

BATTERY
CSB



GP series
General Purpose
Full Product Line

ENERGY OF INFINITY ▼

Confidence & Creativity
Service & Sincerity
Belief & Bravery

GP

GP series

GP-series batteries have the widest range of applications. With VRLA technology, they are small, lightweight and can be used for more than 260 cycles at 100% discharge, or up to 5 years in standby service.

As with all CSB batteries, all GP series batteries are rechargeable, highly efficient, maintenance free, leakproof, viable in any orientation and ISO/UL certified.



In accordance with IEC60896-21/22:2004

In accordance with BS6290-4

Performance

- Multi-functional.
- For both cycle and standby use.
- Uniformed plate formation for consistent capacity.
- Reduced internal resistance for superior performance.
- Provides hundreds to thousands of recharge cycles (cycle life is based on temperature and depth of discharge)
- No-spill design.
- Can be used in any orientation.
- Maintenance-free.
- Low self-discharge.

Service life

- Up to 5 years expected life under normal float charge conditions at 25 °C (77°F)
- Extended shelf life (up to 14 months at 20 °C)

Reliability

- CSB manufactured batteries are 100% 2-cycle tested by CCDS.
- CSB-manufactured batteries are UL-recognized components under UL 1989. CSB file number MH 14533.
- ISO 9001/14001 certified.

Applications

Standby use

- UPS.
- Workstation UPS.
- Emergency lighting equipment.
- Precision instrument backup power.
- Fire alarm and security systems.
- Communications and electrical equipment.
- Office computers, microcomputers and OA equipment.
- Robots, control equipment and other FA equipment.
- Telemeters.
- Emergency power supply in power plants & substations.

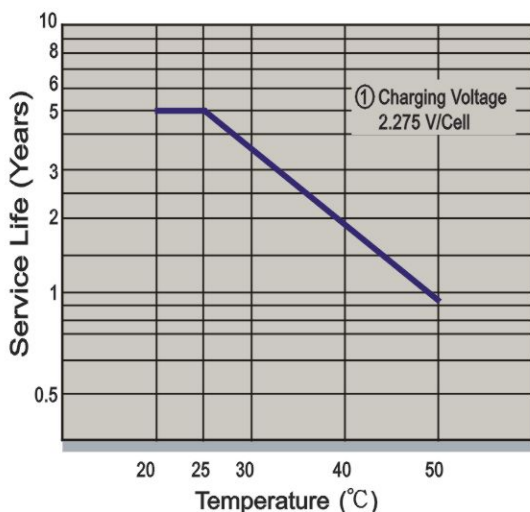
Cycle use

- Portable measuring equipment.
- Cameras and photographic equipment.
- Various toys and hobby equipment.

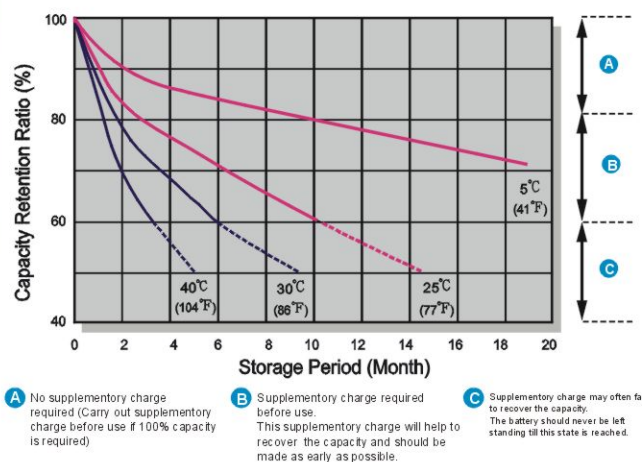
Solar Cell Power Generation

- Street lighting.
- Portable power supply.
- Water pumping.
- Rural power systems.

Trickle (or Float) Service Life



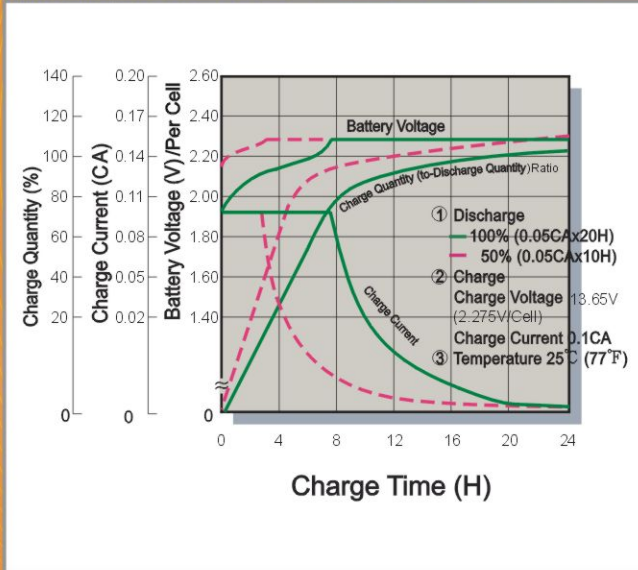
Capacity Retention Characteristic



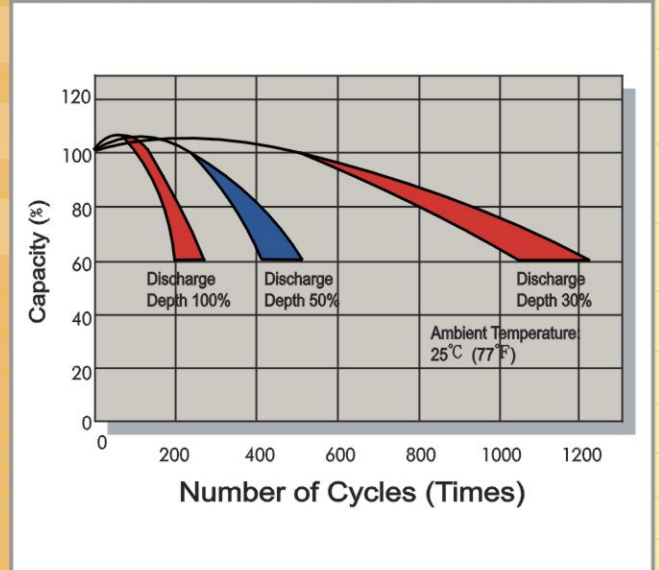
- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)
- B** Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.
- C** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached.

Supplementary charge and storage guidelines

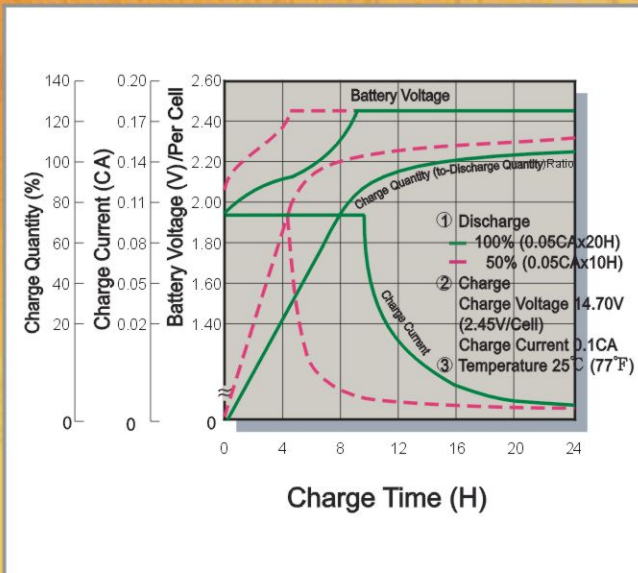
Battery Voltage and Charge Time for Standby Use



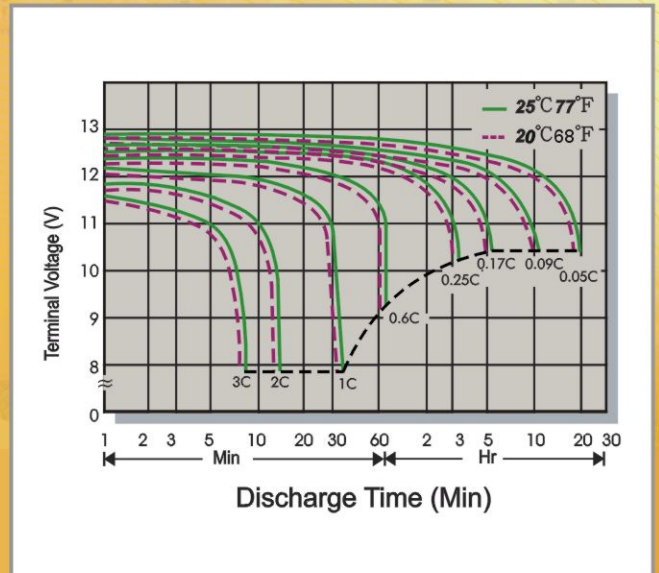
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time



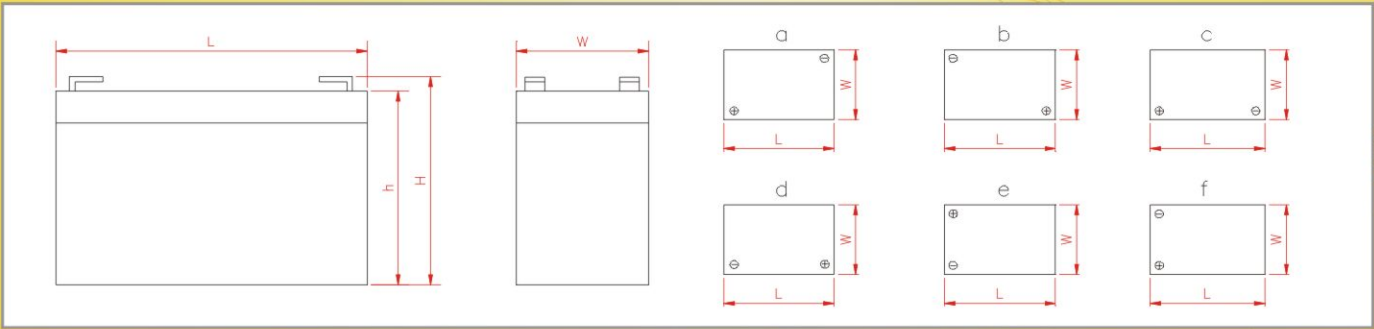
Specifications

Battery Type	Nominal Voltage(V)	Nominal Capacity (20hr)(Ah)	Weight (Approx. kg)	Energy Density (Wh/l)	Specific Energy (Wh/kg)	Internal Resistance (Approx. mΩ)	Max. Discharge Current (5 sec) (A)	Dimensions (mm)				Terminal Position	Terminal Type	Max. Charging Current (A)	Max. Screw Torque value	
								Overall Height (H)	Container Height (h)	Length (L)	Width (W)				Kgf-cm/ADF-in	N-m
GP645	6	4.5	0.84	78.8	32.14	19.00	60/90	108±1.5	101.9±1.5	70±1.0	48±1.0	a	F1/F2	1.35	--	--
GP672	6	7.2	1.217	89.5	35.50	15.50	100/130	100.7±1.5	94.5±1.0	151±2.0	34±1.0	c	F1/F2	2.16	--	--
GP6120	6	12.0	1.85	101.5	38.92	8.50	150/180	100.5±1.5	94±1.0	151±2.0	50.1±1.0	c	F1/F2	3.60	--	--
GP1222	12	2.2	0.90	72.7	29.33	63.00	40/60	66±1.0	60±1.0	178±2.0	34±1.0	c	F1/F2	0.66	--	--
GP1245	12	4.5	1.66	81.6	32.53	40.50	60/90	108.3±1.5	102.1±1.5	92.8±1.0	69.9±1.0	c	F1/F2	1.35	--	--
GP1272	12	7.2	2.40	93.6	36.00	23.00	100/130	100.5±1.5	94.3±1.0	151±2.0	65±1.0	e	F1/F2	2.16	--	--
GP12120	12	12.0	3.67	103.5	39.24	16.00	150/180	100.3±1.5	94.1±1.0	151±2.0	98±1.0	e	F1/F2	3.60	--	--
GP12170	12	17.0	5.50	89.4	37.09	16.00	230	167±2.0	167±2.0	181±2.0	76.2±1.0	d	B1/B3	5.10	58.5/50.8	5.73
GP12200	12	20.0	6.40	108.8	37.50	13.00	230	167±2.0	167±2.0	181±2.0	76.2±1.0	d	I1	6.00	58.5/50.8	5.73
GP12260	12	26.0	8.45	88.0	36.92	11.00	350	125±1.5	125±1.5	175±2.0	166±2.0	d	B1/B3/B3M1	7.80	58.5/50.8	5.73
GP12340	12	34.0	10.48	103.7	38.93	9.00	380	178.3±2.0	154.8±2.0	195.6±2.0	130±1.5	c	B5	10.20	138.5/120	13.58
GP12400	12	40.0	12.63	87.6	38.00	8.00	400	170.4±2.0	170.4±2.0	197±2.0	165±2.0	d	B2	12.00	58.5/50.8	5.73
GP12650	12	65.0	20.00	78.0	39.00	8.00	500	174±2.0	174±2.0	349.4±2.5	166±2.0	d	B4	19.50	138.5/120	13.58
GP121000	12	100.0	31.20	95.9	38.46	4.50	800	217.3±2.5	213.9±2.5	343±2.5	170±2.0	c	I2	30.00	138.5/120	13.58

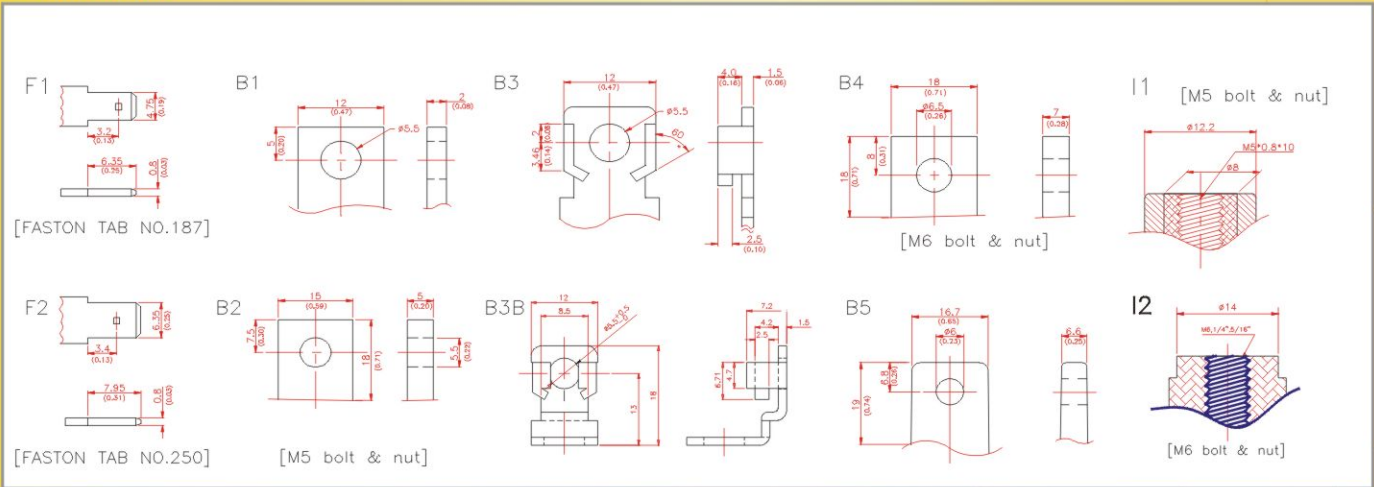
Charging(V) : • Standby Use : 2.275V±0.025V/CELL AT 25°C (77°F) Temp Coefficient -3.3mV/CELL°C

• Cycle Use : 2.45V±0.05V/CELL AT 25°C (77°F) Temp Coefficient -5mV/CELL°C

Terminal Position



Terminal Type



GP645

Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	18.7	12.3	9.08	5.37	3.11	2.26	1.80	1.26	0.810	0.535	0.439	0.234
1.67V	17.6	11.8	8.88	5.31	3.09	2.25	1.79	1.24	0.808	0.533	0.438	0.233
1.70V	17.0	11.6	8.79	5.28	3.08	2.23	1.78	1.24	0.807	0.532	0.437	0.232
1.75V	16.1	11.2	8.62	5.21	3.06	2.22	1.77	1.23	0.804	0.531	0.435	0.229
1.80V	15.0	10.7	8.42	5.13	3.03	2.21	1.76	1.22	0.801	0.529	0.431	0.225
1.85V	13.8	10.3	8.21	5.04	3.00	2.18	1.74	1.21	0.798	0.528	0.428	0.221

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	111	72.4	54.8	32.9	19.3	14.0	11.1	8.05	5.33	3.54	2.89	1.59
1.67V	103	69.7	53.3	32.7	19.2	13.9	11.0	7.98	5.29	3.54	2.89	1.58
1.70V	100	68.6	52.5	32.4	19.1	13.8	10.9	7.95	5.24	3.52	2.88	1.58
1.75V	93.9	66.4	51.2	32.3	19.0	13.7	10.8	7.87	5.21	3.51	2.87	1.57
1.80V	88.5	64.1	50.0	31.8	18.8	13.5	10.7	7.85	5.16	3.48	2.85	1.56
1.85V	82.7	61.1	48.3	30.5	18.3	13.3	10.6	7.74	5.10	3.44	2.81	1.54

GP672

Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	35.6	22.0	16.5	9.61	5.51	3.92	3.08	2.13	1.34	0.925	0.778	0.456
1.67V	33.1	21.0	15.9	9.36	5.41	3.85	3.02	2.08	1.31	0.906	0.762	0.447
1.70V	31.9	20.5	15.6	9.24	5.37	3.82	3.00	2.06	1.30	0.897	0.756	0.438
1.75V	29.6	19.6	15.1	9.03	5.30	3.77	2.96	2.02	1.27	0.883	0.742	0.428
1.80V	27.2	18.6	14.4	8.77	5.23	3.71	2.91	1.98	1.25	0.871	0.732	0.421
1.85V	24.5	17.4	13.7	8.44	5.14	3.66	2.87	1.95	1.22	0.861	0.720	0.409

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	180	123	91.4	53.9	32.2	23.5	18.8	13.3	8.62	5.87	4.90	2.68
1.67V	170	118	88.7	52.9	31.8	23.2	18.5	13.2	8.50	5.80	4.84	2.63
1.70V	165	115	87.2	52.4	31.6	23.1	18.4	13.1	8.45	5.76	4.77	2.61
1.75V	157	111	85.0	51.6	31.2	22.8	18.2	13.0	8.36	5.70	4.73	2.57
1.80V	147	106	82.3	50.6	30.9	22.5	18.0	12.8	8.27	5.65	4.70	2.53
1.85V	138	101	79.2	49.5	30.4	22.1	17.7	12.6	8.16	5.60	4.64	2.49

GP6120**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	51.2	33.2	23.9	13.9	8.14	5.90	4.69	3.37	2.24	1.45	1.19	0.622
1.67V	48.2	32.0	23.6	13.7	8.12	5.84	4.62	3.35	2.21	1.44	1.18	0.618
1.70V	46.3	31.6	23.3	13.6	8.08	5.82	4.61	3.32	2.18	1.43	1.17	0.613
1.75V	43.3	30.0	22.6	13.4	8.03	5.77	4.57	3.26	2.13	1.40	1.15	0.611
1.80V	38.8	28.0	21.5	13.0	7.81	5.64	4.48	3.17	2.06	1.37	1.14	0.594
1.85V	34.2	25.3	19.8	12.3	7.51	5.41	4.29	3.03	1.97	1.32	1.09	0.572

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	269	173	134	79.8	48.9	35.3	28.0	19.8	12.7	8.36	6.91	3.85
1.67V	257	171	132	79.6	48.8	35.1	27.8	19.7	12.6	8.30	6.85	3.81
1.70V	250	168	131	78.8	48.5	35.0	27.7	19.5	12.5	8.25	6.80	3.80
1.75V	231	163	128	78.1	48.1	34.6	27.5	19.3	12.2	8.12	6.69	3.77
1.80V	209	153	121	76.3	47.4	34.0	26.8	18.9	12.0	7.91	6.52	3.71
1.85V	185	140	111	72.2	45.8	33.1	26.3	18.1	11.7	7.73	6.36	3.61

GP1222**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	8.67	5.90	4.45	2.63	1.42	1.03	0.820	0.590	0.390	0.260	0.219	0.125
1.67V	7.94	5.50	4.17	2.49	1.36	0.980	0.787	0.569	0.371	0.249	0.209	0.118
1.70V	7.57	5.27	4.02	2.41	1.33	0.970	0.774	0.560	0.363	0.244	0.205	0.115
1.75V	6.75	4.76	3.68	2.25	1.29	0.940	0.751	0.540	0.351	0.238	0.199	0.110
1.80V	5.84	4.16	3.31	2.08	1.25	0.910	0.730	0.520	0.340	0.231	0.192	0.105
1.85V	4.78	3.48	2.81	1.89	1.21	0.890	0.710	0.504	0.330	0.225	0.185	0.100

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	104	70.8	54.5	32.3	17.0	12.3	9.79	7.11	4.64	3.06	2.59	1.41
1.67V	94.0	66.5	51.7	30.2	16.3	11.8	9.45	6.81	4.45	2.93	2.48	1.34
1.70V	89.7	63.6	49.9	29.2	16.0	11.6	9.28	6.69	4.37	2.88	2.44	1.32
1.75V	81.0	57.5	45.7	27.0	15.5	11.3	8.99	6.48	4.23	2.79	2.36	1.28
1.80V	70.1	49.9	39.7	24.9	15.0	10.9	8.70	6.28	4.10	2.71	2.29	1.24
1.85V	57.5	41.8	33.8	22.7	14.5	10.5	8.41	6.07	3.96	2.62	2.21	1.20

GP1245**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	18.7	12.3	9.08	5.37	3.11	2.26	1.80	1.26	0.810	0.535	0.439	0.234
1.67V	17.6	11.8	8.88	5.31	3.09	2.25	1.79	1.24	0.808	0.533	0.438	0.233
1.70V	17.0	11.6	8.79	5.28	3.08	2.23	1.78	1.24	0.807	0.532	0.437	0.232
1.75V	16.1	11.2	8.62	5.21	3.06	2.22	1.77	1.23	0.804	0.531	0.435	0.229
1.80V	15.0	10.7	8.42	5.13	3.03	2.21	1.76	1.22	0.801	0.529	0.431	0.225
1.85V	13.8	10.3	8.21	5.04	3.00	2.18	1.74	1.21	0.798	0.528	0.428	0.221

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	221	145	110	65.9	38.6	27.9	22.2	16.1	10.7	7.09	5.79	3.19
1.67V	206	139	107	65.4	38.4	27.7	22.0	16.0	10.6	7.08	5.78	3.17
1.70V	199	137	105	64.9	38.1	27.6	21.9	15.9	10.5	7.04	5.76	3.16
1.75V	188	133	102	64.7	38.0	27.5	21.8	15.8	10.4	7.02	5.74	3.16
1.80V	177	128	100	63.6	37.7	27.2	21.5	15.7	10.3	6.96	5.71	3.13
1.85V	165	122	96.6	60.9	36.7	26.7	21.3	15.5	10.2	6.89	5.63	3.09

GP1272**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	35.6	22.0	16.5	9.61	5.51	3.92	3.08	2.13	1.34	0.925	0.778	0.456
1.67V	33.1	21.0	15.9	9.36	5.41	3.85	3.02	2.08	1.31	0.906	0.762	0.447
1.70V	31.9	20.5	15.6	9.24	5.37	3.82	3.00	2.06	1.30	0.897	0.756	0.438
1.75V	29.6	19.6	15.1	9.03	5.30	3.77	2.96	2.02	1.27	0.883	0.742	0.428
1.80V	27.2	18.6	14.4	8.77	5.23	3.71	2.91	1.98	1.25	0.871	0.732	0.421
1.85V	24.5	17.4	13.7	8.44	5.14	3.66	2.87	1.95	1.22	0.861	0.720	0.409

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	360	245	183	108	64.4	47.1	37.7	26.6	17.3	11.8	9.80	5.37
1.67V	340	235	177	106	63.6	46.4	37.1	26.3	17.0	11.6	9.68	5.27
1.70V	331	231	174	105	63.1	46.1	36.9	26.2	16.9	11.5	9.54	5.23
1.75V	313	222	170	103	62.4	45.5	36.4	25.9	16.7	11.4	9.47	5.15
1.80V	295	213	165	101	61.7	45.0	35.9	25.6	16.5	11.3	9.40	5.07
1.85V	276	202	158	99.0	60.8	44.3	35.4	25.2	16.3	11.2	9.29	4.99

GP12120**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	51.2	33.2	23.9	13.9	8.14	5.90	4.69	3.37	2.24	1.45	1.19	0.622
1.67V	48.2	32.0	23.6	13.7	8.12	5.84	4.62	3.35	2.21	1.44	1.18	0.618
1.70V	46.3	31.6	23.3	13.6	8.08	5.82	4.61	3.32	2.18	1.43	1.17	0.613
1.75V	43.3	30.0	22.6	13.4	8.03	5.77	4.57	3.26	2.13	1.40	1.15	0.611
1.80V	38.8	28.0	21.5	13.0	7.81	5.64	4.48	3.17	2.06	1.37	1.14	0.594
1.85V	34.2	25.3	19.8	12.3	7.51	5.41	4.29	3.03	1.97	1.32	1.09	0.572

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	539	347	268	160	97.9	70.6	55.9	39.6	25.3	16.7	13.8	7.70
1.67V	515	342	265	159	97.7	70.2	55.6	39.3	25.2	16.6	13.7	7.63
1.70V	499	336	262	158	97.0	69.9	55.4	39.0	25.0	16.5	13.6	7.61
1.75V	462	326	256	156	96.1	69.3	54.9	38.5	24.4	16.2	13.4	7.54
1.80V	418	307	243	153	94.8	68.0	53.7	37.7	24.1	15.8	13.1	7.42
1.85V	369	280	221	144	91.6	66.2	52.6	36.3	23.3	15.5	12.7	7.23

GP12170**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	80.2	50.9	38.5	23.4	13.8	10.1	8.03	5.72	3.63	2.37	1.93	1.00
1.67V	71.2	47.5	36.5	22.9	13.7	10.0	7.99	5.69	3.61	2.35	1.90	0.958
1.70V	67.4	45.8	35.6	22.7	13.6	10.0	7.97	5.67	3.61	2.35	1.89	0.940
1.75V	61.0	43.1	34.1	22.3	13.4	9.9	7.92	5.64	3.59	2.32	1.86	0.910
1.80V	54.5	40.2	32.7	21.8	13.3	9.8	7.87	5.61	3.58	2.30	1.83	0.880
1.85V	48.0	37.3	31.0	21.2	13.1	9.7	7.80	5.56	3.56	2.27	1.80	0.850

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	890	583	449	281	166	121	96.4	68.6	43.6	28.4	23.1	12.0
1.67V	790	544	423	275	164	120	96.0	68.5	43.4	28.3	22.8	11.5
1.70V	748	527	413	272	163	119	95.8	68.4	43.3	28.2	22.7	11.3
1.75V	677	493	395	267	161	119	95.3	67.9	43.2	27.9	22.4	10.9
1.80V	605	460	377	261	160	118	94.6	67.3	43.0	27.6	22.0	10.5
1.85V	533	427	361	254	158	116	93.8	66.8	42.9	27.3	21.7	10.1

GP12200**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	87.5	55.5	42.3	25.5	15.1	11.0	8.75	6.23	3.97	2.62	2.10	1.09
1.67V	77.7	51.8	39.7	24.9	15.0	10.9	8.69	6.22	3.94	2.60	2.07	1.04
1.70V	73.5	50.2	38.7	24.7	14.9	10.9	8.67	6.20	3.93	2.60	2.05	1.03
1.75V	66.4	47.0	37.1	24.2	14.8	10.7	8.54	6.17	3.92	2.59	2.03	1.00
1.80V	59.3	43.8	35.2	23.8	14.5	10.6	8.42	6.12	3.91	2.58	2.00	0.960
1.85V	52.2	40.5	33.7	23.2	14.3	10.4	8.29	6.07	3.90	2.57	1.96	0.920

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	1,050	666	507	306	181	132	105	74.7	47.6	31.4	25.2	13.1
1.67V	932	621	481	301	179	130	104	74.6	47.3	31.3	24.9	12.5
1.70V	882	602	466	299	178	129	103	74.3	47.2	31.2	24.8	12.3
1.75V	797	564	446	292	176	128	102	74.0	47.1	31.1	24.4	11.9
1.80V	712	525	421	285	174	126	101	73.4	46.9	31.0	24.0	11.5
1.85V	627	487	404	278	171	125	100.0	72.8	46.8	30.9	23.6	11.1

GP12260**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	106	69.0	52.8	32.7	19.6	14.3	11.5	8.14	5.24	3.46	2.82	1.47
1.67V	99.0	65.9	51.1	32.3	19.5	14.2	11.4	8.13	5.23	3.43	2.79	1.42
1.70V	95.7	64.6	50.4	32.2	19.4	14.1	11.3	8.12	5.22	3.42	2.78	1.41
1.75V	89.7	62.0	49.0	31.6	19.3	14.0	11.2	8.11	5.21	3.38	2.74	1.37
1.80V	83.3	59.4	47.5	31.1	19.2	13.9	11.1	8.10	5.19	3.35	2.70	1.33
1.85V	76.7	56.5	45.8	30.5	19.1	13.8	11.0	8.09	5.17	3.31	2.66	1.29

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	1,270	828	634	392	235	172	138	97.7	62.9	41.5	33.8	17.6
1.67V	1,181	790	610	385	234	171	137	97.6	62.8	41.2	33.5	17.1
1.70V	1,139	772	602	382	233	170	136	97.5	62.7	41.0	33.3	16.9
1.75V	1,071	744	586	378	232	169	135	97.4	62.6	40.6	32.9	16.5
1.80V	999	713	570	373	231	168	134	97.3	62.3	40.2	32.4	16.0
1.85V	920	678	550	367	230	167	133	97.2	62.1	39.8	32.0	15.6

GP12340**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	144	91.7	69.3	42.1	25.0	18.2	14.5	10.3	6.55	4.26	3.48	1.86
1.67V	128	85.5	65.5	41.3	24.7	18.0	14.4	10.2	6.50	4.23	3.43	1.78
1.70V	121	82.8	63.8	40.8	24.5	17.9	14.3	10.1	6.49	4.23	3.41	1.75
1.75V	110	77.5	61.2	40.0	24.4	17.8	14.2	10.0	6.47	4.18	3.35	1.69
1.80V	98.0	72.3	58.8	39.2	24.0	17.6	14.1	9.90	6.45	4.14	3.30	1.64
1.85V	86.3	67.0	55.7	38.2	23.6	17.4	14.0	9.80	6.43	4.09	3.24	1.58

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	1,732	1,100	832	505	300	218	174	124	78.6	51.1	41.7	21.6
1.67V	1,539	1,026	788	495	297	216	173	123	78.1	50.8	41.1	20.7
1.70V	1,456	994	771	490	295	215	172	122	77.9	50.7	40.9	20.3
1.75V	1,316	931	739	481	292	213	171	121	77.7	50.2	40.3	19.6
1.80V	1,176	867	705	470	288	212	170	120	77.4	49.6	39.6	18.9
1.85V	1,036	804	669	458	283	209	169	119	77.2	49.1	39.0	18.2

GP12400**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	176	113	85.0	51.8	30.6	22.2	17.7	12.6	8.01	5.25	4.28	2.21
1.67V	157	105	81.0	50.8	30.3	22.1	17.6	12.5	7.98	5.19	4.19	2.11
1.70V	149	101	78.7	50.1	30.2	21.9	17.5	12.4	7.96	5.17	4.16	2.08
1.75V	135	95.0	75.5	49.0	30.0	21.8	17.4	12.3	7.93	5.10	4.09	2.00
1.80V	121	88.3	71.7	47.6	29.8	21.7	17.3	12.2	7.88	5.03	4.03	1.93
1.85V	107	81.7	67.8	46.2	29.4	21.5	17.2	12.1	7.85	4.96	3.96	1.85

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	2,110	1,350	1,020	622	367	266	212	151	96.1	63.0	51.3	26.5
1.67V	1,886	1,259	972	606	364	264	211	150	95.7	62.3	50.4	25.4
1.70V	1,790	1,214	945	600	363	263	210	149	95.5	62.0	50.0	24.9
1.75V	1,620	1,140	902	585	360	262	209	148	95.2	61.2	49.2	24.1
1.80V	1,450	1,060	860	571	357	260	208	147	94.8	60.4	48.3	23.2
1.85V	1,280	980	814	555	353	258	207	146	94.2	59.6	47.5	22.4

GP12650**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	271	173	132	79.9	47.2	34.2	27.3	19.4	12.4	8.08	6.58	3.57
1.67V	242	162	124	78.3	46.9	34.1	27.2	19.3	12.3	7.97	6.47	3.42
1.70V	229	157	121	77.3	46.7	34.0	27.1	19.2	12.2	7.93	6.43	3.36
1.75V	208	147	117	75.4	46.4	33.8	27.0	19.1	12.1	7.86	6.32	3.25
1.80V	186	137	111	73.4	45.9	33.6	26.9	19.0	12.0	7.76	6.21	3.14
1.85V	164	127	105	71.3	45.4	33.3	26.8	18.9	11.9	7.66	6.10	3.03

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	3,250	2,080	1,580	959	566	411	327	232	148	97.0	79.0	40.9
1.67V	2,900	1,940	1,503	935	562	409	326	231	147	96.0	77.7	39.2
1.70V	2,750	1,871	1,460	924	560	407	325	230	146	95.5	77.1	38.4
1.75V	2,490	1,760	1,400	903	555	405	324	229	145	94.3	75.8	37.1
1.80V	2,230	1,640	1,330	881	550	403	323	228	144	93.1	74.5	35.7
1.85V	1,970	1,520	1,260	856	545	400	322	227	143	91.9	73.2	34.4

GP121000**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

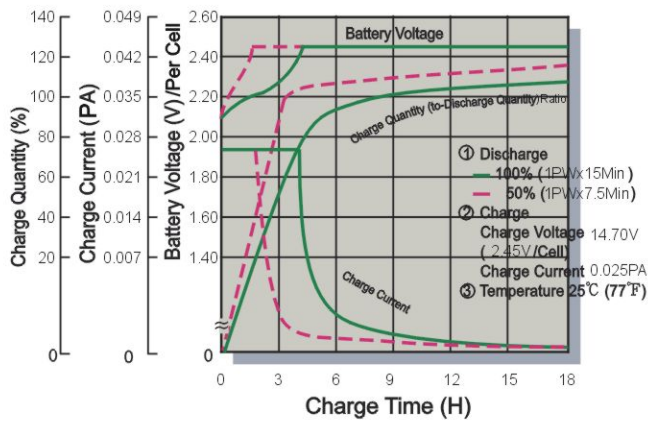
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	372	257	197	121	70.1	50.4	39.9	29.0	18.6	12.3	10.1	5.26
1.67V	326	242	187	117	68.8	49.5	39.2	28.6	18.3	12.1	9.94	5.23
1.70V	315	234	183	116	68.1	49.1	38.9	28.4	18.2	12.0	9.86	5.20
1.75V	286	213	175	113	66.8	48.3	38.4	27.9	17.9	11.8	9.72	5.10
1.80V	241	192	157	105	65.4	47.3	37.6	27.3	17.5	11.5	9.59	5.00
1.85V	202	165	135	96.8	62.5	46.0	36.6	26.5	17.1	11.2	9.24	4.80

Constant Power Discharge Characteristics Unit:Watts(25°C, 77°F)

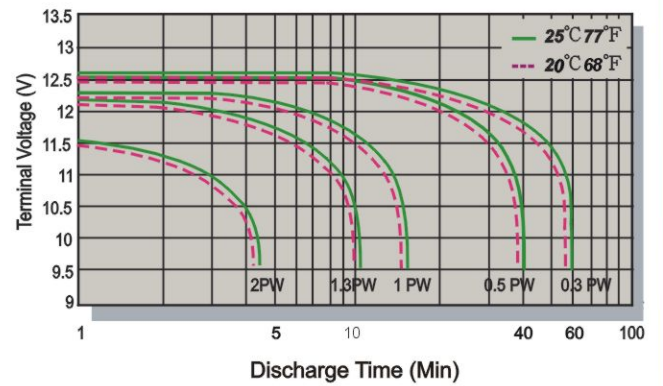
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	3,593	2,696	2,223	1,366	802	579	459	335	216	143	117	61.1
1.67V	3,463	2,557	2,094	1,325	785	569	453	328	213	141	115	60.5
1.70V	3,307	2,505	2,036	1,306	778	564	449	325	211	140	114	60.0
1.75V	2,954	2,359	1,931	1,267	763	553	441	320	208	138	113	59.5
1.80V	2,675	2,222	1,815	1,218	746	542	432	313	203	135	111	58.9
1.85V	2,451	1,958	1,610	1,165	725	528	422	306	198	132	109	56.6

GP1245(12V 16W) GP1272(12V28W)

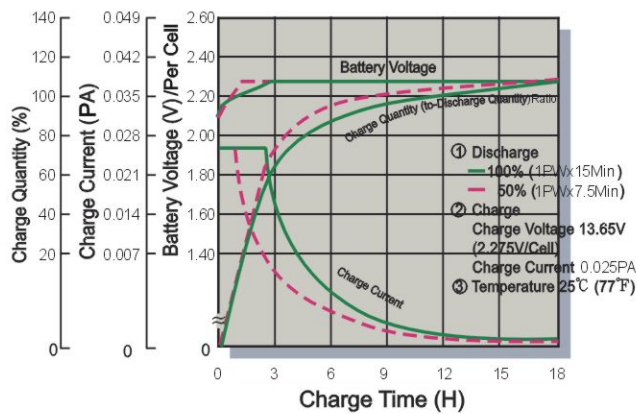
Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time



Battery Voltage and Charge Time for Standby Use



Specifications

Type	Nominal Voltage (V)	Nominal Capacity (15min) (Wh/Cell)	Weight (Approx. kg)	Energy Density (wh/L)	Specific Energy (wh/kg)	Internal Resistance Approx. (mΩ)	Max. Discharge Current 5 sec (A)	Dimensions (mm)				Terminal Position	Terminal Type	Max. Charging Current (A)	Charging (V)	
								Height Over Terminal (H)	Container Height (h)	Length (L)	Width (W)				Standby Use	Cycle Use
GP1245 (12V16W)	12	16.0	1.40	37.4	17.14	30.00	60/90	106±1.5	101.8±1.5	90.0±1.0	70.0±1.0	c	F1/F2	1.35	2.275V±0.025V/CELL AT 25°C (77°F)	2.45V±0.05V/CELL AT 25°C (77°F)
GP1272 (12V28W)	12	28	2.10	45.5	20.00	21.00	100/130	100.5±1.5	94.3±1.0	151.0±2.0	65.0±1.0	e	F1/F2	2.16	Temp Coefficient -3.3mV/CELL°C	Temp Coefficient -5mV/CELL°C

GP1245(12V16W)

Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	90MIN
1.60V	30.3	19.6	15.0	12.5	10.8	8.24	6.32	4.26	1.60
1.67V	28.1	18.5	14.3	12.0	10.4	8.02	6.11	4.14	1.55
1.70V	26.9	18.0	13.9	11.8	10.2	7.80	6.02	4.06	1.53
1.75V	24.9	17.0	13.3	11.4	9.86	7.60	5.85	3.97	1.49
1.80V	22.6	15.7	12.6	10.9	9.52	7.36	5.66	3.87	1.44
1.85V	20.2	14.5	11.8	10.4	9.16	7.12	5.46	3.77	1.38

Constant Power Discharge Characteristics Unit:Watts(25 C, 77 F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	90MIN
1.60V	329	223	170	142	123	96.7	74.2	50.1	19.0
1.67V	306	210	163	138	120	96.0	72.4	49.0	18.6
1.70V	295	204	159	135	119	95.0	71.5	48.5	18.4
1.75V	275	194	153	131	116	94.1	69.8	47.7	18.0
1.80V	255	182	147	127	113	90.5	68.0	46.8	17.7
1.85V	233	169	139	121	109	86.9	65.4	45.6	17.3

GP1272(12V28W)

Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	90MIN
1.60V	58.3	39.7	29.9	24.1	20.8	15.0	12.0	8.73	3.52
1.67V	52.8	36.8	28.3	23.5	20.4	14.9	11.9	8.65	3.50
1.70V	50.2	35.4	27.5	23.0	20.1	14.7	11.8	8.61	3.48
1.75V	45.7	32.6	26.0	22.1	19.5	14.4	11.6	8.53	3.46
1.80V	41.1	29.8	24.4	20.7	18.5	13.9	11.2	8.26	3.41
1.85V	36.5	27.3	22.7	19.3	17.1	13.0	10.6	7.92	3.31

Constant Power Discharge Characteristics Unit:Watts(25 C, 77 F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	90MIN
1.60V	595	410	318	268	232	174	139	101	41.8
1.67V	552	387	305	262	229	172	138	100	41.6
1.70V	532	373	298	260	226	171	137	99.3	41.4
1.75V	499	350	286	249	220	168	135	98.8	41.1
1.80V	464	327	272	237	212	162	132	96.8	40.6
1.85V	425	305	256	220	197	152	125	93.1	39.6

All information is subject to change without (prior) notification. Please consult CSB website (www.csb-battery.com) for latest information.



BATTERY



SALES OFFICE

GLOBAL HQ

CSB BATTERY CO., LTD.
11F, No. 150, Sec. 4, Chengde Rd.,
Shilin Dist., Taipei City 11167,
Taiwan (R.O.C.)
Tel : +886-2-2880-5600
Fax : +886-2-2888-3300
E-mail : service@csb-battery.com.tw

FRANCE OFFICE

CSB BATTERY FRANCE S.A.R.L.
10, rue Boris Vian
95310 Saint Ouen l'Aumone
France
Tel : +33 (0) 134201746
Fax : +33 (0) 134201748
E-mail : eurosales@csb-battery.eu

SPAIN OFFICE

CSB BATTERY IBERICA S.L.
Calle Doctor Esquerdo, 167 1 A y B.
28007 Madrid,
Spain
Tel : +34 - 686409770
E-mail : eurosales@csb-battery.eu

BEIJING OFFICE (CHINA)

CSB BATTERY TECHNOLOGIES (BEIJING) CO., LTD.
Room 702, 12th Building, Wanda Plaza,
Jianguo Rd., Chaoyang Dis.,
Beijing, China
PC : 100022
Tel : +86-10-58205336 / +86-10-58205338
Fax : +86-10-58203053
E-mail : chinasls@csb-battery.com

MANUFACTURING SITE

CHINA FACTORY

CSB BATTERY GUANGZHOU CO., LTD.
No 97, Tianyuan Road, Yonghe Area,
Guangzhou Economic Technology Development
Zone, P.R.C.
Postcode:511356
Tel : +86-20-8297-9716
Fax : +86-20-8297-9719

AMERICA HQ

CSB BATTERY TECHNOLOGIES INC.
2901, White Settlement Rd.
Ft. Worth, TX 76107
U.S.A
Tel : +1-817-244-7777 /
1-(800)3-CSB-USA(272872)
Fax : +1-817-244-4445
E-mail : csb@csb-battery.com

BENELUX OFFICE

CSB BATTERY BENELUX B.V
Keurmeesterstraat 28-30
2984 BA Ridderkerk
The Netherlands
Tel : +31 (0) 180413098
Fax : +31 (0) 180418327
E-mail : eurosales@csb-battery.eu

GERMANY OFFICE

CSB BATTERY DEUTSCHLAND GMBH
Südliche Auffahrtsallee 75
80639 München (Nymphenburg)
Germany
Tel : +49 (0) 8001821171
E-mail : eurosales@csb-battery.eu

SHANGHAI OFFICE (CHINA)

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
Room2105, Qiang Sheng Tower, Pu Jian Rd.,
Shanghai, China
PC : 200127
Tel : +86-21-50461622 / +86-21-50460833 /
+86-21-50460094
Fax : +86-21-50461046
E-mail : chinasls@csb-battery.com

TAIWAN FACTORY

CSB BATTERY (GUAN TYAN) FACTORY.
No.16, Gongye W. Rd., Ell Jenn Vil.,
Guantian Dist., Tainan City 72048,
Taiwan (R.O.C.)
Tel : +886-6-698-7600
Fax : +886-6-698-5734

EUROPE HQ

CSB Battery Europe BV.
Keurmeesterstraat 28-30
2984 BA
Ridderkerk
The Netherlands
Tel : +31 (0) 180418140
Fax : +31 (0) 180418327
E-mail : eurosales@csb-battery.eu

UK OFFICE

CSB BATTERY UK LTD
Cobourg House, Mayflower Street,
Plymouth PL1 1LG,
United Kingdom
Tel : +44 (0) 8082345420
E-mail : eurosales@csb-battery.eu

ITALY OFFICE

CSB BATTERY ITALIA S.R.L
Corso Sempione 77
20149 Milano
Italy
Tel : +39-800797614
E-mail : eurosales@csb-battery.eu

SHENZHEN OFFICE (CHINA)

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
SHEN ZHEN BRANCH
Room 2103-2105, Block East,
City Professional Hub, Shennan Avenue, Futian,
Shenzhen, China
PC : 518040
Tel : +86-755-88316488 / 6775 / 6075
Fax : +86-755-88316548
E-mail : she@csb-battery.com.cn

VIETNAM FACTORY

CSB Battery (VIETNAM) CO., LTD.
Nhon Trach 3 IP , Second Phase ,
Nhon Trach District , Dong Nai Province
Vietnam
Tel : +84-61-3569120
Fax : +84-61-3569165

www.csb-battery.com