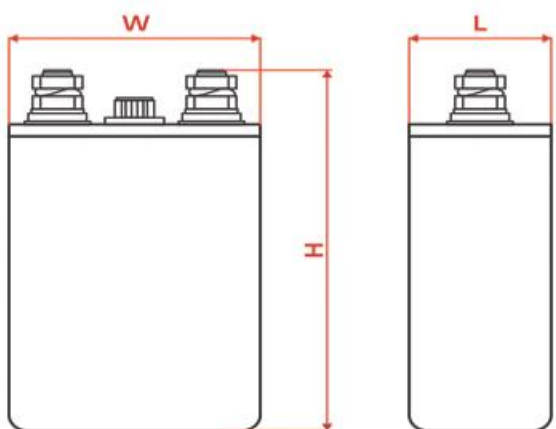




Recommended Model Tables of the Battery



KPL Series

Model	Rated Voltage V	Rated Capacity I _c Ah	Max. External Dimension mm			Max. Weight kg	Electrolyte Volume L	Screw Thread of Terminal poles	Container Material
			Length	Width	Height				
KPL10	1.2	10	38	84	138	0.80	0.2	M6	MBS or PP
KPL20	1.2	20	32	113	220	1.2	0.3	M6	MBS or PP
KPL30	1.2	30	68	134	245	2.8	0.8	M10×1	MBS or PP
KPL40	1.2	40	68	134	245	3.0	0.8	M10×1	MBS or PP
KPL50	1.2	50	68	134	245	3	0.7	M10×1	MBS or PP
KPL60	1.2	60	70	134	285	4.2	0.9	M16	MBS or PP
KPL80	1.2	80	80	141	365	5.8	1.7	M10×1	MBS or PP
KPL100	1.2	100	80	141	365	6.2	1.6	M10×1	MBS or PP
KPL120	1.2	120	80	141	365	6.4	1.4	M10×1	MBS or PP
KPL150	1.2	150	106	164	345	9	2.5	M20	MBS or PP
KPL200	1.2	200	106	164	345	10	1.8	M20	MBS or PP
KPL250	1.2	250	164	167	345	13.5	2.8	M20	MBS or PP
KPL300	1.2	300	164	167	345	15	2.7	M20	MBS or PP
KPL400	1.2	400	152	170	385	17.5	4.7	M20	PP
KPL500	1.2	500	138	276	490	27	6.1	2×M16	PP
KPL600	1.2	600	176	291	510	38	9.2	2×M20	MBS
KPL700	1.2	700	176	291	510	39	8.4	2×M20	MBS
KPL800	1.2	800	186	398	570	59	17.2	3×M20	MBS
KPL900	1.2	900	186	398	570	60	15.6	3×M20	MBS
KPL1000	1.2	1000	186	398	570	61	15.0	3×M20	MBS



KPL series Battery

Discharge performance data after fully charged by constant current according to IEC60623

Available current under 20°C ± 5°C

Final voltage 1.00V/cell

Models	I _t Ah	Hours							Minutes						Seconds		
		10	8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1
KPL10	10	1.05	1.29	2.00	3.27	4.68	5.88	7.50	9.70	11.1	12.0	13.3	15.2	19.7	21.3	24.2	25.5
KPL20	20	2.10	2.58	4.00	6.54	9.36	11.8	15.0	19.4	22.2	24.0	26.6	30.4	39.4	42.6	48.5	51.0
KPL30	30	3.15	3.86	6.00	9.81	14.0	17.6	22.5	29.1	33.3	36.0	39.9	45.6	59.1	63.9	72.5	76.5
KPL40	40	4.20	5.15	8.00	13.1	18.7	23.6	30.0	38.8	44.4	48.0	53.2	60.8	78.8	85.2	97.0	102
KPL50	50	5.25	6.44	10.0	16.4	23.4	29.4	37.5	48.5	55.5	60.0	66.5	76.0	98.5	107	121	128
KPL60	60	6.30	7.73	12.0	19.6	28.0	35.2	45.0	58.2	66.6	72.0	79.8	91.2	118	128	145	153
KPL70	70	7.35	9.01	14.0	22.9	32.7	41.2	52.5	67.9	77.7	84.0	93.1	106	138	149	169	179
KPL80	80	8.40	10.3	16.0	25.8	37.0	46.4	60.0	77.0	88.0	95.0	106	122	156	168	190	196
KPL100	100	10.5	12.9	20.0	32.7	46.8	58.8	75.0	97.0	111	120	133	152	197	210	238	245
KPL120	120	12.6	15.5	24.0	39.2	56.1	70.5	90.0	116	133	144	159	182	236	255	286	294
KPL150	150	15.8	19.3	30.0	49.0	70.2	88.0	112	145	166	180	199	228	295	315	357	368
KPL200	200	21.0	25.8	40.0	65.1	93.2	117	148	192	220	238	265	302	392	420	475	490
KPL250	250	26.3	32.2	50.0	81.5	116	145	180	240	275	295	330	375	484	525	595	613
KPL300	300	31.5	38.6	60.0	97.0	140	176	224	290	331	358	395	450	580	625	713	735
KPL350	350	36.8	45.1	70.0	113	162	204	262	339	387	419	464	532	688	735	833	858
KPL400	400	42.0	51.5	80.0	130	185	231	296	384	440	476	530	604	784	840	950	975
KPL500	500	52.5	64.4	100	163	232	290	360	480	550	590	660	750	968	1050	1190	1225
KPL600	600	63.0	77.3	120	194	277	348	429	572	655	702	790	900	1158	1248	1428	1470
KPL700	700	73.5	90.1	140	227	324	408	524	678	774	838	928	1063	1375	1470	1666	1715
KPL800	800	84.0	103	160	258	370	462	592	764	875	938	1050	1200	1544	1664	1900	1950
KPL900	900	94.5	116	180	292	416	520	665	860	985	1056	1180	1350	1737	1872	2142	2205
KPL1000	1000	105	129	200	326	464	580	750	970	1100	1180	1320	1500	1930	2100	2380	2450



Operating Curves Of the Battery

Figure 1 Charging Curves of KPL Series ($20^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

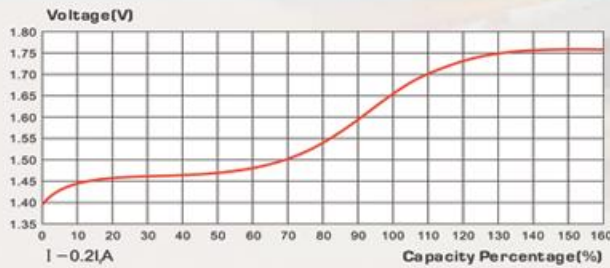
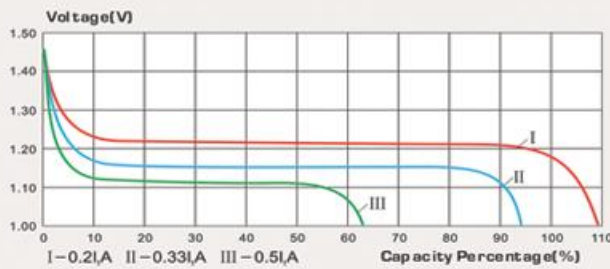


Figure 2 Discharging Curves of KPL Series ($20^{\circ}\text{C} \pm 5^{\circ}\text{C}$)



This chapter lists all the operating curves of the battery, such as KPL, KPM, and KPH series, since there are differences among the 3 series that applies to the operating curves as well. Accordingly, the listed operating curves are for reference only, and not regarded as the battery acceptance standards.

Figure 3 Discharging Curves of KPL Series ($-18^{\circ}\text{C} \pm 2^{\circ}\text{C}$)

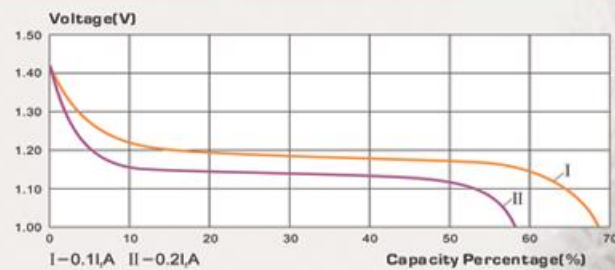
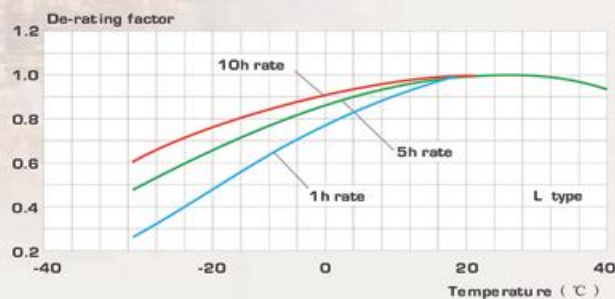


Figure 4 Temperature Effect Curves of KPL Series





Discharge Performance Data

KPL series Battery

Discharge performance data after fully charged by constant current according to IEC60623

Available current under 20°C ± 5°C

Final voltage 1.14V/cell

Models	I _c Ah	Hours							Minutes						Seconds		
		10	8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1
KPL10	10	1.01	1.20	1.88	2.95	3.75	4.35	5.03	6.28	6.92	7.35	8.25	9.57	12.5	13.5	14.6	15.0
KPL20	20	2.02	2.40	3.76	5.90	7.50	8.70	10.1	12.6	13.8	14.7	16.5	19.1	25.0	27.0	29.2	30.0
KPL30	30	3.03	3.60	5.64	8.85	11.3	13.1	15.1	18.8	20.8	22.1	24.8	28.7	37.5	40.5	43.8	45.0
KPL40	40	4.04	4.80	7.52	11.8	15.0	17.4	20.2	25.2	27.6	29.4	33.0	38.2	50.0	54.0	58.5	60.0
KPL50	50	5.05	6.00	9.40	14.8	18.8	21.8	25.2	31.4	34.6	36.8	41.3	47.9	62.5	67.5	73.0	75.0
KPL60	60	6.06	7.20	11.3	17.7	22.5	26.1	30.2	37.7	41.5	44.1	49.5	57.4	75.2	81.0	87.6	90.0
KPL70	70	7.07	8.40	13.2	20.7	26.3	30.5	35.2	44.0	48.4	51.5	57.8	67.0	87.5	94.5	102	105
KPL80	80	8.08	9.60	15.0	23.6	30.0	34.8	40.2	50.2	55.4	58.8	66.0	76.6	100	108	117	120
KPL100	100	10.1	12.0	18.8	29.5	37.5	43.5	50.3	62.8	69.2	73.5	82.5	95.7	125	135	146	150
KPL120	120	12.1	14.4	22.6	35.4	45.0	52.2	60.4	75.3	83.0	88.2	99.0	114	150	162	175	180
KPL150	150	15.2	18.0	28.2	44.2	56.2	65.2	75.4	94.2	103	110	123	143	187	202	222	225
KPL200	200	20.2	24.0	37.6	59.0	75.0	87.0	100	125	138	147	165	191	250	270	291	300
KPL250	250	25.3	30.0	47.0	73.0	93.0	108	125	157	171	183	206	239	312	337	369	375
KPL300	300	30.3	36.0	56.4	88.4	112	130	150	188	206	220	246	286	374	404	443	450
KPL350	350	35.4	42.0	65.8	103	132	151	175	216	244	255	285	335	436	469	510	525
KPL400	400	40.4	48.0	75.2	118	150	174	202	252	276	294	330	382	500	540	581	599
KPL500	500	50.5	60.0	94.0	146	186	216	250	314	342	366	412	478	624	674	738	750
KPL600	600	60.6	72.0	113	176	224	260	300	376	412	440	492	572	748	808	886	900
KPL700	700	70.7	84.0	132	207	265	303	350	432	489	510	570	671	873	939	1020	1050
KPL800	800	80.8	96.0	150	236	300	348	404	504	552	588	660	764	1000	1080	1162	1198
KPL900	900	90.9	108	169	265	335	390	450	564	618	660	738	858	1122	1212	1314	1350
KPL1000	1000	101	120	188	292	372	432	500	628	684	732	824	956	1248	1348	1460	1500



KPL series Battery

Discharge performance data after fully charged by constant current according to IEC60623

Available current under 20°C ± 5°C

Final voltage 1.14V/cell

Models	I _t Ah	Hours							Minutes						Seconds		
		10	8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1
KPL10	10	1.01	1.20	1.88	2.95	3.75	4.35	5.03	6.28	6.92	7.35	8.25	9.57	12.5	13.5	14.6	15.0
KPL20	20	2.02	2.40	3.76	5.90	7.50	8.70	10.1	12.6	13.8	14.7	16.5	19.1	25.0	27.0	29.2	30.0
KPL30	30	3.03	3.60	5.64	8.85	11.3	13.1	15.1	18.8	20.8	22.1	24.8	28.7	37.5	40.5	43.8	45.0
KPL40	40	4.04	4.80	7.52	11.8	15.0	17.4	20.2	25.2	27.6	29.4	33.0	38.2	50.0	54.0	58.5	60.0
KPL50	50	5.05	6.00	9.40	14.8	18.8	21.8	25.2	31.4	34.6	36.8	41.3	47.9	62.5	67.5	73.0	75.0
KPL60	60	6.06	7.20	11.3	17.7	22.5	26.1	30.2	37.7	41.5	44.1	49.5	57.4	75.2	81.0	87.6	90.0
KPL70	70	7.07	8.40	13.2	20.7	26.3	30.5	35.2	44.0	48.4	51.5	57.8	67.0	87.5	94.5	102	105
KPL80	80	8.08	9.60	15.0	23.6	30.0	34.8	40.2	50.2	55.4	58.8	66.0	76.6	100	108	117	120
KPL100	100	10.1	12.0	18.8	29.5	37.5	43.5	50.3	62.8	69.2	73.5	82.5	95.7	125	135	146	150
KPL120	120	12.1	14.4	22.6	35.4	45.0	52.2	60.4	75.3	83.0	88.2	99.0	114	150	162	175	180
KPL150	150	15.2	18.0	28.2	44.2	56.2	65.2	75.4	94.2	103	110	123	143	187	202	222	225
KPL200	200	20.2	24.0	37.6	59.0	75.0	87.0	100	125	138	147	165	191	250	270	291	300
KPL250	250	25.3	30.0	47.0	73.0	93.0	108	125	157	171	183	206	239	312	337	369	375
KPL300	300	30.3	36.0	56.4	88.4	112	130	150	188	206	220	246	286	374	404	443	450
KPL350	350	35.4	42.0	65.8	103	132	151	175	216	244	255	285	335	436	469	510	525
KPL400	400	40.4	48.0	75.2	118	150	174	202	252	276	294	330	382	500	540	581	599
KPL500	500	50.5	60.0	94.0	146	186	216	250	314	342	366	412	478	624	674	738	750
KPL600	600	60.6	72.0	113	176	224	260	300	376	412	440	492	572	748	808	886	900
KPL700	700	70.7	84.0	132	207	265	303	350	432	489	510	570	671	873	939	1020	1050
KPL800	800	80.8	96.0	150	236	300	348	404	504	552	588	660	764	1000	1080	1162	1198
KPL900	900	90.9	108	169	265	335	390	450	564	618	660	738	858	1122	1212	1314	1350
KPL1000	1000	101	120	188	292	372	432	500	628	684	732	824	956	1248	1348	1460	1500



Discharge Performance Data

KPL series Battery

Discharge performance data after fully charged by constant current according to IEC60623

Available current under 20°C ±5°C

Final voltage 1.05V/cell

Models	I _t Ah	Hours							Minutes						Seconds		
		10	8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1
KPL10	10	1.03	1.25	1.98	3.16	4.50	5.54	6.68	8.55	9.54	10.6	11.5	13.3	17.1	18.5	21.3	21.8
KPL20	20	2.06	2.50	3.96	6.32	9.0	11.1	13.4	17.1	19.1	21.2	23.0	26.9	34.2	37.0	42.6	43.2
KPL30	30	3.09	3.74	5.94	9.48	13.5	16.6	20.0	25.9	28.6	31.8	34.5	39.9	51.2	58.2	63.9	64.8
KPL40	40	4.12	4.99	7.92	12.6	18.0	22.2	26.8	34.2	38.2	42.4	46.0	53.8	68.2	74.0	85.2	86.4
KPL50	50	5.15	6.24	9.9	15.8	22.5	27.7	33.4	43.2	47.7	53.0	57.5	66.5	85.5	92.0	106	108
KPL60	60	6.18	7.49	11.9	19.1	27.0	33.2	40.0	51.8	57.2	63.6	69.0	79.8	102	110	127	130
KPL70	70	7.21	8.73	13.9	22.1	31.2	38.8	46.8	60.5	66.8	74.2	80.5	93.1	120	129	148	151
KPL80	80	8.24	10.0	15.8	25.3	36.0	44.4	53.6	68.4	76.4	84.8	92.0	108	136	148	165	172
KPL100	100	10.3	12.5	19.8	31.5	44.9	55.4	66.7	85.5	95.4	106	115	133	171	184	206	215
KPL120	120	12.4	15.0	23.8	38.2	53.8	66.4	80.0	103	114	127	138	159	205	220	251	258
KPL150	150	15.5	18.7	29.7	47.3	67.3	83.1	100	129	143	159	172	199	256	276	319	322
KPL200	200	20.6	25.0	39.6	63.0	89.0	110	133	172	190	212	230	266	342	368	412	430
KPL250	250	25.8	31.2	49.5	78.8	112	138	166	215	237	265	287	332	427	460	515	537
KPL300	300	30.9	37.4	59.4	94.5	134	163	200	258	286	318	344	398	512	552	618	644
KPL350	350	36.1	43.7	69.3	110	157	194	237	302	334	370	400	463	598	643	721	751
KPL400	400	41.2	49.9	79.2	126	178	220	266	342	380	424	460	532	684	736	824	860
KPL500	500	51.5	62.4	99	158	220	275	332	427	475	530	575	665	855	920	1030	1075
KPL600	600	61.8	74.9	119	189	268	326	400	516	572	636	688	796	1024	1104	1236	1288
KPL700	700	72.1	87.3	139	220	313	387	474	603	668	740	800	925	1195	1285	1442	1502
KPL800	800	82.4	100	158	252	352	440	531	683	760	848	920	1064	1368	1472	1648	1720
KPL900	900	92.7	112	178	284	398	495	598	769	855	954	1035	1197	1539	1656	1854	1935
KPL1000	1000	103	125	198	316	440	550	664	854	950	1060	1150	1330	1710	1840	2060	2150



KPL series Battery

Discharge performance data after fully charged by constant current according to IEC60623

Available current under 20°C ± 5°C

Final voltage 1.00V/cell

Models	I _t Ah	Hours							Minutes						Seconds		
		10	8	5	3	2	1.5	1	30	20	15	10	5	1	30	5	1
KPL10	10	1.05	1.29	2.00	3.27	4.68	5.88	7.50	9.70	11.1	12.0	13.3	15.2	19.7	21.3	24.2	25.5
KPL20	20	2.10	2.58	4.00	6.54	9.36	11.8	15.0	19.4	22.2	24.0	26.6	30.4	39.4	42.6	48.5	51.0
KPL30	30	3.15	3.86	6.00	9.81	14.0	17.6	22.5	29.1	33.3	36.0	39.9	45.6	59.1	63.9	72.5	76.5
KPL40	40	4.20	5.15	8.00	13.1	18.7	23.6	30.0	38.8	44.4	48.0	53.2	60.8	78.8	85.2	97.0	102
KPL50	50	5.25	6.44	10.0	16.4	23.4	29.4	37.5	48.5	55.5	60.0	66.5	76.0	98.5	107	121	128
KPL60	60	6.30	7.73	12.0	19.6	28.0	35.2	45.0	58.2	66.6	72.0	79.8	91.2	118	128	145	153
KPL70	70	7.35	9.01	14.0	22.9	32.7	41.2	52.5	67.9	77.7	84.0	93.1	106	138	149	169	179
KPL80	80	8.40	10.3	16.0	25.8	37.0	46.4	60.0	77.0	88.0	95.0	106	122	156	168	190	196
KPL100	100	10.5	12.9	20.0	32.7	46.8	58.8	75.0	97.0	111	120	133	152	197	210	238	245
KPL120	120	12.6	15.5	24.0	39.2	56.1	70.5	90.0	116	133	144	159	182	236	255	286	294
KPL150	150	15.8	19.3	30.0	49.0	70.2	88.0	112	145	166	180	199	228	295	315	357	368
KPL200	200	21.0	25.8	40.0	65.1	93.2	117	148	192	220	238	265	302	392	420	475	490
KPL250	250	26.3	32.2	50.0	81.5	116	145	180	240	275	295	330	375	484	525	595	613
KPL300	300	31.5	38.6	60.0	97.0	140	176	224	290	331	358	395	450	580	625	713	735
KPL350	350	36.8	45.1	70.0	113	162	204	262	339	387	419	464	532	688	735	833	858
KPL400	400	42.0	51.5	80.0	130	185	231	296	384	440	476	530	604	784	840	950	975
KPL500	500	52.5	64.4	100	163	232	290	360	480	550	590	660	750	968	1050	1190	1225
KPL600	600	63.0	77.3	120	194	277	348	429	572	655	702	790	900	1158	1248	1428	1470
KPL700	700	73.5	90.1	140	227	324	408	524	678	774	838	928	1063	1375	1470	1666	1715
KPL800	800	84.0	103	160	258	370	462	592	764	875	938	1050	1200	1544	1664	1900	1950
KPL900	900	94.5	116	180	292	416	520	665	860	985	1056	1180	1350	1737	1872	2142	2205
KPL1000	1000	105	129	200	326	464	580	750	970	1100	1180	1320	1500	1930	2100	2380	2450