

# DCS Series

## DCS12-50 12V50Ah



DCS series deep cycle battery is made of special high-tin corrosion-resistant alloy, It has optimized positive grid structure design and special negative active material improving charge acceptance ability and reducing negative plate sulphation. It is optimal battery for a wide range of household energy storage systems and suitable for partial state of charge (PSOC) applications.

### Benefits

- Very long life according to EUROBAT Classification
- More than 3000 cycles at 70% DOD
- Special negative active material formula, improve the charge acceptance ability, reduce the negative plate sulphation, more suitable for the partial state of charge (PSOC) application
- Modular design and horizontal installation, compact structure, saving the installation area and space, easy installation, convenient maintenance

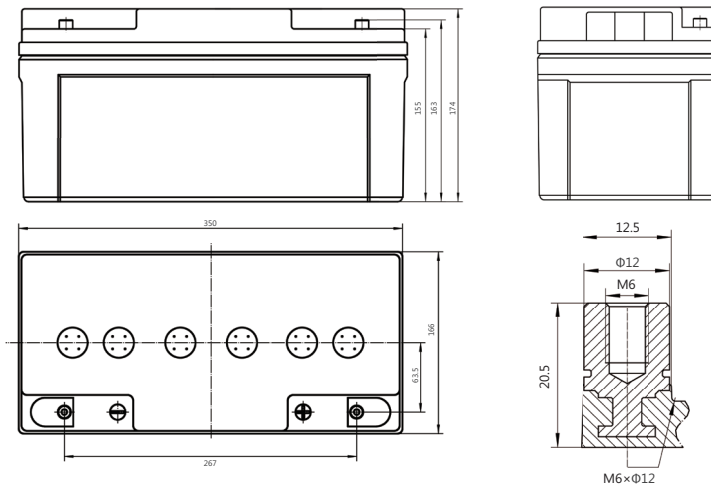
### Applications

- Household energy storage system
- Solar and wind energy system
- Emergency system
- Other cycling systems

### Standards

- IEC 60896-21/22
- IEC61427
- EUROBAT guide

### Drawing



### Specifications

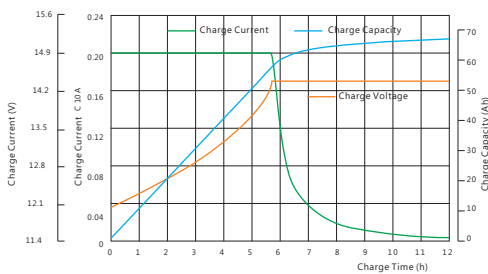
|                                    |  |                   |                     |                      |
|------------------------------------|--|-------------------|---------------------|----------------------|
| Battery Model                      | DCS12-50                                     |                   |                     |                      |
| Design Life (years, 25°C)          | 15   |                   |                     |                      |
| Capacity (Ah, 25°C)                | 10HR (5.0A, 1.80V)                           | 5HR (8.5A, 1.80V) | 3HR (12.5A, 1.80V)  | 100HR(0.627A, 1.80V) |
|                                    | 50.0   | 42.5              | 37.5                | 62.7                 |
| Dimensions (mm)                    | Length                                       | Width             | Height              | Total Height         |
|                                    | 350  | 166               | 174                 | 174                  |
| Approx. Weight (kg)                | 25.5   |                   |                     |                      |
| Reference Internal Resistance (mΩ) | 4.8 ( full charged @ 25°C)                   |                   |                     |                      |
| Short Circuit Current (A)          | 1500   |                   |                     |                      |
| Self-Discharge (25°C)              | < 1% per month                               |                   |                     |                      |
| Charge Voltage (V/cell, 25°C)      | Cycle use                                    |                   | Float use           |                      |
|                                    | 2.40 (-4mV/°C/cell), max charge current: 20A |                   | 2.25 (-4mV/°C/cell) |                      |

## Discharge Data

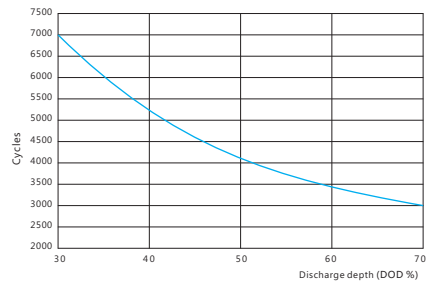
| Constant Current Discharge Data (25°C, A) |      |      |      |     |      |      |      |      |       |       |       |
|---|------|------|------|-----|------|------|------|------|-------|-------|-------|
| End Voltage (V/cell)                      | h    |      |      |     |      |      |      |      |       |       |       |
|   | 1    | 2    | 3    | 5   | 8    | 10   | 20   | 50   | 100   | 120   | 240   |
| 1.70                                      | 28.3 | 20.8 | 13.6 | 9.2 | 7.02 | 5.30 | 3.14 | 1.26 | 0.651 | 0.561 | 0.297 |
| 1.75                                      | 27.5 | 20.2 | 13.0 | 9.0 | 6.84 | 5.24 | 3.09 | 1.24 | 0.639 | 0.555 | 0.295 |
| 1.80                                      | 26.9 | 19.6 | 12.5 | 8.5 | 6.50 | 5.00 | 2.96 | 1.19 | 0.627 | 0.545 | 0.291 |
| 1.85                                      | 26.0 | 18.7 | 12.0 | 8.0 | 6.00 | 4.80 | 2.80 | 1.14 | 0.601 | 0.528 | 0.281 |
| 1.90                                      | 24.0 | 17.2 | 10.9 | 7.2 | 5.44 | 4.36 | 2.55 | 1.04 | 0.563 | 0.491 | 0.258 |
| 1.95                                      | 21.6 | 15.2 | 9.3  | 6.2 | 4.66 | 3.75 | 2.04 | 0.83 | 0.452 | 0.402 | 0.215 |

| Constant Power Discharge Data (25°C, W/cell) |      |      |      |      |      |      |      |      |       |       |       |
|--|------|------|------|------|------|------|------|------|-------|-------|-------|
| End Voltage (V/cell)                         | h    |      |      |      |      |      |      |      |       |       |       |
|  | 1    | 2    | 3    | 5    | 8    | 10   | 20   | 50   | 100   | 120   | 240   |
| 1.70   | 54.7 | 39.4 | 28.5 | 20.3 | 14.0 | 10.7 | 5.82 | 2.37 | 1.26  | 1.10  | 0.587 |
| 1.75   | 54.0 | 38.9 | 28.1 | 20.0 | 13.8 | 10.6 | 5.76 | 2.34 | 1.24  | 1.09  | 0.583 |
| 1.80   | 53.1 | 38.1 | 27.5 | 19.6 | 13.5 | 10.4 | 5.66 | 2.29 | 1.22  | 1.07  | 0.574 |
| 1.85   | 51.9 | 37.0 | 26.8 | 19.1 | 12.9 | 10.0 | 5.48 | 2.23 | 1.17  | 1.04  | 0.556 |
| 1.90   | 50.0 | 35.2 | 25.0 | 17.8 | 12.0 | 8.98 | 5.02 | 2.04 | 1.11  | 0.969 | 0.511 |
| 1.95   | 45.6 | 31.6 | 21.9 | 15.1 | 10.5 | 7.96 | 4.16 | 1.68 | 0.926 | 0.826 | 0.449 |

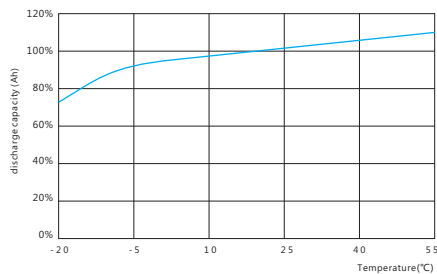
## Performance Curve



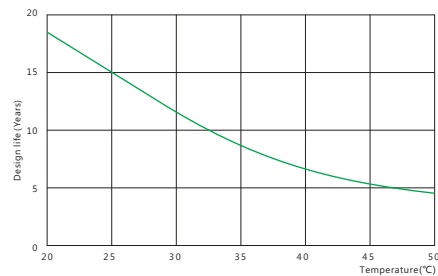
Charging characteristic



Cycle life vs. discharge depth



Discharge capacity vs. temperature



Design life vs. temperature

### Sacred Sun Power Sources Co., Ltd.

No.1 Shengyang Road Qufu City, PRC  
sales@sacredsun.cn

### Sacred Sun Asia Pacific

No. 15, Yishun Industrial Street 1,  
#01-17, WIN5, Singapore 768091  
sales.asia@sacredsun.cn

### Sacred Sun Europe SPRL

Schoenstraat 96-9140 Temse, Belgium  
sales.eu@sacredsun.cn

### Sacred Sun MEA FZE

S10122A1019 Jebel Ali, Dubai,  
United Arab Emirates  
sales.mea@sacredsun.cn