



# G Series - GEL Battery

## G12-80 (12v 85Ahr)

### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	85.0AH	
Dimension	Length	305±2mm (12.01 inches)
	Width	168±2mm (6.61 inches)
	Container Height	207±2mm (8.15 inches)
	Total Height (with Terminal)	213±2mm (8.38 inches)
Approx Weight	Approx 27.1 kg (59.8lbs)	
Terminal	T6	
Container Material	ABS	
Rated Capacity	85.0 AH/4.25A	(20hr, 1.80V/cell, 25°C/77°F)
	78.0 AH/7.80A	(10hr, 1.75V/cell, 25°C/77°F)
	68.0 AH/13.6A	(5hr, 1.75V/cell, 25°C/77°F)
	59.1 AH/19.7A	(3hr, 1.75V/cell, 25°C/77°F)
	46.8 AH/46.8A	(1hr, 1.67V/cell, 25°C/77°F)
Max. Discharge Current	850A (5s)	
Internal Resistance	Approx 6.8mΩ	
Operating Temp. Range	Discharge	-20~55°C (-4~131°F)
	Charge	0~40°C (32~104°F)
	Storage	-20~50°C (-4~122°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 21.25A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Synergy G series batteries may be stored for up to 9 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Applications

- ◆ Telecommunications
- ◆ Solar system
- ◆ Wind power system
- ◆ Engine starting
- ◆ Wheelchair
- ◆ Floor cleaning machines
- ◆ Golf trolley
- ◆ Boats



### Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	71.9	56.4	43.1	36.0	22.9	17.4	14.4	12.5	10.8	9.52	8.59	7.85	7.32	4.08
1.80V/cell	82.4	63.1	47.5	39.8	24.7	18.7	15.3	13.1	11.3	10.0	9.00	8.25	7.64	4.25
1.75V/cell	92.6	69.4	51.3	42.6	26.2	19.7	16.0	13.6	11.7	10.3	9.29	8.50	7.80	4.34
1.70V/cell	99.7	74.3	54.5	45.1	27.8	20.5	16.6	14.0	12.1	10.7	9.56	8.73	7.98	4.39
1.67V/cell	103.8	77.2	56.4	46.8	28.5	21.2	17.0	14.3	12.3	10.8	9.71	8.84	8.07	4.43
1.60V/cell	112.5	82.6	60.6	49.6	29.7	22.0	17.6	14.8	12.6	11.1	9.88	9.03	8.23	4.50

### Constant Power Discharge (Watts) at 25 °C (77°F)

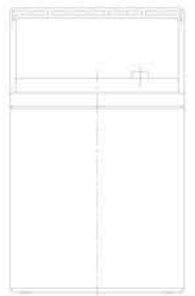
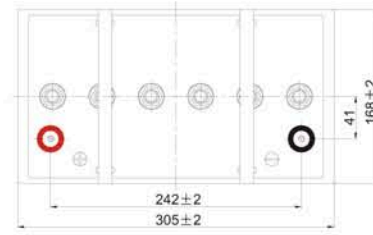
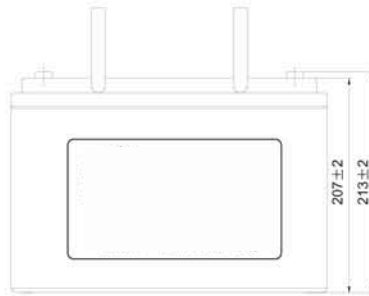
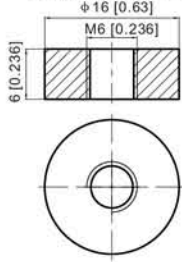
F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	137.6	108.8	83.5	70.2	44.7	34.1	28.4	24.6	21.3	18.9	17.1	15.6	14.6	8.14
1.80V/cell	155.6	120.4	91.4	77.1	48.1	36.4	30.0	25.7	22.3	19.7	17.9	16.4	15.2	8.47
1.75V/cell	172.9	131.2	98.1	82.1	50.8	38.4	31.3	26.7	23.0	20.4	18.4	16.9	15.5	8.63
1.70V/cell	184.3	139.3	103.4	86.3	53.6	39.9	32.2	27.4	23.8	21.0	18.9	17.3	15.8	8.73
1.67V/cell	189.6	143.2	106.3	89.1	54.8	41.0	32.9	27.9	24.1	21.3	19.2	17.5	16.0	8.81
1.60V/cell	203.2	151.9	113.4	94.1	56.7	42.4	34.1	28.7	24.6	21.7	19.4	17.8	16.3	8.92



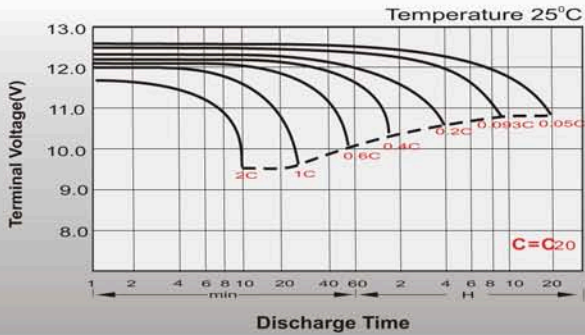
## Dimensions

### T6 Terminal

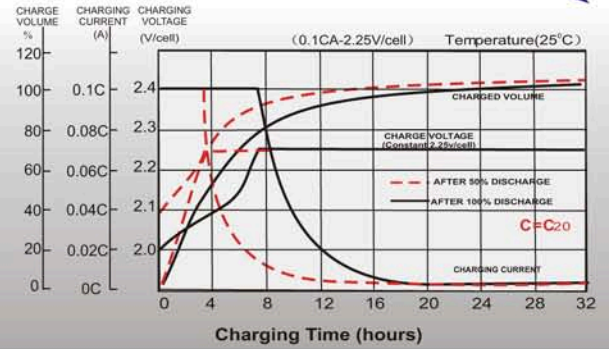
Unit: mm [inches]



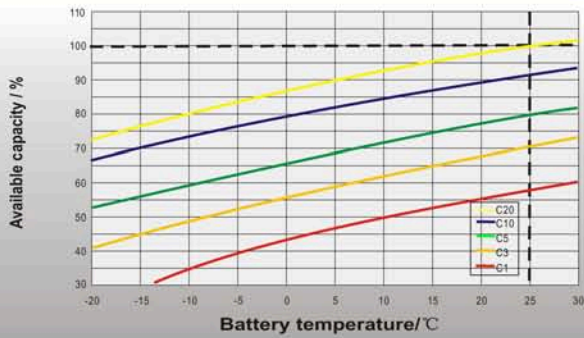
## Discharge Characteristics



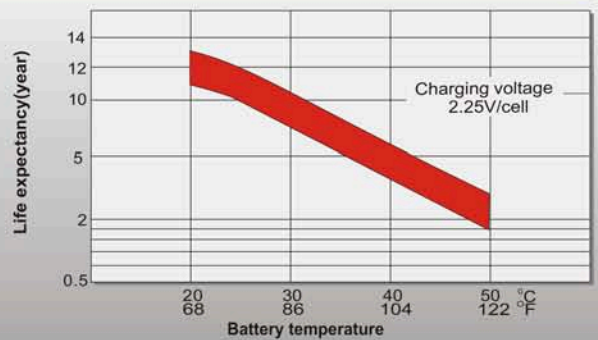
## Float Charging Characteristics



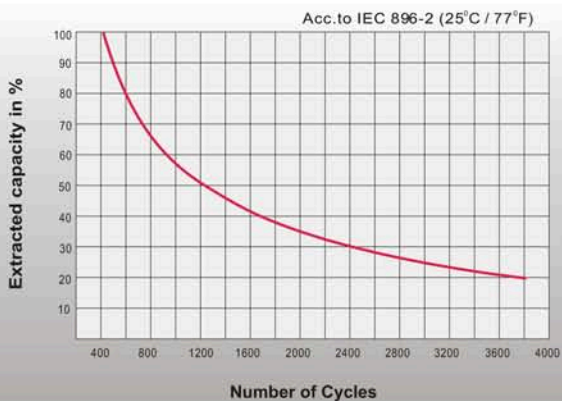
## Temperature Effects in Relation to Battery Capacity



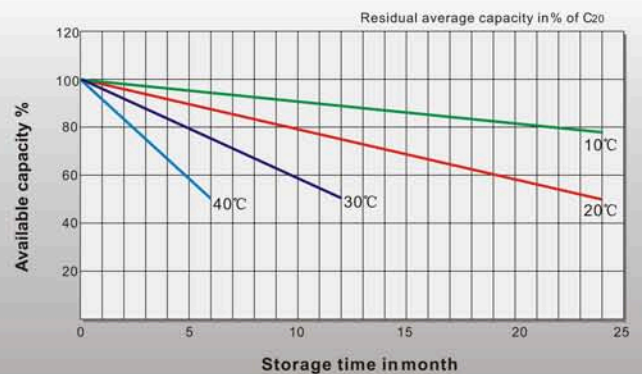
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## General Relation of Capacity VS. Storage Time



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