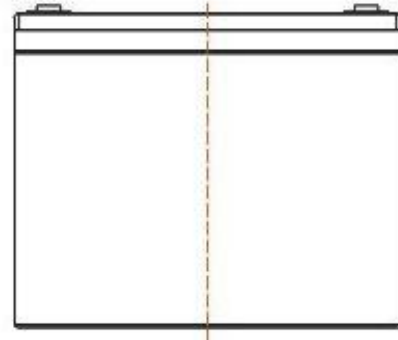


GHL Series GEL Battery

GHL Series – Storage – type Gelled Battery

- Completely sealed and maintenance-free, low self-discharge
- 100% precise quality testing, stable quality and high reliable performance
- Unique grid alloy formula, Gelled electrolyte formula and updated manufacturing technique
- Floating & standby use : up to 12 years
- Cycle use 1 : More than 350 cycles at 100% DOD
- Cycle use 2 : More than 750 cycles at 50% DOD
- Cycle use 3 : More than 1800 cycles at 30% DOD



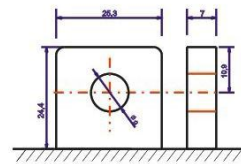
Application :

- Telecommunications
- UPS / EPS
- DC Power Supply
- Solar system
- Wind Power System
- Auto Control System

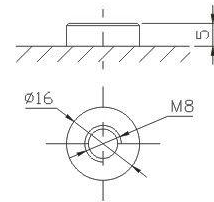


Construction :

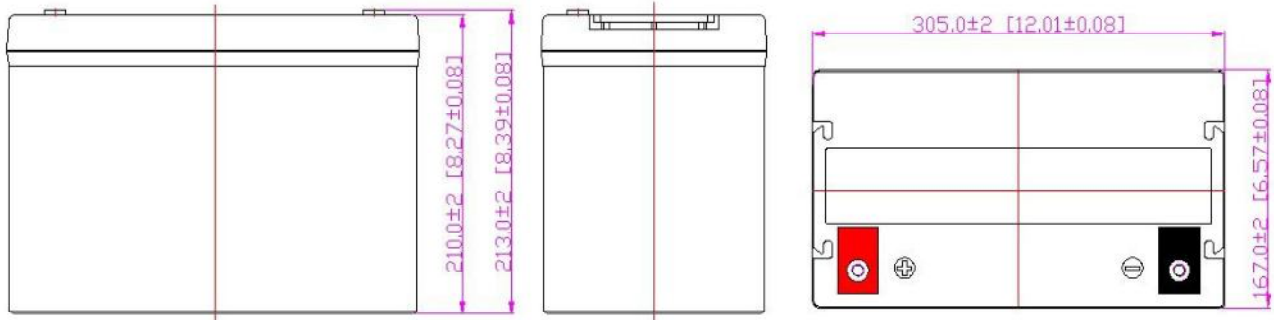
- ComponentRaw material
- PositiveLead dioxide
- NegativeLead
- Container ABS "UL 94 V0"
- Cover ABS "UL 94 V0"
- SealantEpoxy
- Safety valveRubber
- TerminalCopper/Pb
- SeparatorFiber glass
- ElectrolyteGelled acid



T13 Terminal

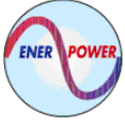


B4 Terminal



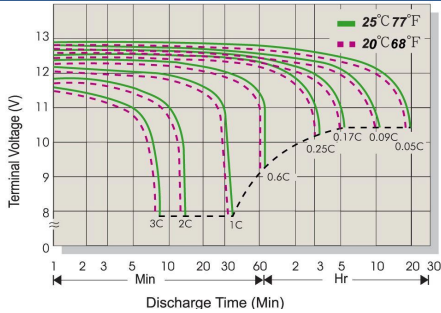
Construction :

Battery Model	GHL 90-12A 12 V 90 Ah			
Designed Floating Life	Up to 12 Years			
Capacity (25°C)	20 hr (4.68A 10,8V)	10 hr (9.0 10,8V)	5 hr (14,98 10,5V)	3 hr (22.03A 10,5V)
	93,6 Ah	90 Ah	74.9 Ah	66.09 Ah
Dimensions	Length	Width	Height	Total Height
	305 mm	167 mm	210 mm	213 mm
Approx. Weight	26.3 kg			
Internal Resistance	Full charged at 25°C : ≤ 8 mΩ			
Self Discharge	2% of capacity declined per month at 25°C			
Capacity Affected by Temp. (20 hr)	40°C	25°C	0°C	-15°C
	102%	100%	85%	65%
Charge Voltage (25°C)	Cycle Use		Float Use	
	14,4-14,6V(-30mV/°C) max current 18A		13,6-13,8 (-20mV/°C)	

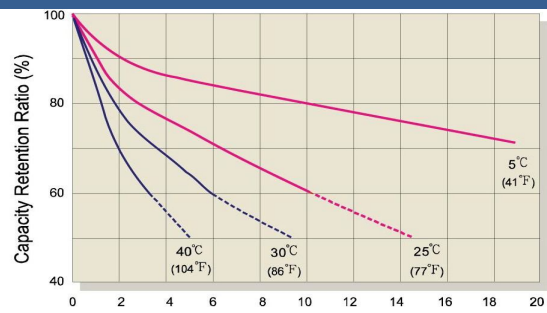


GHL Series GEL Battery

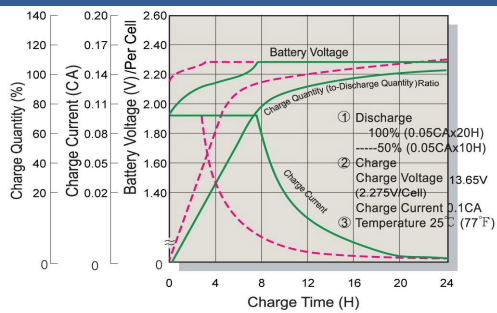
Terminal Voltage(V) and Discharge Time



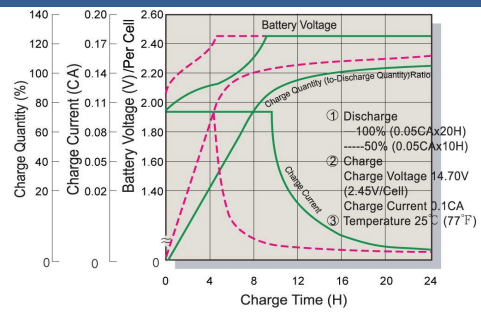
Capacity Retention Characteristic



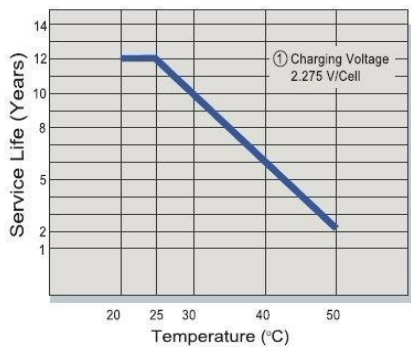
Battery Voltage and Charge Time for Standby Use



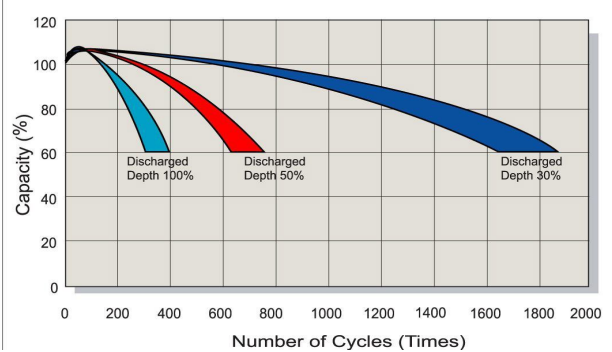
Battery Voltage and Charge Time for Cycle Use



Tickle (or Float) Service Life



Cycle Service Life



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

F.V/Time	5 min	10 min	15 min	30 min	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr	20 hr
1,85V/Cell	205,7	151,5	131,5	79,4	46,7	27,55	20,51	17,30	14,24	13,11	10,49	8,64	4,50
1,80V/Cell	213,5	157,3	136,5	82,4	48,7	28,70	21,42	18,02	14,84	13,65	10,92	9,00	4,68
1,75V/Cell	234,9	165,2	143,4	85,7	50,7	29,55	22,03	18,20	14,98	13,79	11,03	9,09	4,72
1,70V/Cell	262,6	173,0	150,2	89,8	51,6	30,10	22,45	18,38	15,13	13,93	11,14	9,18	4,77
1,67V/Cell	290,4	180,9	157,0	92,2	53,6	30,95	23,12	18,56	15,28	14,07	11,26	9,27	4,82
1,60V/Cell	314,6	190,3	165,2	96,1	54,2	31,28	23,38	18,77	15,45	14,23	11,38	9,37	4,88

Constant Power Discharge (CP, Unit : W) at 25°C

F.V/Time	5 min	10 min	15 min	30 min	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr	20 hr
1,85V/Cell	390,8	287,9	249,8	150,8	88,8	52,3	38,97	32,87	27,05	24,90	20,04	16,41	8,30
1,80V/Cell	405,7	298,8	259,4	156,6	92,6	54,5	40,70	34,24	28,19	25,94	20,88	17,10	8,66
1,75V/Cell	446,3	313,8	272,4	162,8	96,3	56,1	41,85	34,59	28,47	26,21	21,10	17,27	8,74
1,70V/Cell	499,0	328,7	285,3	170,6	98,1	57,2	42,66	34,92	28,74	26,46	21,30	17,44	8,82
1,67V/Cell	551,8	343,7	298,4	175,2	101,8	58,8	43,93	35,27	29,03	26,72	21,51	17,61	8,91
1,60V/Cell	597,8	361,7	314,0	182,7	102,9	59,4	44,4	35,6	29,3	27,0	21,7	17,8	9,0