



GNB® Industrial Power EHF SERIES™ Family of Chargers

EHF Chargers

The EHF Series™ provide a multi-curve range for standard flooded, low maintenance flooded and low maintenance valve regulated batteries.

This smart charger includes multiple algorithms appropriate for our Element®, Liberator®, GNB® Flooded Classic®, Titan®, and Tubular-HP® batteries. The small, light-weight, quiet packaging enables an easy installation for rack or wall mounting.

The importance of matching battery and charger cannot be underestimated, so when the world's leading manufacturer of motive power batteries dedicates years of research and development to this cause, you can be assured of the optimum in compatibility.

Incorporating the latest concepts, these high frequency chargers for standard flooded, low maintenance flooded and maintenance free valve regulated batteries ensure reliability, safety, ease of use and optimal charging.

GNB
INDUSTRIAL POWER


EHF
High Frequency Series


EHF-HP
High Frequency Series


EHF
High Frequency Series


Multi-Circuit
Charger



EHF

High Frequency Series

High Frequency Industrial Charger

Features:

Cost Savings

Greater efficiency of power conversion compared to Ferroresonant and SCR technologies results in reduced power consumption and reduced energy costs.

Reduced maximum input currents allow for reduced circuit breaker, cabling, and distribution equipment sizes.

Light and Compact

Advanced patented monocoque heat sink arrangement facilitates efficient cooling enabling reduced size and weight. Handling and installation costs are therefore lower.

Multi-Profile

With the EHF Series you can recharge a wide range of battery capacities of different technologies, flooded or valve regulated.

Efficiency Optimization

The charger ensures that the charging current and voltage remain constant during any mains fluctuations, guaranteeing a constant and optimized charge.

End of charge is detected by the change in voltage over the change in time measure (dV/dt) to avoid risk of under charge or over charge.

Multi Language

High Resolution LCD Display provides detailed information on the screen in seven selectable languages, including Danish, Dutch, English, French, German, Spanish, and Swedish.

Cycle History

Data archive available from front panel detailing recharge information from last 250 cycles, including charts from last 15 recharges viewable on the LCD Display.

Rugged Case

Sturdy steel cabinet with powder coat finish. Designed for rack and wall mounting.

Technology

Utilizes space saving Planar Transformer design with ferrite core. Zero Volt Switching (ZVS) technology coupled with the latest MOSFET technology results in very high efficiency.

Applicable with



EHF Model & Performance Matrix

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF24S40	24	40	260	1	5.6	51	G1
EHF24S70	24	70	475	1	9.9	51	G1
EHF24S90	24	90	600	1	12.7	51	G1
EHF24S100	24	100	750 - 1000*	1	14.1	51	G1

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF24T40	24	40	260	3	1.8	55	G1
EHF24T70	24	70	475	3	3.1	55	G1
EHF24T90	24	90	600	3	4.0	55	G1
EHF24T110	24	110	750	3	4.9	55	G1
EHF24T130	24	130	865	3	5.8	55	G1
EHF24T150	24	150	1000 - 1500*	3	6.6	55	G1

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF36T40	36	40	260	3	2.7	55	G1
EHF36T70	36	70	475	3	4.6	55	G1
EHF36T90	36	90	600	3	6.0	55	G1
EHF36T110	36	110	750	3	7.3	55	G1
EHF36T130	36	130	865	3	8.6	55	G1
EHF36T150	36	150	1000	3	10.0	55	G1
EHF36T180	36	180	1200	3	12.0	142	G2
EHF36T220	36	220	1450	3	14.7	142	G2
EHF36T240	36	240	1600	3	16.0	142	G2

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF48T40	48	40	260	3	3.5	55	G1
EHF48T70	48	70	475	3	6.2	55	G1
EHF48T90	48	90	600	3	8.0	55	G1
EHF48T110	48	110	750	3	9.7	55	G1
EHF48T130	48	130	865	3	11.5	55	G1
EHF48T150	48	150	1000	3	13.3	60	G1
EHF48T180	48	180	1200	3	16.0	142	G2
EHF48T220	48	220	1450	3	19.5	142	G2
EHF48T240	48	240	1600	3	21.3	142	G2

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF72T40	72	40	260	3	5.3	60	G1
EHF72T70	72	70	475	3	9.3	60	G1
EHF72T90	72	90	600	3	11.9	60	G1
EHF72T100	72	100	750 - 1000*	3	13.3	60	G1

Model Number	DC Volts	DC Amps	Capacity Range, C6 rated AH	Phase	Input current @ 480V (±10%)	Weight (lbs) (±10%)	Cabinet Size
EHF80T40	80	40	260	3	5.9	60	G1
EHF80T70	80	70	475	3	10.3	60	G1
EHF80T90	80	90	600	3	13.3	60	G1
EHF80T100	80	100	750 - 1000*	3	14.8	60	G1

* Recharge times may be longer than 8 hours

Charge Curve/Profile: **B** = GNB®Classic/Titan®, **D** = Dry Fit, **E** = Element®, **L** = Liberator®, **T** = TubularHP®



High Frequency Multi-Circuit Charger

Features:

Cost Savings

Greater efficiency of power conversion compared to Ferroresonant and SCR technologies results in reduced power consumption and reduced energy costs.

Reduced maximum input currents allow for reduced circuit breaker, cabling, and distribution equipment sizes.

Installation Savings

Installation costs are reduced by utilizing a single AC supply connection per cabinet. Individual circuits are connected internally at the factory which provides cost and time savings.

Space Savings

Four (4) separate circuits in a single cabinet. Eliminates the need for stacking and additional hardware.

Independent Charge Control

Each charging circuit can be set independently to provide optimum performance and battery health.

Multi-Profile

With the EHF Series you can recharge a wide range of battery capacities of different technologies, flooded or valve regulated.

Multi Language

High Resolution LCD Display provides detailed information on the screen in seven selectable languages, including Danish, Dutch, English, French, German, Spanish, and Swedish.

Cycle History

Data archive available from front panel detailing recharge information from last 250 cycles, including charts from last 15 recharges viewable on the LCD Display.

Technology

Utilizes space saving Planar Transformer design with ferrite core. Zero Volt Switching (ZVS) technology coupled with the latest MOSFET technology results in very high efficiency.

Applicable with



EHF-MC Model and Performance Matrix

Model Number	DC Volts	DC Amps @ 2.40vpc	Capacity Range, C6 rated AH	Phase	Input current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EMC24T40-4	24	40	260	3	7.2	209	G3
EMC24T70-4	24	70	475	3	12.4	209	G3
EMC24T90-4	24	90	600	3	16.0	209	G3
EMC24T110-4	24	110	750	3	19.6	226	G3
EMC24T130-4	24	130	865	3	23.2	226	G3
EMC24T150-4	24	150	1000 - 1500*	3	26.4	226	G3

Model Number	DC Volts	DC Amps @ 2.40vpc	Capacity Range, C6 rated AH	Phase	Input current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EMC36T70-4	36	70	475	3	18.4	226	G3
EMC36T90-4	36	90	600	3	24.0	226	G3
EMC36T110-4	36	110	750	3	29.2	226	G3
EMC36T130-4	36	130	865	3	34.4	226	G3
EMC36T150-4	36	150	1000 - 1500*	3	40.0	226	G3

Model Number	DC Volts	DC Amps @ 2.40vpc	Capacity Range, C6 rated AH	Phase	Input current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EMC48T70-4	48	70	475	3	24.8	226	G3
EMC48T90-4	48	90	600	3	32.0	226	G3
EMC48T110-4	48	110	750	3	38.8	226	G3
EMC48T130-4	48	130	865	3	46.0	226	G3
EMC48T150-4	48	150	1000 - 1500*	3	53.2	235	G3

Model Number	DC Volts	DC Amps @ 2.40vpc	Capacity Range, C6 rated AH	Phase	Input current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EMC72T40-4	72	40	260	3	21.2	235	G3
EMC72T70-4	72	70	475	3	37.2	235	G3
EMC72T90-4	72	90	600	3	47.6	235	G3
EMC72T100-4	72	100	750 - 1000*	3	53.2	235	G3

Model Number	DC Volts	DC Amps @ 2.40vpc	Capacity Range, C6 rated AH	Phase	Input current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EMC80T40-4	80	40	260	3	23.6	235	G3
EMC80T70-4	80	70	475	3	41.2	235	G3
EMC80T90-4	80	90	600	3	53.2	235	G3
EMC80T100-4	80	100	750 - 1000*	3	59.2	235	G3

* Recharge times may be longer than 8 hours

Charge Curve/Profile: **B** = GNB®Classic/Titan®, **D** = Dry Fit, **E** = Element®, **L** = Liberator®, **T** = TubularHP®



High Frequency Opportunity Charger

Features:

Cost Savings

Greater efficiency of power conversion compared to Ferroresonant and SCR technologies results in reduced power consumption and reduced energy costs.

Reduced maximum input currents allow for reduced circuit breaker, cabling, and distribution equipment sizes.

Light and Compact

Advanced patented monocoque heat sink arrangement facilitates efficient cooling enabling reduced size and weight. Handling and installation costs are therefore lower.

High Performance

With a DC output of 300 amps at 24, 36, and 48 volts, and 200 amps at 72 and 80 volts, GNB's EHF-HP opportunity charger is capable of applying a 25A/100Ah start rate to a very broad range of batteries.

Optimized Charge Profile

GNB's EHF-HP temperature compensated charging algorithm and a programmable 80% charge termination both contribute to maintaining optimum battery performance and battery health.

Improved Safety

Reducing or even eliminating battery change-outs in your operation significantly lowers the operator's risk of injury due to battery handling.

Cycle History

Data archive available from front panel detailing recharge information from last 250 cycles, including charts from last 15 recharges viewable on the LCD Display.

Technology

Utilizes space saving Planar Transformer design with ferrite core. Zero Volt Switching (ZVS) technology coupled with the latest MOSFET technology results in very high efficiency.

Applicable with



EHF-HP Model and Performance Matrix

Model Number	DC Volts	DC Amps @ 2.4vpc	Phase	Input Current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EHP24T150	24	150	3	6.6	122	G1
EHP24T250	24	250	3	11.0	142	G2
EHP24T300	24	300	3	13.2	142	G2

Model Number	DC Volts	DC Amps @ 2.4vpc	Phase	Input Current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EHP36T150	36	150	3	10.0	122	G1
EHP36T260	36	260	3	17.3	142	G2
EHP36T300	36	300	3	20.0	142	G2

Model Number	DC Volts	DC Amps @ 2.4vpc	Phase	Input Current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EHP48T150	48	150	3	13.3	133	G1
EHP48T260	48	260	3	23.0	146	G2
EHP48T300	48	300	3	26.6	146	G2

Model Number	DC Volts	DC Amps @ 2.4vpc	Phase	Input Current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EHP72T100	72	100	3	13.3	133	G1
EHP72T200	72	200	3	26.6	146	G2

Model Number	DC Volts	DC Amps @ 2.4vpc	Phase	Input Current @ 480vac (±10%)	Weight (lbs)	Cabinet Size
EHP80T100	80	100	3	14.8	133	G1
EHP80T200	80	200	3	29.6	146	G2

Charge Curve/Profile: R = Opportunity Charge

Cabinet Size	Width	Depth	Height
G1	16.26"	13.5"	20.25"
G2	19.17"	23.23"	29.33"
G3	19.17"	23.23"	47.95"

GNB Industrial Power – The Industry Leader.



GNB FUSION™



GNB Industrial Power, a division of Exide Technologies, is a global leader in motive power battery and charger systems for electric lift trucks and other material handling equipment. With a strong manufacturing base in both North America and Europe and a truly global reach (operations in more than 80 countries) in sales and service, GNB Industrial Power is best positioned to satisfy your power needs locally as well as all over the world.

Based on over 100 years of technological innovation, the Motive Power group leads the industry with the most recognized global brands, such as GNB® FLOODED

CLASSIC®, TUBULAR-HP®, ELEMENT®, LIBERATOR®, GNB® FUSION™, ELEMENT® GEL, and SONNENSCHN®. They have come to symbolize quality, reliability, performance and excellence in all the markets served.

GNB Industrial Power takes pride in its commitment to a better environment. Its Total Battery Management program, an integrated approach to manufacturing, distributing and recycling of lead acid batteries, has been developed to help ensure a safe and responsible life cycle for all of its products.

GNB Industrial Power

USA - Tel: 888.898.4462

Canada - Tel: 800.268.2698

www.gnb.com

GB4141 2011-08

GNB
INDUSTRIAL POWER
A Division of Exide Technologies