



NexSys® Battery and Charger System

Designed to change the way you work



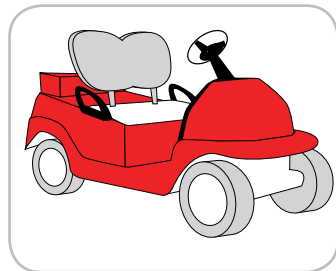
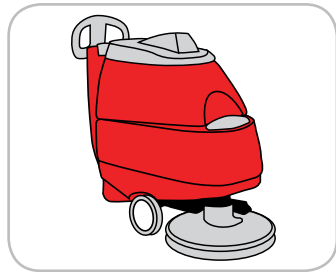
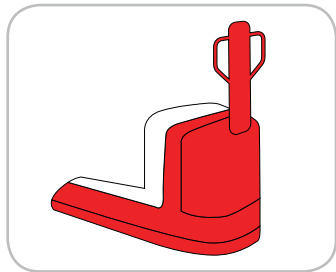
NexSys® Batteries –

Benefits that conventional batteries can't match

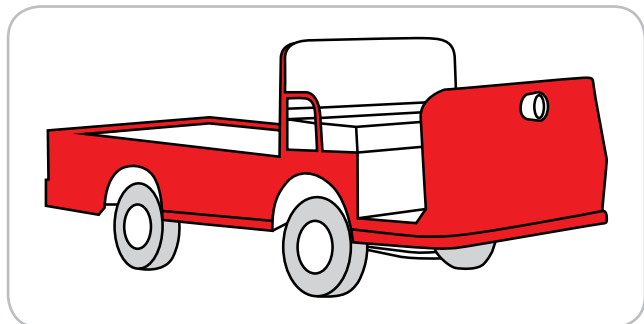
Engineered with Thin Plate Pure Lead (TPPL) technology, NexSys® batteries are constructed with 99% pure lead to provide unmatched performance across a wide range of temperatures.

NexSys batteries offer optimized cycling performance and rapid recharging that conventional lead acid batteries – gel or flooded – simply cannot. NexSys batteries provide the flexibility to use them whenever you want and recharge them whenever you can – during breaks, or at the end of the shift. NexSys batteries can even be put back into service before they are fully charged.

As a result, NexSys batteries are the ideal choice for traction applications including floor care/cleaning machines, pallet trucks, shuttle personnel carriers, industrial utility vehicles and Automated Guided Vehicles (AGV). When used with an EnerSys® approved charger, these batteries offer a wide range of benefits:



- **High energy throughput – up to 180% of C₅ or C₆ per 24 hours with an opportunity charging regime**
- **Long maintenance-free life cycle – up to 1,200 cycles at 60% DOD**
- **Extreme shock and vibration resistance**
- **Minimal gassing: ideal for use in shops, public areas and sensitive manufacturing areas**
- **High recyclability – up to 98%**
- **Virtually maintenance-free – no watering or changing**
- **Ideal for multi-shift operations**
- **Optimum machine availability**
- **Short recharge times – as little as 1.5 hours at 60% DOD (with NexSys battery charger)**
- **Suitable for opportunity charging**
- **Long shelf life (up to two years at 68°F/20°C)**
- **Easy installation**
- **More power in less space – typically 30% less space than equivalent lead acid batteries**



Robust Intercell Connections

To resist vibration and eliminate internal sparking, cell connectors are casted to the plates and bonded.

Pure Lead Plates

To provide more power, the plates in our NexSys® batteries are constructed from 99% pure lead. The plates are extremely thin, so more of them can fit into the battery. More lead plates mean more power.

Compressed AGM Plate Separators

For extreme vibration resistance, the Absorbed Glass Mat (AGM) plate separators are compressed before being inserted into the case.



Technical Data

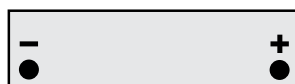
NexSys® Battery	Voltage (V)	Nominal AH Capacity @ the C ₆ Rate	Nominal AH Capacity @ the C ₂₀ Rate	Dimensions (in)				Weight (lbs)	Standard Terminals	Terminal Adapter Options	Terminal Layout
				L	W	H	Term H				
12NXS26	12	26	30	9.84	3.82	5.79	5.67	21.1	M6 Female	A	1
12NXS36	12	36	42	9.84	3.82	7.76	7.64	29.0	M6 Female	A	1
12NXS38	12	38	42	7.74	6.50	6.69	6.37	38.4	M6 Female	A	1
12NXS50	12	50	56	8.66	4.76	9.92	9.76	41.0	M6 Female	A	1
12NXS61	12	61	63	11.02	3.82	10.39	9.76	42.0	M8 Female	-	2
12NXS62	12	62	65	12.95	6.54	6.85	6.54	53.1	M6 Female	A	1
12NXS85	12	85	97	15.55	4.13	10.39	9.76	60.0	M8 Female	-	2
12NXS86	12	86	100	12.99	6.79	8.43	8.62	77.4	3/8"-16 Female	A	1
12NXS90	12	90	104	11.89	6.89	8.78	8.94	69.5	M6 Female	A	3
12NXS120	12	120	128	13.31	6.81	10.71	10.75	94.8	M6 Female	A	3
12NXS137	12	137	154	16.90	6.79	9.36	9.36	105.0	M6 Female	B	2
12NXS157	12	157	183	16.90	6.79	10.75	10.75	117.0	M6 Female	B	2
12NXS166	12	166	187	22.09	4.92	11.14	10.35	113.3	M8 Female	B	2
12NXS186	12	186	210	22.09	4.92	12.48	11.69	131.1	M8 Female	B	2



Option A: SAE post



Option B: M6 male front terminal adapter



Terminal layout 1



Terminal layout 2



Terminal layout 3

See back cover for details on selecting the correct battery, terminals and connection method.

Flexible connectors must be used for all monobloc connections. EnerSys® approved fasteners must be used.

NexSys® and NexSys+ Battery Chargers –

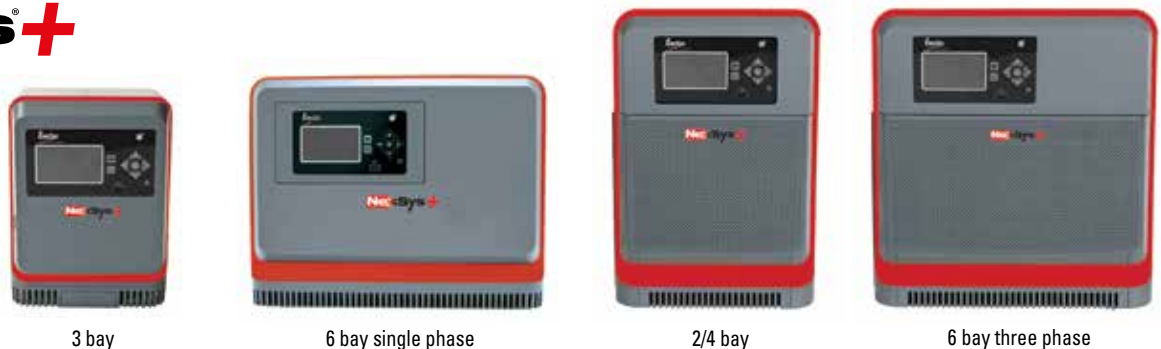
Designed to optimize battery life and fleet efficiency

Designed for use with NexSys® batteries, NexSys battery chargers slash recharge times and allow for flexible opportunity charging while optimizing battery cycle life. The expanded NexSys battery charger offering now includes NexSys+ battery charger models, which are ideal for AGV applications that require communication with operation systems. These chargers offer multiple communication platforms, intelligent charging with advanced efficiency and the flexibility to maintain peak efficiency at all times.

Charging	Flexibility	Communication	Construction	Single Phase		Three Phase
				Plug-in, 3 and 6 bay	2/4 bay	2, 4 and 6 bay
<ul style="list-style-type: none"> Proprietary NexSys block profile 	<ul style="list-style-type: none"> Extended programmable capacity range Future-proofing extendable output power Charge block-out settings 	<ul style="list-style-type: none"> USB to download and upload charger data 	<ul style="list-style-type: none"> Free-standing or wall mounted LCD screen w/ customer programmable menu Light and modern design 	<ul style="list-style-type: none"> VAC: 120, 208, 220, 240 Charger range: 12V, 24V, 36/48V 	<ul style="list-style-type: none"> VAC: 480 Charger range: 24V, 36/48V 	<ul style="list-style-type: none"> VAC: 208, 220, 240, 480, 600 Charger range: 24/36/48V and 72/80V



Charging	Flexibility	Communication	Construction	Single Phase		Three Phase
				Plug-in, 3 and 6 bay	2/4 bay	2, 4 and 6 bay
<ul style="list-style-type: none"> Proprietary NexSys block profile Automatic temperature adjustment with Wi-iQ® battery device 	<ul style="list-style-type: none"> Extended programmable capacity range Future-proofing extendable output power Charge block-out settings 	<ul style="list-style-type: none"> Wireless communication between charger and battery via Wi-iQ® battery device USB to download and upload charger data Ethernet connection 	<ul style="list-style-type: none"> Free-standing or wall mounted 4.3" multi-color dashboard screen with customer programmable menu Display color changes to indicate charge condition Light and modern design 	<ul style="list-style-type: none"> VAC: 120, 208, 220, 240 Charger range: 12V, 24V and 36/48V 	<ul style="list-style-type: none"> VAC: 480 Charger range: 24V, 36/48V 	<ul style="list-style-type: none"> VAC: 208, 220, 240, 480, 600 Charger range: 24/36/48V & 72/80V



Exclusive NexSys® battery charging profiles –

High charge rates, without shortening battery life

Both NexSys® and NexSys+ battery chargers utilize the exclusive NexSys battery charging profiles to maximize performance and life of NexSys batteries. This enables batteries to be charged at extremely high rates throughout the day without negative effects on battery life.

The modular construction adapts to a wide range of battery capacities, allowing potential reduction of the number of chargers in a fleet. Charger modules are automatically switched on and off based on the charge cycle requirements, and should a module develop a minor fault, the charger bypasses the module for continued operation and continuation of the charging process without interruption.

NexSys® and NexSys+ Battery Chargers

	Output DC Voltage	Cabinet Size	Cabinet Code	DC Max Output (Amps)	Input AC Amps	VAC	Max Weight (Lbs)	Dimensions (W x D x H)
Single Phase Plug-In	12	1	AK	35	5	120	6	5.83" x 3.80" x 10.41"
	24	1	AK	20	6	120	6	5.83" x 3.80" x 10.41"
	36/48	1	AK	14/11	6	120	6	5.83" x 3.80" x 10.41"
Single Phase	12	3	CM	105	14	120	17	9.84" x 7.22" x 13.54"
	24	3	CM	60	16	120	17	9.84" x 7.22" x 13.54"
	36/48	3	CM	42/33	18	120	17	9.84" x 7.22" x 13.54"
	12	3	CM	105	8.4/7.8/7.2	208/220/240	17	9.84" x 7.22" x 13.54"
	24	3	CM	105	16.2/15.4/14.1	208/220/240	17	9.84" x 7.22" x 13.54"
	36/48	3	CM	72/54	17.4/16.8/15.0	208/220/240	17	9.84" x 7.22" x 13.54"
	12	6	FP	210	29	120	48	20.47" x 10.24" x 16.34"
	24	6	FP	120	33	120	48	20.47" x 10.24" x 16.34"
	36/48	6	FP	84/66	36	120	48	20.47" x 10.24" x 16.34"
	12	6	FP	210	16.8/15.6/14.4	208/220/240	48	20.47" x 10.24" x 16.34"
	24	6	FP	210	32.4/30.6/28.2	208/220/240	48	20.47" x 10.24" x 16.34"
	36/48	6	FP	144/108	34.8/33.6/30.0	208/220/240	48	20.47" x 10.24" x 16.34"
	24	2	HL	160	11.6	480	67	13.18" x 13.80" x 19.50"
	36/48	2	HL	100/100	14.2	480	67	13.18" x 13.80" x 19.50"
	24	4	JN	320	23.2	480	84	13.18" x 13.80" x 19.50"
36/48	4	JN	200/200	28.4	480	84	13.18" x 13.80" x 19.50"	
Three Phase	24/36/48	2	HL	80/80/80	14.8/14.0/12.8	208/220/240	67	13.18" x 13.80" x 19.50"
	72/80	2	HL	50/50	15.4/14.6/13.4	208/220/240	67	13.18" x 13.80" x 19.50"
	24/36/48	2	HL	160/160/120	9.6	480	67	13.18" x 13.80" x 19.50"
	72/80	2	HL	80/72	9.6	480	67	13.18" x 13.80" x 19.50"
	24/36/48	2	HL	160/160/120	7.6	600	67	13.18" x 13.80" x 19.50"
	72/80	2	HL	80/72	7.6	600	67	13.18" x 13.80" x 19.50"
	24/36/48	4	JN	160/160/160	29.6/28.0/25.6	208/220/240	84	13.18" x 13.80" x 19.50"
	72/80	4	JN	100/100	30.8/29.2/26.8	208/220/240	84	13.18" x 13.80" x 19.50"
	24/36/48	4	JN	320/320/240	19.2	480	84	13.18" x 13.80" x 19.50"
	72/80	4	JN	160/144	19.2	480	84	13.18" x 13.80" x 19.50"
	24/36/48	4	JN	320/320/240	15.2	600	84	13.18" x 13.80" x 19.50"
	72/80	4	JN	160/144	15.2	600	84	13.18" x 13.80" x 19.50"
	24/36/48	6	LP	240/240/240	44.4/42.0/38.4	208/220/240	106	19.10" x 13.80" x 19.50"
	72/80	6	LP	150/150	46.2/43.8/40.2	208/220/240	106	19.10" x 13.80" x 19.50"
	24/36/48	6	LP	320/320/320	28.8	480	106	19.10" x 13.80" x 19.50"
72/80	6	LP	240/216	28.8	480	106	19.10" x 13.80" x 19.50"	
24/36/48	6	LP	320/320/320	22.8	600	106	19.10" x 13.80" x 19.50"	
72/80	6	LP	240/216	22.8	600	106	19.10" x 13.80" x 19.50"	

Selecting the correct battery, terminals and connection method

Determine your space restrictions

The first step is to access your battery compartment. The amount and shape of space available may influence which battery model and how many of them, can be used to fulfill your power needs. In many cases you may have several options to choose from. The difference being the amount of energy a battery provides, and how many batteries can be fitted in your available space. The best choice will depend on which battery or combination of batteries best fits your needs.

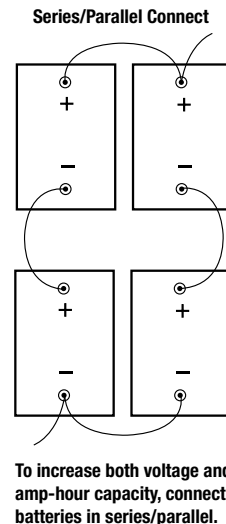
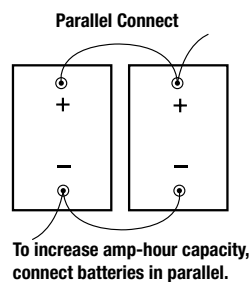
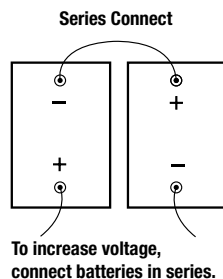
Note: Keep in mind that there must be sufficient space between batteries to allow for minor battery expansion during use. This assures proper airflow to keep battery temperature down in hot environments.

Determine your power needs

The next step is to determine the total voltage of your current system and whether or not this amount of energy was adequate or if more power is needed. If the battery being replaced provided sufficient power, a replacement battery with similar capacity can be used. If your current battery or batteries did not always meet your needs, a replacement battery with higher capacity (or multiple batteries with collectively more capacity) should be used.

Determine which battery or combination of batteries is best

Next decide which battery and how many will best meet your power requirements based on your system's required voltage. The best choice may be influenced by the size of your battery compartment, your performance requirements, and cost considerations.



Note: Connecting batteries in a series does not increase the capacity of the batteries; it simply increases the overall voltage to meet your system requirements. If additional capacity is needed, you can connect multiple batteries in parallel as long as your equipment's voltage requirements are met. See diagrams.

Determine the optimum terminal and connection method

Finally, see which types of terminals are available for the battery you have selected and choose the best for your needs based on the type of cable connections you intend to use. When connecting your batteries, take care to use a proper cable size to avoid overheating your connections.

Note: For information regarding correct wire sizes you can refer to the National Electric Code or contact a EnerSys® representative.



ENERSYS WORLD HEADQUARTERS
2366 Bernville Road
Reading, PA 19605
+1-800-EnerSys
Fax: +1-610-372-8613

ENERSYS CANADA INC.
61 Parr Boulevard Unit 3
Bolton, Ontario • Canada L7E 4E3
+1-800-363-4877
Fax: +1-905-951-4441

ENERSYS DE MEXICO
Ave Lopez Mateos #4210
Colonia Casa Blanca • C.P. 66475
San Nicolas de los Garza, N.L. Mexico
+52-818-329-6400
Fax: +52-818-329-6489

www.enersys.com