



Marstech

LPG Series-Gel Battery

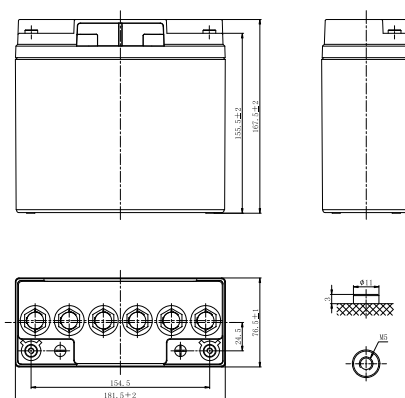
LPG12-20(12V20Ah)

Specifications

Rated Voltage	12V	
Nominal Capacity	$C_{10}, 1.80V/\text{cell}$	20Ah
Dimension	Length	181.5±2mm (7.15 inches)
	Width	76.5±1mm (3.01 inches)
	Container Height	167.5±2mm (6.59 inches)
	Total Height	167.5±2mm (6.59 inches)
Approx Weight	6.40 Kg (14.1 lbs)	
Terminal	M5	
Container Material	ABS	
Rated Capacity(25°C)	24.0 Ah	C20(1.20A, 1.80V/cell)
	20.0 Ah	C10(2.00A, 1.80V/cell)
	17.2 Ah	C5(3.44A, 1.75V/cell)
	15.3 Ah	C3(5.10A, 1.75V/cell)
	13.1 Ah	C1(13.1 A, 1.60V/cell)
Max. Discharge Current	330A (5s)	
Internal Resistance(25°C)	Approx 16.0mΩ	
Short Circuit Current	900A	
Operating Temp. Range	Discharge	-20 ~ 60°C (-4 ~ 140°F)
	Charge	-20 ~ 50°C (-4 ~ 122°F)
	Storage	-15 ~ 50°C (5 ~ 122°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Standby Use	Initial Charging Current less than 6.20A. Voltage	
	2.23V~2.27V at 25°C(77°F)Temp. Coefficient -3mV/°C	
Equalization Use	Initial Charging Current less than 6.20A. Voltage	
	2.30V~2.37V at 25°C(77°F)Temp. Coefficient -4mV/°C	
Cycle Use	Initial Charging Current less than 6.20A. Voltage	
	2.40V~2.50V at 25°C(77°F)Temp. Coefficient -5mV/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	LPG 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	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	62.2	42.6	33.2	27.0	19.9	14.5	11.9	8.71	6.85	4.94	3.94	3.35	2.87	2.26	1.85	1.80
1.80V/cell	66.9	45.2	34.8	28.1	20.5	14.9	12.2	8.89	6.97	5.02	3.99	3.40	2.91	2.29	1.90	1.20
1.75V/cell	70.5	47.0	36.0	28.8	21.0	15.2	12.4	9.06	7.10	5.10	4.05	3.44	2.95	2.32	2.00	2.05
1.70V/cell	73.8	48.9	37.2	29.7	21.6	15.6	12.7	9.21	7.20	5.18	4.10	3.49	2.98	2.34	2.14	2.01
1.67V/cell	76.4	50.3	38.1	30.3	21.9	15.8	12.9	9.33	7.28	5.23	4.14	3.52	3.01	2.36	2.52	2.02
1.60V/cell	81.0	52.4	39.4	31.2	22.5	16.2	13.1	9.53	7.43	5.32	4.22	3.58	3.05	2.39	2.60	2.03

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

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	117.7	81.2	63.5	52.0	38.4	28.2	23.1	17.0	13.4	9.71	7.76	6.62	5.68	4.48	3.67	1.96
1.80V/cell	125.3	85.4	66.3	53.8	39.4	28.8	23.6	17.3	13.6	9.85	7.85	6.70	5.76	4.54	3.72	1.98
1.75V/cell	130.6	88.2	68.0	55.0	40.3	29.3	24.0	17.6	13.8	10.0	7.95	6.78	5.82	4.59	3.75	2.00
1.70V/cell	135.4	91.1	69.9	56.3	41.1	29.9	24.4	17.8	14.0	10.1	8.05	6.86	5.88	4.63	3.79	2.02
1.67V/cell	139.0	93.2	71.4	57.3	41.7	30.3	24.7	18.0	14.1	10.2	8.11	6.91	5.93	4.66	3.81	2.03
1.60V/cell	144.6	95.9	73.3	58.7	42.6	30.8	25.1	18.3	14.4	10.4	8.23	7.00	6.00	4.73	3.86	2.05



LPG Series-Gel Battery

LPG12-20(12V20Ah)

Applications

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

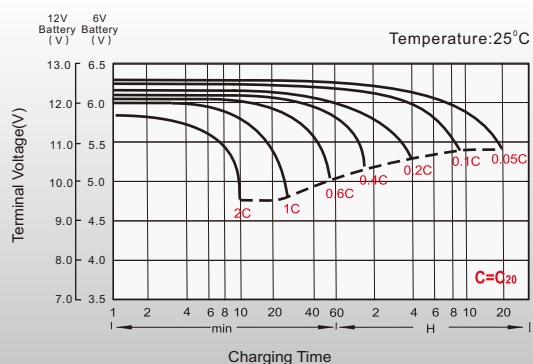
General Features

- Battery design life up to 8 years
- Special plate design guarantees battery floating life more than 4000 times
- High thermal capacity reduce the risk of thermal out of control and drying hard, and the battery can be used in bad environment
- Little water losing, and no electrolyte stratification phenomenon

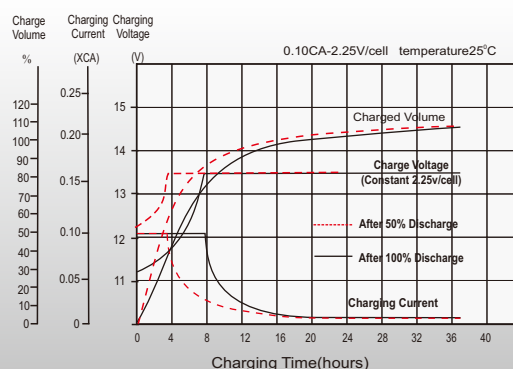
Standards

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

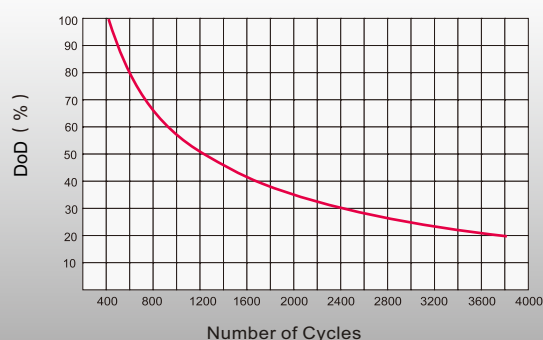
Discharge Characteristics



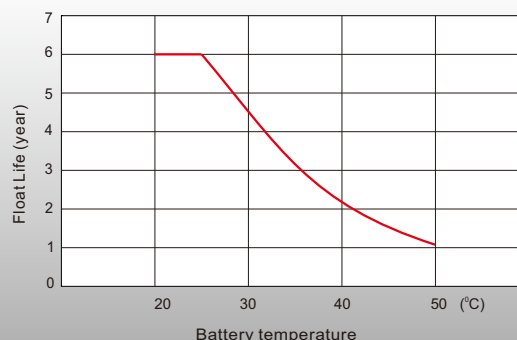
Float Charging Characteristics



Cycle Life in Relation to Depth of Discharge



Effect of Temperature on Long Term Float Life



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