

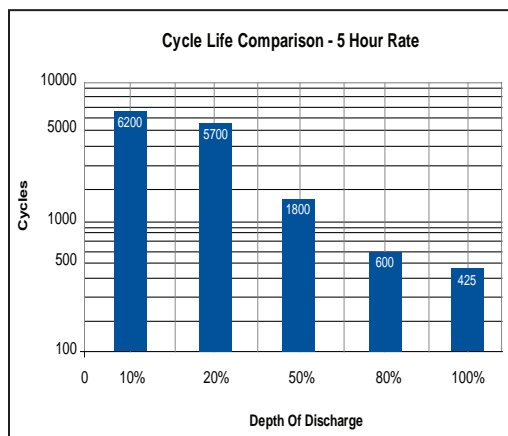


DEEP CYCLE SERIES



Valve Regulated Lead Acid Battery
Designed for Cycling Applications

INDUSTRY LEADING CYCLE LIFE



FEATURES & BENEFITS

- Robust plate for extended cycle life.
- Computer generated grid design optimized for high power density.
- Low calcium grid alloy for reduced gas emissions and ease of recycling.
- Flame-arresting one-way pressure-relief vent for safety and long life.
- UL-recognized component.
- Multicell design for economy of installation and maintenance.
- Case and cover available in standard polypropylene.
- Thermally welded case-to-cover bond to eliminate leakage.
- Removable carrying handles (HIT Versions)
- Can be used in any orientation. Upright, side, or end mounting recommended.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- Not restricted for air transport - Complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport – classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.
- Low profile terminals with threaded copper alloy inserts for reduced height, reduced maintenance and increased safety.
- Non-Hazardous, not restricted for any transportation mode (air, water or land)

TECHNICAL DATA

12 Volts - Ampere Hour Capacity to 1.75 Volts per Cell @ 77°F (25°C)														
Discharge in hrs.	1	2	3	4	5	6	7	8	10	12	20	24	72	100
DCS-33IT/DCS-33HIT	19.7	23.6	26.1	28.0	29.0	29.6	30.1	30.4	31.1	31.7	33.0	33.1	33.8	34.0
DCS-50IT	29.6	35.1	38.9	41.4	43.3	44.6	45.4	46.0	47.2	48.0	50.0	50.4	51.8	52.0
DCS-75IT/DCS-75HIT	43.5	53.2	58.5	62.0	64.5	66.6	68.6	69.6	71.0	72.0	75.0	75.6	77.6	78.0
DCS-88HIT	47.0	58.0	66.0	70.8	74.0	76.2	78.0	79.2	81.7	83.6	88.0	88.8	93.0	95.0
DCS-100HIT	49.2	61.5	70.0	76.0	80.6	84.0	86.8	89.0	92.0	94.2	100	101	104	106

SPECIFICATIONS

Model	Weight	Maximum Discharge Current	Short Circuit Current	Ohms Imped. 60 Hz (Ω)	Capacity
DCS-33IT/ DCS-33HIT	27 lbs. 12 kg	600 Amps	2150 Amps @ 0.1 sec.	0.0070 Ohms	29 Ah @ 5 hr. rate to 1.75 volts per cell at 77°F (25°C) 33 Ah @ 20 hr. rate to 1.75 volts per cell at 77°F (25°C) 29 Ah @ 10 hr. rate to 1.80 volts per cell at 68°F (20°C)
DCS-50IT	40 lbs. 18 kg	600 Amps	2500 Amps @ 0.1 sec.	0.0060 Ohms	43 Ah @ 5 hr. rate to 1.75 volts per cell at 77°F (25°C) 50 Ah @ 20 hr. rate to 1.75 volts per cell at 77°F (25°C) 45 Ah @ 10 hr. rate to 1.80 volts per cell at 68°F (20°C)
DCS-75IT/ DCS-75HIT	54 lbs. 25 kg	600 Amps	3100 Amps @ 0.1 sec.	0.0045 Ohms	65 Ah @ 5 hr. rate to 1.75 volts per cell at 77°F (25°C) 75 Ah @ 20 hr. rate to 1.75 volts per cell at 77°F (25°C) 68 Ah @ 10 hr. rate to 1.80 volts per cell at 68°F (20°C)
DCS-88HIT	64 lbs. 30 kg	800 Amps	3300 Amps @ 0.1 sec.	0.0045 Ohms	74 Ah @ 5 hr. rate to 1.75 volts per cell at 77°F (25°C) 88 Ah @ 20 hr. rate to 1.75 volts per cell at 77°F (25°C) 78 Ah @ 10 hr. rate to 1.80 volts per cell at 68°F (20°C)
DCS-100HIT	69 lbs. 31 kg	800 Amps	3600 Amps @ 0.1 sec.	0.0035 Ohms	81 Ah @ 5 hr. rate to 1.75 volts per cell at 77°F (25°C) 100 Ah @ 20 hr. rate to 1.75 volts per cell at 77°F (25°C) 85 Ah @ 10 hr. rate to 1.80 volts per cell at 68°F (20°C)

Cells Per Unit	6
Voltage Per Unit	12.84
Electrolyte	Absorbed H ₂ SO ₄ , SG = 1.300
Operating Temperature Range (with temperature compensation)	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
Normal Operating Temperature Range	+68°F (20°C) to +80°F (27°C)
Recommended Maximum Charging Current Limit	C/5 amperes @ 20hr rate
Float Charging Voltage	13.5 to 13.8 VDC/unit Average at 77°F (25°C)
Equalization and Cycle Service Charging and Current Limits	14.4 to 14.8 VDC/unit Average at 77°F (25°C)
Maximum AC Ripple (Charger)	0.5% RMS or 1.5% P-P of float charge voltage recommended for best results
Self Discharge	Battery can be stored up to 6 months at 77°F (25°C) before a freshening charge is required. Batteries stored at temperatures greater than 77°F (25°C) will require recharge sooner than batteries stored at lower temperatures. See C&D Technical Bulletin 41-7272, Self-Discharge and Inventory Control for details.
Accessories	Inter unit connectors, racks and cabinet systems are available
Terminal	Inserted Terminal (Copper Alloy) 10-32 UNF bolt (DCS-33, DCS-50) ¼-20 UNC bolt (DCS-75, DCS-88, DCS-100)
Terminal Hardware Initial Torque	30 in.-lbs (3.4 N-m) (DCS-33, DCS-50) 110 in.-lbs (12.4 N-m) (DCS-75, DCS-88, DCS-100)

DIMENSIONS

							Battery Termination		
	A	B	C	D	E	F	DCS-33	DCS-50	DCS-75
DCS-33IT/ DCS-33HIT	7.76 (197.1) 8.16 (207.2)	7.54 (191.4)	5.19 (131.9)	5.02 (127.6)	6.52 (165.7)	6.80 (172.7)			
	A	B	C	D	E	F	DCS-88	DCS-100	
DCS-50IT	9.0 (228.6)	8.86 (225.1)	5.48 (139.2)	5.31 (134.8)	7.89 (200.3)	8.07 (205.1)			
DCS-75IT/ DCS-75HIT	10.27 (260.9) 10.76 (273.2)	10.17 (258.4)	6.83 (168.9)	6.65 (168.9)	7.89 (200.3)	8.01 (203.5)			
DCS-88HIT	12.51 (317.8)	11.95 (303.5)	6.83 (173.4)	6.65 (168.9)	7.94 (201.6)	8.06 (204.8)			
DCS-100HIT	13.42 (340.9)	12.75 (323.7)	6.80 (172.7)	6.54 (166.0)	8.40 (213.2)	8.52 (216.4)			

*All dimensions in inches and (millimeters). All dimensions are for reference only. Contact a C&D Representative for complete dimension information.

NOTE: 'HIT' versions include lifting handle

DCS-33

Constant Current Discharge Ratings - Amperes @ 77°F (25°C)														
Operating Time to End Point Voltage (in hours)														
End Point Volts/Cell	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.90	15.90	9.83	7.30	5.80	4.80	4.16	3.65	3.25	2.67	2.27	1.42	1.19	0.42	0.30
1.85	17.40	10.50	7.71	6.15	5.14	4.40	3.85	3.43	2.84	2.41	1.52	1.28	0.44	0.32
1.80	18.40	11.10	8.10	6.49	5.40	4.60	4.02	3.57	2.91	2.47	1.57	1.34	0.46	0.34
1.75	19.70	11.80	8.70	7.00	5.80	4.93	4.30	3.80	3.11	2.64	1.64	1.38	0.47	0.34

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum and free air ventilation. Specifications subject to change without notification

DCS-50

Constant Current Discharge Ratings - Amperes @ 77°F (25°C)														
Operating Time to End Point Voltage (in hours)														
End Point Volts/Cell	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.90	23.00	15.30	11.50	9.25	7.80	6.70	5.85	5.20	4.25	3.58	2.19	1.83	0.63	0.46
1.85	26.50	16.50	12.30	9.85	8.26	7.08	6.16	5.45	4.45	3.75	2.33	1.96	0.68	0.50
1.80	28.00	17.20	12.70	10.10	8.48	7.25	6.30	5.60	4.57	3.88	2.45	2.06	0.70	0.51
1.75	29.60	17.60	13.00	10.35	8.66	7.43	6.48	5.75	4.72	4.00	2.50	2.10	0.72	0.52

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum and free air ventilation. Specifications subject to change without notification

DCS-75

Constant Current Discharge Ratings - Amperes @ 77°F (25°C)														
Operating Time to End Point Voltage (in hours)														
End Point Volts/Cell	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.90	34.00	21.00	15.50	12.30	10.30	8.90	7.84	7.00	5.80	5.00	3.20	2.70	0.95	0.69
1.85	38.20	23.80	17.70	14.30	11.90	10.30	9.00	8.10	6.66	5.60	3.50	2.95	1.02	0.74
1.80	41.00	25.30	18.80	15.00	12.50	10.80	9.50	8.50	6.96	5.90	3.70	3.10	1.06	0.77
1.75	43.50	26.60	19.50	15.50	12.90	11.10	9.75	8.70	7.10	6.00	3.75	3.15	1.08	0.78

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum and free air ventilation. Specifications subject to change without notification

DCS-88

Constant Current Discharge Ratings - Amperes @ 77°F (25°C)														
Operating Time to End Point Voltage (in hours)														
End Point Volts/Cell	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.90	36.50	22.10	16.80	13.70	11.60	10.10	8.93	8.00	6.70	5.75	3.80	3.25	1.17	0.85
1.85	40.60	25.10	19.00	15.50	13.20	11.50	10.15	9.10	7.60	6.45	4.13	3.50	1.23	0.91
1.80	44.00	27.50	20.70	16.80	14.20	12.25	10.77	9.60	7.96	6.75	4.30	3.67	1.28	0.94
1.75	47.00	29.00	22.00	17.70	14.80	12.70	11.14	9.90	8.17	6.97	4.40	3.70	1.29	0.95

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum and free air ventilation. Specifications subject to change without notification

DCS-100

Constant Current Discharge Ratings - Amperes @ 77°F (25°C)														
Operating Time to End Point Voltage (in hours)														
End Point Volts/Cell	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.90	38.50	23.50	17.70	14.40	12.20	10.60	9.40	8.44	7.05	6.08	4.00	3.40	1.23	0.91
1.85	42.00	26.50	19.70	16.00	13.60	11.80	10.45	9.38	7.86	6.80	4.48	3.80	1.35	0.99
1.80	45.40	28.40	21.50	17.50	14.90	13.00	11.50	10.33	8.64	7.44	4.78	4.04	1.42	1.03
1.75	49.20	30.80	23.30	19.00	16.12	14.00	12.40	11.13	9.20	7.85	5.00	4.22	1.44	1.06

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum and free air ventilation. Specifications subject to change without notification



1400 Union Meeting Road
P.O. Box 3053 • Blue Bell, PA 19422-0858
(215) 619-2700 • Fax (215) 619-7899 • (800) 543-8630
customersvc@cdtechno.com
www.cdtechno.com

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