



Overview of the global win-win future



HENGMING POWER

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CHINA · XINXIANG



Henan Hengming Fengyun Power Source Co., Ltd.



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Outstanding Advantages of Hengming Batteries:

Henan Hengming Fengyun Power Source Co., Ltd. is founded in 1986 and located in the middle of China transport central area, Xixiang city which is the first group developing industry city in New China. According to the developing need our new subsidiary company (Henan Hengming New Energy Co., Ltd.) is finished and had working in 2014.

Factory Introduction:

Hengming factory total area is 44 thousands square meters. More than 300 staff is working here, among of which has over 40 senior and semi-senior engineering technicians specializing in researching chemical battery and its management system. Parts of our engineers own more than 35 years working experience in this battery field.

Main Products:

Hengming products from the material can be divided three series: NI-CD(nickel cadmium) battery, NI-Fe(nickel iron) battery, NI-MH(nickel metal hydride) battery. From the performance by the useful wield can be divided four series: Low rated, Medium rated, High rated & Ultra high rated.

Hengming produces four series including pocket plate nicd battery, sintered plate nicd battery, nicd cylindrical battery, material and component of the battery for 28 years, especially for the battery. The annual sales volume 300 million Ah put us up to China's top.

Advantages of Hengming Batteries:

- ◆ have package, welding, assembling, heating, forming and production workshop etc.
- ◆ wide operating temperature range from -25°C to 45°C.
- ◆ long service life more than 20 years.
- ◆ Excellent charging efficiency and smooth discharge voltage.
- ◆ high resistance to mechanical and electrical abuse.
- ◆ plastic material is produced by our own factory.
- ◆ Low maintenance cost and replacement cost.
- ◆ excellent sales man and engineers.
- ◆ fastest delivery time.
- ◆ 30 years battery manufacture experience.
- ◆ top three sales in China battery field.

Wide application



KPL Type (Low Discharge Rate)
KPL Series Low rate nickel-cadmium battery is made of pocket plate.
Low Rate Batteries
Typical Low rate applications are among others:
Alarms
Railway Signaling
Telecommunications
UPS/EPS etc



KPM Type (MEDIUM Discharge Rate)
KPM Series Medium rate nickel cadmium battery is made of pocket plate.
Medium rate batteries
Typical medium rate applications are among others:
Electric Train Control
Process Control
Turbine Starting UPS/EPS

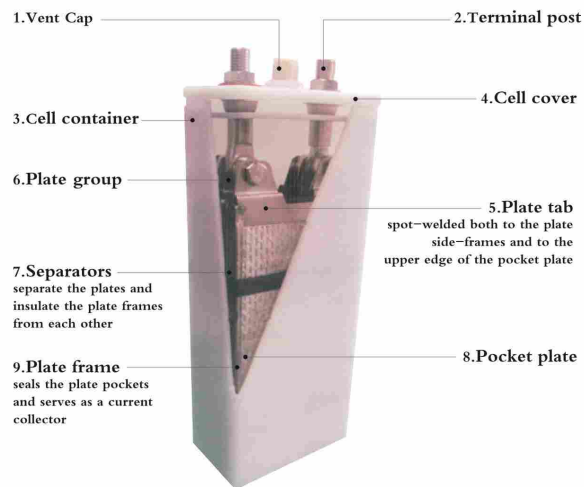


KPH Type (High Discharge Rate)
KPH Series High rate nickel cadmium battery is made of pocket plate with the characteristics of thin plate, High porosity and low internal resistance.
High rate batteries
Typical high rate applications are among others:
Electro Magnets
Engine Starting
Switchgears
Uninterruptible power supply (UPS) ets



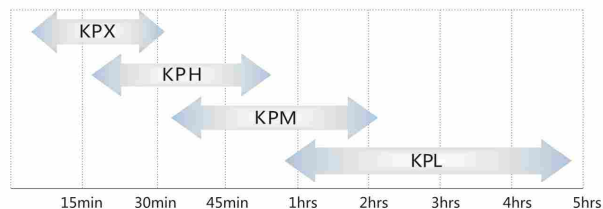
KPX Type (Super High Rate)
KPX Series Super rate nickel cadmium battery which made of sintered plate is characterized by compact construction, low internal resistance, high reliability, high capacity, long service life and excellent low temperature performance.
Super high rate batteries
Typical high rate applications are among others:
Engine starting power
Railway
AGV

Cell Construction Features



The HengMing Cell ranges fully comply
and exceed the requirements of the IEC60623 standard

Ecommended Type Selection of Hengming Series



Lead-Acid batteries vs Ni-Cd Batteries Comparison Chart

Performance Parameter	Lead-Acid battery	Nickel-Cadmium battery	Best Choice
Life (year) (cycles)	Flat Plate 6 700 Tubular Plate 10 1500 Plante Plate 25 1000	Pocket Plate 25 2500	NiCd
Capacity Retention after 6 months storage at 25 °C	50% remaining	80% remaining	NiCd
Ampere-hour efficiency	80%-85%	70%	Lead
Charge rate % of capacity rating	7%-14%	33%	NiCd
Vibration Resistance	Low vibration causes shadding and loss of capacity	High impact resistant cell cases can withstand shocks of 15 G	NiCd
Temperature range	0°C+40°C	-40°C+55°C	NiCd
High rate Discharge	Approx. 7 times capacity rating in Amperes for a 1 sec discharge	Approx. 15-20 times capacity rating in amperes for a 1 sec discharge	NiCd
Internal Resistance	1000-2000 mOhm	500 mOhm	NiCd
Ability to Withstand Overcharge	Moderate overcharge causes shadding and loss of capacity	very good overcharge does not cause shadding	NiCd
Overdischarge Capability	Poor. Lead acid batteries should not be left in a discharged state	Very good. NiCd batteries can be left in any state of charge	NiCd



Cell Capacity and Dimension L Range

Cell Type	GN=KPL (Low Rate Type)			Pocket-Pocket			Container Material	Pole
	Nominal Voltage(V)	Rated Capacity	Dimension(mm) L W H	Weight (filled)(kg)	Electrolyte Volume(L)			
KPL10	1.2	10	85 39 156	1.0	0.6	ABS/PP	M8	
KPL20	1.2	20	114 52 266	2.0	0.6	ABS	M10	
KPM20-(2)	1.2	20	82 43 258	1.3	0.3	ABS	M10	
KPL20-(3)	1.2	20	135 54 265	1.8	0.8	ABS/PP	M10	
KPL22	1.2	22	112 31 220	1.3	0.3	ABS/PP	M8	
KPL30	1.2	30	114 52 266	2.2	0.5	ABS	M10	
KPL30-(2)	1.2	30	135 54 265	2.0	0.6	ABS/PP	M10	
KPL40	1.2	40	114 52 266	2.3	0.40	ABS	M10	
KPL40-(2)	1.2	40	135 54 265	2.5	0.6	ABS/PP	M10	
KPL40-(3)	1.2	40	141 66 226	2.6	0.5	PP	M10	
KPL45-(2)	1.2	45	141 66 226	2.9	0.8	PP	M10	
KPL50	1.2	50	138 61 266	3.2	0.7	ABS/PP	M10	
KPL50-(2)	1.2	50	141 71 295	3.5	0.9	PP	M10	
KPL60	1.2	60	143 76 275	4.0	1.1	ABS	M10	
KPL60-(2)	1.2	60	135 53 370	3.9	1.0	PP	M10	
KPL60-(3)	1.2	60	141 71 295	4.0	1.1	PP	M10	
KPL60-(4)	1.2	60	139 79 295	4.3	1.13	ABS	M10	
KPL70	1.2	70	139 79 295	4.4	1.0	ABS	M10	
KPL70-(2)	1.2	70	141 71 295	4.0	0.8	PP	M10	
KPL70-(3)	1.2	70	143 76 275	4.3	1.0	ABS	M10	
KPL80	1.2	80	143 76 275	4.7	0.95	ABS	M10	
KPL80-(1)	1.2	80	141 71 295	4.6	0.9	PP	M10	
KPL80-(2)	1.2	80	139 79 295	4.6	1.1	ABS	M10	
KPL90	1.2	90	139 79 362	5.9	1.4	ABS/PP	M10	
KPL100-(2)	1.2	100	139 79 362	6.0	1.4	ABS/PP	M10	
KPL100-(3)	1.2	100	143 100 280	6.0	1.4	ABS	M10	
KPL120	1.2	120	139 79 362	6.2	1.3	ABS/PP	M10	
KPL120-(3)	1.2	120	143 100 280	6.6	1.34	ABS	M10	
KPL150	1.2	150	167 162 345	12.0	3.0	ABS/PP	M20×1.5	
KPL150-(2)	1.2	150	165 105 345	9.3	2.0	ABS/PP	M20×1.5	
KPL200	1.2	200	167 162 345	13.5	3.3	ABS/PP	M20×1.5	
KPL250	1.2	250	167 162 345	14.0	3.4	ABS	M20×1.5	
KPL300	1.2	300	282 170 348	22.5	5.0	ABS/PP	M20×1.5	
KPL300-(2)	1.2	300	176 161 540	20.5	4.7	ABS	M16/20	
KPL300-(3)	1.2	300	277 140 450	21.0	6.0	PP	M16	
KPL400	1.2	400	282 170 348	25.0	5.0	ABS/PP	M20×1.5	
KPL400-3	1.2	400	232 172 410	24.5	6.0	ABS	M16	
KPL500	1.2	500	285 172 490	33.6	7.8	ABS	M20×1.5	
KPL600	1.2	600	285 172 490	34.0	7.5	ABS	M20×1.5	
KPL700	1.2	700	285 172 490	39.0	9.4	ABS	M20×1.5	
KPL800	1.2	800	395 185 560	57.5	15.5	ABS	M20×1.5	
KPL900	1.2	900	395 185 560	59.0	15.0	ABS	M20×1.5	
KPL1000	1.2	1000	395 185 560	60.0	14.0	ABS	M20×1.5	
KPL1100	1.2	1100	395 185 560	62.0	12.0	ABS	M20×1.5	
KPL1200	1.2	1200	395 185 560	62.0	11.3	ABS	M20×1.5	

Cell Capacity and Dimension M Range

Cell Type	GNZ=KPM (Medium Rate Type)			Pocket-Pocket			Container Material	Pole
	Nominal Voltage(V)	Rated Capacity	Dimension(mm) L W H	Weight (filled)(kg)	Electrolyte Volume(L)			
KPM10	1.2	10	82 43 258	1.2	0.40	ABS/PP	M10	
KPM20	1.2	20	135 54 265	1.9	0.60	ABS/PP	M10	
KPM20-(2)	1.2	20	114 52 266	2.1	0.70	ABS	M10	
KPM20-(3)	1.2	30	135 54 265	2.4	0.60	ABS/PP	M10	
KPM40	1.2	40	141 71 295	3.6	1.00	PP	M10	
KPM45	1.2	45	86 86 273	3.2	0.70	PP	M10	
KPM50	1.2	50	139 79 295	4.65	1.00	ABS	M10	
KPM50-(2)	1.2	50	143 76 275	4.3	0.90	ABS	M10	
KPM50-(3)	1.2	50	141 71 295	4.2	1.00	PP	M10	
KPM60	1.2	60	139 79 295	5.3	1.20	ABS	M10	
KPM60-(2)	1.2	60	141 71 295	4.4	1.00	PP	M10	
KPM60-(3)	1.2	60	143 76 275	4.6	1.10	ABS	M10	
KPM70	1.2	70	139 79 295	5.4	1.20	ABS	M10	
KPM70-(3)	1.2	70	143 76 275	4.9	1.00	ABS	M10	
KPM80	1.2	80	139 79 368	6.5	1.40	ABS/PP	M16	
KPM80-(3)	1.2	80	143 100 280	5.8	1.50	ABS	M10	
KPM90	1.2	90	165 105 345	8.2	1.62	ABS/PP	M20	
KPM90-(2)	1.2	90	139 79 368	6.5	1.25	ABS/PP	M16	
KPM100	1.2	100	165 105 345	9.3	1.80	ABS/PP	M20×1.5	
KPM120-(4)	1.2	120	139 89 362	7.5	1.50	PP	M16	
KPM150	1.2	150	167 162 345	12.5	2.70	ABS/PP	M20×1.5	
KPM200	1.2	200	167 162 345	13.5	2.70	ABS/PP	M20×1.5	
KPM250	1.2	250	282 170 348	20.6	4.60	ABS/PP	M20×1.5	
KPM250-(2)	1.2	250	176 161 540	20.6	4.60	ABS	M16	
KPM300	1.2	300	282 170 348	23.0	5.00	ABS/PP	M20×1.5	
KPM300-(2)	1.2	300	176 161 540	22.6	5.00	ABS	M20×1.5	
KPM400	1.2	400	282 170 348	27	5.83	ABS	M20×1.5	
KPM500	1.2	500	285 172 490	36.5	8.50	ABS	M20×1.5	
KPM600	1.2	600	285 172 490	38.5	9.70	ABS	M20×1.5	
KPM700	1.2	700	395 185 560	54.7	11.5	ABS	M20×1.5	
KPM800	1.2	800	395 185 560	66	15.0	ABS	M20×1.5	
KPM900	1.2	900	395 185 560	66	15.0	ABS	M20×1.5	
KPM1100	1.2	1100	395 185 560	68	12.5	ABS	M20×1.5	

Recommended Charging Voltage

Cell Type	Floating charge voltages(V/pc)	Equalizing charge voltage(v/pc)
KPL	1.44~1.50	1.65~1.70
KPM	1.42~1.45	1.60~1.65
KPH	1.40~1.43	1.60~1.65
KPX	1.38~1.40	1.55~1.60

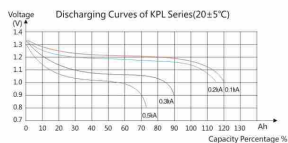
Cell Capacity and Dimension H Range

Cell Type	GNG-KPH (High Rate Type)			Pocket--Pocket			Container Material	Pole
	Nominal Voltage(V)	Rated Capacity	Dimension(mm) L W H	Weight (filled)(kg)	Electrolyte Volume(L)			
KPH10	1.2	10	135 54 266	2.15	0.80	ABS/PP	M10	
KPH20	1.2	20	135 54 266	2.55	0.63	ABS/PP	M10	
KPH30	1.2	30	143 76 275	4.30	1.25	ABS	M10	
KPH40	1.2	40	139 79 368	6.00	1.50	ABS/PP	M10	
KPH50	1.2	50	139 79 368	6.03	1.35	ABS/PP	M16	
KPH60	1.2	60	139 89 362	6.50	1.40	PP	M16	
KPH80	1.2	80	165 105 345	9.30	2.00	ABS/PP	M20×1.5	
KPH90	1.2	90	167 162 345	9.60	2.16	ABS/PP	M20×1.5	
KPH100	1.2	100	167 162 345	13.3	3.60	ABS/PP	M20×1.5	
KPH150	1.2	150	282 170 348	21.8	6.20	ABS/PP	M20×1.5	
KPH200	1.2	200	282 170 348	25.6	6.10	ABS/PP	M20×1.5	
KPH250	1.2	250	282 170 348	27.0	6.00	ABS/PP	M20×1.5	
KPH300	1.2	300	395 180 560			ABS	M20×1.5	

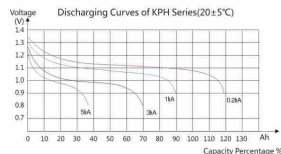
Cell Capacity and Dimension X Range

Cell Type	GNC-KPX (Ultra High Rate Type)			Sintered--Sintered			Container Material	Pole
	Nominal Voltage(V)	Rated Capacity	Dimension(mm) L W H	Weight (filled)(kg)	Electrolyte Volume(L)			
KPX10	1.2	10	81 26 163	0.62	0.06	ABS	M8	
KPX20	1.2	20	81 34 245	1.25	0.12	ABS	M10	
KPX20-(2)	1.2	20	138 61 266	2.80	0.50	ABS/PP	M10	
KPX30	1.2	30	81 43 266	1.75	0.20	ABS/PP	M10	
KPX30-(2)	1.2	30	138 61 266	3.00	0.50	ABS/PP	M10	
KPX40	1.2	40	81 43 266	1.85	0.20	ABS/PP	M10	
KPX40-(3)	1.2	40	138 61 266	3.30	0.50	ABS/PP	M10	
KPX50	1.2	50	80 50 266	2.14	0.25	ABS	M10	
KPX50-(2)	1.2	50	138 61 266	3.50	0.50	ABS/PP	M16	
KPX60	1.2	60	81 50 266	2.20	0.24	ABS	M10	
KPX60-(2)	1.2	60	138 61 266	3.20	0.50	ABS/PP	M16	
KPX70	1.2	70	138 61 266	4.00	0.40	ABS/PP	M16	
KPX80	1.2	80	138 61 266	4.20	0.40	ABS/PP	M16	
KPX80-(2)	1.2	80	86 86 276	3.60	0.45	PP	M10	
KPX90	1.2	90	138 61 266	4.30	0.40	ABS/PP	M16	
KPX100	1.2	100	138 61 266	4.30	0.40	ABS/PP	M16	
KPX120	1.2	120	138 61 266	4.60	0.35	ABS/PP	M16	
KPX120-(2)	1.2	120	139 79 295	5.50	1.40	ABS	M16	
KPX130	1.2	130	139 79 295	5.60	1.40	ABS	M16	
KPX140	1.2	140	165 105 345	8.50	1.90	ABS/PP	M20	
KPX140-(2)	1.2	140	139 79 362	8.00	1.70	ABS/PP	M16	
KPX140-(3)	1.2	140	139 79 295	6.00	1.30	ABS	M16	
KPX150	1.2	150	165 105 345	9.50	1.80	ABS/PP	M20	
KPX150-(2)	1.2	150	139 79 362	9.30	1.60	ABS/PP	M16	
KPX160	1.2	160	165 105 345	9.50	1.75	ABS/PP	M20	
KPX170	1.2	170	165 105 345	9.50	1.70	ABS/PP	M20	
KPX190	1.2	190	165 105 345	9.90	1.70	ABS/PP	M20	
KPX210	1.2	210	165 105 345	10.50	1.60	ABS/PP	M20	
KPX230	1.2	230	167 162 350	13.00	2.80	ABS/PP	M16	
KPX250	1.2	250	167 162 350	13.00	2.60	ABS/PP	M16	
KPX300	1.2	300	167 162 350	13.50	2.60	ABS/PP	M16	

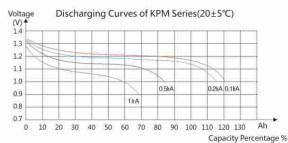
The Battery Discharging Characteristics



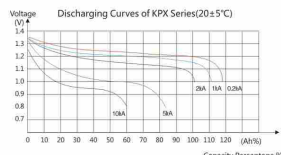
KPL Series



KPH Series



KPM Series



KPX Series





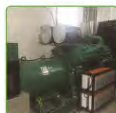
BATTERY CASES



Bangladesh
power plant project



Myanmar



Cambodia



Tabriz Subway



Korea



Kingdom of
Cambodia's power station



110V System & 48V System

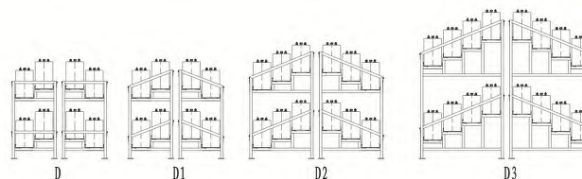
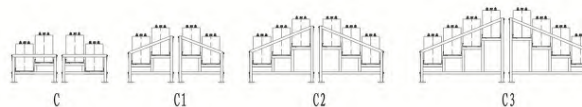
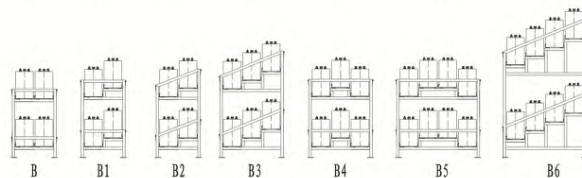
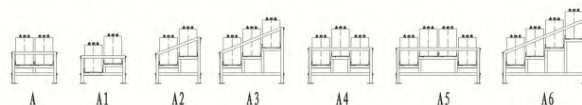


Uganda's power station



Rwanda

Battery Rack Model





Cell Performance L Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.0V/Cell (GN=KPL)

Cell Type	Rated Capacity (Ah)	hour					minute						
		8	5	3	2	1	30	20	15	10	5	1	
KPL10	10	1.26	2	3.1	4.2	6.5	8	8.5	9	10	11	12.2	
KPL20	20	2.52	4	6.2	8.4	13	16	17	18	20	22	24.4	
KPL22	22	2.77	4.4	6.8	9.2	14.3	17.6	18.7	19.8	22	24.2	26.8	
KPL30	30	3.78	6	9.3	12.6	19.5	24	25.5	27	30	33	36.6	
KPL40	40	5.04	8	12.4	16.8	26	32	34	36	40	44	48.8	
KPL45	45	5.67	9	14	18.9	29.3	36	38.3	40.5	45	49.5	54.9	
KPL50	50	6.30	10	15.5	21	32.5	40	42.5	45	50	55	61	
KPL60	60	7.56	12	18.6	25.2	39	48	51	54	60	66	73.2	
KPL70	70	8.82	14	21.7	29.4	45.5	56	59.5	63	70	77	85.4	
KPL80	80	10.08	16	24.8	33.6	52	64	68	72	80	88	97.6	
KPL90	90	11.34	18	27.9	37.8	58.5	72	76.5	81	90	99	109.8	
KPL100	100	12.60	20	31	42	65	80	85	90	100	110	122	
KPL110	110	13.86	22	34.1	46.2	71.5	88	93.5	99	110	121	134.2	
KPL120	120	15.12	24	37.2	50.4	78	96	102	108	120	132	146.4	
KPL150	150	18.90	30	46.5	63	97.5	120	127.5	135	150	165	183	
KPL200	200	25.20	40	62	84	130	160	170	180	200	220	244	
KPL250	250	31.50	50	77.5	105	162.5	200	212.5	225	250	275	305	
KPL300	300	37.80	60	93	126	195	240	255	270	300	330	366	
KPL400	400	50.40	80	124	168	260	320	340	360	400	440	488	
KPL500	500	63.00	100	155	210	325	400	425	450	500	550	610	
KPL600	600	75.60	120	186	252	390	480	510	540	600	660	732	
KPL700	700	88.20	140	217	294	455	560	595	630	700	770	854	
KPL800	800	100.8	160	248	336	520	640	680	720	800	880	976	
KPL900	900	113.4	180	279	378	585	720	765	810	900	990	1098	
KPL1000	1000	126.0	200	310	420	650	800	850	900	1000	1100	1220	
KPL1100	1100	138.6	220	341	462	715	880	935	990	1100	1210	1342	
KPL1200	1200	151.2	240	372	504	780	960	1020	1080	1200	1320	1464	

Cell Performance L Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.05V/Cell (GN=KPL)

Cell Type	Rated Capacity (Ah)	hour					minute						
		8	5	3	2	1	30	20	15	10	5	1	
KPL10	10	1.25	1.9	2.8	4	6	6.5	7	8	8.5	10	12	
KPL20	20	2.50	3.9	5.6	8	12	13	14	16	17	20	24	
KPL22	22	2.75	4.3	6.2	8.8	13.2	14.3	15.4	17.6	18.7	22	26.4	
KPL30	30	3.75	5.8	8.4	12	18	19.5	21	24	25.5	30	36	
KPL40	40	5.00	7.8	11.2	16	24	26	28	32	34	40	48	
KPL45	45	5.63	8.7	12.6	18	27	29.3	31.5	36	38.3	45	54	
KPL50	50	6.25	9.7	14	20	30	32.5	35	40	42.5	50	60	
KPL60	60	7.50	11.6	16.8	24	36	39	42	48	51	60	72	
KPL70	70	8.75	13.6	19.6	28	42	45.5	49	56	59.5	70	84	
KPL80	80	10.00	15.5	22.4	32	48	52	56	64	68	80	96	
KPL90	90	11.25	17.5	25.2	36	54	58.5	63	72	76.5	90	108	
KPL100	100	12.50	19.4	28	40	60	65	70	80	85	100	120	
KPL110	110	13.75	21.3	30.8	44	66	71.5	77	88	93.5	110	132	
KPL120	120	15.00	23.3	33.6	48	72	78	84	96	102	120	144	
KPL150	150	18.75	29.1	42	60	90	97.5	105	120	127.5	150	180	
KPL200	200	25.00	38.8	56	80	120	130	140	160	170	200	240	
KPL250	250	31.25	48.5	70	100	150	162.5	175	200	212.5	250	300	
KPL300	300	37.50	58.2	84	120	180	195	210	240	255	300	360	
KPL400	400	50.00	77.6	112	160	240	260	280	320	340	400	480	
KPL500	500	62.50	97	140	200	300	325	350	400	425	500	600	
KPL600	600	75.00	116.4	168	240	360	390	420	480	510	600	720	
KPL700	700	87.50	135.8	196	280	420	455	490	560	595	700	840	
KPL800	800	100.0	155.2	224	320	480	520	560	640	680	800	960	
KPL900	900	112.5	174.6	252	360	540	585	630	720	765	900	1080	
KPL1000	1000	125.0	194	280	400	600	650	700	800	850	1000	1200	
KPL1100	1100	137.5	213.4	308	440	660	715	770	880	935	1100	1320	
KPL1200	1200	150.0	232.8	336	480	720	780	840	960	1020	1200	1440	



Cell Performance L Range

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.10V/Cell (GN=KPL)

Cell Type	Rated Capacity (Ah)	hour					minute						
		8	5	3	2	1	30	20	15	10	5	1	
KPL10	10	1.23	1.9	2.7	3.5	4.6	5.5	6	6.5	7	8	10.5	
KPL20	20	2.46	3.8	5.4	7	9.2	11	12	13	14	16	21	
KPL22	22	2.71	4.18	5.9	7.7	10.1	12.1	13.2	14.3	15.4	17.6	23.1	
KPL30	30	3.69	5.7	8.1	10.5	13.8	16.5	18	19.5	21	24	31.5	
KPL40	40	5.54	7.6	10.8	14	18.4	22	24	26	28	32	42	
KPL45	45	5.63	8.6	12.2	15.8	20.7	24.8	27	29.3	31.5	36	47.3	
KPL50	50	6.15	9.5	13.5	17.5	23	27.5	30	32.5	35	40	52.5	
KPL60	60	7.38	11.4	16.2	21	27.6	33	36	39	42	48	63	
KPL70	70	8.61	13.3	18.9	24.5	32.2	38.5	42	45.5	49	56	73.5	
KPL80	80	9.84	15.2	21.6	28	36.8	44	48	52	56	64	84	
KPL90	90	11.07	17.1	24.3	31.5	41.4	49.5	54	58.5	63	72	94.5	
KPL100	100	12.30	19	27	35	46	55	60	65	70	80	105	
KPL110	110	13.53	20.9	29.7	38.5	50.6	60.5	66	71.5	77	88	115.5	
KPL120	120	14.76	22.8	32.4	42	55.2	66	72	78	84	96	126	
KPL150	150	18.45	28.5	40.5	52.5	69	82.5	90	97.5	105	120	157.5	
KPL200	200	24.60	38	54	70	92	110	120	130	140	160	210	
KPL250	250	30.75	47.5	67.5	87.5	115	137.5	150	162.5	175	200	262.5	
KPL300	300	36.90	57	81	105	138	165	180	195	210	240	315	
KPL400	400	49.20	76	108	140	184	220	240	260	280	320	420	
KPL500	500	61.50	95	135	175	230	275	300	325	350	400	525	
KPL600	600	73.80	114	162	210	276	330	360	390	420	480	630	
KPL700	700	86.10	133	189	245	322	385	420	455	490	560	735	
KPL800	800	98.40	152	216	280	368	440	480	520	560	640	840	
KPL900	900	110.7	171	243	315	414	495	540	585	630	720	945	
KPL1000	1000	123.0	190	270	350	460	550	600	650	700	800	1050	
KPL1100	1100	135.3	209	297	385	506	605	660	715	770	880	1155	
KPL1200	1200	147.6	228	324	420	552	660	720	780	840	960	1260	

Cell Performance L Range

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.14V/Cell (GN=KPL)

Cell Type	Rated Capacity (Ah)	hour					minute						
		8	5	3	2	1	30	20	15	10	5	1	
KPL10	10	1.18	1.8	2.5	2.8	3.8	4.5	5	5.5	6	6.5	8.5	
KPL20	20	2.36	3.6	5	5.6	7.6	9	10	11	12	13	17	
KPL22	22	2.60	3.96	5.5	6.2	8.4	9.9	11	12.1	13.2	14.3	18.7	
KPL30	30	3.54	5.4	7.5	8.4	11.4	13.5	15	16.5	18	19.5	25.5	
KPL40	40	4.72	7.2	10	11.2	15.2	18	20	22	24	26	34.0	
KPL45	45	5.31	8.1	11.3	12.6	17.1	20.3	22.5	24.8	27	29.3	38.3	
KPL50	50	5.90	9	12.5	14	19	22.5	25	27.5	30	32.5	42.5	
KPL60	60	7.08	10.8	15	16.8	22.8	27	30	33	36	39	51	
KPL70	70	8.26	12.6	17.5	19.6	26.6	31.5	35	38.5	42	45.5	59.5	
KPL80	80	9.44	14.4	20	22.4	30.4	36	40	44	48	52	68	
KPL90	90	10.62	16.2	22.5	25.2	34.2	40.5	45	49.5	54	58.5	76.5	
KPL100	100	11.80	18	25	28	38	45	50	55	60	65	85	
KPL110	110	12.98	19.8	27.5	30.8	41.8	49.5	55	60.5	66	71.5	93.5	
KPL120	120	14.16	21.6	30	33.6	45.6	54	60	66	72	78	102	
KPL150	150	17.7	27	37.5	42	57	67.5	75	82.5	90	97.5	127.5	
KPL200	200	23.6	36	50	56	76	90	100	110	120	130	170	
KPL250	250	29.5	45	62.5	70	95	112.5	125	137.5	150	162.5	212.5	
KPL300	300	35.4	54	75	84	114	135	150	165	180	195	255	
KPL400	400	47.2	72	100	112	152	180	200	220	240	260	340	
KPL500	500	59	90	125	140	190	225	250	275	300	325	425	
KPL600	600	70.8	108	150	168	228	270	300	330	360	390	510	
KPL700	700	82.6	126	175	196	266	315	350	385	420	455	595	
KPL800	800	94.4	144	200	224	304	360	400	440	480	520	680	
KPL900	900	106.2	162	225	252	342	405	450	495	540	585	765	
KPL1000	1000	118	180	250	280	380	450	500	550	600	650	850	
KPL1100	1100	129.8	198	275	308	418	495	550	605	660	715	935	
KPL1200	1200	141.6	216	300	336	456	540	600	660	720	780	1020	



Cell Performance M Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.0V/Cell (GNZ=KPM)

Cell Type	Rated Capacity (Ah)	hour					minute					second				
		8	5	3	2	1	30	20	15	10	5	1	30	20	15	10
KPM10	10	1.36	2	3.2	4.6	7.5	11	12.5	13.5	15.6	18	24	26	34	35	
KPM20	20	2.52	4	6.4	9.2	15	22	25	27	31.2	36	48	52	68	70	
KPM30	30	3.78	6	9.6	13.8	22.5	33	37.5	40.5	46.8	54	72	78	102	105	
KPM40	40	5.04	8	12.8	18.4	30	44	50	54	62.4	72	96	104	136	140	
KPM45	45	5.67	9	14.4	20.7	33.8	49.5	56.3	60.8	70.2	81	108	117	153	157.5	
KPM50	50	6.30	10	16	23	37.5	55	62.5	67.5	78	90	120	130	170	175	
KPM60	60	7.66	12	19.2	27.6	45	66	75	81	93.6	108	144	156	204	210	
KPM70	70	8.82	14	22.4	32.2	52.5	77	87.5	94.5	109.2	126	168	182	238	245	
KPM75	75	9.45	15	24	34.5	56.3	82.5	93.8	101.3	117	135	180	195	255	262.5	
KPM80	80	10.08	16	25.6	36.8	60	88	100	108	124.8	144	192	208	272	280	
KPM90	90	11.34	18	28.8	41.4	67.5	99	112.5	121.5	140.4	162	216	234	306	315	
KPM100	100	12.60	20	32	46	75	110	125	135	156	180	240	260	340	350	
KPM120	120	15.12	24	38.4	55.2	90	132	150	162	187.2	216	288	312	408	420	
KPM150	150	18.90	30	48	69	112.5	165	187.5	202.5	234	270	360	390	510	525	
KPM200	200	25.20	40	64	92	150	220	250	270	312	360	480	520	680	700	
KPM250	250	31.50	50	80	115	187.5	275	312.5	337.5	390	450	600	650	850	875	
KPM300	300	37.80	60	96	138	225	330	375	405	468	540	720	780	1020	1050	
KPM400	400	50.40	80	128	184	300	440	500	540	624	720	960	1040	1360	1400	
KPM500	500	63.00	100	160	230	375	550	625	675	780	900	1200	1300	1700	1750	
KPM600	600	75.60	120	192	276	450	660	750	810	936	1080	1440	1560	2040	2100	
KPM700	700	88.20	140	224	322	525	770	875	945	1092	1260	1680	1820	2380	2450	
KPM800	800	100.80	160	256	368	600	880	1000	1080	1248	1440	1920	2080	2720	2800	
KPM900	900	113.40	180	288	414	675	990	1125	1215	1404	1620	2160	2340	3060	3150	
KPM1000	1000	126.00	200	320	460	750	1100	1250	1350	1560	1800	2400	2600	3400	3500	
KPM1100	1100	138.00	220	352	506	825	1265	1430	1485	1716	1980	2640	2860	3740	3850	

Cell Performance M Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.05V/Cell (GNZ=KPM)

Cell Type	Rated Capacity (Ah)	hour					minute					second				
		8	5	3	2	1	30	20	15	10	5	1	30	20	15	10
KPM10	10	1.24	1.96	3.10	4.2	7	9	11.5	12	13.2	16	20	22	25	30	
KPM20	20	2.48	3.92	6.20	8.4	14	18	23	24	26.4	32	40	44	50	60	
KPM30	30	3.72	5.88	9.30	12.6	21	27	34.5	36	39.6	48	60	66	75	90	
KPM40	40	4.96	7.84	12.40	16.8	28	36	46.0	48	52.8	64	80	88	100	120	
KPM45	45	5.58	8.82	13.95	18.9	31.5	40.5	51.8	54	59.4	72	90	99	112.5	135	
KPM50	50	6.20	9.80	15.50	21	35	45	57.5	60	66	80	100	110	125	150	
KPM60	60	7.44	11.76	19.60	25.2	42	54	69	72	79.2	96	120	132	150	180	
KPM70	70	8.68	13.72	21.70	29.4	49	63	80.5	84	92.4	112	140	154	175	210	
KPM75	75	9.30	14.70	23.25	31.5	52.5	67.5	86.3	90	99	120	150	165	187.5	225	
KPM80	80	9.92	15.68	24.80	33.6	56	72	92	96	105.6	128	160	176	200	240	
KPM90	90	11.16	17.64	27.90	37.8	63	81	103.5	108	118.8	144	180	198	225	270	
KPM100	100	12.40	19.60	31.00	42	70	90	115	120	132	160	200	220	250	300	
KPM120	120	14.88	23.52	37.20	50.4	84	108	138	144	158.4	192	240	260	300	360	
KPM150	150	18.60	29.40	46.50	63	105	135	172.5	180	198	240	300	330	375	450	
KPM200	200	24.8	39.20	62.00	84	140	180	230	240	264	320	400	440	500	600	
KPM250	250	31.0	49.00	77.50	105	175	225	287.5	300	330	400	500	550	625	750	
KPM300	300	37.2	58.80	93.00	126	210	270	345	360	396	480	600	660	750	900	
KPM400	400	49.6	78.40	124.0	168	280	360	460	480	528	640	800	880	1000	1200	
KPM500	500	62.0	98.00	155.0	210	350	450	575	600	660	800	1000	1100	1250	1500	
KPM600	600	74.4	117.6	186.0	252	420	540	690	720	792	960	1200	1320	1500	1800	
KPM700	700	86.8	137.2	217.0	294	490	630	805	840	924	1120	1400	1540	1750	2100	
KPM800	800	99.2	156.8	248.0	336	560	720	920	960	1056	1280	1600	1760	2000	2400	
KPM900	900	111.6	176.4	279.0	378	630	810	1035	1080	1188	1440	1800	1980	2250	2700	
KPM1000	1000	124.0	196.0	310.0	420	700	900	1150	1200	1320	1600	2000	2200	2500	3000	
KPM1100	1100	136.4	215.6	341.0	462	770	990	1265	1320	1452	1760	2200	2420	2750	3300	



Cell Performance M Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.10V/Cell (GNZ=KPM)

Cell Type	Rated Capacity (Ah)	hour					minute					second				
		8	5	3	2	1	30	20	15	10	5	1	30	5	1	
KPM10	10	1.22	1.94	3	3.8	6	8	9	10	11	13	18	19	22	26	
KPM20	20	2.44	3.88	6	7.6	12	16	18	20	22	26	36	38	44	52	
KPM30	30	3.66	5.82	9	11.4	18	24	27	30	33	39	54	57	66	78	
KPM40	40	4.88	7.76	12	15.2	24	32	36	40	44	52	72	76	88	104	
KPM45	45	5.49	8.73	13.5	17.1	27	36	40.5	45	49.5	58.5	81	85.5	99	117	
KPM50	50	6.10	9.70	15	19	30	40	45	50	55	65	90	95	110	130	
KPM60	60	7.32	11.64	18	22.8	36	48	54	60	66	78	108	114	132	156	
KPM70	70	8.54	13.58	21	26.6	42	56	63	70	77	91	126	133	154	182	
KPM75	75	9.15	14.55	22.5	28.5	45	60	67.5	75	82.5	97.5	135	142.5	165	195	
KPM80	80	9.76	15.52	24	30.4	48	64	72	80	88	104	144	152	176	208	
KPM90	90	10.98	17.46	27	34.2	54	72	81	90	99	117	162	171	198	234	
KPM100	100	12.20	19.40	30	38	60	80	90	100	110	130	180	190	220	260	
KPM120	120	14.64	23.28	36	45.6	72	96	108	120	132	156	216	228	264	312	
KPM150	150	18.30	29.10	45	57	90	120	135	150	165	195	270	285	330	390	
KPM200	200	24.40	38.80	60	76	120	160	180	200	220	260	360	380	440	520	
KPM250	250	30.50	48.50	75	95	150	200	225	250	275	325	450	475	550	650	
KPM300	300	36.60	58.20	90	114	180	240	270	300	330	390	540	570	660	780	
KPM400	400	48.80	77.60	120	152	240	320	360	400	440	520	720	760	880	1040	
KPM500	500	61.00	97.00	150	190	300	400	450	500	550	650	900	950	1100	1300	
KPM600	600	73.20	116.4	180	228	360	480	540	600	660	780	1080	1140	1320	1560	
KPM700	700	85.40	135.8	210	266	420	560	630	700	770	910	1260	1330	1540	1820	
KPM800	800	97.60	155.2	240	304	480	640	720	800	880	1040	1440	1520	1760	2080	
KPM900	900	109.8	174.6	270	342	540	720	810	900	990	1170	1620	1710	1980	2340	
KPM1000	1000	122.0	194.0	300	380	600	800	900	1000	1100	1300	1800	1900	2200	2600	
KPM1100	1100	134.2	213.4	330	418	660	880	990	1100	1210	1430	1980	2090	2420	2860	

Cell Performance M Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.14V/Cell (GNZ=KPM)

Cell Type	Rated Capacity (Ah)	hour					minute					second				
		8	5	3	2	1	30	20	15	10	5	1	30	5	1	
KPM10	10	1.18	1.8	2.7	3.3	4.5	5.5	6.5	7	8	9.5	13	16	18	19	
KPM20	20	3.36	3.6	5.4	6.6	9	11	13	14	16	19	26	32	36	38	
KPM30	30	3.54	5.4	8.1	9.9	13.5	16.5	19.5	21	24	28.5	39	48	54	57	
KPM40	40	4.72	7.2	10.8	13.2	18	22	26	28	32	38	52	64	72	76	
KPM45	45	5.31	8.1	12.2	14.9	20.3	24.8	29.3	31.5	36	42.8	58.5	72	81	85.5	
KPM50	50	5.90	9	13.5	16.5	22.5	27.5	32.5	35	40	47.5	65	80	90	95	
KPM60	60	7.08	10.8	16.2	19.8	27	33	39	42	48	57	78	96	108	114	
KPM70	70	8.26	12.6	18.9	23.1	31.5	38.5	45.5	49	56	66.5	91	112	126	133	
KPM75	75	8.85	13.5	20.3	24.8	33.8	41.3	48.8	52.5	60	71.3	97.5	120	135	142.5	
KPM80	80	9.44	14.4	21.6	26.4	36	44	52	56	64	76	104	128	144	152	
KPM90	90	10.62	16.2	24.3	29.7	40.5	49.5	58.5	63	72	85.5	117	144	162	171	
KPM100	100	11.80	18	27	33	45	55	65	70	80	95	130	160	180	190	
KPM120	120	14.16	21.6	32.4	39.6	54	66	78	84	96	114	156	192	216	228	
KPM150	150	17.70	27	40.5	49.5	67.5	82.5	97.5	105	120	142.5	195	240	270	285	
KPM200	200	23.60	36	54	66	90	110	130	140	160	190	260	320	360	380	
KPM250	250	29.50	45	67.5	82.5	112.5	137.5	162.5	175	200	237.5	325	400	450	475	
KPM300	300	35.40	54	81	99	135	165	195	210	240	285	390	480	540	570	
KPM400	400	47.20	72	108	132	180	220	260	280	320	380	520	640	720	760	
KPM500	500	59.00	90	135	165	225	275	325	350	400	475	650	800	900	950	
KPM600	600	70.80	108	162	198	270	330	390	420	480	570	780	960	1080	1140	
KPM700	700	82.60	126	189	231	315	385	455	490	560	665	910	1120	1260	1330	
KPM800	800	94.40	144	216	264	360	440	520	560	640	760	1040	1280	1440	1520	
KPM900	900	106.2	162	243	297	405	495	585	630	720	855	1170	1440	1620	1710	
KPM1000	1000	118.0	180	270	330	450	550	650	700	800	950	1300	1600	1800	1900	
KPM1100	1100	129.8	187	297	363	495	605	715	770	880	1045	1430	1760	1980	2090	



Cell Performance H Range

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.0V/Cell (GNG=KPH)

Cell Type	Rated Capacity (Ah)	hour							minute							second						
		8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1	30	5	1	30	5	1
KPH10	10	1.26	2	3.3	4.8	6.4	9.5	12.5	16	20	23	31	46	52	63	69						
KPH20	20	2.52	4	6.6	9.6	12.8	19	25	32	40	46	62	92	104	126	138						
KPH30	30	3.78	6	9.9	14.4	19.2	28.5	37.5	48	60	69	93	138	156	189	207						
KPH40	40	5.14	8	13.2	19.2	28.5	38	50	64	80	92	124	184	208	252	276						
KPH50	50	6.30	10	16.5	24	32	47.5	62.5	80	100	115	155	230	260	315	345						
KPH60	60	7.56	12	19.8	28.8	38.4	57	75	96	120	138	186	276	312	378	414						
KPH70	70	8.82	14	23.1	33.6	44.8	66.5	87.5	112	140	161	217	322	364	441	483						
KPH80	80	10.08	16	26.4	38.4	51.2	76	100	128	160	184	248	368	416	504	552						
KPH90	90	11.34	18	29.7	43.2	57.6	85.5	112.5	144	180	207	279	414	468	567	621						
KPH100	100	12.60	20	33	48	64	95	125	160	200	230	310	460	520	630	690						
KPH150	150	18.90	30	49.5	72	96	142.5	187.5	240	300	345	465	690	780	945	1035						
KPH160	160	20.16	32	52.8	76.8	102.4	152	200	256	320	368	496	736	832	1008	1104						
KPH200	200	25.20	40	66	96	128	190	250	320	400	460	620	920	1040	1260	1380						
KPH300	300	37.80	60	99	144	192	285	375	480	600	690	930	1380	1560	1890	2070						

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.05V/Cell (GNG=KPH)

Cell Type	Rated Capacity (Ah)	hour							minute							second						
		8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1	30	5	1	30	5	1
KPH10	10	1.25	1.96	3.2	4.5	6.2	8.5	12	15	17.5	22	28	35	46	52	54						
KPH20	20	2.50	3.92	6.4	9	12.4	17	24	30	35	44	56	70	92	104	108						
KPH30	30	3.75	5.88	9.6	13.5	18.6	25.5	36	45	52.5	66	84	105	138	156	162						
KPH40	40	5.00	7.84	12.8	18	24.8	34	48	60	70	88	112	140	184	208	216						
KPH50	50	6.25	9.8	16	22.5	31	42.5	60	75	87.5	110	140	175	230	260	270						
KPH60	60	7.50	11.8	19.2	27	37.2	51	72	90	105	132	168	210	276	312	324						
KPH70	70	8.75	13.7	22.4	31.5	43.4	59.5	84	105	122.5	154	196	245	322	364	378						
KPH80	80	10.00	15.7	25.6	36	49.6	68	96	120	140	176	224	280	368	416	432						
KPH90	90	11.25	17.6	28.8	40.5	55.8	76.5	108	135	157.5	198	252	315	414	468	486						
KPH100	100	12.50	19.6	32	45	62	85	120	150	175	220	280	350	460	520	540						
KPH150	150	18.75	29.4	48	67.5	93	127.5	180	225	262.5	330	420	525	690	780	810						
KPH160	160	20.00	31.36	51.2	72	99.2	136	192	240	280	352	448	560	736	832	864						
KPH200	200	25.00	39.2	64	90	124	170	240	300	350	440	560	700	920	1040	1080						
KPH300	300	37.50	58.8	96	135	180	255	360	450	525	660	840	1050	1380	1560	1620						

Cell Performance H Range

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.10V/Cell (GNG=KPH)

Cell Type	Rated Capacity (Ah)	hour							minute							second						
		8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1	30	5	1	30	5	1
KPH10	10	1.22	1.94	3.1	4.4	6	7.5	10	13	16	17	20	32	35	42	45						
KPH20	20	2.44	3.88	6.2	8.8	12	15	20	26	32	34	40	64	70	84	90						
KPH30	30	3.66	5.82	9.3	13.2	18	22.5	30	39	48	51	60	96	105	126	135						
KPH40	40	4.88	7.76	12.4	17.6	24	30	40	52	64	68	80	128	140	168	180						
KPH50	50	6.10	9.70	15.5	22	30	37.5	50	65	80	85	100	160	175	210	225						
KPH60	60	7.32	11.64	18.6	26.4	36	45	60	78	96	102	120	192	210	252	270						
KPH70	70	8.54	13.58	21.7	30.8	42	52.5	70	91	112	119	140	224	245	294	315						
KPH80	80	9.76	15.52	24.8	35.2	48	60	80	104	128	136	160	256	280	336	360						
KPH90	90	10.98	17.46	27.9	39.6	54	67.5	90	117	144	153	180	288	315	378	405						
KPH100	100	12.20	19.40	31	44	60	75	100	130	160	170	200	320	350	420	450						
KPH150	150	18.30	29.10	46.5	66	90	112.5	150	195	240	255	300	480	525	630	676						
KPH160	160	19.52	31.04	49.6	70.4	96	120	160	208	256	272	320	512	560	672	720						
KPH200	200	24.40	38.80	62	88	120	150	200	260	320	340	400	640	700	840	900						
KPH300	300	36.60	58.20	93	132	180	225	300	390	480	510	600	960	1050	1260	1350						

Discharge current and time when battery is fully charged at 20°C ± 5°C.
End voltage of 1.14V/Cell (GNG=KPH)

Cell Type	Rated Capacity (Ah)	hour							minute							second						
		8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1	30	5	1	30	5	1
KPH10	10	1.2	1.8	3	4	5	6.8	8.5	11	13	16	18	28	32	37	40						
KPH20	20	2.4	3.6	6	8	10	13.6	17	22	26	32	36	56	64	74	80						
KPH30	30	3.6	5.4	9	12	15	20.4	25.5	33	39	48	54	84	96	111	120						
KPH40	40	4.8	7.2	12	16	20	27.2	34	44	52	64	72	112	128	148	160						
KPH50	50	6	9	15	20	25	34	42.5	55	65	80	90	140	160	185	200						
KPH60	60	7.2	10.8	18	24	30	40.8	51	66	78	96	108	168	192	222	240						
KPH70	70	8.4	12.6	21	28	35	47.6	59.5	77	91	112	126	196	224	259	280						
KPH80	80	9.6	14.4	24	32	40	54.4	68	88	104	128	144	224	256	296	320						
KPH90	90	10.8	16.2	27	36	45	61.2	76.5	99	117	144	162	252	288	333	360						
KPH100	100	12	18	30	40	50	68	85	110	130	160	180	280	320	370	400						
KPH150	150	18	27	45	60	75	102	127.5	165	195	240	270	420	480	550	600						
KPH160	160	19.2	28.8	48	64	80	108.8	136	176	208	256	288	448	512	592	640						
KPH200	200	24	36	60	80	100	136	170	220	260	320	360	560	640	740	800						
KPH300	300	36	54	90	120	150	204	255	330	390	480	540	840	960	1110	1200						



Cell Performance H Range

End voltage of 0.85V/Cell (NGG=KPH)

End voltage of 0.65V/Cell (NGG=KPH)

Cell Type	Rated Capacity (Ah)	Time(Seconds)						Cell Type	Rated Capacity (Ah)	Time(Seconds)					
		90s	60s	30s	15s	5s	1s			90s	60s	30s	15s	5s	1s
KPH10	10	60	63	68	78	87	100	KPH10	10	77	87.5	95	100	110	120
KPH20	20	120	126	136	156	174	200	KPH20	20	154	175	190	200	220	240
KPH30	30	180	189	204	234	261	300	KPH30	30	231	262.5	285	300	330	360
KPH40	40	240	252	272	312	348	400	KPH40	40	308	350	380	400	440	480
KPH50	50	300	315	340	390	435	500	KPH50	50	385	437.5	475	500	550	600
KPH60	60	360	378	408	468	522	600	KPH60	60	462	525	570	600	660	720
KPH70	70	420	441	476	546	609	700	KPH70	70	539	612.5	665	700	770	840
KPH80	80	480	504	544	624	696	800	KPH80	80	616	700	760	800	880	960
KPH90	90	540	567	612	702	783	900	KPH90	90	693	787.5	855	900	990	1080
KPH100	100	600	630	680	780	870	1000	KPH100	100	770	875	950	1000	1100	1200
KPH150	150	900	945	1020	1170	1305	1500	KPH150	150	1155	1312.5	1425	1500	1650	1800
KPH160	160	960	1008	1088	1248	1392	1600	KPH160	160	1232	1400	1520	1600	1760	1920
KPH200	200	1200	1260	1360	1560	1740	2000	KPH200	200	1540	1750	1900	2000	2200	2400
KPH300	300	1800	1890	2040	2340	2610	3000	KPH300	300	2310	2625	2850	3000	3300	3600

Cell Performance X Range

Discharge current and time when battery is fully charged at 20°C ± 5°C.

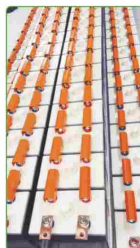
End voltage of 1.00V/Cell (KPX=GNC)

Cell Type	Rated Capacity (Ah)	hour			minute			second	
		5	1.5	1	5	1.5(90)	1(60)	5	1
KPX10	10	2.3	6.8	9.8	54	65.3	76.6	89	91
KPX20	20	4.6	14.5	21.5	120	142.5	169	175	186
KPX30	30	6.7	20.9	30.5	169	207	245	259	273
KPX40	40	8.9	27.2	40	232	272	322	352	368
KPX50	50	10.9	34.6	50	281	336	391	427	453
KPX60	60	13	41.3	58.2	297	365	437	489	511
KPX70	70	15.2	47.5	68	321	394	461	571	596
KPX80	80	17.2	55.3	78	369	457	521	664	682
KPX90	90	19.2	61.5	87	417	513	652	746	769
KPX100	100	21.5	69	99	452	562	723	832	850
KPX120	120	25.1	83	116	518	635	842	978	1025
KPX140	140	29.2	97	139	605	769	954	1159	1196
KPX150	150	31.3	104	147	662	824	1006	1251	1278
KPX170	170	35.3	115	167	779	925	1175	1408	1457
KPX190	190	39.5	125	186	848	1023	1298	1552	1609
KPX200	200	42	131	195	879	1071	1363	1618	1693
KPX210	210	44	138	205	937	1142	1447	1701	1762
KPX230	230	48.2	147	224	982	1208	1535	1839	1914
KPX250	250	52.6	159	243	1080	1307	1695	1987	2048

Discharge current and time when battery is fully charged at 20°C ± 5°C.

End voltage of 1.05V/Cell (KPX=GNC)

Cell Type	Rated Capacity (Ah)	hour			minute			second	
		5	1.5	1	5	1.5(90)	1(60)	5	1
KPX10	10	2.25	6.7	9.6	45.6	55	66	75.3	80.7
KPX20	20	4.5	14.3	20.5	101	118	146	150	161
KPX30	30	6.5	20.7	30	142	169	205	224	242
KPX40	40	8.8	27	38.8	179	223	268	301	326
KPX50	50	10.8	34.3	49.2	236	267	341	354	401
KPX60	60	12.9	41	57	262	311	359	417	453
KPX70	70	14.9	46	67.5	288	361	398	492	528
KPX80	80	17	54	77.6	314	409	452	553	604
KPX90	90	19	59	86.5	352	462	547	637	681
KPX100	100	21.3	67	97	393	517	594	705	753
KPX120	120	25	79	115	478	528	682	843	907
KPX140	140	29	96.1	134	521	697	813	993	1058
KPX150	150	31	103	148	569	751	886	1061	1132
KPX170	170	35	110	164	675	847	992	1203	1290
KPX190	190	39.3	125	183	721	941	1102	1344	1424
KPX200	200	41.7	129	194	762	984	1168	1415	1496
KPX210	210	43.8	137	203	796	1036	1213	1485	1560
KPX230	230	48	152	221	874	1112	1295	1517	1694
KPX250	250	52	167	238	953	1209	1398	1598	1785





Cell Performance X Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.10V/Cell (KPX=GNC)

Cell Type	Rated Capacity (Ah)	hour			minute			second		
		5	1.5	1	5	1.5(90)	1(60)	5	1	
KPX10	10	2.1	6.5	9.3	37.7	51	57.5	65.5	69	
KPX20	20	4.4	14	20	80	98	121	131	138	
KPX30	30	6.4	20	29	112	143	168	195	207	
KPX40	40	8.5	26.5	38.2	149	198	227	261	276	
KPX50	50	10.7	33	49	187	229	269	308	343	
KPX60	60	12.8	39	56	203	254	305	363	388	
KPX70	70	14.8	45.6	67	217	271	323	427	452	
KPX80	80	16.9	52	76	244	305	378	481	517	
KPX90	90	18.8	57	85	275	366	443	554	582	
KPX100	100	21.1	64	94	306	407	507	615	647	
KPX120	120	24.9	77	113	352	465	573	738	776	
KPX140	140	28.8	92	131	397	549	702	861	905	
KPX150	150	30.7	97	141	441	586	732	923	969	
KPX170	170	34.9	108	159	523	692	851	1046	1103	
KPX190	190	39.2	121	176	566	742	919	1169	1228	
KPX200	200	41.5	127	185	594	770	948	1231	1293	
KPX210	210	43.3	132	197	620	804	987	1292	1357	
KPX230	230	47.6	144	213	673	886	1076	1392	1486	
KPX250	250	51.5	156	228	715	943	1167	1524	1615	

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 1.14V/Cell (KPX=GNC)

Cell Type	Rated Capacity (Ah)	hour			minute			second		
		5	1.5	1	5	1.5(90)	1(60)	5	1	
KPX10	10	2.0	6.3	9	27	31	43	57	65	
KPX20	20	4.2	13.3	19	66	73	89	126	131	
KPX30	30	6	18	27.5	94	108	127	165	189	
KPX40	40	8	25	36.4	134	138	162	245	257	
KPX50	50	10	30	45.5	147	157	186	278	319	
KPX60	60	12.2	36.5	54	169	189	225	334	362	
KPX70	70	14	43	63.7	193	224	261	397	418	
KPX80	80	16	50	72.8	221	253	297	445	478	
KPX90	90	18	55	80.5	248	283	347	502	538	
KPX100	100	20	62	91	276	314	371	556	598	
KPX120	120	22.5	74	109	332	378	443	667	714	
KPX140	140	28	88	129	386	441	516	770	833	
KPX150	150	30	94	134	413	472	553	825	892	
KPX170	170	34	102	155	469	535	627	936	1012	
KPX190	190	38	124.5	169	512	587	673	1039	1098	
KPX200	200	40	132	181	539	618	709	1094	1156	
KPX210	210	41	138	193	566	652	748	1157	1214	
KPX230	230	45	151	208	624	713	819	1236	1408	
KPX250	250	49	162	217	676	779	893	1368	1445	

Cell Performance X Range

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 0.85V/Cell (GNC=KPX)

Cell Type	Rated Capacity (Ah)	minute			second					
		10	5	3	90	60	30	10	5	1
KPX10	10	49.5	73	105	118	136	151	158	164	178
KPX20	20	109	168	216	242	307	326	339	353	374
KPX30	30	153	251	322	363	453	469	492	529	561
KPX40	40	198	316	413	485	582	632	657	706	748
KPX50	50	247	395	502	606	733	778	821	882	935
KPX60	60	297	474	619	727	853	923	985	1059	1122
KPX70	70	345	553	721	848	991	1076	1149	1235	1309
KPX80	80	396	631	826	970	1138	1229	1314	1412	1496
KPX90	90	445	712	928	1091	1276	1377	1478	1571	1652
KPX100	100	496	790	1004	1213	1412	1530	1642	1764	1870
KPX120	120	594	948	1238	1454	1586	1836	1970	2118	2247
KPX140	140	691	1106	1442	1693	1964	2140	2298	2470	2618
KPX170	170	843	1341	1706	2062	2391	2603	2784	2995	3172
KPX190	190	942	1501	1907	2304	2665	2907	3119	3351	3553
KPX210	210	1041	1659	2108	2547	2952	3213	3448	3704	3927
KPX230	230	1140	1717	2309	2789	3233	3519	3776	4057	4301
KPX250	250	1242	1775	2510	3031	3515	3825	4105	4410	4675

Discharge current and time when battery is fully charged at $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
End voltage of 0.65V/Cell (GNC=KPX)

Cell Type	Rated Capacity (Ah)	minute			second					
		10	5	3	90	60	30	10	5	1
KPX10	10	53	85	107	165	176	201	238	247	261
KPX20	20	108	173	221	341	376	407	493	506	530
KPX30	30	162	259	331	512	564	611	739	759	797
KPX40	40	216	346	442	683	752	815	986	1012	1063
KPX50	50	270	432	552	853	935	1009	1228	1265	1321
KPX60	60	324	513	663	1021	1125	1217	1474	1518	1592
KPX70	70	378	585	773	1176	1312	1415	1661	1713	1856
KPX80	80	387	624	884	1362	1504	1619	1967	2018	2123
KPX100	100	486	759	1105	1535	1683	1816	2201	2274	2362
KPX120	120	538	864	1326	1706	1867	2018	2443	2527	2631
KPX140	140	648	1026	1547	2040	2239	2434	2948	3036	3174
KPX170	170	756	1170	1878	2551	2624	2830	3426	3515	3687
KPX190	190	914	1468	2085	2876	3173	3426	4153	4291	4495
KPX210	210	1015	1641	2328	3236	3542	3815	4326	4783	4968
KPX230	230	1123	1714	2431	3581	3913	4227	5085	5278	5513

Henan Hengming Fengyun Power Source Co.,Ltd.



Certificate



lasting/green/environmental protection