



LIVEN LEVG Series

LEVG Pure Gel series are manufacturing with special PVC-SiO2 separator and patented GEL electrolyte. The LEVG series Valve Regulated Lead Acid (VRLA) is Pure Gel with 12 years floating design life. This battery its ideal for light traction electric vehicles applications (wheelchairs, electric sweepers, golf trolleys...). Maintenance-Free Sealed Lead Acid Battery.

The number of deep discharge cycles its 450 cycles at 100% DOD and 1300 cycles at 50%.

Applications:

- Wheelchairs
- Golf trolleys
- Electric sweepers
- Floor machines
- Electric vehicles
- Lawn mowers
- Portable power
- Medical equipments

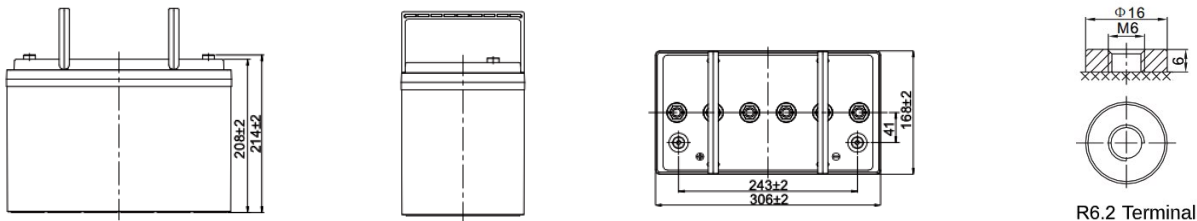
Dimensions:

Length	306±1.5mm (12.0in)
Width	168±1.5mm (6.61in)
Height	208±1.5mm (8.19in)
Total Height	214±1.5mm (8.43in)

Specifications:

Cells Per Unit	6
Voltage Per Unit	12V
Nominal Capacity	90.0Ah @20hour-rate to 1.80V per cell @25°C
Weight	Approx.26.5Kg ±2% (58.40lbs)
Internal Resistance	Approx. 7.4mΩ
Terminal	R6.2
Max. Discharge Current	850A (5sec)
Design Life	12 years floating Eurobat (20°C): 10-12 years Long Life
Recommended Max. Charging Current	18.0A
Standby Use Voltage	13.5V~13.8V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.1V~14.4V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~55°C Charge: 0°C~40°C Storage: -20°C~50°C
Normal Operating Temperature Range	25°C±5°C
Self Discharge	LIVEN Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

Technical Drawings:



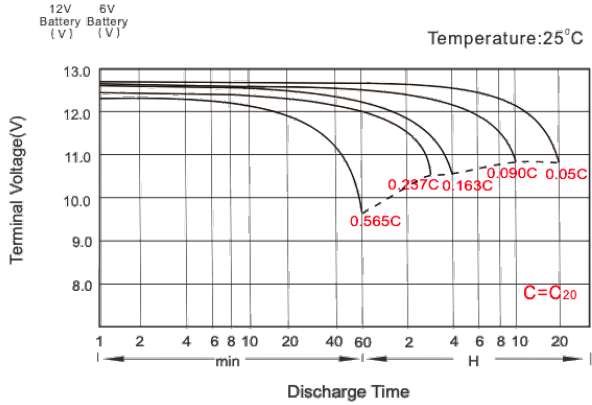
Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V. / Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.60V	184.40	139.50	112.00	84.10	59.80	53.80	31.00	23.40	18.50	15.80	13.70	10.70	8.93	4.80
1.67V	176.30	131.90	106.90	80.40	57.40	52.10	30.30	23.10	18.20	15.50	13.50	10.60	8.84	4.74
1.75V	152.50	121.10	99.50	75.90	53.90	49.60	29.20	22.40	17.90	15.00	13.20	10.40	8.76	4.64
1.80V	135.30	111.20	91.30	69.80	49.80	44.20	27.20	21.50	17.30	14.60	12.80	10.30	8.50	4.50
1.85V	121.90	100.20	82.30	62.90	44.80	40.00	24.70	19.60	15.90	13.90	12.10	9.83	8.33	4.30

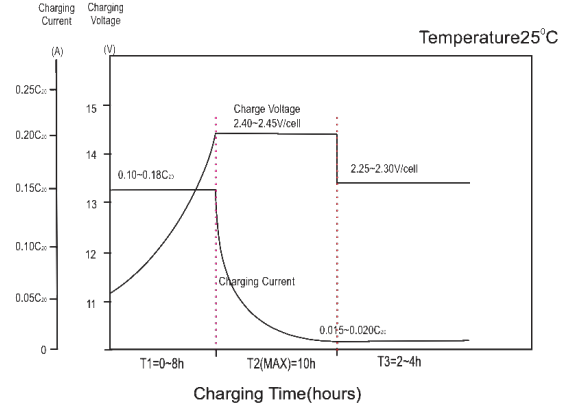
Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V. / Time	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.60V	1953.6	1513.8	1241.4	919.2	697.2	606.0	354.0	268.8	214.2	183.6	159.6	125.4	105.0	57.1
1.67V	1864.2	1462.8	1186.8	887.4	668.4	592.2	349.2	267.6	211.2	180.6	157.8	124.8	104.4	56.3
1.75V	1684.2	1363.8	1125.0	845.4	636.0	570.0	338.4	261.0	208.8	176.4	156.0	123.0	103.8	55.2
1.80V	1496.4	1245.6	1041.6	785.4	594.6	511.8	317.4	252.0	203.4	172.2	151.2	121.2	100.8	53.6
1.85V	1348.2	1122.6	938.4	707.4	535.8	466.2	289.8	231.0	187.8	163.8	143.4	116.4	99.0	51.4

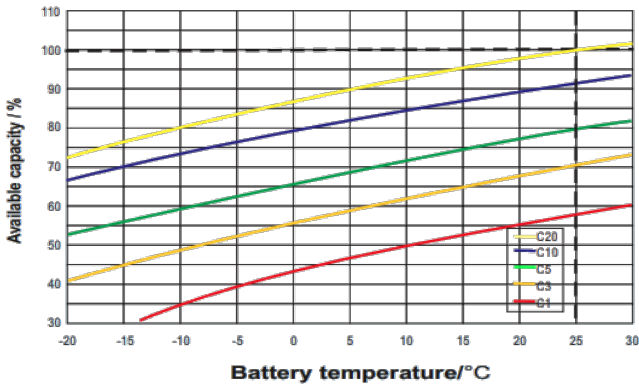
Discharge Characteristics



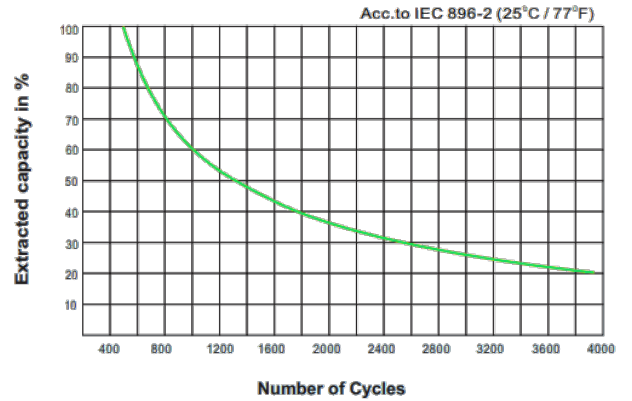
Charging Characteristics



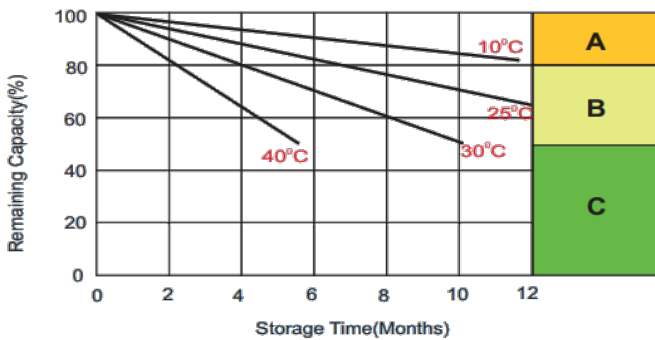
Temperature Effects in Relation to Capacity



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics



- A** No supplementary charge required
(Carry out supplementary charge before use if 100% capacity is required).
- B** Supplementary charge required before use. Optional charging way as below:
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.
The battery should never be left standing till this is reached.

(Note) All above information shall be changed without prior notice. LIVEN Battery reserves the right to explain and update the latest information.