



# LPGS Series-Gel Battery

## LPGS12-180(12V180Ah)

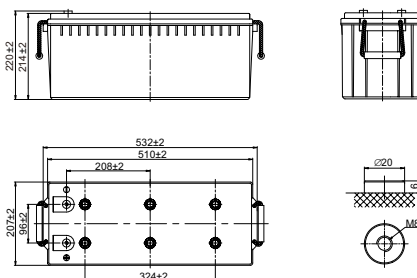


### Specifications

Rated Voltage	12V	
Nominal Capacity	180Ah	(C <sub>10</sub> , 1.80V/cell)
Dimension	Length	532±2mm (20.9 inches)
	Width	207±2mm (8.15 inches)
	Container Height	214±2mm (8.43 inches)
	Total Height	220±2mm (8.66 inches)
Approx Weight	54.0 Kg (119.0 lbs)	
Terminal	M8	
Container Material	ABS	
Rated Capacity (25°C)	185.4 Ah	(20hr, 9.27A, 1.80V/cell)
	180.0 Ah	(10hr, 18.0A, 1.80V/cell)
	153.0 Ah	(5hr, 30.6A, 1.75V/cell)
	132.9 Ah	(3hr, 44.3A, 1.75V/cell)
	102.5 Ah	(1hr, 102.5A, 1.65V/cell)
Max. Discharge Current	1800A (5s)	
Internal Resistance (25°C)	Approx 3.2mΩ	
Operating Temp. Range	Discharge : -20 ~ 55°C (-4 ~ 131°F)	
	Charge : -20 ~ 40°C (-4 ~ 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 45.0A. Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
	Initial Charging Current less than 45.0A. Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	LPGS series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



### Layout



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

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	228.2	194.0	162.3	128.2	97.4	80.6	51.2	39.8	32.7	27.8	24.2	19.7	16.7	9.00
1.80V/cell	287.3	231.0	189.0	147.6	110.5	89.6	55.7	42.8	34.8	29.9	26.0	21.0	18.0	9.27
1.75V/cell	322.2	257.5	207.5	157.3	116.9	94.8	58.4	44.3	36.0	30.6	26.7	21.4	18.2	9.36
1.70V/cell	355.3	278.2	220.7	166.0	122.8	99.0	61.2	45.8	37.1	31.4	27.3	21.7	18.3	9.54
1.65V/cell	379.7	292.9	232.2	173.8	126.4	102.5	62.9	47.5	38.2	32.1	27.9	22.0	18.5	9.63
1.60V/cell	415.6	315.8	249.3	184.7	133.7	107.5	65.2	49.2	39.1	32.8	28.5	22.3	18.8	9.72

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

F.V/Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	424.7	364.8	308.2	245.7	188.1	156.2	99.8	77.8	64.2	54.7	47.8	39.1	33.2	17.9
1.80V/cell	528.9	428.9	354.1	279.3	211.8	172.8	107.9	83.2	68.0	58.5	51.1	41.5	35.7	18.4
1.75V/cell	583.1	471.9	384.7	295.2	222.1	181.9	112.7	85.9	70.1	59.8	52.3	42.2	36.0	18.6
1.70V/cell	627.5	501.8	405.4	309.2	231.9	189.1	117.8	88.6	72.0	61.2	53.4	42.7	36.2	18.9
1.65V/cell	663.2	523.3	422.5	320.8	237.0	194.5	120.3	91.6	73.9	62.4	54.4	43.2	36.5	19.1
1.60V/cell	709.3	554.9	448.7	338.1	249.0	202.8	124.2	94.4	75.3	63.4	55.4	43.7	37.0	19.2



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### Applications

- Communication power supply
- Engine starting
- Pump systems
- Alarm installations
- Marine and power stations

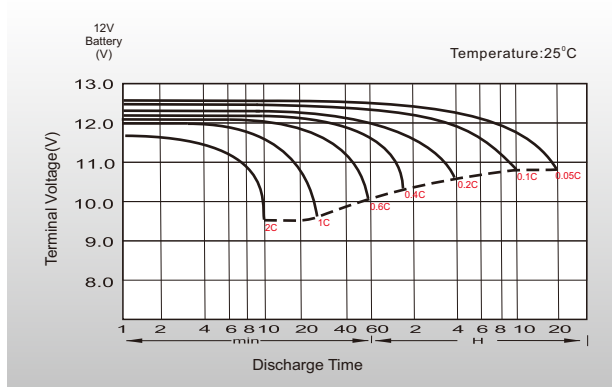
### General Features

- Adopted advantage AGM-GEL technology
- Operation temperature  $-20\sim 55^{\circ}\text{C}$
- $\leq 3\%$  Self discharge @ $25^{\circ}\text{C}$

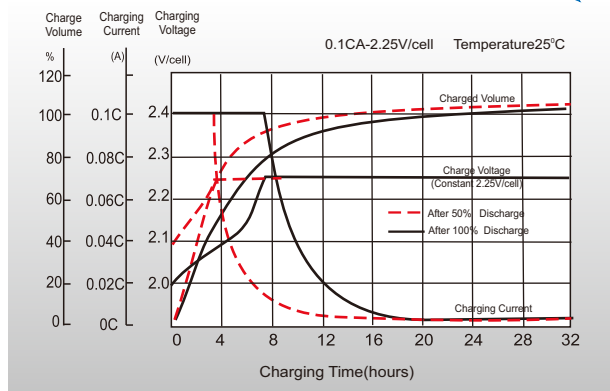
### Standards

- IEC 60896 Certified
- Classified as "Long Life" according to Eurobat
- UL Certified, CE Certified
- Manufactured in Leoch® IATF16949, ISO 9001, ISO 14001 and ISO 45001 certified production facilities

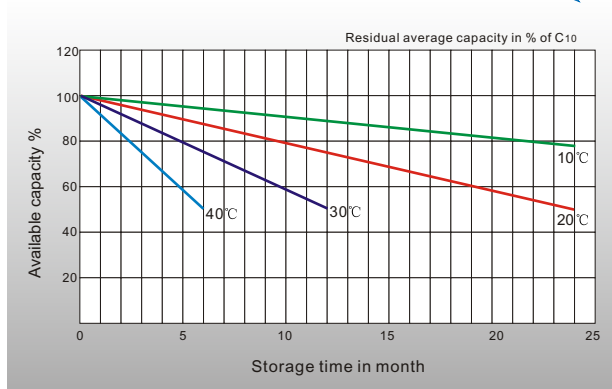
### Discharge Characteristics



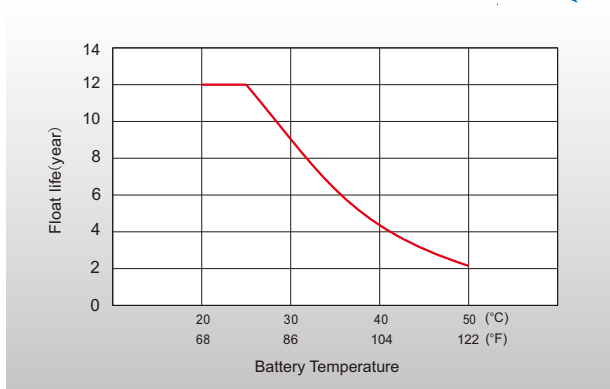
### Float Charging Characteristics



### General Relation of Capacity VS. Storage Time



### Effect of Temperature on Long Term Float Life



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