

# **PROFESSIONAL ON BATTERY**

**CSPOWER BATTERY TECH CO.,LTD** 



## **Shenzhen CSPOWER Battery Tech Co., Ltd (Headquarter)**

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# **About us**

CSPOWER BATTERY TECH CO.,LTD is a professional manufacturer and exporter of environmental friendly Rechargeable Deep Cycle AGM Sealed Lead Acid (SLA) Batteries, Solar GEL Batteries, Front Terminal Battery, High Temperature long life GEL battery, OPzV Battery, Car/Auto Batteries, Telecom Batteries, Lithium batteries and other Solar related products such as Solar inverter, Solar charger controller, Solar panel and so on.

Incorporated in 2003, CSPOWER has steadily expanded to approximately 1000 employees which include an experienced management team supported by a team of highly committed technical and manufacturing workers.

Located in a world-class, modern industrial park of 50, 000 square meters in Guangdong, China, CSPOWER's top of line facilities produce an annual capacity of approximately 2, 000, 000kVAh.

CSPOWER batteries are classified into two categories: Valve-Regulated Lead Acid Battery and GEL Battery. The VRLA battery includes UPS inverter AGM battery, Solar Deep Cycle battery, Telecom Front terminal battery, long life span over 10years; The GEL Battery includes Solar Gel battery, High temperature long life Gel battery, OPzV Tubular Gel battery, longer life span 15-25years mainly for solar and wind power system.

With the continuous innovation and pursuit of perfection, CSPOWER has own professional Quality Management System since established. We have successfully got the certificates of ISO9001 quality management system, ISO14001 environment management system, and passed the audit of OHSAS 18001. Also, we have received various product quality recognitions, like UK's IEC 60896, CE authentication of the European Union, RoHS, ISO9001, and TLC certificates in China.

In domestic market, our main customers include China Mobile Limited & Unicom Limited, ZTE Corporation, Delta Electronics Inc, Huawei Technologies, APC, Eaton and so on. And for overseas market, we have exported to over hundreds of countries such as: USA, Brazil, Italy, Greece, Germany, Spain, Russia, Iran, Korea, Thailand, South Africa, Nigeria, etc.

CSPOWER is competent at ODM and OEM orders according to customers realtime request.

Please come to us for your only reliable battery and solar partner in China today.

## Certificate





















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Weight(kg)

**Battery Dimension(mm)** 



NEWEST HTL SERIES HIGH / COLD TEMPERATURE LONG LIFE DEEP CYCLE GEL BATTERY

Voltage: 12V, 6V

Capacity: upto 12V300Ah, 6V420Ah

Designed floating service life: 15~20 years @

25 °C.



NEWEST IN 2016, CSPOWER HIGH TEMPERATURE LONG LIFE GEL BATTERY, BEST CHOICE TO WORK IN HOT/COLD TEMPERATURE SITES AND LONG LIFE OVER 15YEARS.

Considering the challenge that when normal battery work in hot or cold environment the battery will be derate, we developed a new range type of battery adapted for these environments.

We are proud to introduce our High/COLD Temperature Long Life Deep Cycle GEL Battery - HTL series.

Using thick plate design with special additives (super-C). This newly developed battery can work even high temperature up to 60°C or down to -20°C without the use of any air-conditioner.

#### FEATURES AND BENEFITS

HTL series is specially High-temperature sealed free maintenance deep cycle GEL battery with 15-20 years design life in float service, 30% more than standard Gel battery, and 50% more than Lead Acid

It meets with IEC, CE and ISO standards. With up-dated patented technology and high purity raw GEL materials, the HTL series battery maintains high consistency for better performance and reliable standby service life. It is designed specially for using under high and cold temperature sites.

- 1) Three years warranty at 35°C-40°C average
- 2) Able to operate at -20°C to 60°C
- 3) Longer life and higher stability under high temp, environment (no air-con needed)
- 4 ) Use super-C additives lead plates: Deep discharge recovery capability
- 5) Cycle usage: 50% DOD, 1500 Cycles work in high/cold temp.

#### CHARGING VOLTAGE

Constant voltage charging is recommended Recommended float charge voltage: 2.27V/cell @20~25°C

Float voltage temperature compensation: -3mV/°C/cel I Float voltage range: 2.27 to 2.30 V/cell @ 20~25°C Cyclic application charge voltage: 2.40 to 2.47 V/cell @ 20~25°C

Max. charge current allowable: 0.25C



1. HTL series adopts super corrosion-resistant alloy and unique patented grid structure, so can improve the lead plates corrosion-resistant performance in high temperature.

2. It adopts special positive negative lead plates ratio and unique nano gel electrolyte, so can improve battery overpotential of hydrogen evolution effectively and high reduce the water loss in high temperature environment.

3. Its paste formula is added anti-high temperature expanding agent, so can work continuously in high temperature environment. 4. HTL's shell adopts anti-high temperature ABS material, so the battery inside will not be over heat lead to water loss because of high temperature environment, ensure the battery super long life and the shell will not swell even use in extreme high temperature

5. HTL series adopts patented gel electrolyte by nano-meter fumed silica, which advantage is high heat capacity and excellent heat release performance, can avoid the thermal runaway problem of normal battery, and discharge capacity can increase by over 30% in low temperature area. So HTL battery can work very well in severe environment between -40 °C -65 °C.

6. Its formula is added special super expanding agent which ensure battery discharge capacity is higher than other normal battery when work in low temperature, thus even HTL battery work in -40°C area, it can work stable and continuously.

#### **APPLICATIONS**

- Electric Powered Vehicles
  Golf Cars and Buggies
  - Power Tools
- Wheel Chairs BTS Stations
- Control System
- Medical Equipments
- UPS systems
- Solar and Wind
- Emergency systems

#### **COMPLIED STANDARDS**

• UL

- CE
- IEC 61427
- IEC 60896-21/22

IATA and IMDG

- BS6290 part 4
- Eurobat guide, long life
- GB/T 22473
- ISO9001/14001/18001

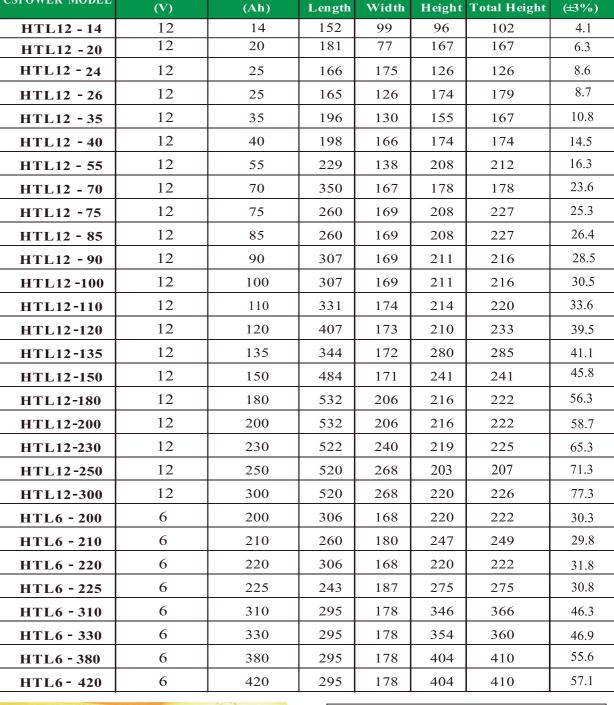
	20AH
CYTOWER THE AREA	C4 FCNEX
20 80 %	The second section is a second section in the second section in the second section is a section in the second section in the section is a section in the section in the section is a section in the section in the section is a section in the section in the section is a section in the section in the section in the section is a section in the section in the section in the section is a section in the section in the section in the section in the section is a section in the se

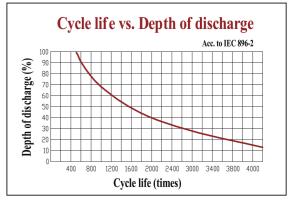
High Temperature Deep Cycle Gel Battery

Voltage

CSPOWER MODEL

Capacity





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## HTD SERIES LONG LIFE DEEP CYCLE **VRLA AGM BATTERY**

Voltage: 6V, 12V

Capacity: upto 6V420Ah, 12V300Ah

Designed floating service life: 12-15 years @ 25 °C/77 °F.



#### SUMMARY

Since 2003, CSPOWER start the research and produce sealed free maintenance AGM and GEL storage batteries. Our batteries are always in the process of innovation according to market and environment: AGM Battery CS series→GEL battery CG series→Deep Cycle AGM battery HTD series→High Temperature Long Life Deep Cycle GEL battery HTL series.

HTD series deep cycle AGM battery is specially valve regulated sealed free maintenance deep cycle AGM battery with 12-15 years design life in float service, perfect choice for deep cycle use, 30% longer life than regular AGM battery, reliable for backup use and solar cycle use.

#### FEATURES AND BENEFITS

CSPOWER HTD series deep cycle long life vrla agm battery uses a different chemistry additives in the positive plates and special AGM separators, The HTD series features 50% higher cyclic life with 12-15 years of float life when compared to the standard Duration range. This series is highly suited for very unreliable power applications requiring the batteries to provide extra cyclic life performance such as PV solar system applications, BTS systems and electric vehicles.

- 1. Three years warranty for solar cycle use.
- 2. 30% longer life than regular AGM lead acid battery.
- 3. Longer life and higher stability for deep cyle use.
- 4. Use Super-C additives lead plates: Deep discharge recovery capability
- 5. Cycle usage: 50% DOD, >1200 Cycles.

#### CHARGING VOLTAGE

Constant voltage charging is recommended Recommended float charge voltage: 2.27V/cell @20~25°C

Float voltage temperature compensation: -3mV/°C/cel I Float voltage range: 2.27 to 2.30 V/cell @ 20~25°C Cyclic application charge voltage: 2.40 to 2.47 V/cell @ 20~25°C

Max. charge current allowable: 0.25C

#### CONSTRUCTION

- 1. HTD series battery adopts unique grid structure, special super corrosion-resistant alloy and unique active material formula, which can improve the efficiency, so HTD battery recover performance is excellent after deep discharge even discharge to empty, also with the advantage of high durability, enough capacity and long cycle life.
- 2. All in HTD battery adopts high pure raw materials since original, so its self discharge rate is very low below 3% every month.
- 3. The electrolyte of HTD battery adopts low density electrolyte and add particular electrolyte additive, so can lower the corrosion of lead plates by electrolyte, reduce the problem of stratification of electrolyte density, result in to improve the battery charge receive capacity and over discharge performance, finally can extend the battery cycle life on a higher level.
- 4. HTD deep cycle agm battery adopts unique radial grid structure and super thick lead plates, in order to extend battery cycle life. Enhancing lead plates thickness ensure that battery can realize self protect of over discharge so can avoid battery over discharge.
- 5. Newest HTD deep cycle battery adopts patent technology of high strength tight assemble and 4BS lead paste, so can extend the battery cycle life obviously.
- 6. It adopts battery formation innovative technology, so can reduce of the possibility of lead plates secondary pollution and improve the battery consistency.

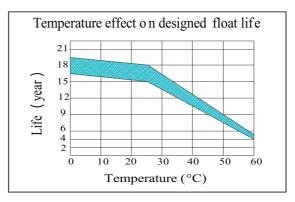
#### **APPLICATIONS**

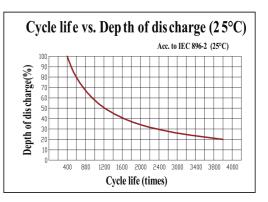
- Electric Powered Vehicles Golf Cars and Buggies
- Wheel Chairs
- Power Tools
- BTS Stations
- Control System UPS systems
- Medical Equipments Solar and Wind
- Emergency systems

#### COMPLIED STANDARDS

- IEC 61427
- CE
- BS6290 part 4
- IEC 60896-21/22
- GB/T 22473
- Eurobat guide, long life
- ISO9001/14001/18001
- IATA and IMDG

CCDOWED MODEL	Voltage	Capacity	В	attery D	imension	(mm)	Weight(kg)
CSPOWER MODEL	<b>(V)</b>	(Ah)	Length	Width	Height	Total Height	(±3%)
HTD12 - 14	12	14	152	99	96	102	3.8
HTD12 - 20	12	20	181	77	167	167	6.0
HTD12 - 24	12	25	166	175	126	126	8.3
HTD12 - 26	12	25	165	126	174	179	8.4
HTD12 - 35	12	35	196	130	155	167	10.5
HTD12 - 40	12	40	198	166	174	174	14.2
HTD12 - 55	12	55	229	138	208	212	16
HTD12 - 70	12	70	350	167	178	178	23.3
HTD12 - 75	12	75	260	169	208	227	25
HTD12 - 85	12	85	260	169	208	227	26.1
HTD12 - 90	12	90	307	169	211	216	28.2
HTD12 -100	12	100	307	169	211	216	30.2
HTD12-110	12	110	331	174	214	220	33.3
HTD12-120	12	120	407	173	210	233	39.2
HTD12-135	12	135	344	172	280	285	40.8
HTD12-150	12	150	484	171	241	241	45.5
HTD12-180	12	180	532	206	216	222	56
HTD12-200	12	200	532	206	216	222	58.4
HTD12-230	12	230	522	240	219	225	65
HTD12-250	12	250	520	268	203	207	71
HTD12-300	12	300	520	268	220	226	77
HTD 6 - 200	6	200	306	168	220	222	30
HTD 6 - 210	6	210	260	180	247	249	29.5
HTD 6 - 220	6	220	306	168	220	222	31.5
HTD 6-225	6	225	243	187	275	275	30.5
HTD 6-310	6	310	295	178	346	366	46
HTD 6-330	6	330	295	178	354	360	46.6
HTD 6-380	6	380	295	178	404	410	55.3
HTD 6-420	6	420	295	178	404	410	56.8





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Terminal

T5

T5

T5

T5

F1/F2

T1

T2

T2

T2

T2

T2

T2

T3

T3

T3

T3

T3

T3

T3

T3

T4

T5

T5

T5

T4

T4

T4

T4

T5

T5

T5

Bolt

M8×16

M8×16

M8×16

M8×16

M5×16

M6×16

M8×16

M6×16

M6×16

M8×16

Weight

(kg)

 $(\pm 3\%)$ 

27.5

27

29.5

29.5

3.8

5.2

6

7.7

8.3

10

12.3

13

15.5

16.2

20.5

21.5

22

23.5

25

27

29

33

34

41

41

43.5

48.5

53

56

58.2

61

**Total Height** 

251

226

251

229

102

167

167

174

126

167

172

174

212

212

178

178

215

215

219

216

219

233

233

288

241

241

222

222

225

225

225

**Battery Dimension (mm)** 

Height

247

220

247

224

96

167

167

174

126

155

172

174

208

208

178

178

211

211

214

211

214

210

210

283

241

241

216

216

219

219

219

Width

180

168

180

178

99

77

77

126

175

130

166

166

138

138

167

167

169

169

174

169

174

173

173

173

171

171

206

206

240

240

240

268

Length

260

306

260

323

152

181

181

166

166

196

198

198

229

229

350

350

260

260

331

307

331

407

407

341

484

484

532

532

522

522

522

520



## **CS SERIES VRLA AGM BATTERY**

Voltage: 6V, 12V

Capacity: upto 6V200AH ,12V250AH

Designed floating service life: 8-10 years @ 25 °C/77 °F.

#### SUMMARY

CSPOWER sealed free VRLA batteries are designed to have a large amount of stored current discharged between charging sessions, with very heavy non-porous battery plates to withstand repeated major discharging and charging cycle, The CSPOWER AGM battery uses a different chemistry for the plates active paste material, and a slightly stronger electrolyte than normal battery electrolyte, thus the CS range features 30% higher cyclic life with 10 years of float life when compared to the standard Duration range.

#### FEATURES AND BENEFITS

30% more cyclic life through innovation at the PAM additives

Long life expectancy of 10 years in floating condition

Thick flat plate with high Tin low Calcium alloy

Wide operating temperature range from -20 °C to 40°C

3% Low self-discharge rate

Very good cycle performance: up to 700 cycles @50% DOD

Excellent deep discharge recovery capability

#### CONSTRUCTION

Positive plate - Thick high Sn low Ca grid with special

Negative plate – Balanced Pb-Ca grid for improved recombination efficiency

Separator – Advanced AGM separator for high pressure cell design

Electrolyte – Dilute high purity sulfuric acid

Battery container and cover - Fire resistance ABS, water proof

Pillar seal – Two layers epoxy resin seal

Relief valve – Complete with integrated flame arrestor



#### CHARGING VOLTAGE AND SETTINGS

@20~25°C

Float voltage range: 2.27 to 2.30 V/cell @ 20~25°C Cyclic application charge voltage: 2.40 to 2.47 V/cell @ 20~25°C

Max. charge current allowable: 0.25C

#### **APPLICATIONS**

- Electric Powered Vehicles
- Golf Cars and Buggies
- Wheel Chairs
- Power Tools
- Electric Powered Toys
- Medical Equipments
- Solar and Wind
- Emergency systems

#### COMPLIED STANDARDS

UL

- CE
- IEC 61427
- IEC 60896-21/22
- BS6290 part 4 • GB/T 22473
- Eurobat guide, long life
- ISO9001/14001/18001
- IATA and IMDG



# Life characteristics of standby use floating voltage: 2.27 to 2.30V/Cell ambient temperature: 25°C(77°F) Life(vear

Voltage

**(V)** 

6

6

6

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

12

**CSPOWER** 

MODEL

CS6-180

CS6-180A

CS6-200

CS6-200A

CS12-15

CS12-17/18

CS12-20

CS12-24

CS12-26

CS12-33

CS12-38/40

CS12-45

CS12-50

CS12-55

CS12-65

CS12-70

CS12-75

CS12-80

CS12-85/90

CS12-100

CS12-100A

CS12-120

CS12-120A

CS12-135

CS12-150A

CS12-150

CS12-160

CS12-180

CS12-200

CS12-200A

CS12-230

CS12-250

Capacity

(Ah)

180

180

200

200

15

17/18

20

24

26

33

38/40

45

50

55

65

70

75

80

85/90

100

100

120

120

135

150

150

160

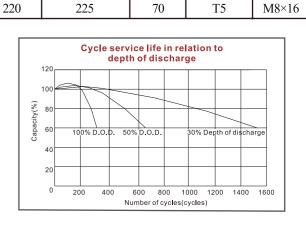
180

200

200

230

250



Constant voltage charging is recommended Recommended float charge voltage: 2.27V/cell

Float voltage temperature compensation: -3mV/°C/cel I

Control System

UPS systems

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CG SERIES VRLA GEL BATTERY

Voltage: 6V, 12V

Capacity: upto 6V200 Ah, 12V250Ah

Designed floating service life: 12~15 years @ 25 °C/77 °F.

#### SUMMARY

CSPOWER VRLA standard GEL battery is designed for frequent cyclic charge and discharge applications under extreme environments. By combining the newly developed Nano Silicone Gel electrolyte with high density paste, the Solar range offers high recharge efficiency at very low charge current. The acid stratification is highly reduced by adding Nano Gel.

#### **FEATURES AND BENEFITS**

- 1. This Energy storage battery utilizes gel electrolyte technology. The uniformly distributed gel electrolyte is made by mixing sulfuric acid with silica fume.
- 2. The electrolyte can hold the battery plates securely in an immobile gel.
- 3. Radial grid design offers this power storage device excellent discharge performance.
- 4. Due to 4BS lead paste technology, our deep cycle gel battery provides long lasting service life.
- 5. Employing unique grid alloy, special gel formulation and distinct positive and negative lead paste ratio, the maintenance free battery boasts outstanding deep cycle service performance and over discharge recovery ability.
- 6. Completely manufactured from high purity raw materials, CSPOWERVRLA standard gel battery has extremely low self discharge.
- 7. Gas recombination technology ensures excellent seal reaction efficiency, thus delivering no pollution such as acid mist to the environment.
- 8. The gel VRLA battery boasts reliable sealing technology which enables security seal performance.

#### CHARGING VOLTAGE AND SETTINGS

Constant voltage charging is recommended

Recommended float charge voltage: 2.27V/cell @20~25°C

Float voltage temperature compensation: -3mV/°C/cel I Float voltage range: 2.27 to 2.30 V/cell @ 20~25°C

Cyclic application charge voltage: 2.40 to 2.47 V/cell @ 20~25°C

Max. charge current allowable: 0.25C



#### CONSTRUCTION

- 1) Container/Cover: Made of UL94HB and UL 94-0ABS Plastic, fire resistance and water proof.
- 2) 99.997% pure new lead NEVER use recycle lead.
- 3) Negative Plates: Use the special PbCa alloy grids, optimize the recombination efficiency and less gassing.
- 4) High quality AGM separator: Absord acid electrolyte, the best retainer mat for VRLA batteries.
- 5) Positive plates: PbCa grids minimize corrosion and prolong life.
- 6) Terminal post: Copper or lead material with maximum conductivity, enhance the high current rapidly...
- 7) Vent Valve: Allows the release of the excess gas automatically for safety.
- 8) Three steps of Seal procedures: Ensure battery completely sealed with safety, never leakage and volatile acid. longer life.
- 9) Silicone Nano GEL electrolyte: Import from Germany Degussy famous brand silicone.

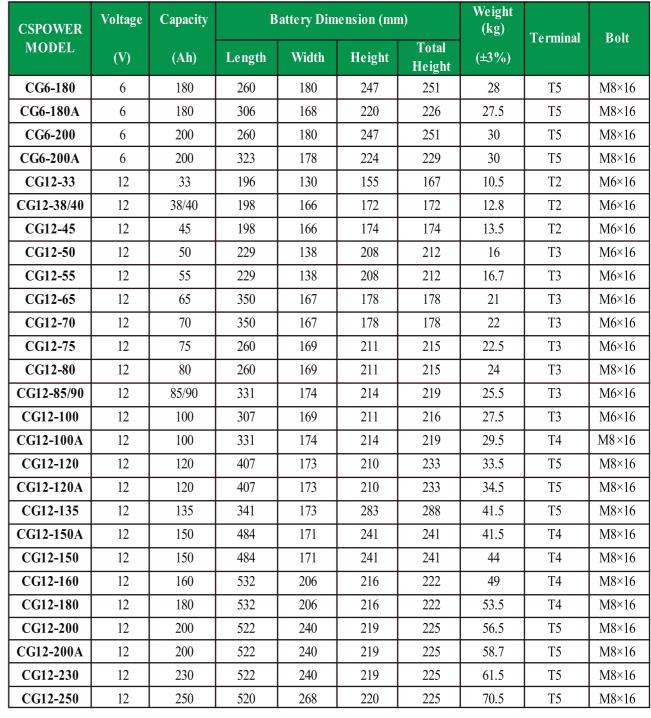
#### **APPLICATIONS**

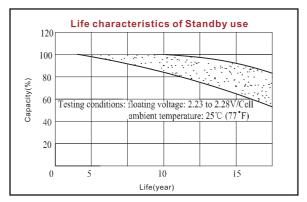
- Electric Powered Vehicles Golf Cars and Buggies
- Wheel Chairs
- Power Tools
- Electric Powered Toys
- Control System
- Medical Equipments
- UPS systems
- Solar and Wind
- Emergency systems

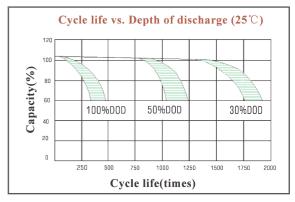
#### **COMPLIED STANDARDS**

UL

- CE
- IEC 61427
- IEC 60896-21/22
- BS6290 part 4
- Eurobat guide, long life
- GB/T 22473
- IATA and IMDG
- ISO9001/14001/18001







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## FT SERIES FRONT TERMINAL AGM BATTERY

Voltage: 12V

Capacity: upto 12V200Ah

Designed floating service life: 8-10 years @ 25 °C/77 °F.

#### **APPLICATIONS**

1. Suitable for 19inch and 23inch power cabinet.

2.Used in telecom system including exchange board, microwave station, mobile base station, data center, radio and broadcast station.

3. Great for power supply system of private network or

4.Used as signal system battery and emergency lighting system battery.

5. Perfect for EPS and UPS system.

6. Solar and wind system.

CSPOWER Front Terminal lead acid battery is mainly used in the area of communication, which is novel in design, reasonable in structure and occupying the leading position in the same industry of the world.

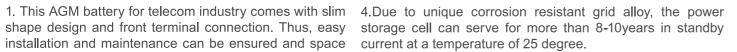
As with previous INTELEC (International Telecommunications Energy) conferences, many people were concerned about the life and durability of VRLA (Valve Regulated Lead Acid) batteries. It can be employed in numerous applications in the fields of communications. In order to ensure that the power supply is guaranteed at all times, essential facilities are backed up with high performances battery systems. Sudden breaks in the power supply are then no longer a problem. If the power suddenly fails, battery systems take over the emergency supply of power.

#### **FEATURES**:

shape design and front terminal connection. Thus, easy installation and maintenance can be ensured and space current at a temperature of 25 degree. can be saved.

2.Radial grid design plus tight assembly technology assures this rechargeable battery prominent high rate discharge performance.

3. Our front access battery features unique design which makes it sure that the electrolyte volume can be hardly reduced during use and addition of water is not necessary in its service life.



5. Fully made from high purity materials, the front access AGM battery comes with extremely low self discharge.

6.Gas recombination technology makes this power supply device environment friendly and pollution free. To be specific, due to this technology, the battery can have super high seal reaction efficiency, thus generating no acid mist.

7.The use of best-in-class sealing technology ensures that this UPS battery is perfectly sealed, providing high security and reliability.

CSPOWER	Voltage	Capacity	В	Battery I	Dime ns ion	Weight (kg)	Terminal	Bolt	
MODEL	(V)	(Ah)	Length	Width	Height	Total Height	(±3%)	Terminar	Doit
FT12-55	12	55/10HR	277	106	223	223	16	T2	M6×16
FT12-80	12	80/10HR	562	114	188	188	25	Т3	M6×16
FT12-100	12	100/10HR	507	110	223	223	29.4	T4	M8×16
FT12-105/110	12	110/10HR	394	110	286	286	30.5	T4	M8×16
FT12-125	12	125/10HR	552	110	239	239	38	T4	M8×16
FT12-150	12	150/10HR	551	110	288	288	44	T4	M8×16
FT12-160	12	160/10HR	551	110	288	288	44.5	T4	M8×16
FT12-175	12	175/10HR	546	125	316	323.5	53.5	T5	M8×16
FT12-180	12	180/10HR	560	125	316	316	54	T5	M8×16
FT12-200	12	200/10HR	560	125	316	316	55.3	T5	M8×16
Products will be	improved	l without not	ice, please	contact	sales for s	specification in	kind prevail		·

## FL SERIES FRONT TERMINAL GEL BATTERY

Voltage: 12V

Capacity: upto 12V200Ah

Designed floating service life: 12~15 years @ 25 °C/77 °F.

#### **APPLICATIONS**

1. Suitable for 19inch and 23inch power cabinet.

2.Used in telecom system including exchange board. microwave station, mobile base station, data center, radio and broadcast station.

3. Great for power supply system of private network or

4. Used as signal system battery and emergency lighting system battery.

5.Perfect for EPS and UPS system.

6. Solar and wind system.

As a well renowned front access lead acid battery manufacturer in China, CSPOWER offers the widest selection of front access AGM batteries and GEL VRLA batteries. The gel technology has numerous superiorities over the equivalent AGM battery range, especially for telecommunication applications.

The FL type front terminal battery comes with long lasting design life and front access connections for fast, easy installation and maintenance, and is ideally suitable for telecom outdoor equipment, renewable energy systems and other severe environments.

#### **FEATURES:**

1.This stationary battery comes with a superior gel 5.Due to a unique design, the electrolyte volume of this electrolyte where sulfuric acid is evenly mixed with silica fume and acid layering does not exist.

2. The electrolyte is gel like and immobile, which enables 6. Special anti-corrosion grid alloy is utilized so that the no leakage and uniform reaction of battery plates.

3. Serving as perfect power supply equipment, the front access lead acid battery is designed with slim shape. Front access terminal connection is convenient for discharge. installation and maintenance, and space serving.

4. Radial type grid design and tight assembly technology enable prominent high rate discharge performance for our GEL VRLA battery.

battery can not reduce in use, and it requires no watering during service life.

energy storage device comes with more than 12 years of design life at 25degree.

7. High purity raw materials ensure super low battery self

8.Thanks to the use of gas recombination technology, our industrial battery boasts extremely high seal reaction efficiency and vields no acid mist, thus friendly and pollution-free to the environment.

CSPOWER	Voltage	Capacity		(mm)	Weight (kg)	Terminal	Bolt		
MODEL	(V)	(Ah)	Length	Width	Height	Total Height	(±3%)		
FL12-55	12	55/10HR	277	106	223	223	16.5	T2	M6×16
FL12-80	12	80/10HR	562	114	188	188	25.5	T3	M6×16
FL12-100	12	100/10HR	507	110	223	223	30	T4	M8×16
FL12-105/110	12	110/10HR	394	110	286	286	31	T4	M8×16
FL12-125	12	125/10HR	552	110	239	239	38.5	T4	M8×16
FL12-150	12	150/10HR	551	110	288	288	44.5	T4	M8×16
FL12-160	12	160/10HR	551	110	288	288	45	T4	M8×16
FL12-175	12	175/10HR	546	125	316	323.5	54	T5	M8×16
FL12-180	12	180/10HR	560	125	316	316	54.5	T5	M8×16
FL12-200	12	200/10HR	560	125	316	316	56	T5	M8×16
roducts will be	improved	without notic	e, please	contact sa	les for spe	cification in kind	l prevail.		

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## **CL2 LONG LIFE DEEP CYCLE AGM BATTERY**

Voltage: 2V

Capacity: upto 2V3000Ah

Designed floating service life: 12~15 years @ 25 °C/77 °F.

## Advantages for Industry battery 2V

CSPOWER CL series of 2V VRLA AGM batteries upto 2V3000Ah are recognized as the most reliable and high quality battery system in the industry. They are designed with advanced AGM (Absorbent Glass Mat) technology, Long service life designed with 10-15 years, the batteries comply to the most popular international standards, such as IEC60896-21/22, CE, ISO and Eurobat Guide long life.



## Stable Quality & High Reliability

CSPOWER battery is well-known for its stable and reliable performance. Sealed AGM batteries are all free maintenance; thus permitting a safe and proper operation of the equipments. The battery can withstand overcharge, over discharge, vibration, and shock. It is also capable of extended storage.

#### Long Service Life, Float or Cyclic

The CSPOWER VRLA battery has a long life in float or cyclic service. The expected life of float service is 12 years @ 25°C.

## Low Pressure Venting System

CSPOWER batteries are equipped with a safe low pressure venting system, which operates from 1 psi to 6 psi. The venting system is designed to release excess gas in the event that the gas pressure rises to a level above the normal rate. Afterwards, the venting system automatically re-seals itself when the gas pressure level returns its normal rate. This feature prevents excessive build up of gas in the batteries. This low pressure venting system, coupled with the extraordinarily high recombination efficiency, ensure CSPOWER batteries be the safest VRLA batteries available.

## **Heavy Duty Grids**

The heavy-duty lead calcium-alloy grids in CSPOWER batteries provide an extra margin of performance and service life in both float and cyclic applications, even in conditions of deep discharge.

## **Application**

Industry use, Communication equipment, Telecommunication control equipment; Emergency systems; Electric power systems; Golf carts; Caravan; Power station; Nuclear power station; Solar power and wind power systems; Load leveling and storage equipment; Marine equipment; Power generation plants; Alarm systems; UPS and inverters; Medical equipment; Fire and security systems; Control equipment; Stand-by electric power.

CSPOWER	Voltage	Capacity		Battery	Dimension	Weight (kg)	Terminal	Bolt	
MODEL	(V)	(Ah)	Length	Width	Height	Total Height	(±3%)	Termina	202
CL2-200	2	200/10HR	170	106	330	367	13	T5	M8×16
CL2-300	2	300/10HR	171	151	330	365	18.5	T5	M8×16
CL2-400	2	400/10HR	211	176	329	367	26.1	T5	M8×16
CL2-500	2	500/10HR	241	172	330	364	31	T5	M8×16
CL2-600	2	600/10HR	301	175	331	366	37.7	T5	M8×16
CL2-800	2	800/10HR	410	176	330	365	51.6	T5	M8×16
CL2-1000	2	1000/10HR	475	175	328	365	62	T5	M8×16
CL2-1200	2	1200/10HR	472	172	338	355	68.5	T5	M8×16
CL2-1500	2	1500/10HR	401	351	342	378	96.5	T5	M8×16
CL2-2000	2	2000/10HR	491	351	343	383	130	T5	M8×16
CL2-2500	2	2500/10HR	712	353	341	382	180	T5	M8×16
CL2-3000	2	3000/10HR	712	353	341	382	190	T5	M8×16

## CG2 LONG LIFE DEEP CYCLE GEL BATTERY

Voltage: 2V

Capacity: upto 2V3000Ah

Designed floating service life: 15~20 years @ 25 °C/77 °F.

#### **SUMMARY**

CSPOWER CG2V series pure GEL battery is with 15-20 years floating design life, equal to HTL12V series deep cycle gel batteries.

it is ideal for standby or frequent cyclic discharge applications under extreme environments. By adopting thicker grids, high purity 99.997% lead and patented Silicon Gel electrolyte, CG2V series offers excellent recovery performance after deep discharge under frequent cyclic discharge use, and can deliver 1500 cycles at 50% DOD even work in hot or cold area. Suitable for Solar, CATV, marine, industry, RV and deep discharge UPS, communication, and telecommunication, etc.



#### ADVANTAGES FOR 2V INDUSTRY GEL BATTERY

- 1. This Energy storage battery utilizes gel electrolyte technology. The uniformly distributed gel electrolyte is made by mixing sulfuric acid with silica fume.
- 2. The electrolyte can hold the battery plates securely in an immobile gel.
- 3. Radial grid design offers this power storage device excellent discharge performance.
- 4. Due to 4BS lead paste technology, our deep cycle gel battery provides long lasting service life.
- 5. Employing unique grid alloy, special gel formulation and distinct positive and negative lead paste ratio, the maintenance free battery boasts outstanding deep cycle service performance and over discharge recovery ability.
- 6. Completely manufactured from high purity raw materials, CSPOWER deep cycle gel battery has extremely low self discharge
- 7. Gas recombination technology ensures excellent seal reaction efficiency, thus delivering no pollution such as acid mist to the environment.
- 8. The gel VRLA battery boasts reliable sealing technology which enables security seal performance.

CSPOWER Voltage		Capacity		Battery l	Dime ns ion	(mm)	Weight (kg)		D. I.
MODEL	(V)	(Ah)	Length	Width	Height	Total Height	(±3%)	Terminal	Bolt
CG2-200	2	200/10HR	170	106	330	367	13.5	T5	M8×16
CG2-300	2	300/10HR	171	151	330	365	19	T5	M8×16
CG2-400	2	400/10HR	211	176	329	367	26.5	T5	M8×16
CG2-500	2	500/10HR	241	172	330	364	31.5	T5	M8×16
CG2-600	2	600/10HR	301	175	331	366	38.2	T5	M8×16
CG2-800	2	800/10HR	410	176	330	365	52.1	T5	M8×16
CG2-1000	2	1000/10HR	475	175	328	365	62.5	T5	M8×16
CG2-1200	2	1200/10HR	472	172	338	355	69	T5	M8×16
CG2-1500	2	1500/10HR	401	351	342	378	97	T5	M8×16
CG2-2000	2	2000/10HR	491	351	343	383	131	T5	M8×16
CG2-2500	2	2500/10HR	712	353	341	382	181	T5	M8×16
CG2-3000	2	3000/10HR	712	353	341	382	191	T5	M8×16

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## **OPZV SERIES OPZV TUBULAR GEL BATTERY**

Voltage: 2V

Capacity: upto 2V3000Ah

Designed floating service life: 20 years @ 25 °C/77 °F.

Cyclic usage: 80% DOD, >2000cycles

#### SUMMARY

By combining the newly developed tubular positive plates with fumed gelled electrolyte, CSPOWER created the innovative OPzV range of batteries. The range offers 20 years design life and very high deep cycling capabilities. This range is recommended for telecom outdoor applications, renewable energy systems and other harsh environment applications.

#### FEATURES AND BENEFITS

1.20 years design life at floating condition @ 25°C 2.Wide operating temperature range from -40°C to 60°C

- 3. Tubular positive plate with prolonged cycle life
- 4. Fumed Silica gel electrolyte
- 5.Lead Calcium die cast grid with improved corrosion resistance capability
- 6.Low self-discharge rate and long shelf life 7. Excellent deep discharge recovery capability

#### **APPLICATIONS**

- Security Systems
- Control Equipments
- Telecom
- Photovoltaic Systems



calcium alloy;

high cycling expectancy; Negative Plates: Grid plate construction consisting of lead

Separator: Microporous and robust PVC-SiO2 separator, for positive and negative plates and optmized for low internal resistance; Container: ABS (UL94-HB), Flammability resistance of UL94-V1 can be available upon request;

Terminal Poles: Screw connection for easy and safe assembly and maintenance-free connection with excellent conductivity;

Valves: Release gas in case of excess pressure and protects the cell against atmosphere, reasonable open and close valve pressure, high reliable on performance.

- Electric Utilities
- UPS systems
- Medical Equipments
- Renewable Energy System

C4POWER

	Valtage			Battery	Dimension	ı	Weight	Terminal
CSPOWER MODEL	Voltage (V)	Capacity (AH)	Length mm	Width mm	Height mm	Total Height mm	Kg (±3%)	Туре
OPzV2-200	2	200	103	206	354	380	18	M8
OPzV2-250	2	250	124	206	354	380	23	M8
OPzV2-300	2	300	145	206	354	380	25	M8
OPzV2-350	2	350	124	206	470	496	28	M8
OPzV2-420	2	420	145	206	470	496	32	M8
OPzV2-500	2	500	166	206	470	496	38	M8
OPzV2-600	2	600	145	206	645	671	46	M8
OPzV2-800	2	800	191	210	645	671	65	M8
OPzV2-1000	2	1000	233	210	645	671	74	M8
OPzV2-1200	2	1200	275	210	645	671	93	M8
OPzV2-1500	2	1500	275	210	795	821	112	M8
OPzV2-2000	2	2000	399	212	772	797	152	M8
OPzV2-2500	2	2500	487	212	772	797	187	M8
OPzV2-3000	2	3000	576	212	772	797	225	M8
		<u> </u>			<u> </u>	797 ecification in ki		

## SMALL CAPACITY SEALED LEAD ACID AGM BATTERY

Voltage: 6V, 12V

Capacity: upto 6V12Ah, 12V12Ah

Designed floating service life: 3-5 years @ 25 °C/77 °F.

#### SUMMARY

CSPOWER CS series small capacity sealed free maintenance lead acid batteries are designed with AGM technology, high performance plates and electrolyte to gain extra power output for common power backup system applications widely used in the fields of UPS, Security and Emergency lighting system.

They are sealed and free maintenance whole life, valve regulated type standby AGM battery, also named by VRLA battery, SLA battery, and SMF battery.

#### **ADVANTAGES**

- 1. Sealed and maintenance free operation.
- 2. Non-Spillable construction design.
- 3. Safety valve installation for explosion proof.
- 4. 99.99% pure lead plates ensure high quality and high reliability.
- 5. Low self discharge 3% per month.
- 6. Long life span 3-5 years for backup use.
- 7. Using oxygen recombination technology: maintenance-free.
- 8. Pb-Ca-Sn alloy for plate grids: less gassing and less self-discharging.
- 9. High quality AGM separator: extend cycle life and prevents micro short circuit.
- 10. Flame-resistance ABS material: increases the strength of battery container.
- 11. Silver-coated copper terminals, brass insert terminals and lead terminals improve the electric conductivity.

#### **APPLICATIONS**

UPS, Electronic toys, Emergency, Security, Alarm, Lights, Power tools, Electronic scale, Video, standby equipment etc.

CSPOWER	Voltage	Capacity		Battery D	Weight	Tr		
MODEL	(V)	(Ah)	Length	Width	Height	Total Height	kg(±3%)	Terminal
CS6-4.0	6	4	70	47	101	107	0.7	F1/F2/CUT
CS6-4.5	6	4.5	70	47	101	107	0.75	F1/F2/CUT
CS6-5	6	5	70	47	101	107	0.8	F1/F2
CS6-7.0	6	7	151	34	95	101	1.15	F1/F2
CS6-10	6	10	151	50	94	100	1.6	F1/F2
CS6-12	6	12	151	50	94	100	1.75	F1/F2
CS12-4	12	4	90	70	101	107	1.35	F1/F2
CS12-4.5	12	4.5	90	70	101	107	1.48	F1/F2
CS12-5	12	5	90	70	101	107	1.58	F1/F2
CS12-6.5	12	6.5	151	65	94	100	1.9	F1/F2
CS12-7.0	12	7	151	65	94	100	2.05	F1/F2
CS12-7.2	12	7.2	151	65	94	100	2.15	F1/F2
CS12-7.5	12	7.5	151	65	94	100	2.2	F1/F2
CS12-9	12	9	151	65	94	100	2.4	F1/F2
CS12-10	12	10	152	99	96	102	3.2	F1/F2
CS12-12	12	12	152	99	96	102	3.5	F1/F2

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## Lithium Iron Phosphate (LiFePO4) Battery, own the longest life.







Voltage: 12V, 24V, 48V, 96V, 250V, 600V, etc.

Capacity: upto 12V200Ah, 24V100Ah, 48V100Ah, 600V200Ah, 250V20Ah,

48V20000Ah, etc.

Designed floating service life: over 20years @25°C

Cyclic usage: 100%DOD, >2000 cycles; 80%DOD, >3000 cycles

#### SUMMARY for Lithium battery

Due to the demand for energy saving strategies, CSPOWER delivers a full range of battery power systems with multiple nominal voltages (12V/24V/48V/240V/etc.). It is smaller in size and lighter in weight, but it has longer cycle life, temperature durability is stronger, and energy storage is more efficient. With the accurate and reliable battery management system (BMS), our lithium battery power system is a better solution for achieving highest efficiency and reliability. After years of practice, we have the most extensive experience in backup power supply in the industry, and we will continue to provide the best battery products.

## Advantages for LiFePO4 Battery

- ▶ Energy density is high. The volume and weight of lithium battery is 1/3 to 1/4 of the traditional lead acid battery with the same capacity.
- ► Energy conversion rate is 15% higher than that of a traditional lead acid battery, the advantage of energy saving is obvious. Self-discharge rate < 2% per month.
- ▶ Broad temperature adaptability. Products perform well at a temperature of -20°C to 60°C, without air conditioning system.
- ► Cycle durability for a single cell is 2000 cycles, which is 3 to 4 times more than the cycle durability of a traditional lead acid battery.
- ▶ Higher discharge rate, faster charging and discharging when there is a need for backup power supply for a period of 10 hours or less, we could reduce up to 50% of the capacity configuration, comparing to lead acid battery.
- ▶ High security. Our lithium battery is safe, electro chemical materials are stable, no fire or explosion under extreme conditions such as high temperature, short circuit, drop impact, piercing, etc
- ▶ Increased Flexibility: Modular Design enables deployment of up to four batteries in series and up to ten battery in parallel.
- ▶ Optional LCD digital display. Optional LCD digital display can install in the front panel of battery and show battery voltage, capacity, current information, etc.

## BMS of LiFePO4 Battery

Overcharge detection function Over discharge detection function Over current detection function Short detection function Balance function Temperature protection

## **Application**

Electric Vehicles, electric mobility Solar/wind energy storage system UPS, backup power Telecommunication Medical equipment Lighting and so on

## **Our Projects Show**

















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