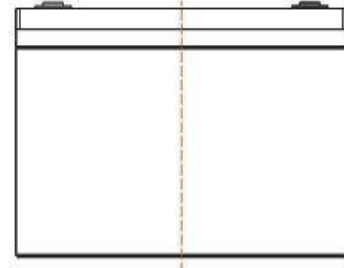




## GHL Series GEL Battery

### 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 1.800 cycles at 30% DOD



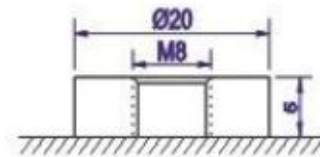
### Application :

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

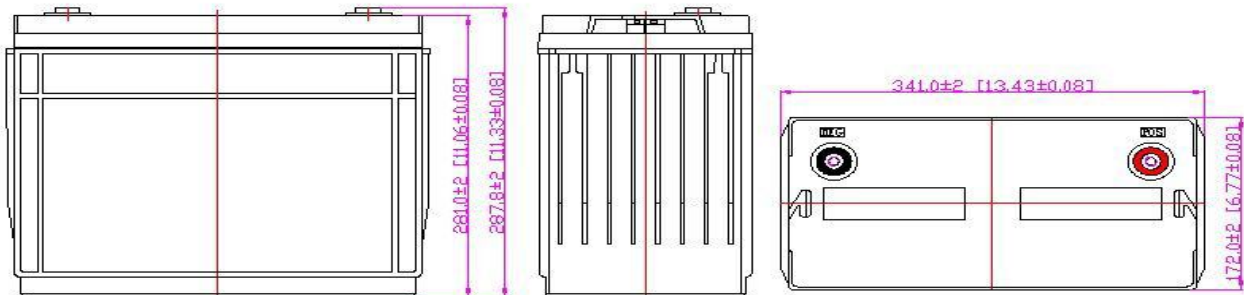


### Construction :

- Component ....Raw material
- Positive ....Lead dioxide
- Negative ....Lead
- Container .... ABS "UL 94 V0"
- Cover .... ABS "UL 94 V0"
- Sealant ....Epoxy
- Safety valve ....Rubber
- Terminal ....Copper/Pb
- Separator ....Fiber glass
- Electrolyte ....Gelled acid

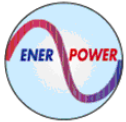


B5 Terminal



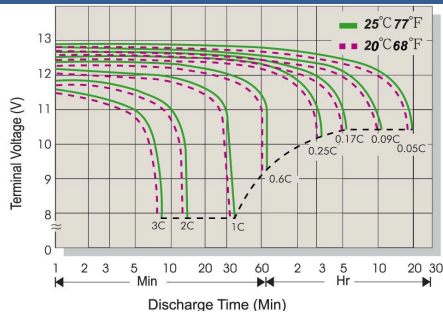
### Construction :

Battery Model	GHL 140-12A 12 V 135 Ah			
Designed Floating Life	Up to 12 Years			
Capacity (25°C)	20 hr (7 A 10,8V)	10 hr (13,5A 10,8V)	5 hr (22,22A 10,5V)	3 hr (32,67A 10,5V)
	140 Ah	135 Ah	111,1 Ah	98,01 Ah
Dimensions	Length	Width	Height	Total Height
	341 mm	172 mm	281 mm	288 mm
Approx. Weight	41,8 kg			
Internal Resistance	Full charged at 25°C : ≤ 6,25 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 27A		13,5-13,8 (-20mV/°C)	

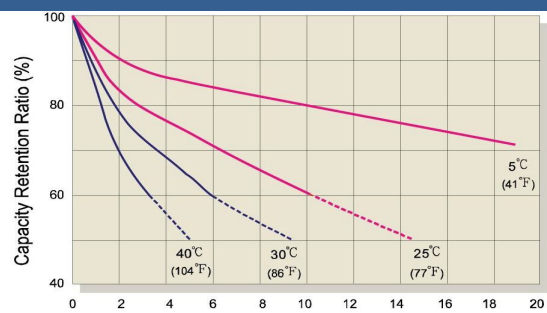


# GHL Series GEL Battery

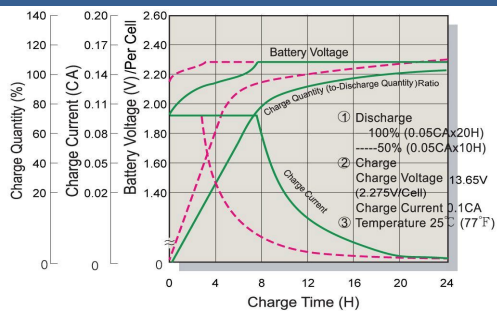
Terminal Voltage(V) and Discharge Time



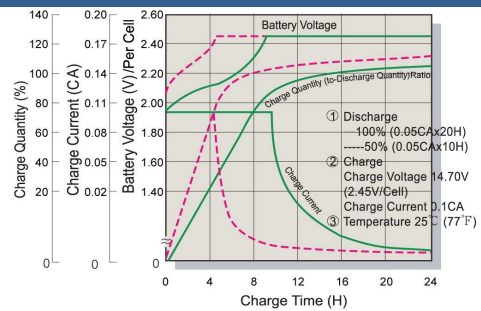
Capacity Retention Characteristic



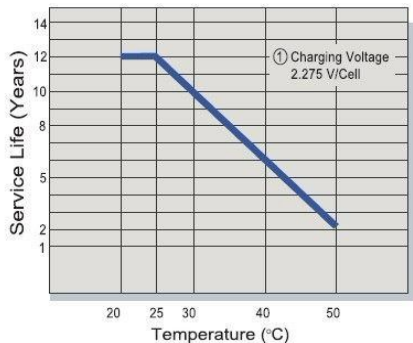
Battery Voltage and Charge Time for Standby Use



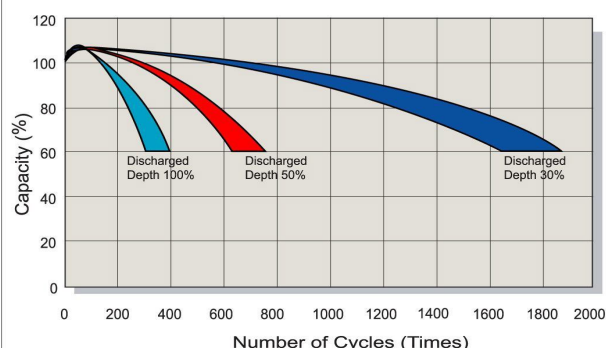
Battery Voltage and Charge Time for Cycle Use



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	305,1	224,7	195,0	117,7	69,3	40,86	30,42	25,66	21,12	19,44	15,55	12,96	6,70
1,80V/Cell	316,7	233,3	202,5	122,2	72,3	42,57	31,77	26,73	22,00	20,25	16,20	13,50	7,00
1,75V/Cell	348,4	245,0	212,7	127,1	75,1	43,83	32,67	27,00	22,22	20,46	16,37	13,64	7,01
1,70V/Cell	389,5	256,6	222,7	133,2	76,6	44,64	33,30	27,26	22,44	20,65	16,52	13,77	7,02
1,67V/Cell	430,7	268,3	232,9	136,8	79,5	45,90	34,29	27,53	22,66	20,86	16,69	13,90	7,09
1,60V/Cell	466,6	282,3	245,0	142,6	80,3	46,38	34,68	27,84	22,92	21,09	16,87	14,04	7,18

## 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	579,6	427,0	370,5	223,7	131,7	77,6	57,79	48,75	40,12	36,93	29,73	24,62	12,31
1,80V/Cell	601,7	443,2	384,7	232,2	137,3	80,9	60,36	50,78	41,81	38,47	30,97	25,65	12,82
1,75V/Cell	661,9	465,4	404,0	241,4	142,8	83,3	62,07	51,30	42,22	38,87	31,29	25,91	12,96
1,70V/Cell	740,0	487,5	423,2	253,1	145,5	84,8	63,27	51,79	42,63	39,24	31,59	26,16	13,08
1,67V/Cell	818,4	509,7	442,5	259,9	151,0	87,2	65,15	52,31	43,05	39,64	31,91	26,42	13,22
1,60V/Cell	886,6	540,0	465,6	271,0	152,6	88,1	65,9	52,9	43,5	40,0	32,2	26,7	13,4