



# GP 12400

## 12V 40.0Ah

GP 12400 is a general purpose battery with 3-5 years in standby service or more than 260 cycles at 100% discharge in cycle service. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



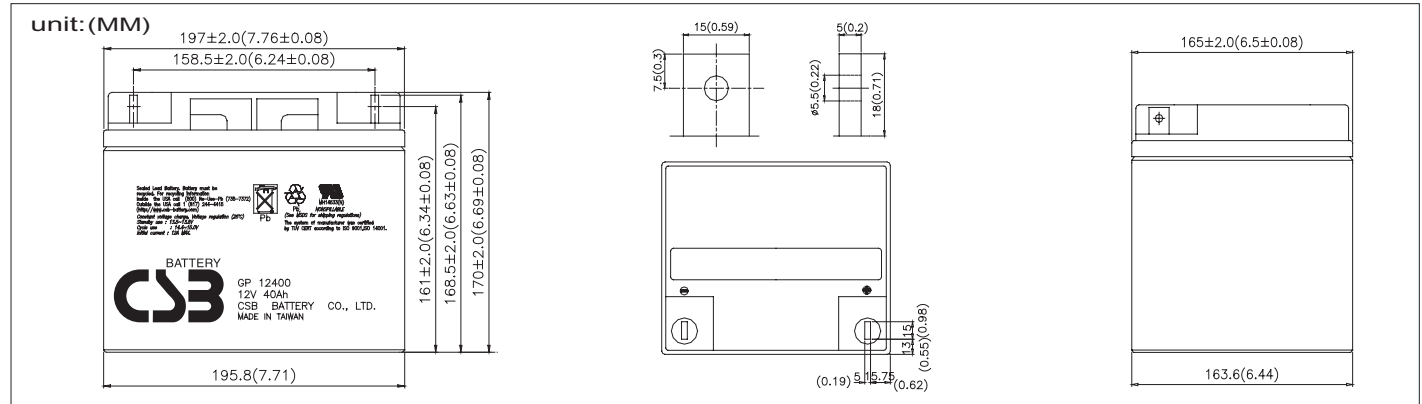
### Specification

<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Capacity</b>	40Ah @ 20hr-rate to 1.75V per cell @25 °C (77°F)
<b>Weight</b>	Approx. 14.8kg(32.7 lbs)
<b>Maximum Discharge Current</b>	400A(5sec)
<b>Internal Resistance</b>	Approx. 8mΩ
<b>Operating Temperature Range</b>	Discharge: -20°C~50°C (-4°F~122°F) Charge: 0°C~40°C (32°F~104°F) Storage: -20°C~40°C (-4°F~104°F)
<b>Nominal Operating Temperature Range</b>	25°C±3°C (77°F±5°F)
<b>Float Charging Voltage</b>	13.5 to 13.8 VDC/unit Average at 25°C (77°F)
<b>Recommended Maximum Charging</b>	12A
<b>Current Limit</b>	
<b>Equalization and Cycle Service</b>	14.4 to 15.0 VDC/unit Average at 25°C (77°F)
<b>Self Discharge</b>	CSB Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.
<b>Terminal</b>	Bolt & Nut
<b>Container Material</b>	-ABS (UL94-HB)*Flammability resistance of UL94-V2 can be available upon request.



CSB-manufactured batteries are UL-recognized components under UL924 and UL1989. CSB is also certified by ISO 9001 and ISO 14001.

### Dimensions



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

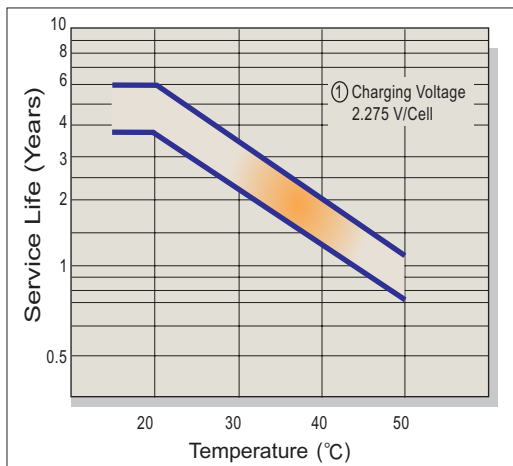
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	176	113	85.0	51.8	30.6	17.7	12.6	9.83	8.01	5.25	4.28	2.21
1.67V	157	105	81.0	50.8	30.5	17.6	12.5	9.77	8.00	5.19	4.20	2.12
1.70V	149	102	79.3	50.3	30.5	17.6	12.5	9.75	8.00	5.17	4.17	2.08
1.75V	135	95.0	75.5	49.0	30.1	17.5	12.5	9.71	7.95	5.10	4.10	2.01
1.80V	121	88.3	71.7	47.6	29.8	17.5	12.4	9.67	7.90	5.03	4.03	1.93
1.85V	107	81.7	67.8	46.2	29.4	17.5	12.4	9.63	7.85	4.96	3.96	1.86

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

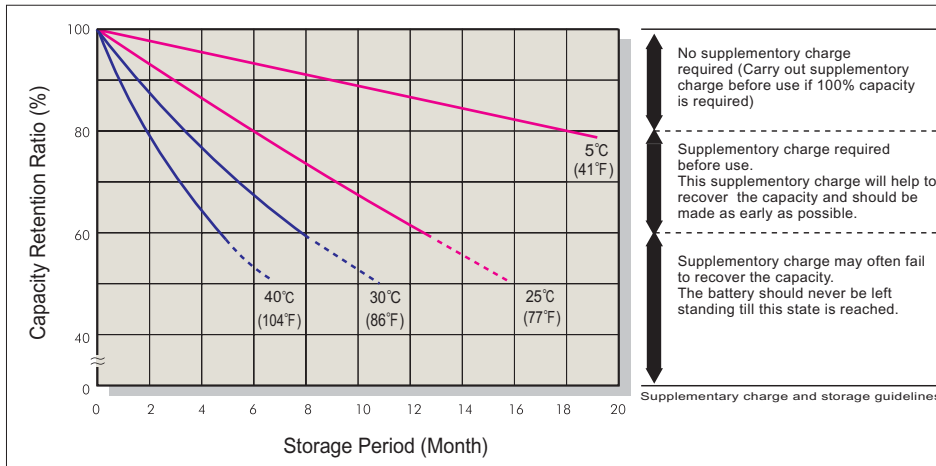
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	2110	1350	1020	622	367	212	151	118	96.1	63.0	51.3	26.5
1.67V	1886	1259	972	609	366	211	150	117	96.0	62.3	50.4	25.4
1.70V	1790	1220	952	604	366	211	150	117	96.0	62.0	50.0	24.9
1.75V	1620	1140	906	588	362	211	150	117	95.4	61.2	49.2	24.1
1.80V	1450	1060	860	571	357	210	149	116	94.8	60.4	48.3	23.2
1.85V	1280	980	814	555	353	210	149	116	94.2	59.6	47.5	22.4

• All mentioned values are average values.

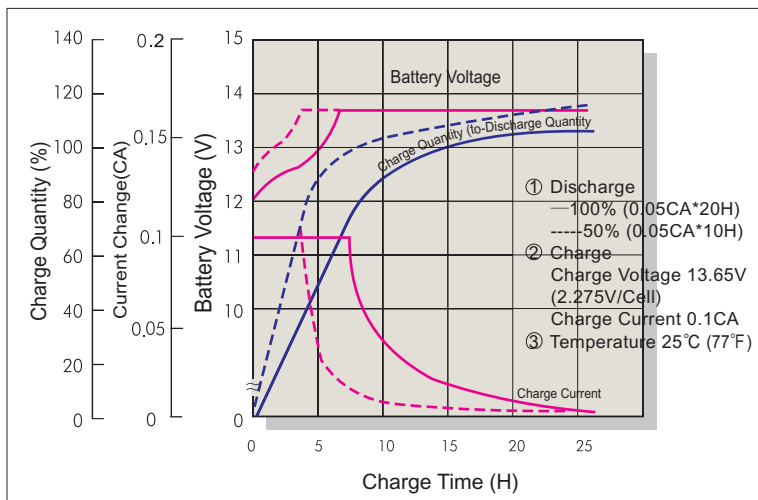
### Trickle (or Float) Service Life



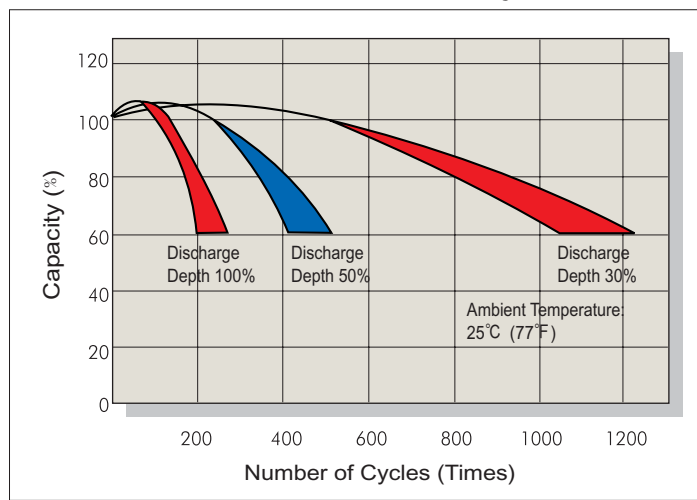
### Capacity Retention Characteristic



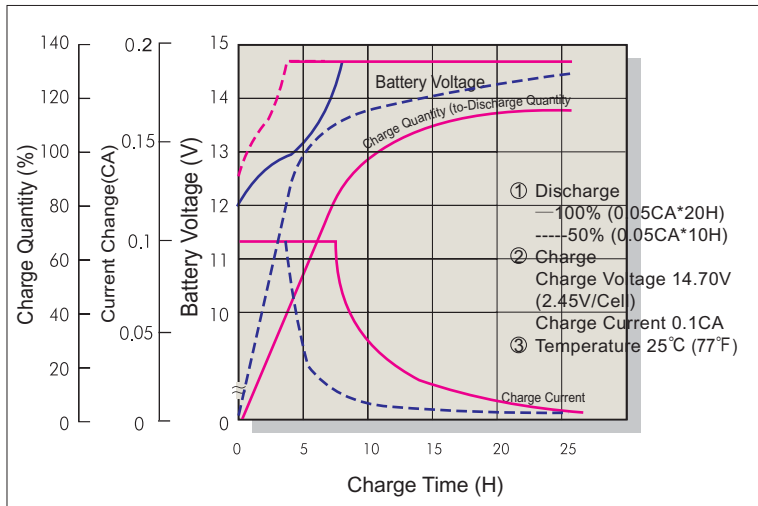
### Battery Voltage and Charge Time for Standby Use



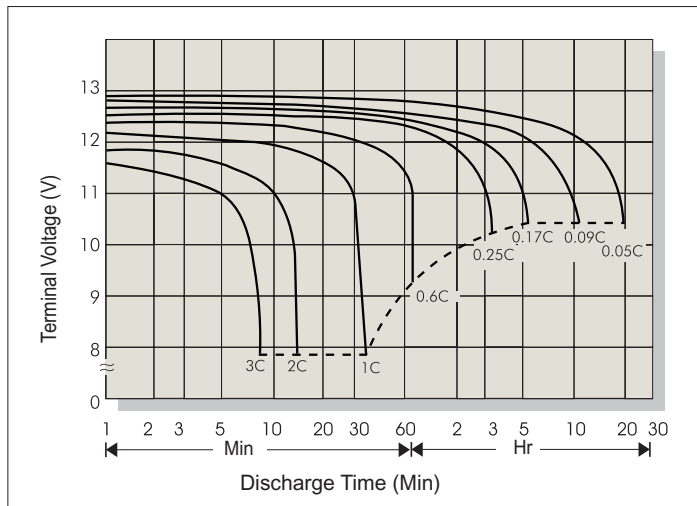
### Cycle Service Life



### Battery Voltage and Charge Time for Cycle Use



### Terminal Voltage (V) and Discharge Time (25°C 77°F)



### Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C (77°F)	2.45	2.40~2.50	0.3CA
Standby	25°C (77°F)	2.275	2.25~2.30	

### Discharge Current VS. Discharge Voltage

Discharge Current (A)	0.2C > (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C
Final Discharge Voltage V/Cell	1.75	1.70	1.55	1.30