

HTL Pro High Temperature Deep Cycle GEL Battery HTL12-230

The HTL Pro solid state deep cycle gel battery updated from HTL series and adopts the advanced developed nano gel electrolyte with **more** super-C additive plus **+2% thicker heavy duty plates** design inside. It has a **longer service life** even deep cycle discharge use and provide optimum and reliable service under extreme condition such as high temperature and frequent power failure, thus it is highly suited for tropical area in outdoor applications such as Telecom BTS stations and Off-grid PV system.

12V Voltage	230Ah Capacity	Gel Technology	Deep Cycle
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COMPLIED STANDARDS

IEC 60896-21/22	JIS C8704
IEC61427	BS6290 part4
GB/T 19638	CE/ISO

GENERAL FEATURES

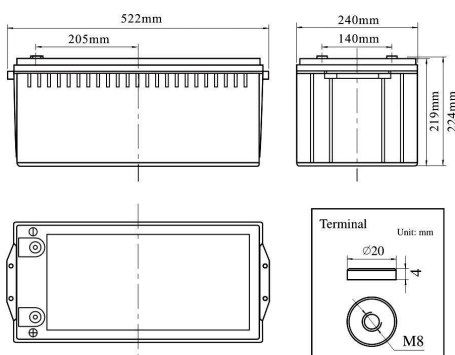
- Able to operate at -40 ~ 60°C
- Integrated design to ensure the best uniformity and reliability
- Longer life and higher stability
1750 cycles @ 50% DOD
- **More** Super-C additives: Deep discharge recovery capability.

APPLICATIONS

- BTS Stations
- Solar & Wind energy system
- UPS system
- Marine ;Boats
- Wheel chair, Golf cart

DIMENSIONS & WEIGHT

Length(mm)	522±1
Width(mm)	240±1
Height(mm)	219±1
Total Height(mm)	225±1
Weight(kg)	65.2±3%



TECHNICAL SPECIFICATIONS

Nominal Voltage		12V (6 cells per unit)
Design Floating Life @25°C		20 Years
Nominal Capacity @25°C (20 hour rate@11.5A,10.8V)		230Ah
Capacity @25°C	10hour rate (20.8A,10.8V)	208Ah
	5 hour rate (35.0A,10.5V)	175Ah
	1 hour rate (127.1A,9.6V)	127.1Ah
Internal Resistance	Full Charged Battery@25°C	≤2.7mΩ
Ambient Temperature	Discharge	-25°C~60°C
	Charge	-25°C~60°C
	Storage	-25°C~60°C
Max.Discharge Current@25°C		1320A(5s)
Capacity affected by Temperature (10 hour)	40°C	108%
	25°C	100%
	0°C	90%
	-15°C	70%
Self-Discharge@25°C per Month		3%
Charge (Constant Voltage) @25°C	Standby Use	Initial Charging Current Less than 50.0A Voltage 13.6-13.8V
	Cycle Use	Initial Charging Current Less than 50.0A Voltage 14.4-14.9V

BATTERY DISCHARGE TABEL

Discharge Constant Current per Cell (Amperes at 25°C)

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	343.6	204.5	145.2	127.1	77.6	54.5	37.0	24.4	22.8	12.3	2.64
1.65V	337.4	200.8	142.6	124.7	76.2	53.5	36.4	24.0	22.4	12.1	2.59
1.70V	331.1	197.1	139.9	122.4	74.7	52.5	35.7	23.6	22.0	11.9	2.54
1.75V	324.9	193.3	137.3	120.1	73.3	51.5	35.0	23.1	21.6	11.7	2.49
1.80V	312.4	185.9	132.0	115.5	70.5	49.5	33.7	22.2	20.8	11.5	2.44

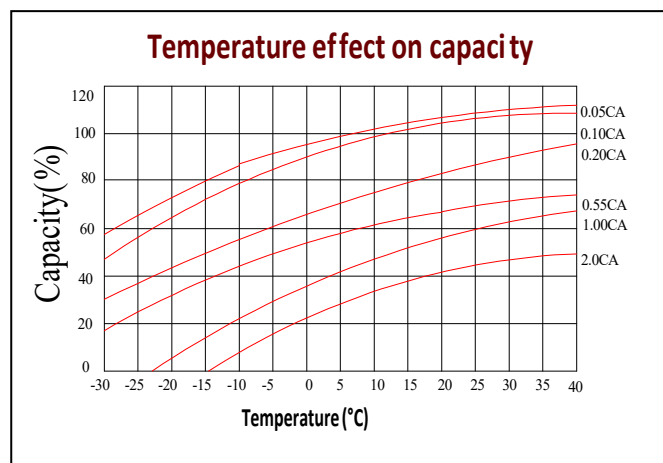
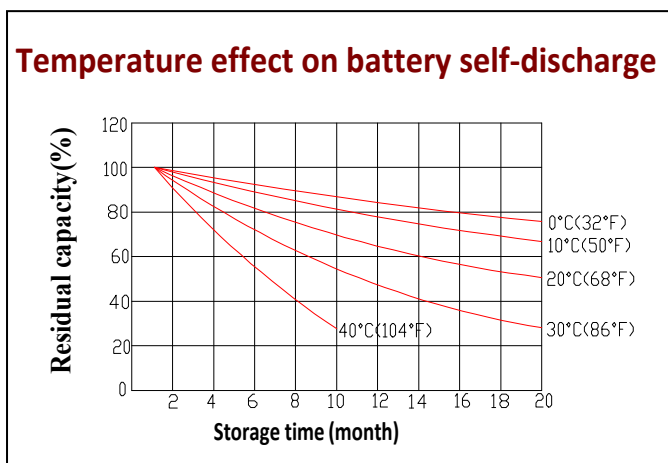
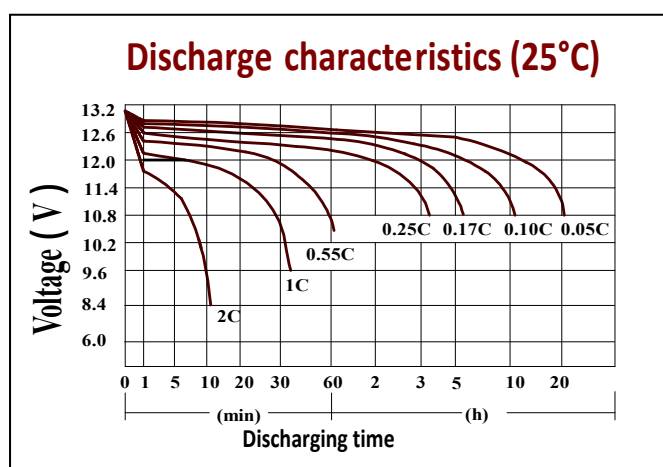
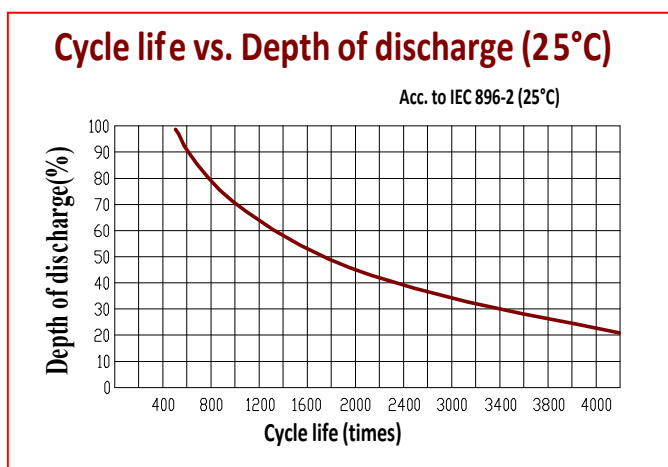
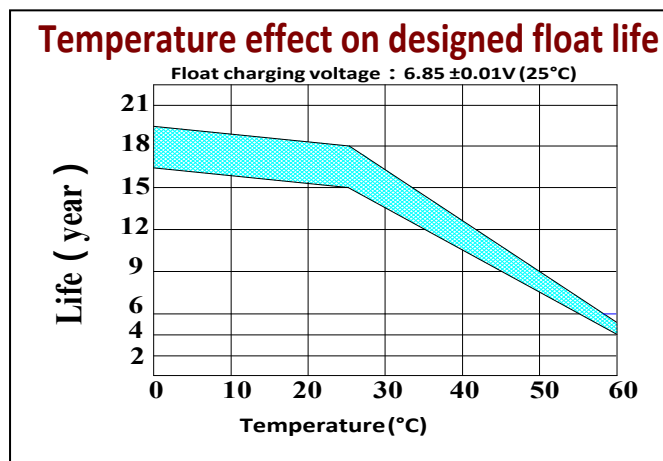
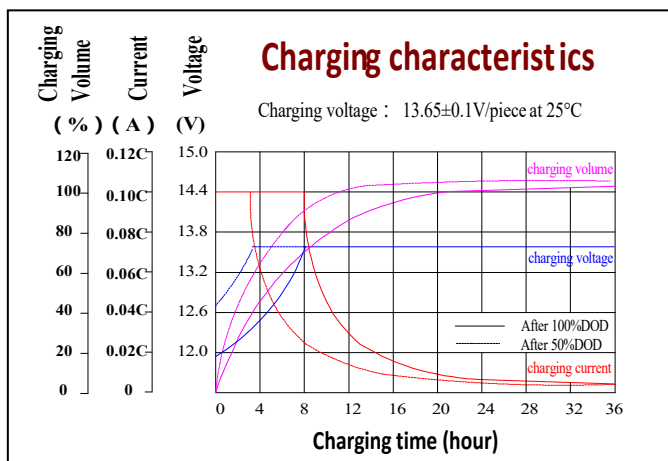
Discharge Constant Power per Cell (Watts at 25°C)

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	661.5	393.6	279.5	244.6	149.3	104.8	71.3	47.1	41.9	22.9	5.08
1.65V	649.5	386.5	274.4	240.1	146.6	102.9	70.0	46.2	41.2	22.4	4.98
1.70V	637.5	379.3	269.3	235.7	143.9	101.0	68.7	45.3	40.4	22.0	4.89
1.75V	625.4	372.2	264.3	231.2	141.2	99.1	67.4	44.5	39.6	21.6	4.79
1.80V	601.4	357.9	254.1	222.3	135.7	95.3	64.8	42.8	38.1	21.2	4.70

Note: The above data are average values, and can be obtained within 3 charge/discharge cycles. These are not minimum values. Cell and battery designs/specifications are subject to modification without notice. Contact **CSPower** for the latest information.

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PERFORMANCE CHARACTERISTICS



BATTERY CONSTRUCTION

Component	Positive plate	Negative plate	Container & Cover	Safety valve	Terminal	Separator	Electrolyte	Pillar seal
Features	Thick high Sn low Ca grid with special paste	Balanced Pb-Ca grid for improved recombination efficiency	Fire resistant ABS (UL94-V0 optional)	Flame Si-Rubber and aging resistance	Female Copper Insert M8	Advanced PVC/AGM separator for high pressure cell design	Silicon Gel import from Germany	Two layers epoxy resin seal

CSPower Battery Tech Co., Ltd.

Add: Evolution Space, NO.61, Liuxian 2nd Road, Baoan, Shenzhen, China
Tel: +86-755-29123661 Email: sales@cspbattery.com

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