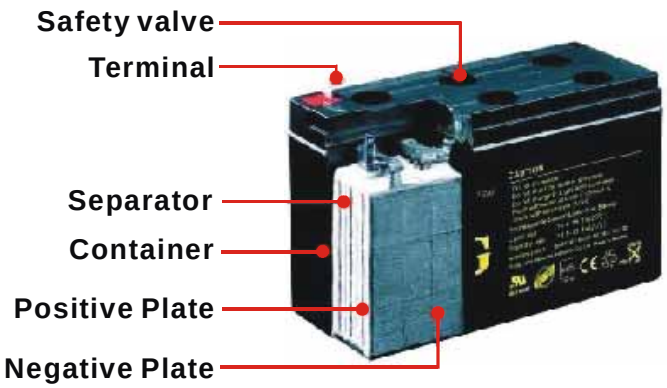
KUNG LONG

Sealed Lead-Acid Batteries

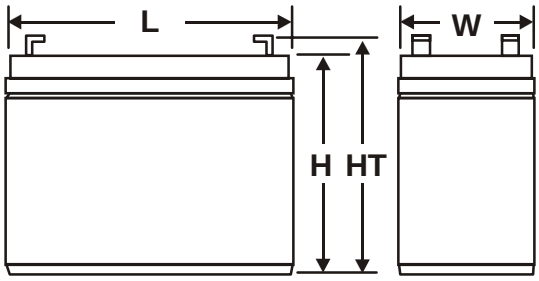
KUNG LONG

GENERAL TYPE

CONSTRUCTION



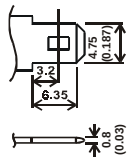
SPECIFICATIONS



TERMINAL TYPE

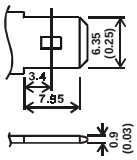
size : mm (inch)

F1



(FASTON TAB NO. 187)

F2



(FASTON TAB NO. 250)

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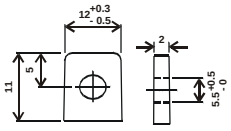

(M5 Bolt)

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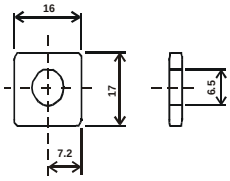

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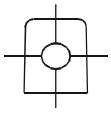
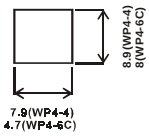


(M8 Bolt)

F6



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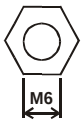

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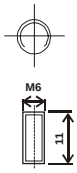

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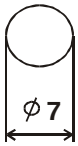

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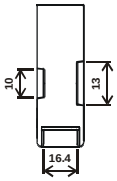

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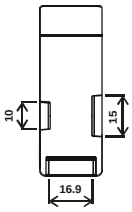

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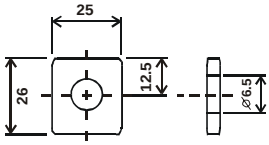
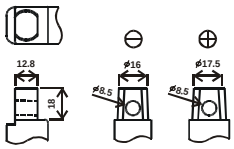


(M6 Bolt)

F15



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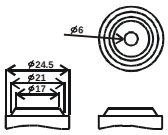

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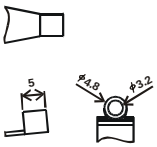

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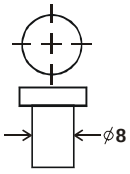

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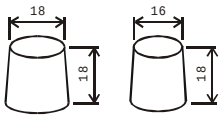

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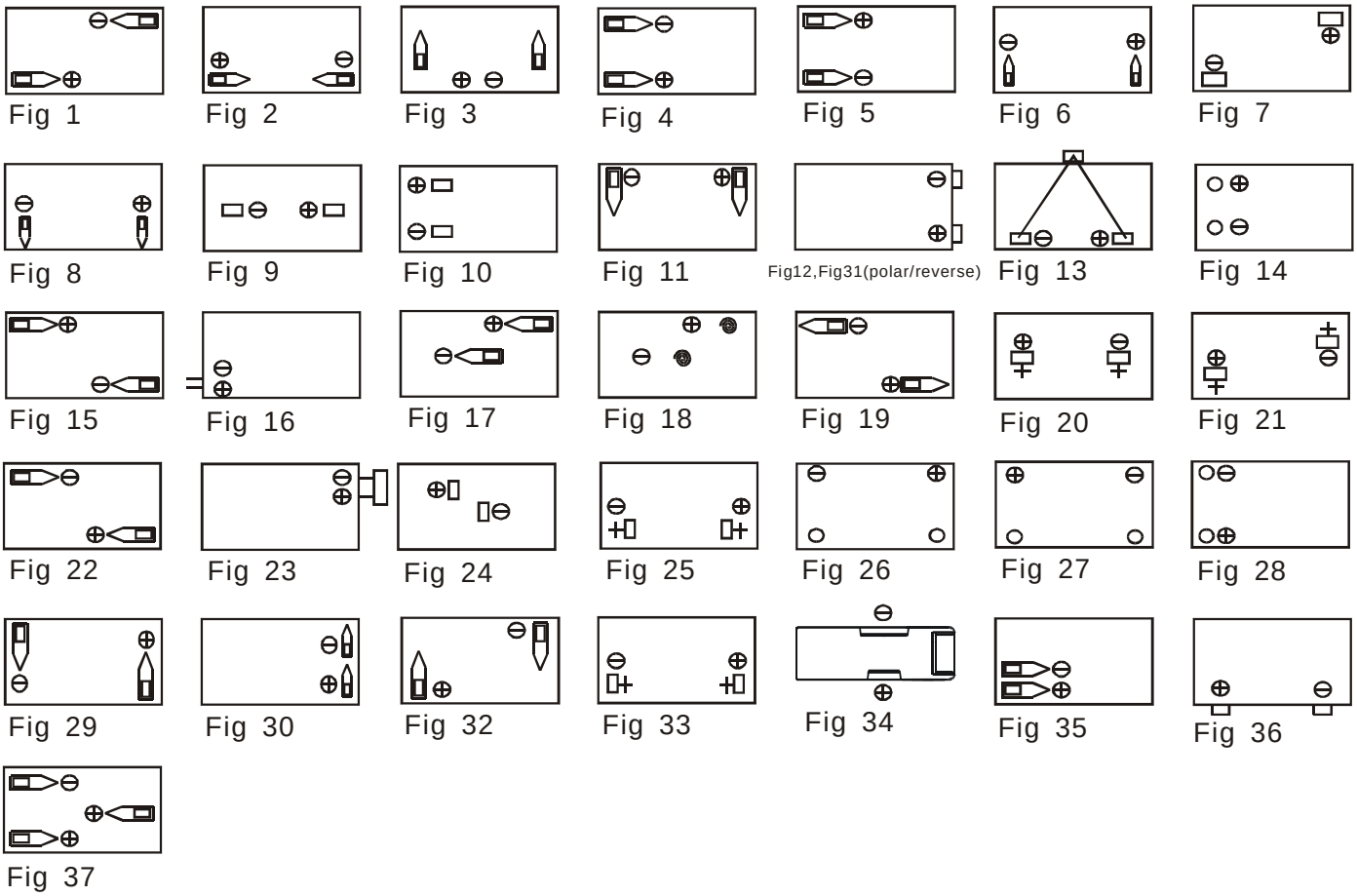
TERMINAL POSITION



Battery Numbering System:

W P 22 - 12 R N E

Battery Features
R, L: Negative Terminal Position
N, B: Type Of Terminal, N: Nut, B: Bolt
E: High Rate Type For Electric Vehicle
W: Wire Lead Type With Connector
WL: Wire Lead Type Without Connector
A, S, T: Same Capacity With Different Dimensions
P: Same Terminal Direction And Parallel

Battery Voltage

Battery Capacity At 20 Hr Rate

Battery Type:
WP: General Type
KP: Emergency Light Type
KPH: High Power Type
U1: Sealed Battery With Conventional Dimension

W P 12 34W

Battery Capacity St W/Cell At 15 Min Rate

Battery Voltage

KUNG LONG

GENERAL TYPE

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP1-2	2	0.85	1	1.22	0.94	2.52	31	24	64	2.52	64	0.23	0.105	10	F1
WP4-2	2	3.40	4	1.85	0.98	3.98	47	25	101	4.21	107	0.72	0.325	3	F1
WP6-2	2	5.10	6	1.97	1.34	3.94	50	34	100	4.25	108	0.98	0.444	11	F1
WP3-4	4	2.55	3	3.54	1.34	2.32	90	34	59	2.56	65	1.04	0.470	2	F1
WP4-4	4	3.40	4	1.89	1.42	4.69	48	36	119	4.69	119	1.21	0.551	12	F6
WP4.5-4	4	3.83	4.5	1.89	2.05	3.7	48	52	94	3.94	100	1.44	0.652	11	F2
WP9-4	4	7.65	9	3.98	1.73	3.74	101	44	95	4.02	102	2.61	1.187	3	F2
WP10-4	4	8.50	10	3.98	1.97	3.70	101	50	94	4.02	102	2.93	1.332	3	F2
WP1-6	6	0.85	1	2.01	1.65	2.01	51	42	51	2.17	55	0.59	0.268	1	F1
WP1-6WL	6	0.85	1	2.01	1.65	2.01	51	42	51	2.17	55	0.59	0.268	1	Wire
WP1.2-6	6	1.00	1.2	3.82	0.98	2.05	97	25	52	2.24	57	0.68	0.308	2	F1
WP1.5-6	6	1.28	1.5	3.82	0.94	2.05	97	24	52	2.28	58	0.74	0.336	2	F1
WP2-6	6	1.70	2	2.95	2.01	2.09	75	51	53	2.24	57	1.19	0.541	1	F1
WP2.8-6	6	2.40	2.8	2.60	1.30	3.82	66	33	97	4.09	104	1.25	0.569	1	F1
WP2.8-6P	6	2.40	2.8	2.60	1.30	3.82	66	33	97	4.09	104	1.25	0.569	8	F1
WP2.8-6R	6	2.40	2.8	2.60	1.30	3.82	66	33	97	4.09	104	1.25	0.569	15	F1
WP2.8-6T	6	2.40	2.8	2.60	1.30	3.82	66	33	97	4.09	104	1.25	0.569	32	F1
WP3-6	6	2.55	3	5.28	1.34	2.36	134	34	60	2.60	66	1.52	0.692	2	F1
WP3.8-6	6	3.23	3.8	2.60	1.30	4.65	66	33	118	4.96	126	1.62	0.735	1	F1
WP3.8-6P	6	3.23	3.8	2.60	1.30	4.65	66	33	118	4.96	126	1.62	0.735	8	F1
WP4-6	6	3.40	4	2.76	1.85	3.98	70	47	101	4.03	105	1.79	0.812	1	F1
WP4-6C	6	3.40	4	2.76	1.85	4.09	70	47	104	4.13	105	1.79	0.812	7	F6
WP4-6VO	6	3.40	4.2	2.76	1.85	3.98	70	47	101	4.13	105	2.00	0.908	1	F1
WP4-6WL	6	3.40	4	2.76	1.85	3.98	70	47	101	4.21	107	1.79	0.812	1	Wire
WP4.5-6	6	3.83	4.5	2.76	1.85	3.98	70	47	101	4.21	107	2.00	0.908	1	F1
WP4.5-6C	6	3.83	4.5	2.76	1.85	4.09	70	47	104	4.13	105	2.00	0.910	7	F6
WP4.5-6S	6	3.83	4.5	2.76	1.85	3.94	70	47	100	4.13	105	2.04	0.923	1	F1
WP4.5-6W	6	3.83	4.5	2.76	1.85	3.98	70	47	101	4.13	105	2.04	0.923	1	F1
WP4.5-6WL	6	3.83	4.5	2.76	1.85	3.94	70	47	100	3.94	100	2.04	0.923	16	Wire
WP5-6	6	4.25	5	2.76	1.85	3.98	70	47	101	4.21	107	2.12	0.960	1	F1
WP5-6F	6	4.25	5	2.66	2.66	3.78	67.5	67.5	96	4.37	111	2.14	0.970	17	F1
WP5-6S	6	4.25	5	2.68	2.68	3.82	68	68	97	4.53	115	2.14	0.970	18	F10
WP6-6S	6	5.10	6	2.68	2.68	3.82	68	68	97	4.53	115	2.32	1.053	18	F10
WP7-6	6	5.95	7	5.94	1.34	3.70	151	34	94	3.94	100	2.89	1.312	2	F1
WP7-6A	6	5.95	7	3.86	2.20	4.05	98	56	103	4.05	103	2.89	1.312	19	F1
WP7-6S	6	5.95	7	4.57	1.97	3.62	116	50	92	3.90	99	3.05	1.385	1	F1
WP8-6S	6	6.80	8	5.94	1.34	3.70	151	34	94	3.94	100	3.15	1.430	2	F1

KUNG LONG

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP9-6A	6	7.65	9	3.88	2.20	4.65	98.5	56	118	4.65	118	3.47	1.570	19	F1
WP10-6	6	8.50	10	5.94	1.97	3.70	151	50	94	3.94	100	4.38	1.990	2	F1
WP12-6S	6	10.2	12	5.94	1.97	3.70	151	50	94	3.90	99	4.97	2.258	2	F1
WP13-6	6	11.1	13	4.25	2.76	5.51	108	70	140	5.51	140	4.79	2.179	35	F1-,F2+
WP13-6W	6	11.1	13	4.25	2.76	5.51	108	70	140	5.51	140	4.79	2.179	16	Wire
WP14-6W	6	11.9	14	4.25	2.76	5.51	108	70	140	5.51	140	4.86	2.208	16	Wire
WP14-6WL	6	11.9	14	4.25	2.76	5.51	108	70	140	5.51	140	4.86	2.208	16	Wire
WP3-8	8	2.55	3	5.28	1.42	2.52	134	36	64	2.68	68	1.82	0.825	4	F1
WP3-8T4	8V(4V)	2.55	3	5.28	1.42	2.52	134	36	64	2.68	68	1.79	0.813	37	F1
WP3.2-8	8	2.70	3.2	2.63	1.89	3.58	67	48	91	3.58	91	1.76	0.798	36	
WP0.7-12	12	0.60	0.7	3.78	0.98	2.44	96	25	62	2.44	62	0.82	0.371	23	Wire
WP0.7-12S	12	0.60	0.7	3.78	0.98	2.44	96	25	62	2.44	62	0.82	0.371	23	Wire
WP0.7-12WL	12	0.60	0.7	3.78	0.98	2.44	96	25	62	2.44	62	0.93	0.422	23	Wire
WP1.2-12	12	1.02	1.2	3.82	1.69	2.09	97	43	53	2.32	59	1.31	0.596	4	F1
WP1.5-12	12	1.28	1.5	3.82	1.69	2.05	97	43	52	2.28	58	1.38	0.628	4	F1
WP1.9-12	12	1.62	1.9	7.01	1.34	2.36	178	34	60	2.60	66	2.10	0.952	2	F1
WP2.2-12	12	1.87	2.2	7.01	1.34	2.36	178	34	60	2.60	66	2.33	1.060	2	F1
WP2.3-12	12	1.96	2.3	7.01	1.34	2.36	178	34	60	2.60	66	2.33	1.060	2	F1
WP2.4-12L	12	2.04	2.4	7.01	1.34	2.36	178	34	60	2.68	68	2.11	0.960	5	F1
WP2.6-12	12	2.21	2.6	7.01	1.34	2.36	178	34	60	2.60	66	2.38	1.080	2	F1
WP2.8-12	12	2.40	2.8	5.24	1.30	3.82	133	33	97	4.09	104	2.55	1.160	2	F1
WP2.8-12S	12	2.40	2.8	2.60	2.60	3.82	66	66	97	4.09	104	2.55	1.160	3	F1
WP2.9-12T	12	2.47	2.9	3.11	2.20	3.90	79	56	99	4.21	107	2.59	1.176	6	F1
WP2.9-12TW	12	2.47	2.9	3.11	2.20	3.90	79	56	99	4.21	107	2.59	1.176	6	Wire
WP2.9-12TR	12	2.47	2.9	3.11	2.20	3.90	79	56	99	4.21	107	259	1.176	3	F1
WP3-12	12	2.55	3	5.28	2.64	2.34	134	67	59.5	2.58	65.5	3.02	1.370	4	F1
WP3-12R	12	2.55	3	5.28	2.64	2.34	134	67	59.5	2.58	65.5	3.02	1.370	5	F1
WP4.5-12	12	3.83	4.5	3.54	2.76	3.98	90	70	101	4.21	107	4.02	1.828	3	F1
WP5-12	12	4.25	5	3.54	2.76	4.00	90	70	101.5	4.25	108	4.04	1.83	3	F1
WP6.5-12S	12	5.53	6.5	5.94	2.56	3.70	151	65	94	4.02	102	6.13	2.780	5	F1
WP7-12	12	5.95	7	5.94	2.56	3.70	151	65	94	4.02	102	5.52	2.510	5	F1
WP7-12B	12	5.95	7	5.94	2.56	3.90	151	65	99	3.90	99	5.91	2.678	5	F6
WP7.2-12	12	6.12	7.2	5.94	2.56	3.70	151	65	94	4.02	102	5.90	2.678	5	F1
WP8-12	12	6.80	8	5.94	2.56	3.70	151	65	94	4.02	102	5.91	2.678	5	F1
WP9-12	12	7.65	9	5.94	3.94	3.07	151	100	78	3.50	89	7.22	3.280	2	F17
WP10-12S	12	8.50	10	5.94	2.56	4.40	151	65	112	4.67	118.5	7.34	3.329	5	F2
WP10-12	12	8.50	10	5.94	3.86	3.66	151	98	93	3.86	98	8.65	3.930	5	F1
WP11-12	12	9.35	11	5.28	3.15	6.34	134	80	161	6.50	165	9.94	4.520	20	F3
WP12-12	12	10.2	12	5.94	3.86	3.66	151	98	93	3.86	98	9.39	4.270	5	F1
WP12-12B8	12	10.2	12	5.94	3.86	3.66	151	98	93	4.57	116	9.39	4.270	5	F18
WP13-12	12	11.05	13	8.50	2.76	5.51	216	70	140	5.51	140	9.61	4.360	24	F1-,F2+

KUNG LONG

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in +0.08 -0.04	in +0.08 -0.04	in +0.08 -0.04	mm +2 -1	mm +2 -1	mm +2 -1	in +0.08 -0.04	mm +2 -1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP20-6	6	17.0	20	6.18	3.27	4.92	157	83	125	4.92	125	8.78	3.993	20	F3
WP42-6	6	35.7	42	6.38	3.46	6.42	162	88	163	6.69	170	13.60	6.180	22	F2
WP120-6	6	102	120	9.49	7.01	7.20	241	178	183	7.20	183	43.10	19.590	21	F4
○ WP18-12	12	15.3	18	7.13	2.99	6.57	181	76	167	6.57	167	13.82	6.283	33	F3
WP18-12I	12	15.3	18	7.13	2.99	6.57	181	76	167	6.57	167	13.82	6.283	25	F3
WP18-12B8	12	15.3	18	7.13	2.99	6.57	181	76	167	6.89	175	13.82	6.283	33	F18
WP20-12	12	17.0	20	7.13	2.99	6.57	181	76	167	6.57	167	13.75	6.240	33	F3
WP20-12I	12	17.0	20	7.13	2.99	6.57	181	76	167	6.57	167	13.75	6.240	25	F3
WP22-12	12	18.7	22	7.13	2.99	6.57	181	76	167	6.73	171	13.87	6.306	33	F3
WP22-12I	12	18.7	22	7.13	2.99	6.57	181	76	167	6.73	171	13.87	6.306	25	F3
WP22-12N	12	18.7	22	7.13	2.99	6.57	181	76	167	6.57	167	14.44	6.550	26	F8
WP22-12RN	12	18.7	22	7.13	2.99	6.57	181	76	167	6.57	167	14.44	6.550	27	F8
○ WP26-12	12	22.1	26	6.54	6.89	4.92	166	175	125	4.92	125	20.96	9.528	33	F3
WP26-12T	12	22.1	26	6.54	4.96	6.89	166	126	175	6.89	175	20.65	9.385	25	F3
WP28-12	12	27.2	28	6.54	6.89	4.92	166	175	125	4.92	125	21.59	9.790	33	F3
WP30-12T	12	25.5	30	6.54	4.96	6.93	166	126	176	6.93	176	21.30	9.680	33	F3
WP30-12TN	12	25.5	30	6.54	4.96	6.93	166	126	176	6.93	176	21.30	9.680	26	F8
WP30-12RTN	12	25.5	30	6.54	4.96	6.93	166	126	176	6.93	176	21.30	9.680	27	F8
U1-34	12	28.9	34	7.76	5.16	6.14	197	131	156	7.09	180	24.44	11.107	20	F4
U1-34H	12	28.9	34	7.76	5.16	6.26	197	131	159	7.09	180	23.92	10.850	20	F4
U1-38	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.59	12.060	20	F4
U1-38B	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.59	12.060	27	F9
U1-38N	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	27.21	12.340	27	F8
U1-38RN	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	27.21	12.340	26	F8
△ WP45-12	12	38.3	45	7.79	6.54	6.73	198	166	171	6.73	171	31.04	14.109	25	F4
WP50-12	12	42.5	50	7.79	6.54	6.73	198	166	171	6.73	171	32.53	14.787	25	F4
WP50-12N	12	42.5	50	7.79	6.54	6.73	198	166	171	6.73	171	32.53	14.787	26	F8
△ WP65-12	12	55.3	65	13.78	6.54	6.85	350	166	174	6.85	174	51.81	23.550	25	F4
WP100-12	12	85.0	100	16.06	6.81	8.27	408	173	210	9.69	246	82.52	37.510	25	F5
WP18-24	24	15.3	18	7.13	5.87	6.57	181	149	167	6.57	167	26.84	12.200	25	F3
WP20-24	24	17.0	20	7.13	5.87	6.57	181	149	167	6.57	167	26.72	12.147	33	F3

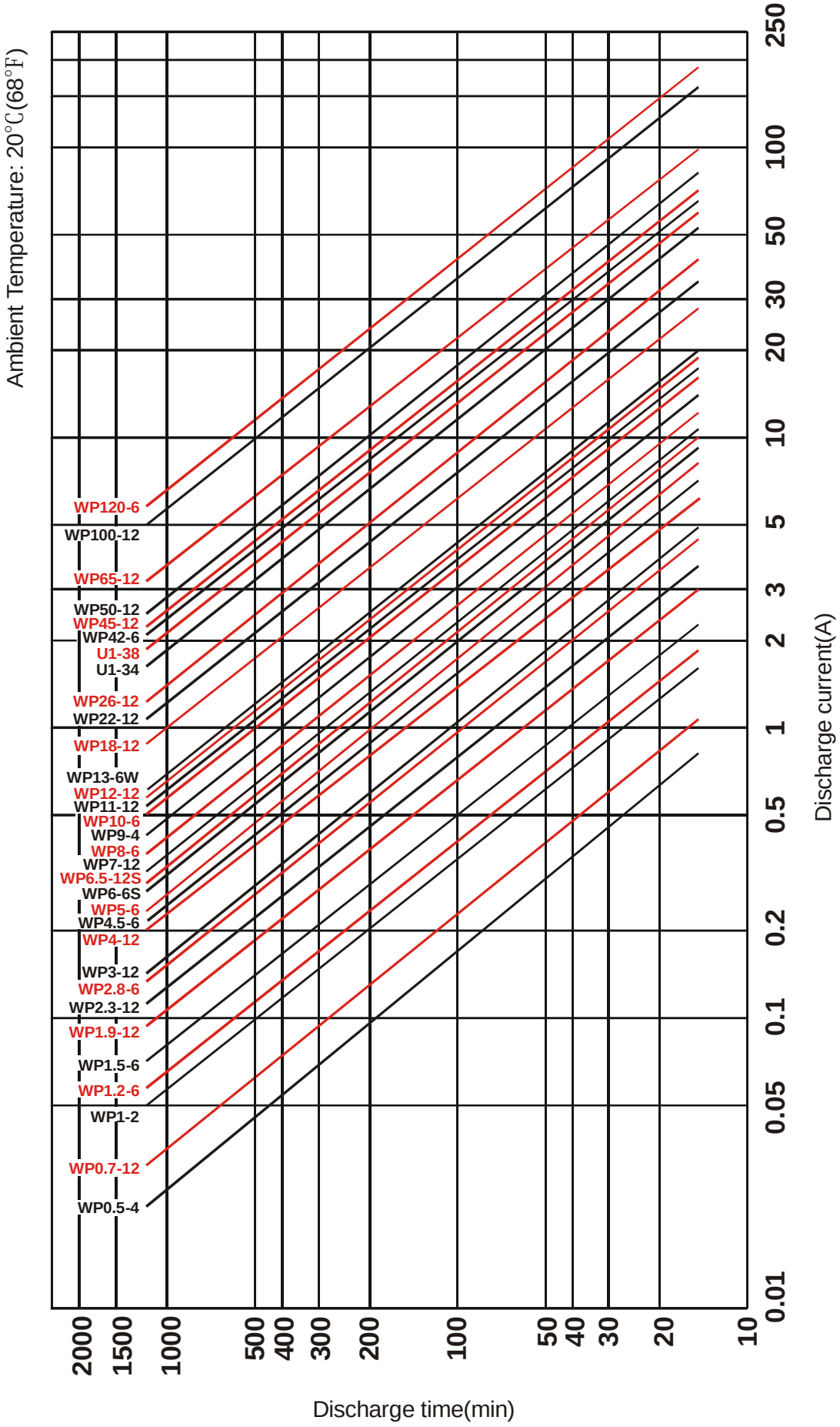
○ Vietnam VdS Approval

△ Taiwan VdS Approval

KUNG LONG

GENERAL TYPE

GENERAL TYPE



KUNG LONG

HIGH RATE AND DEEP CYCLE TYPE (FOR EV AND HIGH RATE DISCHARGE REQUIREMENTS)

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP8-6SE	6	6.80	8	5.94	1.34	3.70	151	34	94	3.94	100	3.15	1.430	2	F2
WP3-12E	12	2.55	3	5.28	2.64	2.34	134	67	59.5	2.58	65.5	3.02	1.370	4	F2
WP5-12E	12	4.25	5	3.54	2.76	4.00	90	70	101.5	4.25	108	4.43	2.010	3	F2
WP5-12SE	12	4.25	5	5.51	1.89	4.01	140	48	102	4.25	108	4.39	1.990	3	F1-,F2+
WP6.5-12SE	12	5.53	6.5	5.94	2.56	3.70	151	65	94	4.02	102	6.13	2.780	5	F1
WP8-12E	12	6.80	8	5.94	2.56	3.70	151	65	94	4.02	102	6.19	2.808	5	F2
WP9-12E	12	7.65	9	5.94	3.94	3.07	151	100	78	3.50	89	7.22	3.280	2	F17
WP9-12TE	12	7.65	9	4.53	3.66	4.41	115	93	112	4.41	112	8.20	3.720	20	Wire
WP10-12E	12	8.50	10	5.94	3.86	3.66	151	98	93	3.86	98	8.65	3.930	5	F1
WP10-12SE	12	8.50	10	5.94	2.56	4.40	151	65	112	4.67	118.5	7.51	3.404	5	F2
WP12-12E	12	10.2	12	5.94	3.86	3.66	151	98	93	3.86	98	8.65	3.93	5	F2
WP17-12IE	12	14.5	17	7.13	2.99	6.57	181	76	167	6.57	167	13.82	6.283	25	F3

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in +0.08 -0.04	in +0.08 -0.04	in +0.08 -0.04	mm +2 -1	mm +2 -1	mm +2 -1	in +0.08 -0.04	mm +2 -1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP20-12E	12	17.0	20	7.13	2.99	6.57	181	76	167	6.57	167	13.75	6.240	33	F3
WP20-12IE	12	17.0	20	7.13	2.99	6.57	181	76	167	6.57	167	13.75	6.240	25	F3
WP22-12E	12	18.7	22	7.13	2.99	6.57	181	76	167	6.73	171	13.87	6.306	33	F3
WP22-12NE	12	18.7	22	7.13	2.99	6.57	181	76	167	6.57	167	14.93	6.773	26	F8
WP22-12RNE	12	18.7	22	7.13	2.99	6.57	181	76	167	6.57	167	14.93	6.773	27	F8
WP28-12E	12	27.0	28	6.54	6.89	4.92	166	175	125	4.92	125	25.28	11.467	26	F9
WP28-12NE	12	27.0	28	6.54	6.89	4.92	166	175	125	4.92	125	25.28	11.467	26	F8
WP30-12TNE	12	25.5	30	6.54	4.96	6.93	166	126	176	6.93	176	21.29	9.675	26	F8
WP30-12RNE	12	25.5	30	6.54	6.89	4.92	166	175	125	4.92	125	23.54	10.700	27	F8
WP50-12E	12	42.5	50	7.79	6.54	6.73	198	166	171	6.73	171	32.08	14.550	25	F4
WP50-12NE	12	42.5	50	7.79	6.54	6.73	198	166	171	6.73	171	32.08	14.550	26	F8
U1-34E	12	28.9	34	7.76	5.16	6.14	197	131	156	7.09	180	24.44	11.107	20	F4
U1-36E	12	30.6	36	7.76	5.12	6.26	197	130	159	6.69	170	26.59	12.060	20	F4
U1-36BE	12	30.6	36	7.76	5.12	6.26	197	130	159	6.50	165	26.59	12.060	27	F9
U1-36NE	12	30.6	36	7.76	5.12	6.26	197	130	159	6.26	159	26.59	12.060	27	F8
U1-36RNE	12	30.6	36	7.76	5.12	6.26	197	130	159	6.26	159	26.59	12.060	26	F8
U1-38E	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.90	12.200	20	F4
U1-38NE	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.90	12.200	27	F8
U1-38RNE	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.90	12.200	26	F8
U1-38BE	12	32.3	38	7.36	5.20	7.09	187	132	180	7.09	180	26.90	12.200	27	F9
22NF305E	12	53.0	62	9.69	5.31	8.15	246	135	207	9.17	233	40.37	18.350	25	F15
WP20-24E	24	17.0	20	7.13	5.87	6.57	181	149	167	6.57	167	26.72	12.147	33	F3
WP8-36E	36	6.80	8	11.97	3.98	3.90	304	101	99	4.06	103	20.78	9.422	14	F8

12V /24V Charger available.

KUNG LONG

HIGH POWER TYPE (FOR TELECOMMUNICATION,EQUIPMENT,UPS)

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
KPH13-12	12	11.05	13	6.89	3.27	5.12	175	83	130	5.12	130	11.62	5.270	26	F8
KPH15-12	12	11.05	13	7.87	3.04	5.24	200	77.3	133	5.24	133	11.86	5.390	26	F9

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in +0.08 -0.04	in +0.08 -0.04	in +0.08 -0.04	mm +2 -1	mm +2 -1	mm +2 -1	in +0.08 -0.04	mm +2 -1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
KPH30-12	12	22.1	26	9.84	3.81	5.88	250	96.7	149	5.88	149	20.84	9.450	26	F9
KPH40-12	12	31.5	37	9.84	3.84	7.95	250	97.5	202	7.95	202	32.28	14.640	26	F9

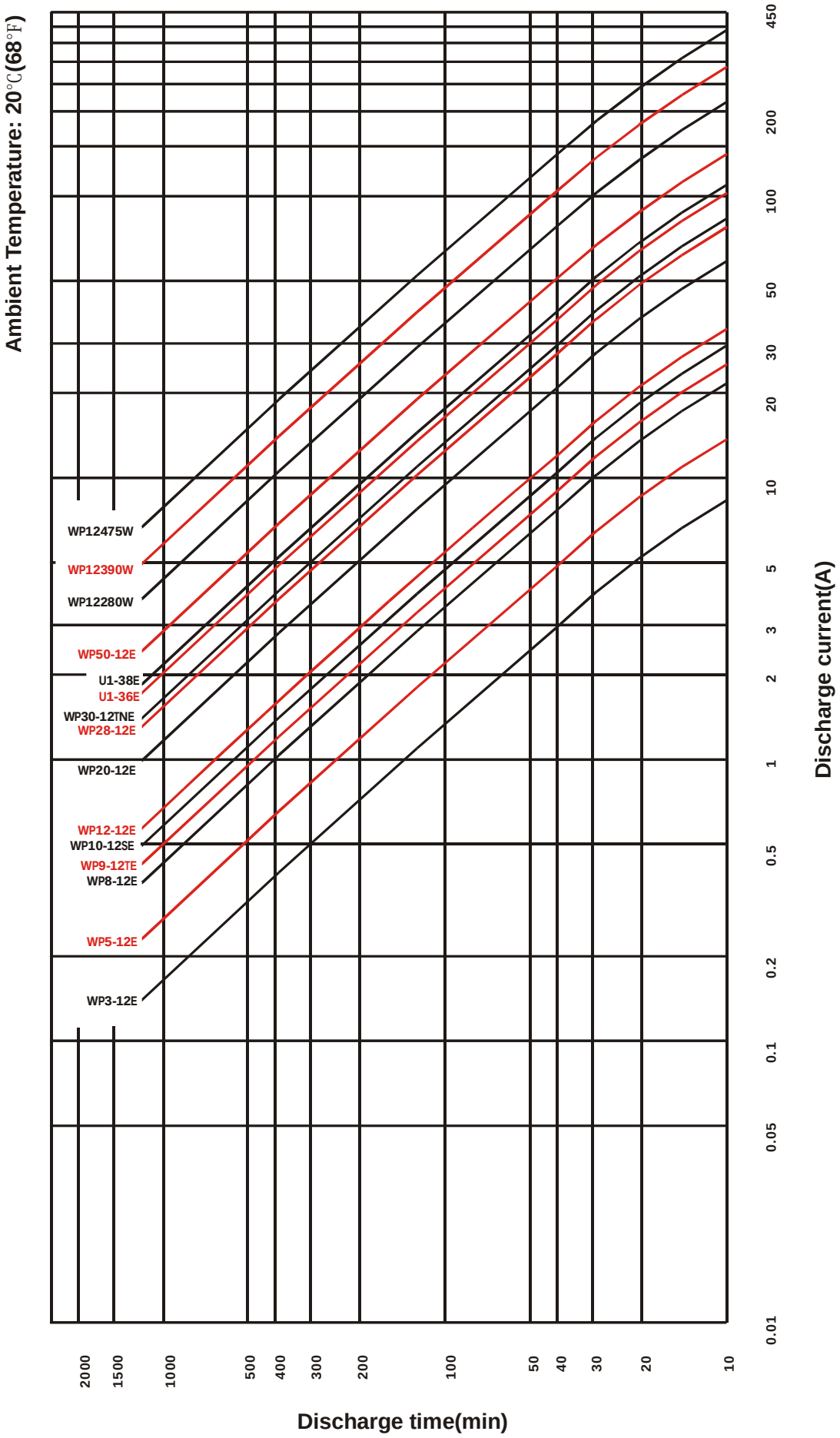
BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (15min) (w/cell)	DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
			L	W	H	L	W	H						
			in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP1213W	12	13	5.28	2.64	2.34	134	67	59.5	2.58	65.5	3.19	1.445	4	F2
WP1214W	12	14	5.51	1.26	4.06	140	32	103	4.29	109	2.98	1.350	2	F2
WP1220W	12	20	5.51	1.51	3.74	140	38.5	95	3.98	101	3.11	1.410	5	F2
WP1221W	12	21	5.51	1.89	4.02	140	48	102	4.25	108	4.29	1.990	2	F1-,F2+
WP1228W	12	28	5.51	1.89	4.96	140	48	126	5.24	133	5.40	2.450	2	F1-,F2+
WP1234W	12	34	5.94	2.56	3.70	151	65	94	4.02	102	6.13	2.780	5	F2

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (15min) (w/cell)	DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
			L	W	H	L	W	H						
			in +0.08 -0.04	in +0.08 -0.04	in +0.08 -0.04	mm +2 -1	mm +2 -1	mm +2 -1	in +0.08 -0.04	mm +2 -1	lbs	Kg	TERMINAL POSITION	TERMINAL TYPE
WP12280W	12	280	10.24	6.69	7.95	260	170	202	8.15	207	57.40	26.030	27	F8
WP12280WU	12	280	10.24	6.69	7.95	260	170	202	9.06	230	57.40	26.030	20	F14
WP12280WF	12	280	10.24	6.69	7.95	260	170	202	8.66	220	57.40	26.030	27	F19
WP12390W	12	390	13.31	6.69	8.35	338	170	212	8.66	220	75.48	34.230	27	F8
WP12390WU	12	390	13.31	6.69	8.35	338	170	212	9.45	240	75.48	34.230	20	F14
WP12390WF	12	390	13.31	6.69	8.35	338	170	212	9.06	230	75.48	34.230	27	F19
WP12475W	12	475	13.58	6.69	10.82	345	170	275	11.30	287	103.57	46.970	27	F8
WP12475WU	12	475	13.58	6.69	10.75	345	170	273	11.85	301	103.57	46.970	20	F14
WP12475WF	12	475	13.58	6.69	10.75	345	170	273	11.46	291	103.57	46.970	27	F19

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in +0.08 -0.04	in +0.08 -0.04	in +0.08 -0.04	mm +2 -1	mm +2 -1	mm +2 -1	in +0.08 -0.04	mm +2 -1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
22NF245	12	42.5	50	9.69	5.31	8.15	246	135	207	9.17	233	39.71	18.050	25	F15
22NF245C	12	42.5	50	8.90	5.31	8.15	226	135	207	9.17	233	39.71	18.050	25	F15
22NF305	12	53	62	9.69	5.31	8.15	246	135	207	9.17	233	40.37	18.350	25	F15
22NF305C	12	53	62	8.90	5.31	8.15	226	135	207	9.17	233	40.37	18.350	25	F15

KUNG LONG

HIGH RATE AND DEEP CYCLE TYPE



KUNG LONG

SPECIAL TYPE (FOR CAMCORDER、WIRELESS TELEPHONE、AND MEDICAL DEVICE)

BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
WP0.5-4	4	0.43	0.5	1.54	0.55	1.97	39	14	50	1.97	50	0.17	0.075	9	F7
WP0.5-4W	4	0.43	0.5	1.54	0.55	1.97	39	14	50	1.97	50	0.17	0.075	9	Wire
WP1-4	4	0.85	1	1.65	1.38	1.94	42	35	50	2.01	51	0.40	0.181	14	F11
WP0.5-6	6	0.43	0.5	2.24	0.55	1.97	57	14	50	1.97	50	0.21	0.095	9	F7
WP0.5-6W	6	0.38	0.5	2.24	0.55	1.97	57	14	50	1.97	50	0.23	0.104	13	Wire
WP623	6	1.45	2.3	1.72	1.46	2.95	43.6	37.2	75	2.95	75	0.77	0.350		
WP623P	6	1.96	2.3	3.51	1.90	1.78	89	48	45	1.78	45	0.95	0.430		
WP635P	6	2.98	3.5	5.75	2.28	1.38	146	58	35	1.38	35	1.63	0.740		
WP1020P	10	1.70	2	4.76	2.91	1.38	121	74	35	1.38	35	1.38	0.625		
WP1023P	10	1.96	2.3	6.10	2.91	1.34	155	74	34	1.34	34	1.38	0.625		
WP2-12	12	1.53	1.8	5.91	0.79	3.54	150	20	90	3.54	90	1.68	0.762	12	F1
WP1250	12	1.70	2	5.63	0.91	2.52	143	23	64	2.52	64	1.43	0.650	34	F13
WP1250VO	12	1.70	2	5.63	0.91	2.52	143	23	64	2.52	64	1.43	0.650		
WP1250P	12	1.70	2	6.30	2.91	1.30	160	74	33	1.30	33	1.61	0.730		
WP1250P(A)	12	1.70	2	6.30	2.91	1.34	160	74	34	1.34	34	1.63	0.740		
WP2.3-12W	12	1.96	2.3	7.01	1.38	2.81	178	35	71.5	2.81	71.5	2.49	1.130		
WP2.3-12WW	12	1.96	2.3	7.01	1.38	2.81	178	35	71.5	2.81	71.5	2.54	1.150		
WP1220	12	1.96	2.3	7.91	0.98	2.40	201	25	61	2.40	61	1.60	0.724	34	F12
WP1222A	12	1.70	2	7.17	0.91	2.40	182	23	60	2.40	61	1.50	0.682	34	F13
WP1223A	12	1.79	2.1	7.17	0.91	2.40	182	23	61	2.40	61	1.50	0.682	34	F13
WP1223AVO	12	1.79	2.1	7.17	0.91	2.40	182	23	61	2.40	61	1.57	0.714	34	F13
WP1223W	12	1.79	2.1	7.13	0.93	2.40	181	23.5	61	2.40	61	1.57	0.714		
WP1223WF	12	1.79	2.1	7.13	0.93	2.40	181	23.5	61	2.40	61	1.64	0.745		

GENERAL TYPE (EXIT LIGHT)

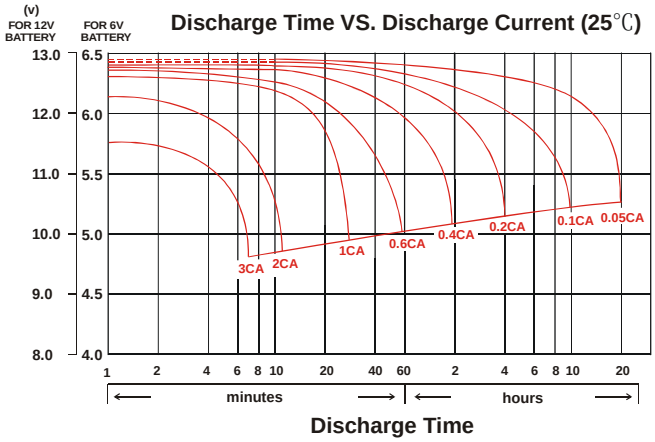
BATTERY TYPE	NOMINAL VOLTAGE (V)	NOMINAL CAPACITY (Ah)		DIMENSIONS						HT OVER TERMINAL		WEIGHT (APPROX.)		ASSEMBLY FIGURE	
				L	W	H	L	W	H						
		5HR	20HR	in ±0.04	in ±0.04	in ±0.04	mm ±1	mm ±1	mm ±1	in ±0.04	mm ±1	lbs	kg	TERMINAL POSITION	TERMINAL TYPE
KP5-4	4	4.25	5	3.58	1.97	2.87	91	50	73	2.87	73	1.75	0.796	6	F2
KP8-4	4	6.80	8	3.58	1.97	4.02	91	50	102	4.02	102	2.49	1.131	6	F2
KP2.5-6	6	2.13	2.5	4.17	1.65	2.72	106	42	69	2.72	69	1.49	0.676	29	F1
KP5-6	6	4.25	5	5.31	1.97	2.99	135	50	76	2.99	76	2.63	1.195	29	F2
KP8-6	6	6.80	8	5.31	1.97	4.02	135	50	102	4.02	102	3.87	1.756	29	F2
KP2.5-12	12	2.13	2.5	4.17	3.35	2.72	106	85	69	2.72	69	3.01	1.368	30	F1

KUNG LONG

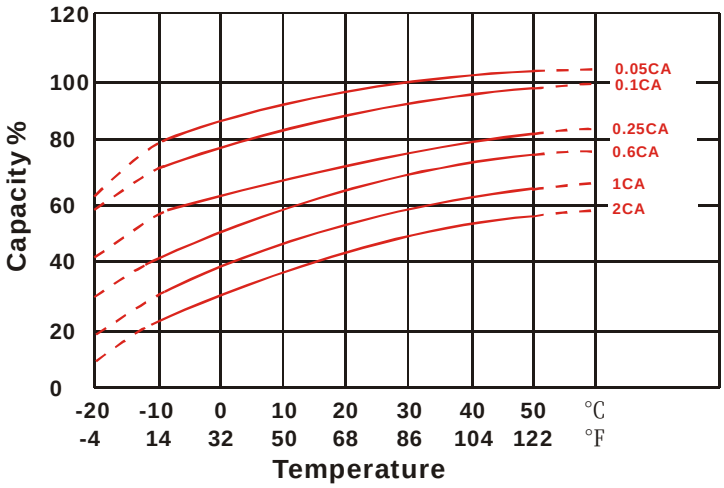
Discharge current and final discharge voltage

Discharge current (A)	Final discharge Voltage(V/cell)
(A)≦0.2C	1.75
0.2C≦(A)＜0.5C	1.70
0.5C≦(A)＜1.0C	1.60
(A)≧1.0C	1.40

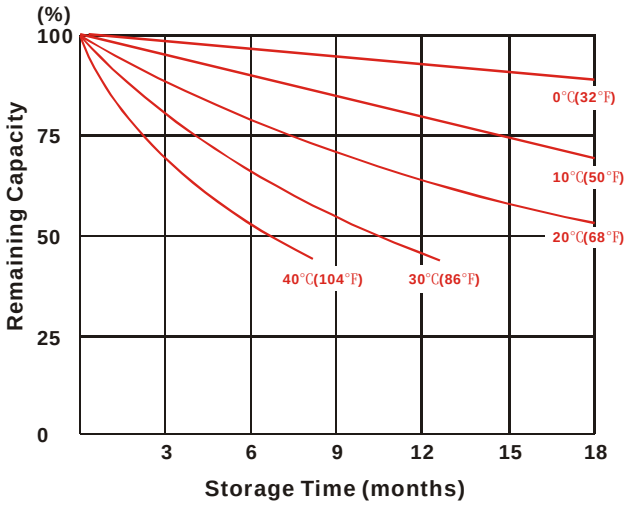
Discharge Time VS. Discharge Current (25℃)



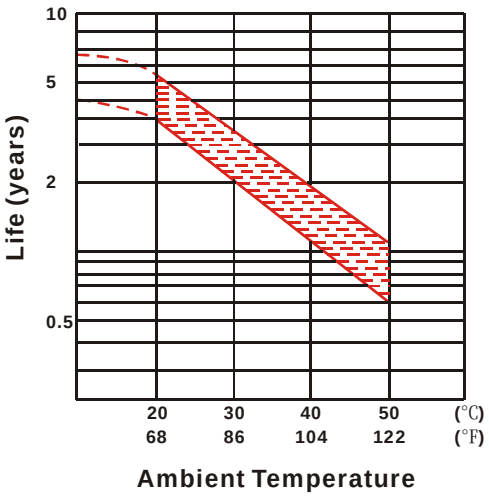
Effect of Temperature on Capacity 20℃(68℉)



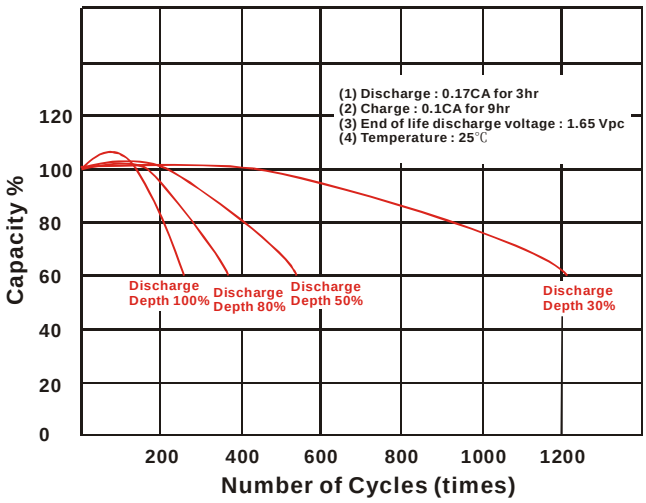
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



KUNG LONG

CHARGING METHOD

APPLICATION		STANDBY USE	CYCLE USE
Charging method		Constant voltage	
Setting voltage (v/cell)		2.25~2.30	2.40~2.50
Temperature factor		-3.3mV/℃/cell	-5.0mV/℃/cell
Max. charge current (CA)		0.3	0.4
Charge Time	Discharge 100%	24h	16h
	Discharge 50%	20h	10h
Temperature (℃)		0~40	

CHARGING METHOD

High performance and long service life of LONG battery depend upon correct charging. Improper charging modes or inadequate charging equipment result in decreased battery life and/or unsatisfactory performance. Any of the conventional charging techniques may be used, but to obtain maximum service life and capacity, along with acceptable recharge time, constant current/constant voltage charging is recommended.
A charge quantity of 105-120% of the previous discharged quantity is needed for fully charging the battery.
The charging voltage of battery decreases with increasing temperature and increases with decreasing temperature. At a temperature below 5℃(41℉) or above 35℃(95℉), the temperature compensation for charging voltage is necessary. At ambient temperature the compensation will not be necessary.
Overcharging Should be avoided : As a result of too high a charge voltage. excessive current will flow after reaching full charge, causing decomposition of water in the electrolyte and, hence, premature aging.
Undercharging Should also be avoided : If too low a charge voltage is applied, the charger current output will essentially stop before the battery is fully charged. This allows some of the lead sulfate to remain on the plates which will eventually reduce capacity.

RECOMMENDED RECHARGING INTERVAL & METHOD

STORAGE TEMPERATURE	RECHARGE INTERVAL & METHOD
Below 20℃ (68℉)	9 months, charge for 16 hrs at 2.4V/cell
20℃-30℃ (68℉-86℉)	6 months, charge for 16 hrs at 2.4V/cell
above 30℃(86℉)(avoid this storage condition)	3 months, charge for 16 hrs at 2.4V/cell

HANDLING INSTRUCTION

- Do not short the terminals.
- Do not place the battery near or in fires.
- Do not use the battery in a container or bag without proper ventilation.
- Operate at a temperature between –15 ℃. To 50 ℃. But for cycle use, the 5 ℃ to 35 ℃ temperature range is recommended.
- To properly store the battery, remove battery from equipment or charge and store in a dry and cool place.
- Immediately recharge after discharging.
- If sulfuric acid from the battery is spilled on skin or clothing, wash immediately with water. If acid comes in contact with eyes, flush with large amounts of water and immediately see a doctor.
- To obtain maximum life, the ripple current at the r.m.s current of the charger should be regulated to less than 0.1 C(A).
- Avoid mixed use of batteries. Different capacities, histories, or manufacturers of batteries may cause damage to the batteries or other equipment's.

廣隆光電科技股份有限公司
KUNG LONG BATTERIES INDUSTRIAL CO., LTD

台北辦事處　SALES OFFICE

台北市民生東路一段 58 號 10 樓 B 座

ROOM B, 10F, NO.58, MING-SHEN E

ROAD, SEC, 1 TAIPEI, TAIWAN, R.O.C.

TEL : 886-2-2581-0413 / 886-2-2511-9918

FAX : 886-2-2511-9822 / 886-2-2537-6551

E-MAIL : klb77777@ms6.hinet.net

export@mail.klb.com.tw

HOMEPAGE : http://www.klb.com.tw

KUNG LONG ENTERPRISES (USA) INC.

250 EAST 17TH STREET SUITE 220 COSTA MESA, CA 92627

TEL : 949-307-8720 / 949-642-4190

FAX : 949-266-9917

EMAIL : sales@kunglong.com

HOMEPAGE : http://www.kunglong.com

總公司　TAIWAN FACTORY

南投市自立三路 6 號

NO.6, TZU-LI 3 RD. NANTOU CITY, TAIWAN, R.O.C.

TEL : 886-49-2254777~8

FAX : 886-49-2255139

E-MAIL : klb@mail.klb.com.tw

HOMEPAGE : http://www.klb.com.tw

LE LONG VIETNAM CO., LTD.

越南廠 VIETNAM FACTORY

LO 1 AP CHO BEN LUC HUYEN BEN LUC TINH LONG AN

TEL : 84-72-872213

FAX : 84-72-872350

E-MAIL : lelongvn @hcm.vnn.vn

HOMEPAGE : http://www.lelong.com.vn