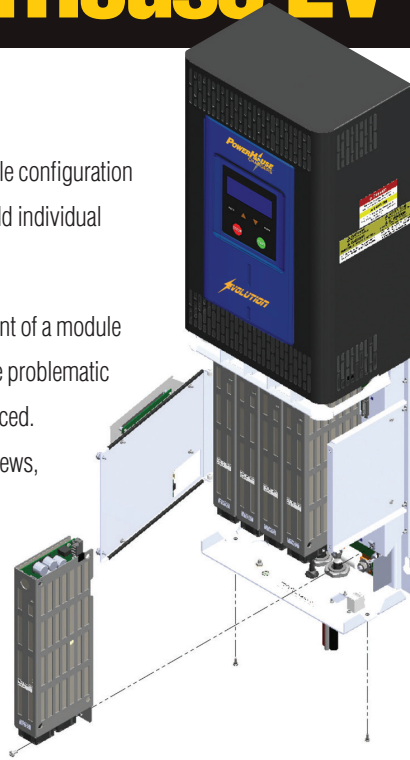
The Power in PowerHouse EV

Variable Configuration Architecture

The **EVOLUTION Series** of chargers are modular concept chargers offering multiple configuration capability. The independent power modules, installed in parallel, allow the user to add individual modules, increasing the charger's output for a minimal upgrade cost.

The parallel module design provides built-in redundancy that ensures that in the event of a module failure the charger will continue to operate, at a slightly lower current output, until the problematic module is replaced. In the event of a module failure, the module can quickly be replaced.

The charger display will indicate the module failure and with the removal of a few screws, the faulted module can simply be unplugged and a new module plugged in, replace the door, re-energize the charger, and it is back to work. The unique modular architecture provides unmatched value, as diagnosis and repair of an **EVOLUTION** is the simplest and fastest of any charger in service today.



EVOLUTION Charger Specifications

Model	Module Size	Output Voltage	4kW	5kW	6kW	8kW	9kW	10kW	12kW	13kW	14kW	15kW	18kW	21kW	23kW	26kW	29kW	31kW	
5X	36	36V	90	120	150														
	48	36V/48V	75/67	100/90	125/112														
8X	36	36V			150	180	210	240											
	48	36V/48V			125/112	150/135	175/157	200/180											
12X	36	36V						240	270	300	330	350							
	48	36V/48V						200/180	225/202	250/225	275/247	300/270							
16X	36	36V										360	420	480					
	48	36V/48V										300/270	350/315	400/360					
24X	36	36V													540	600	660	700	
	48	36V/48V													450/405	500/450	550/495	600/540	
Number of Modules			3	4	5	6	7	8	9	10	11	12	14	16	18	20	22	24	
Charger kW Rating			3.9	5.2	6.5	7.8	9.1	10.4	11.7	13.0	14.3	15.6	18.2	20.8	23.4	26.0	28.6	31.2	
Input Current Draw			5.5	7.4	9.2	11.1	12.9	14.8	16.6	18.5	20.3	22.2	25.9	29.6	33.3	37.0	40.7	44.4	
AC Breaker			5X: 15A			8X: 20A		12X: 30A		16X: 40A		24X: 60A							
Max. Input Current			5X: 10A		8X: 15A		12X: 22A		16X: 30A		24X: 44A								
Input Voltage			480VAC, 3-phase ± 10%																
Efficiency			Total charge cycle efficiency > 90% Peak charging efficiency > 93%																
User Interface			LCD/Keypad, Ethernet (optional)																
Cooling			Forced air (fans)																
Dimensions (WxDxH)			5X: 12.5" x 8.5" x 20.25"			8X: 18.5" x 9.5" x 21"			12X: 26.5" x 9.5" x 21"			16X: 22" x 10" x 48"			24X: 30" x 10" x 48"				
Weight			5X: ≤ 56 lbs			8X: ≤ 81 lbs		12X: ≤ 120 lbs		16X: ≤ 210 lbs		24X: ≤ 300 lbs							
Certifications			UL and cUL listed; CEC Compliant*																

Conventional charge rate based on 17% start rate
Opportunity charge rate based on 25% start rate
Fast charge rate based on 40% start rate

*Contact Crown Battery for CEC compliant charger models.



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Innovative Modular Architecture:

- Modular architecture that is scalable and reliable
- Multi-voltage 1.3kW power modules, that can be combined to produce over 30kW output
- "Plug and Play" utility makes expansion easy and inexpensive
- Can be programmed for conventional, opportunity or fast applications
- Charger remains operational if a power module fails.

Unmatched Energy Savings:

- Highest charging efficiency throughout the entire charge cycle
- Lowest energy costs related to battery charging
- Latest generation MOSFET power conversion technology
- CEC Compliant*

Cost Effective with Long-term Savings:

- Low initial cost versus traditional fast chargers
- Charger can be programmed for all lead acid battery types
- Eliminates the need to replace chargers as your lift truck/battery fleet changes in the future
- PowerCharge.Net monitoring system option allows you to collect and analyze fleet utilization information from a single location, optimizing your cost savings



The **EVOLUTION** charger, when combined with the PowerTrac data logger, has the ability to be multi-voltage (24/36/48), allowing the charger to automatically recognize and charge a wide range of batteries and amp hour capacities. Plus, it provides detailed fleet management information.