GNB®
INDUSTRIAL POWER
A Division of Exide Technologies

Industrial Batteries / Motive Power

2100 Chargers · 2100.net

»For improved efficiency and durability«

2100

2100 product range

Energy Efficiency and Economy – reduce overall operating costs with GNB® chargers

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 flooded, sealed Gel or AGM lead-acid batteries ensure reliability, safety, ease of use and optimal charging.

With GNB's unique charge profile and advanced termination algorithm of **dv/dt**, where the battery tells the charger when it is fully charged, GNB® is positioned to offer a full range of solutions for your charging needs.
The 2100.net fleet management and 2100 BattID give a comprehensive management / diagnostic service with full battery and operation analyses.

Content:

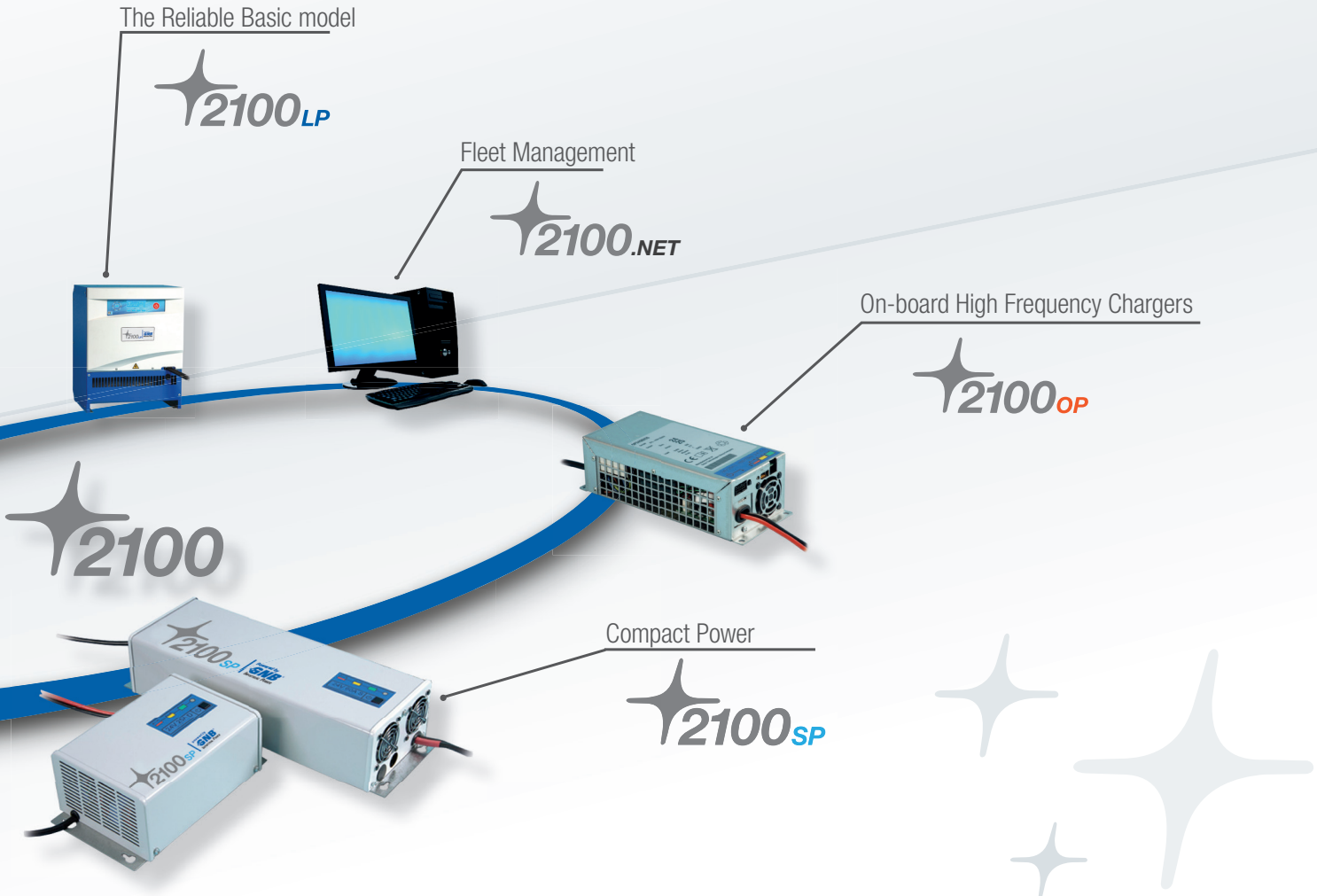
Energy Efficiency and Economy

In order to meet the increased requirements of modern Motive Power batteries, GNB® Industrial Power offers the charging technology suitable for your energy system on the basis of integrated GNB® project planning know-how. Your benefits: better solutions and increased economic efficiency! As a system provider of energy solutions, GNB® possesses more experience than almost any other company in this field. The interplay of efficient GNB® charging technology and optimally adapted components which will protect and take care of the battery, ensures a long service life and high performance from your valuable battery.

An extensive portfolio of chargers for every kind of lead-acid based Motive Power battery is available from the powerful 2100 range.

Your benefits

> Very high energy efficiency due to HF technology – small CO_2 footprint
> Small and smart – requires less installation space than conventional chargers
> Easy to use – plain text display
> Automatic start "plug & play"
> Ready for 2100.net fleet management and battery monitoring system
> Can also be equipped with air agitation, automatic watering system and many other options
> Optimal charging of all battery ranges: Classic, TENSOR, Liberator (low maintenance) and Sonnenschein (maintenance-free)



2100 HP & 2100 HP High Output

The Versatile All-rounder (24V to 80V and 20A to 300A)

2100 HP

The HP range of high frequency chargers offers optimal charging with reduced power consumption. Significant savings on energy and operating costs can be made together with a saving on CO_2 output. A contemporary graphical LCD display guides you through the charging operation and high visibility LEDs show the charge status at a glance.

> Main charge parameters are available at the push of a button
> Charge history of the last 250 recharge cycles can be shown on the screen
> Anomalies are clearly described and shown by the 6 high visibility LEDs

2100 HP High Output

> The High Output charger extends the power of the HP charger range so even the largest battery capacities over 2,000Ah are covered

> With 2100 HP High Output charger, GNB® has developed a fast-opportunity charge profile specifically for TENSOR, the high-performance battery. This extends the utilisation time before a full recharge, allowing one battery to operate across shifts

Your benefits:

> Efficiency optimisation:
  > GNB´s unique charger profiles and the **dv/dt** charging time termination avoid any risk of under or over charge, therefore optimising battery usage and life
  > The charger ensures that the charging current and voltage remain constant during any mains fluctuations, guaranteeing a constant and optimised charging time

> Light and compact: Volume and weight are considerably reduced in comparison to conventional chargers. Handling and installation costs are therefore lower.

> Multiprofile for different applications: With the 2100 HP you can recharge a wide range of battery capacities of different technologies, flooded or valve regulated

> Cost savings:
  > Greater efficiency of power conversion reduces power consumption and energy costs
  > Reduced maximum input currents allow for reduced circuit breaker, cabling and distribution equipment sizes

> Clear charge status by using 6 tri coloured high visibility LEDs

> Ready for fleet management 2100.net

> Optional extras:
  > Centralised Monitoring System (using 2100.net)
  > Electrolyte Agitation System (Air)
  > Remote charger operation
  > Safety disconnect
  > Programmable auto-watering
  > Temperature compensated charge
  > Automatic Battery Identification: BattID

> History - Full recharge parameters are stored in the E^2, which ensures the memory of the last 250 cycles is not lost

2100 LP & 2100 LP High output

The Reliable Basic model

2100 LP

The LP charger range offers modern charging capability with simple operation. The LP is the basic model, incorporating cost saving high frequency technology and featuring the benefits of the HP range as a cost effective option.

2100 LP High Output

The High Output charger extends the power of the LP charger range so even the largest battery capacities over 2,000Ah are covered.

Your benefits:

> **Efficiency optimisation**:
  > GNB´s unique charger profiles and the **dv/dt** charging time termination avoid any risk of under or over charge, therefore optimising battery usage and life
  > The charger ensures that the charging current and voltage remain constant during any mains fluctuations, guaranteeing a constant and optimised charging time

> **Light and compact**: Volume and weight are considerably reduced in comparison to conventional chargers. Handling and installation costs are therefore lower.

> **Cost aavings**:
  > Greater efficiency of power conversion reduces power consumption and energy costs
  > Reduced maximum input currents allow for reduced circuit breaker, cabling and distribution equipment sizes

> **Clear charge status** by using 6 tri coloured high visibility LEDs

> **Optional extra**: Safety disconnect

2100 SP and 2100 OP

High Frequency Chargers

Incorporating the latest technology, these high frequency chargers are the ideal choice to recharge batteries on small electric vehicles, cleaning machines and pallet trucks. Suitable for flooded or valve regulated blocs and batteries, the design ensures reliability, safety, ease of use and optimal charging. These highly efficient chargers are reduced in size and weight, making them very easy to handle and install.

Your benefits:

- **Efficiency optimisation:**
  - GNB's unique charger profiles and **dv/dt** charging time termination avoid any risk of under or over charge, therefore optimising battery usage and life
  - The charger ensures that the charging current and voltage remain constant during any mains fluctuations, guaranteeing a constant and optimised charging time
- **Very high energy efficiency due to HF technology – small CO_2 footprint**
- **Modern charging technology at an affordable price**
- **Easy to use automatic start "plug & play"**
- **Small and light – requires less installation space**
- **Simple and comprehensible charging display (red-yellow-green)**
- **Integral wall mounting (2100 SP)**
- **Ready for fleet management 2100.net (2100 SP)**
- **Easy to install on-board version (2100 OP)**

2100 Battery Monitoring

Battery Monitoring – all important Battery Data at a Glance

The battery monitoring function ensures your access to all important data throughout the service life of the battery. There are no electronic devices on the battery. The battery plug has an RFID chip embedded in the plug which enables decisive battery identification for extensive reporting on individual batteries.

Monitored battery data

> Number of cycles
> Depth of discharge
> Deep discharge events
> Voltage, Current
> Ampere hours
> Optional: Temperature

Smart supporting functions

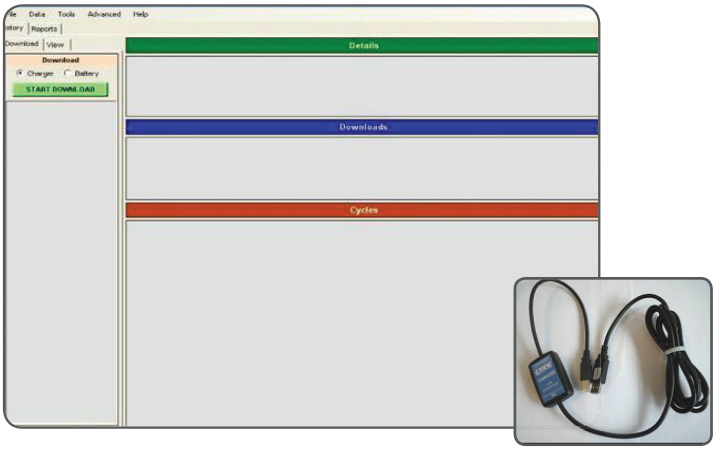
> State of health for batteries and fleets
> Detailed battery error recognition
> Electrolyte level (automatic watering)

Comprehensive reports (with 2100.net)

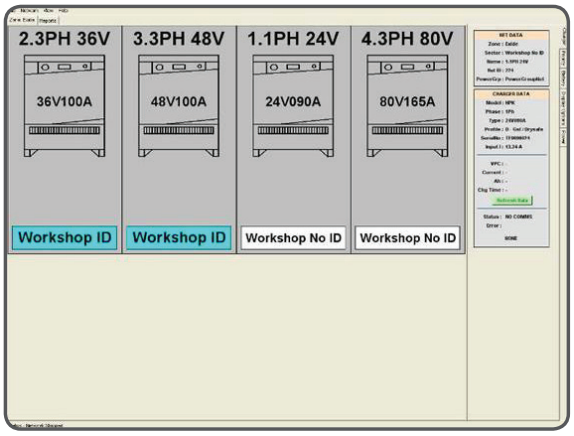
> Easy report generation over numerous time periods (daily, weekly, monthly, quarterly)
> Flexible data analysis on fleet, charger, and battery level
> Battery History
> Battery time related usage
> Battery life
> Battery related faults

Data can be downloaded from the chargers in two ways:

> Manually using the charger battery interface software and the GNB® USB cable:



> Automatically using the 2100.net software:

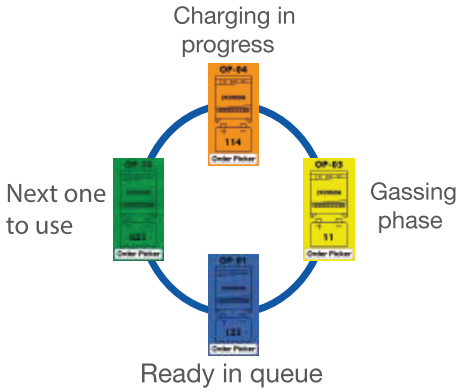


2100.net

The ultimate in remote customised computerised Fleet Management

Optimal utilisation and low operating costs

The innovative 2100.net system from GNB® combines intelligent fleet management with comprehensive battery monitoring. With more than 120 years of experience in battery development, production and application, GNB® is your reliable partner for energy and cost-efficient customized solutions.



Your benefits:

> Chargers are linked together in a network, giving access to the status of each charger and battery in the charging room and any other charging stations in the warehouse

> Remote monitoring of up to 500 chargers with a central PC for maximum control and labour savings

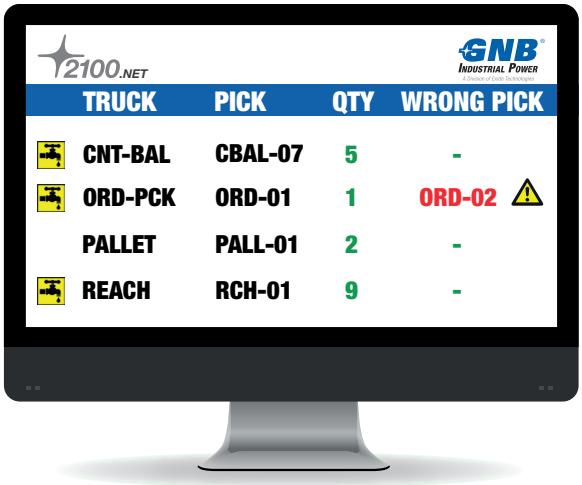
> Optimum utilisation of both the fleet and time giving real cost savings

> Prioritized rotation control ensuring full utilisation of your battery fleet

> The complete battery fleet at a glance

> Reduces time consuming visits to remote locations

> Enables remote identification of faulty batteries



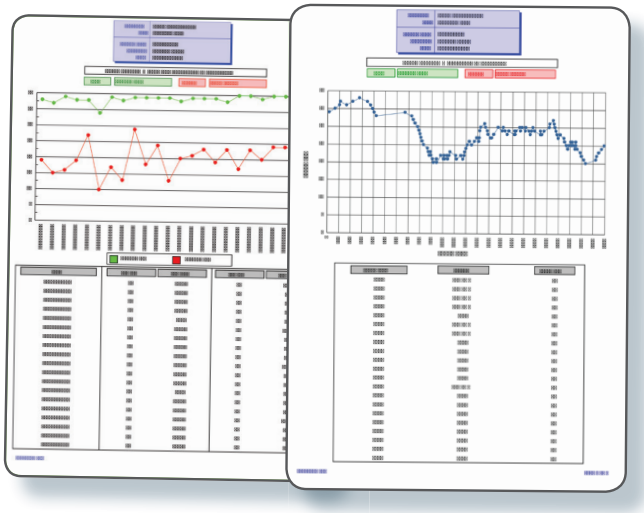
2100.net

The ultimate in remote customised computerised Fleet Management

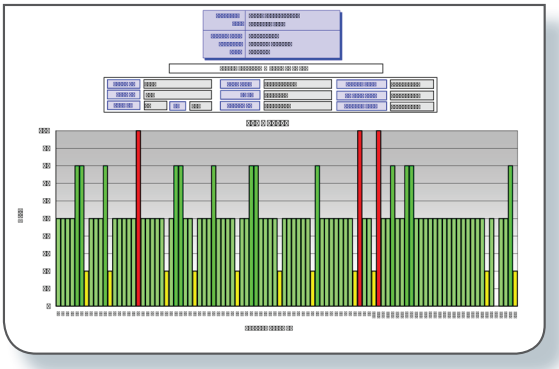
Enhanced reporting when combined with the battery monitoring BattID

> Battery picks
> Charger history
> Network history
> Power group
> Depth of discharge summary
> State of health of each battery
> Site operation

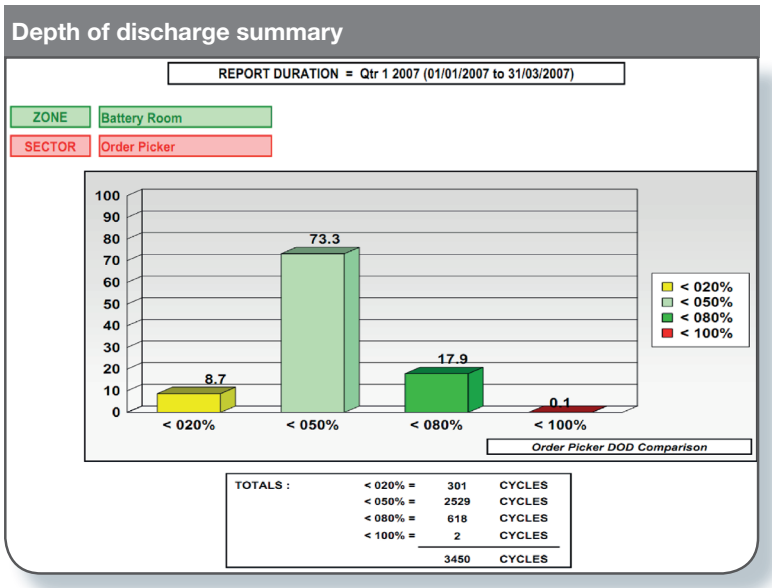
Battery picks



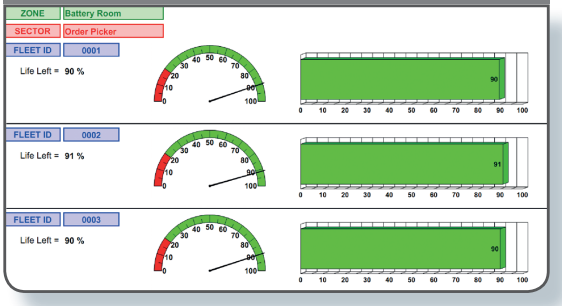
Charger history



Depth of discharge summary



State of health of each battery



2100 HP & 2100 LP

24V charger selection table

Battery Technology		Flooded		Flooded		Flooded		Gel Cells PzV		Single phase			Three phase		
Charge Curve/Profile Recharge Time (h):		S & L 12*		S & L 8*		F 6*		D 12 - 14*		Input current @230V +/- 10%	Cubicle Size	Weight Kg	Input current @400V +/- 10%	Cubicle Size	Weight Kg
Charge Curve/Profile Recharge Time (h):		H & G 11*		H & G 7*											
Charger model		Capacity Range. C5 rated Ah													
Voltage	Current	min	max	min	max	min	max	max	min						
24	20	189	250	141	175	95	118	130	167	2.9	H1	25	1.1	H1	24
24	25	251	304	176	210	119	147	167	208	3.7	H1	25	1.3	H1	24
24	30	305	375	211	250	148	173	200	250	4.4	H1	25	1.6	H1	24
24	35	376	416	251	281	174	197	233	292	5.1	H1	25	1.9	H1	24
24	40	417	471	282	320	198	223	267	333	5.9	H1	25	2.1	H1	24
24	45	472	527	321	360	224	249	300	375	6.6	H1	25	2.4	H1	24
24	50	528	582	361	400	250	276	333	417	7.4	H1	25	2.7	H1	24
24	55	583	638	401	440	277	302	367	458	8.1	H1	25	2.9	H1	24
24	60	639	700	441	500	303	328	400	500	8.8	H1	25	3.2	H1	24
24	65	701	749	501	518	329	355	433	542	9.6	H1	25	3.5	H1	24
24	70	750	804	519	557	356	381	467	583	10.3	H1	25	3.7	H1	24
24	75	805	860	558	595	382	407	500	625	11.0	H1	25	4.0	H1	24
24	80	861	916	596	634	408	434	533	667	11.8	H1	25	4.2	H1	24
24	85	917	971	635	672	435	460	567	708	12.5	H1	25	4.5	H1	24
24	90	972	1027	673	711	461	486	600	750	13.2	H1	25	4.8	H1	24
24	95	1028	1082	712	749	487	513	633	792	14.0	H1	25	5.0	H1	24
24	100	1083	1166	750	800	514	552	667	833	14.7	H1	25	5.3	H1	24
24	110	1167	1277	801	880	553	605	733	917	16.2	H2	61	5.8	H1	26
24	120	1278	1388	881	960	606	657	800	1000	17.7	H2	61	6.4	H1	26
24	130	1389	1499	961	1038	658	710	867	1083	19.1	H2	61	6.9	H1	26
24	140	1500	1610	1039	1115	711	763	933	1167	20.6	H2	61	7.4	H1	26
24	150	1611	1721	1116	1192	764	815	1000	1250	22.1	H2	61	8.0	H1	26
24	160	1722	1832	1193	1268	816	868	1067	1333	23.5	H2	61	8.5	H2	60
24	170	1833	1943	1269	1345	869	921	1133	1417	25.0	H2	61	9.0	H2	60
24	180	1944	2054	1346	1422	922	973	1200	1500	26.5	H2	61	9.6	H2	60
24	190	2055	2166	1423	1499	974	1026	1267	1583	28.0	H2	61	10.1	H2	60
24	200	2167	2277	1500	1600	1027	1111	1333	1667	29.4	H2	61	10.6	H2	60
24	210	2278	2388	1601	1680	1112	1135	1400	1750				11.2	H2	64
24	220	2389	2499	1681	1760	1136	1189	1467	1833				11.7	H2	64
24	230	2500	2610	1761	1840	1190	1243	1533	1917				12.2	H2	64
24	240	2611	2721	1841	1920	1244	1297	1600	2000				12.7	H2	64
24	250	2722	2832	1921	2000	1298	1351	1667	2083				13.3	H2	64
24	260	2833	2943	2001	2080	1352	1405	1733	2167				13.8	H2	64
24	270	2944	3054	2081	2160	1406	1459	1800	2250				14.3	H2	64
24	280	3055	3166	2161	2240	1460	1514	1867	2333				14.9	H2	64
24	290	3167	3277	2241	2320	1515	1568	1933	2417				15.4	H2	64
24	300	3278	3388	2321	2400	1569	1622	2000	2500				15.9	H2	64

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator,
D = Sonnenschein/Drysafe, F = Fast Classic,
H = Liberator + Air, G = Classic + Air

Cubicle	Width	Depth	Height
H1	413	369	515
H2	487	590	745

2100 HP & 2100 LP

36V charger selection table

Battery Technology		Flooded		Flooded		Flooded		Gel Cells PzV		Single phase			Three phase		
Charge Curve/Profile Recharge Time (h):		S & L 12*		S & L 8*		F 6*		D 12 - 14*		Input current @230V +/- 10%	Cubicle Size	Weight Kg	Input current @400V +/- 10%	Cubicle Size	Weight Kg
Charge Curve/Profile Recharge Time (h):		H & G 11*		H & G 7*											
Charger model		Capacity Range, C5 rated Ah													
Voltage	Current	min	max	min	max	min	max	max	min						
36	20	189	250	141	175	95	118	130	167	4.4	H1	25	1.6	H1	26
36	25	251	304	176	210	119	147	167	208	5.5	H1	25	2.0	H1	26
36	30	305	375	211	250	148	173	200	250	6.6	H1	25	2.4	H1	26
36	35	376	416	251	281	174	197	233	292	7.7	H1	25	2.8	H1	26
36	40	417	471	282	320	198	223	267	333	8.8	H1	25	3.2	H1	26
36	45	472	527	321	360	224	249	300	375	9.9	H1	25	3.6	H1	26
36	50	528	582	361	400	250	276	333	417	11.0	H1	25	4.0	H1	26
36	55	583	638	401	440	277	302	367	458	12.1	H1	25	4.4	H1	26
36	60	639	700	441	500	303	328	400	500	13.2	H1	25	4.8	H1	26
36	65	701	749	501	518	329	355	433	542	14.3	H1	25	5.2	H1	26
36	70	750	804	519	557	356	381	467	583	15.4	H2	61	5.6	H1	26
36	75	805	860	558	595	382	407	500	625	16.6	H2	61	6.0	H1	26
36	80	861	916	596	634	408	434	533	667	17.7	H2	61	6.4	H1	26
36	85	917	971	635	672	435	460	567	708	18.8	H2	61	6.8	H1	26
36	90	972	1027	673	711	461	486	600	750	19.9	H2	61	7.2	H1	26
36	95	1028	1082	712	749	487	513	633	792	21.0	H2	61	7.6	H1	26
36	100	1083	1166	750	800	514	552	667	833	22.1	H2	61	8.0	H1	26
36	110	1167	1277	801	880	553	605	733	917	24.3	H2	61	8.8	H1	26
36	120	1278	1388	881	960	606	657	800	1000	26.5	H2	61	9.6	H1	26
36	130	1389	1499	961	1038	658	710	867	1083	28.7	H2	61	10.4	H1	26
36	140	1500	1610	1039	1115	711	763	933	1167				11.2	H1	26
36	150	1611	1721	1116	1192	764	815	1000	1250				11.9	H1	26
36	160	1722	1832	1193	1268	816	868	1067	1333				12.7	H2	64
36	170	1833	1943	1269	1345	869	921	1133	1417				13.5	H2	64
36	180	1944	2054	1346	1422	922	973	1200	1500				14.3	H2	64
36	190	2055	2166	1423	1499	974	1026	1267	1583				15.1	H2	64
36	200	2167	2277	1500	1600	1027	1111	1333	1667				15.9	H2	64
36	210	2278	2388	1601	1680	1112	1135	1400	1750				16.7	H2	64
36	220	2389	2499	1681	1760	1136	1189	1467	1833				17.5	H2	64
36	230	2500	2610	1761	1840	1190	1243	1533	1917				18.3	H2	64
36	240	2611	2721	1841	1920	1244	1297	1600	2000				19.1	H2	64
36	250	2722	2832	1921	2000	1298	1351	1667	2083				19.9	H2	64
36	260	2833	2943	2001	2080	1352	1405	1733	2167				20.7	H2	64
36	270	2944	3054	2081	2160	1406	1459	1800	2250				21.5	H2	64
36	280	3055	3166	2161	2240	1460	1514	1867	2333				22.3	H2	64
36	290	3167	3277	2241	2320	1515	1568	1933	2417				23.1	H2	64
36	300	3278	3388	2321	2400	1569	1622	2000	2500				23.9	H2	64

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator,
D = Sonnenschein/Drysafe, F = Fast Classic,
H = Liberator + Air, G = Classic + Air

Cubicle	Width	Depth	Height
H1	413	369	515
H2	487	590	745

2100 HP & 2100 LP

48V charger selection table

Battery Technology		Flooded		Flooded		Flooded		Gel Cells PzV		Single phase			Three phase		
Charge Curve/Profile Recharge Time (h):		S & L 12*		S & L 8*		F 6*		D 12 - 14*		Input current @230V +/- 10%	Cubicle Size	Weight Kg	Input current @400V +/- 10%	Cubicle Size	Weight Kg
Charge Curve/Profile Recharge Time (h):		H & G 11*		H & G 7*											
Charger model		Capacity Range, C5 rated Ah													
Voltage	Current	min	max	min	max	min	max	min	max						
48	20	189	250	141	175	95	118	130	167	5.9	H1	25	2.1	H1	24
48	25	251	304	176	210	119	147	167	208	7.4	H1	25	2.7	H1	24
48	30	305	375	211	250	148	173	200	250	8.8	H1	25	3.2	H1	24
48	35	376	416	251	281	174	197	233	292	10.3	H1	25	3.7	H1	24
48	40	417	471	282	320	198	223	267	333	11.8	H1	25	4.2	H1	24
48	45	472	527	321	360	224	249	300	375	13.2	H1	25	4.8	H1	24
48	50	528	582	361	400	250	276	333	417	14.7	H1	25	5.3	H1	24
48	55	583	638	401	440	277	302	367	458	16.2	H2	56	5.8	H1	24
48	60	639	700	441	500	303	328	400	500	17.7	H2	56	6.4	H1	24
48	65	701	749	501	518	329	355	433	542	19.1	H2	56	6.9	H1	24
48	70	750	804	519	557	356	381	467	583	20.6	H2	56	7.4	H1	26
48	75	805	860	558	595	382	407	500	625	22.1	H2	56	8.0	H1	26
48	80	861	916	596	634	408	434	533	667	23.5	H2	56	8.5	H1	26
48	85	917	971	635	672	435	460	567	708	25.0	H2	56	9.0	H1	26
48	90	972	1027	673	711	461	486	600	750	26.5	H2	56	9.6	H1	26
48	95	1028	1082	712	749	487	513	633	792	28.0	H2	56	10.1	H1	26
48	100	1083	1166	750	800	514	552	667	833	29.4	H2	56	10.6	H1	26
48	110	1167	1277	801	880	553	605	733	917				11.7	H1	26
48	120	1278	1388	881	960	606	657	800	1000				12.7	H1	26
48	130	1389	1499	961	1038	658	710	867	1083				13.8	H1	26
48	140	1500	1610	1039	1115	711	763	933	1167				14.9	H2	64
48	150	1611	1721	1116	1192	764	815	1000	1250				15.9	H2	64
48	160	1722	1832	1193	1268	816	868	1067	1333				17.0	H2	64
48	170	1833	1943	1269	1345	869	921	1133	1417				18.1	H2	64
48	180	1944	2054	1346	1422	922	973	1200	1500				19.1	H2	64
48	190	2055	2166	1423	1499	974	1026	1267	1583				20.2	H2	64
48	200	2167	2277	1500	1600	1027	1111	1333	1667				21.2	H2	64
48	210	2278	2388	1601	1680	1112	1135	1400	1750				22.3	H2	64
48	220	2389	2499	1681	1760	1136	1189	1467	1833				23.4	H2	64
48	230	2500	2610	1761	1840	1190	1243	1533	1917				24.4	H2	64
48	240	2611	2721	1841	1920	1244	1297	1600	2000				25.5	H2	64
48	250	2722	2832	1921	2000	1298	1351	1667	2083				26.6	H2	64
48	260	2833	2943	2001	2080	1352	1405	1733	2167				27.6	H2	64

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator,
D = Sonnenschein/Drysafe, F = Fast Classic,
H = Liberator + Air, G = Classic + Air

Cubicle	Width	Depth	Height
H1	413	369	515
H2	487	590	745

2100 HP & 2100 LP

72V charger selection table

Battery Technology		Flooded		Flooded		Flooded		Gel Cells PzV		Three phase		
Charge Curve/Profile Recharge Time (h):		S & L 12*		S & L 8*		F 6*		D 12 - 14*		Input current @400V +/- 10%	Cubicle Size	Weight Kg
Charge Curve/Profile Recharge Time (h):		H & G 11*		H & G 7*								
Charger model		Capacity Range, C5 rated Ah										
Voltage	Current	min	max	min	max	min	max	1,5 h	2 h			
72	20	189	250	141	175	95	118	130	167	3.2	H1	26
72	25	251	304	176	210	119	147	167	208	4.0	H1	26
72	30	305	375	211	250	148	173	200	250	4.8	H1	26
72	35	376	416	251	281	174	197	233	292	5.6	H1	26
72	40	417	471	282	320	198	223	267	333	6.4	H1	26
72	45	472	527	321	360	224	249	300	375	7.2	H1	26
72	50	528	582	361	400	250	276	333	417	8.0	H1	26
72	55	583	638	401	440	277	302	367	458	8.8	H1	26
72	60	639	700	441	500	303	328	400	500	9.6	H1	26
72	65	701	749	501	518	329	355	433	542	10.4	H1	26
72	70	750	804	519	557	356	381	467	583	11.2	H1	26
72	75	805	860	558	595	382	407	500	625	11.9	H1	26
72	80	861	916	596	634	408	434	533	667	12.7	H1	26
72	85	917	971	635	672	435	460	567	708	13.5	H1	27
72	90	972	1027	673	711	461	486	600	750	14.3	H1	27
72	95	1028	1082	712	749	487	513	633	792	15.1	H1	27
72	100	1083	1166	750	800	514	552	667	833	15.9	H1	27
72	110	1167	1277	801	880	553	605	733	917	17.5	H2	64
72	120	1278	1388	881	960	606	657	800	1000	19.1	H2	64
72	130	1389	1499	961	1038	658	710	867	1083	20.7	H2	64
72	140	1500	1610	1039	1115	711	763	933	1167	22.3	H2	64
72	150	1611	1721	1116	1192	764	815	1000	1250	23.9	H2	64
72	160	1722	1832	1193	1268	816	868	1067	1333	25.5	H2	64
72	170	1833	1943	1269	1345	869	921	1133	1417	27.1	H2	66
72	180	1944	2054	1346	1422	922	973	1200	1500	28.7	H2	66
72	190	2055	2166	1423	1499	974	1026	1267	1583	30.3	H2	66
72	200	2167	2277	1500	1600	1027	1111	1333	1667	31.9	H2	66

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator,
D = Sonnenschein/Drysafe, F = Fast Classic,
H = Liberator + Air, G = Classic + Air

Cubicle	Width	Depth	Height
H1	413	369	515
H2	487	590	745

2100 HP & 2100 LP

80V charger selection table

Battery Technology		Flooded		Flooded		Flooded		Gel Cells PzV		Three phase		
Charge Curve/Profile Recharge Time (h):		S & L 12*		S & L 8*		F 6*		D 12 - 14*		Input current @400V +/- 10%	Cubicle Size	Weight Kg
Charge Curve/Profile Recharge Time (h):		H & G 11*		H & G 7*								
Charger model		Capacity Range, C5 rated Ah										
Voltage	Current	min	max	min	max	min	max	1,5 h	2 h			
80	20	189	250	141	175	95	118	130	167	3.5	H1	26
80	25	251	304	176	210	119	147	167	208	4.4	H1	26
80	30	305	375	211	250	148	173	200	250	5.3	H1	26
80	35	376	416	251	281	174	197	233	292	6.2	H1	26
80	40	417	471	282	320	198	223	267	333	7.1	H1	26
80	45	472	527	321	360	224	249	300	375	8.0	H1	26
80	50	528	582	361	400	250	276	333	417	8.9	H1	26
80	55	583	638	401	440	277	302	367	458	9.7	H1	26
80	60	639	700	441	500	303	328	400	500	10.6	H1	26
80	65	701	749	501	518	329	355	433	542	11.5	H1	26
80	70	750	804	519	557	356	381	467	583	12.4	H1	26
80	75	805	860	558	595	382	407	500	625	13.3	H1	26
80	80	861	916	596	634	408	434	533	667	14.2	H1	26
80	85	917	971	635	672	435	460	567	708	15.0	H1	27
80	90	972	1027	673	711	461	486	600	750	15.9	H1	27
80	95	1028	1082	712	749	487	513	633	792	16.8	H1	27
80	100	1083	1166	750	800	514	552	667	833	17.7	H1	27
80	110	1167	1277	801	880	553	605	733	917	19.5	H2	64
80	120	1278	1388	881	960	606	657	800	1000	21.2	H2	64
80	130	1389	1499	961	1038	658	710	867	1083	23.0	H2	64
80	140	1500	1610	1039	1115	711	763	933	1167	24.8	H2	64
80	150	1611	1721	1116	1192	764	815	1000	1250	26.6	H2	64
80	160	1722	1832	1193	1268	816	868	1067	1333	28.3	H2	64
80	170	1833	1943	1269	1345	869	921	1133	1417	30.1	H2	66
80	180	1944	2054	1346	1422	922	973	1200	1500	31.9	H2	66
80	190	2055	2166	1423	1499	974	1026	1267	1583	33.6	H2	66
80	200	2167	2277	1500	1600	1027	1111	1333	1667	35.4	H2	66

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator,
D = Sonnenschein/Drysafe, F = Fast Classic,
H = Liberator + Air, G = Classic + Air

Cubicle	Width	Depth	Height
H1	413	369	515
H2	487	590	745

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2100 SP and 2100 OP

Charger selection table

The compact, high frequency chargers 2100 SP and 2100 OP are specially adapted for efficient usage in smaller, electrically powered vehicles, such as cleaning machines and walkies.

SP & OP (High Frequency) charger selection table								
Battery Technology	Flooded		Flooded		Gel Cells PzV		Gel Bloc GiV	
Charge Profile: Recharge Time (h):	S & L 12*		S & L 8*		D 12 - 14*		D 11 - 14*	
Charge current	Capacity Range, C5 rated Ah							
Amps	min	max.	min	max	min	max	min	max.
8	80	99	56	69	53	68	44	67
10	100	119	70	84	67	84	56	83
12	120	149	85	105	80	107	67	100
15	150	188	106	140	100	129	83	125
20	189	250	141	175	130	167	111	167
25	251	304	176	210	167	208	139	208
30	305	375	211	250	200	250	167	250
35	376	416	251	281	233	292	194	292
40	417	471	282	320	267	333	222	333
45	472	527	321	360	300	375	250	375
50	528	582	361	400	333	417	278	417
55	583	638	401	440	367	458	306	458
60	639	700	441	500	400	500	333	500

** Recharge time +/- 5%*
Charge Curve/Profile: S = Classic, L = Liberator, D = Sonnenschein/Drysafe

Cubicle	Lenght	Depth	Height
SP1	272	161	101
SP2	471	161	101

Cubicle	Lenght	Depth	Height
OP	271	103	76

Available SP Chargers Model availability - Single phase only				
Charge current	Battery Voltage			
Amps	12V	24V	36V	48V
8	SP1	SP1		
10	SP1	SP1		
12	SP1	SP1		
15	SP1	SP1		SP2
20	SP1	SP1	SP2	SP2
25	SP1	SP1	SP2	SP2
30	SP1	SP1	SP2	SP2
35		SP2	SP2	
40		SP2	SP2	
45		SP2		
50		SP2		
55		SP2		
60		SP2		

Available OP Chargers Model availability - Single phase only		
Charge current	Battery Voltage	
Amps	12V	24V
8	OP	OP
10	OP	OP
12	OP	OP
15	OP	OP
20	OP	OP
25	OP	OP
30	OP	

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> Development of complete turnkey solutions from the design concept to installation and commissioning.

> Installation according to legal and safety regulations including CE certification by approved installation technicians.

> Training and certification of external installation technicians according to CE regulations.

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