

# DCS Series

## DCS12-100 12V100Ah



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

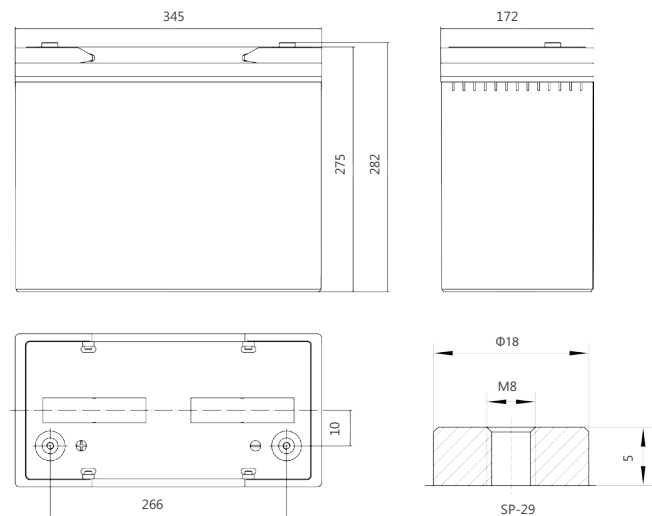
### Applications

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

### Standards

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

### Drawing



### Specifications

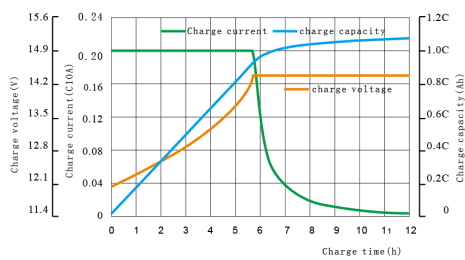
|                                    |                                                              |                    |                       |                      |
|------------------------------------|--------------------------------------------------------------|--------------------|-----------------------|----------------------|
| Battery Model                      | DCS12-100                                                    |                    |                       |                      |
| Design Life (years, 25°C)          | 15                                                           |                    |                       |                      |
| Capacity (Ah, 25°C)                | 10HR (10.0A, 1.80V)                                          | 5HR (17.0A, 1.80V) | 3HR (25A, 1.80V)      | 100HR(1.254A, 1.80V) |
|                                    | 100                                                          | 85.0               | 75.0                  | 125.4                |
| Dimensions (mm)                    | Length                                                       | Width              | Height                | Total Height         |
|                                    | 345                                                          | 172                | 275                   | 282                  |
| Approx. Weight (kg)                | 45.0                                                         |                    |                       |                      |
| Reference Internal Resistance (mΩ) | 4.1±15% ( full charged @ 25 °C, testing device:HIOKI BT3562) |                    |                       |                      |
| Short Circuit Current (A)          | 2000                                                         |                    |                       |                      |
| Self-Discharge (25°C)              | ≤ 1% per month                                               |                    |                       |                      |
| Charge Voltage (V/cell, 25°C)      | Cycle use                                                    |                    | Float use             |                      |
|                                    | 2.40 (-3.5mV/°C/cell), max charge current: 40A               |                    | 2.25 (-3.5mV/°C/cell) |                      |

## Discharge Data

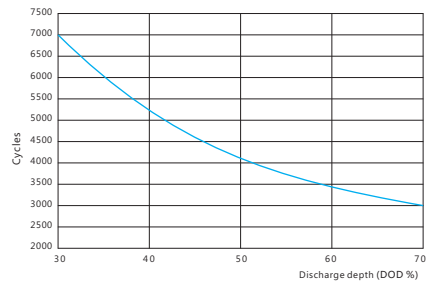
| Constant Current Discharge Data (25°C, A) |      |      |      |      |      |      |      |      |       |       |       |
|-------------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|
| End Voltage (V/cell)                      | h    |      |      |      |      |      |      |      |       |       |       |
|                                           | 1    | 2    | 3    | 5    | 8    | 10   | 20   | 50   | 100   | 120   | 240   |
| 1.70                                      | 56.6 | 41.6 | 27.2 | 18.4 | 14.0 | 10.6 | 6.28 | 2.52 | 1.302 | 1.122 | 0.594 |
| 1.75                                      | 55.0 | 40.6 | 26.4 | 18.0 | 13.7 | 10.5 | 6.18 | 2.48 | 1.278 | 1.110 | 0.590 |
| 1.80                                      | 53.8 | 39.2 | 25.0 | 17.0 | 13.0 | 10.0 | 5.92 | 2.38 | 1.254 | 1.090 | 0.582 |
| 1.85                                      | 52.0 | 37.4 | 24.0 | 16.0 | 12.0 | 9.60 | 5.60 | 2.28 | 1.200 | 1.056 | 0.562 |
| 1.90                                      | 48.0 | 34.4 | 21.8 | 14.4 | 10.9 | 8.72 | 5.10 | 2.08 | 1.126 | 0.982 | 0.516 |
| 1.95                                      | 43.2 | 30.4 | 18.6 | 12.4 | 9.32 | 7.50 | 4.08 | 1.66 | 0.904 | 0.804 | 0.430 |

| 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                                         | 102.2 | 75.2 | 49.1 | 33.4 | 26.1 | 19.6 | 11.6 | 4.74 | 2.52 | 2.20 | 1.174 |
| 1.75                                         | 100.0 | 74.1 | 48.2 | 32.7 | 25.7 | 19.5 | 11.5 | 4.68 | 2.48 | 2.18 | 1.166 |
| 1.80                                         | 98.9  | 72.5 | 46.5 | 31.4 | 25.1 | 19.0 | 11.3 | 4.58 | 2.44 | 2.14 | 1.148 |
| 1.85                                         | 96.7  | 70.2 | 45.9 | 30.6 | 23.8 | 18.6 | 11.0 | 4.46 | 2.34 | 2.08 | 1.112 |
| 1.90                                         | 92.3  | 66.5 | 42.2 | 28.1 | 22.0 | 17.1 | 10.0 | 4.08 | 2.22 | 1.94 | 1.022 |
| 1.95                                         | 83.8  | 59.3 | 36.4 | 24.3 | 19.0 | 15.2 | 8.32 | 3.36 | 1.85 | 1.65 | 0.898 |

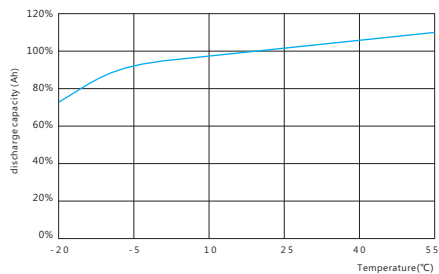
## Performance Curve



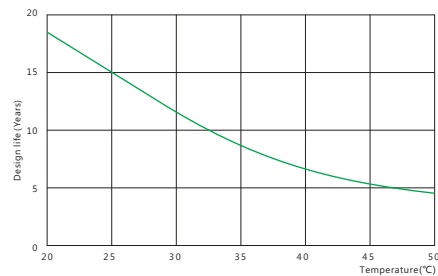
Charging characteristic



Cycle life vs. discharge depth



Discharge capacity vs. temperature



Design life vs. temperature

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