

FLOODED



MARINE

GOLF

INDUSTRIAL

AUTO

SPECIAL
APPLICATIONS

SOLAR

LEAD-CALCIUM BATTERY

LCR-13

LCR SERIES

- Voltage: 2V
- Reserve Capacity: 900 Ah@8hr rate to 1.75VPC @ 77F
- Weight: 196 lbs (89 kg)
- Length: 7.62 in (194 mm)
- Width: 14.12 in (359 mm)
- Height: 22.70 in (577 mm)
- Positive Thickness: 0.312in (7.9mm)
- Negative Thickness: 0.210in (5.3mm)
- Separator: Microporous with fibrous glass mat
- Container: Thermoplastic, transparent (SAN)
- Cover: High-Impact, flame retardant UL 94-V0; ASTM D-635 self-extinguishing
- Recommended Float Voltage: 2.20-2.25 VPC
- Terminals: Four, 1-in square lead posts with 2 cross-bolt holes



FOR SWITCHGEAR & CONTROL APPLICATIONS

C&D Technologies flooded batteries are engineered to provide superior performance and reliability over the life of the product. These batteries are designed using proprietary techniques and quality components and materials for reduced maintenance and extended battery life.

MODEL **LCR-13**
 VOLTAGE **2V**
 CAPACITY **900Ah @ hr to 1.75VPC**
 CONTAINER **Thermoplastic, transparent (SAN)**
 COVER **Flame-retardant, tongue-and-groove seal. UL 94-V0; ASTM D-635**
 BATTERY TYPE **self-extinguishing**
 Lead-Calcium

2V

PRODUCT + PHYSICAL SPECIFICATIONS

Serie	Model	Voltage	Cell(s)	Terminal Quantity	Dimensions ^c Inches (mm)			Weight Lbs. (kg)
					Length	Width	Height ^f	
LCR	LCR-13	2	1	4	7.62 (194)	14.12 (359)	22.70 (577)	196 (89)

ELECTRICAL SPECIFICATIONS

VPC	Ah @ 8hr Rate	NOMINAL RATE @ 77F (+25C) IN 1.215 SPECIFIC GRAVITY (INCLUDES CONNECTION DROP)									
		AMPERES									
		1 MIN	15 MIN	30 MIN	1 HR	2 HR	3 HR	4 HR	5HR	8 HR	12 HR
1.75	900	843	743	633	456	312	240	189	165	113	80
1.78	886	736	664	582	436	288	222	183	156	111	81
1.81	860	627	577	519	406	272	210	174	150	108	79
1.85	802	489	457	421	348	243	190	159	138	100	75

CHARGING INSTRUCTIONS

Charger Voltage Settings (at 77°F/25°C)

System Voltage	2V	4V	24V	48V	125V
Bulk / Equalize Charge	2.35	4.70	28.20	56.40	141.00
Float Charge	2.25	4.50	27.00	54.00	135.00
High Voltage Alarm	2.45	4.90	29.40	58.80	147.00
Low Voltage Alarm	1.75	3.50	21.00	42.00	105.00

Do not install or charge batteries in a sealed or non-ventilated compartment. Constant under or overcharging will damage the battery and shorten its life as with any battery.

CHARGING TEMPERATURE COMPENSATION

Add	Subtract
0.005 volt per cell for every 1°C below 25° C 0.0028 volt per cell for every 1°F below 77°F	0.005 volt per cell for every 1°C above 25° C 0.0028 volt per cell for every 1°F above 77°F

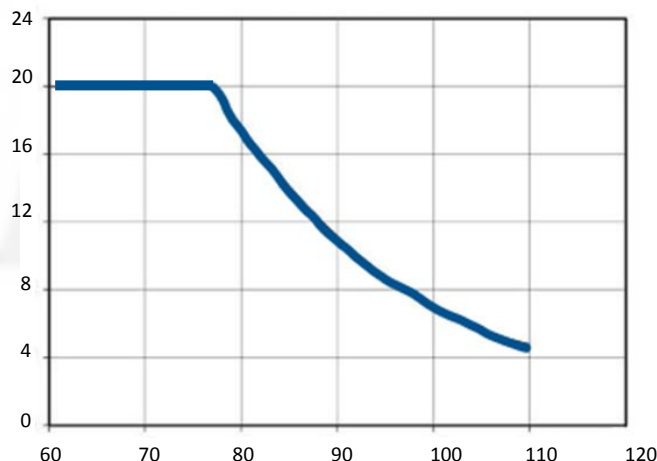
OPERATIONAL DATA

Operating Temperature	Self Discharge
Reccomended operating temperature range 60F (15 C) – 90F (32 C) Limit Operating Range 32F (0 C) – 120F (49 C)	Less than 3% per month depending on storage temperature conditions

STATE OF CHARGE MEASURE OF OPEN-CIRCUIT VOLTAGE

Percentage Charge	Cell	Specific Gravity
100	2.06 - 2.08	1.210 - 1.220
75	2.03 – 2.04	1.185 -1.195
50	2.00 – 2.01	1.160 – 1.170
25	1.97 – 1.98	1.135 – 1.145
0	1.95 or less	1.110 – 1.120

BATTERY LIFE v AMBIENT TEMPERATURE



LCR and LCY Lead-Calcium Battery

FOR SWITCHGEAR & CONTROL APPLICATIONS

Capacities from 900 to 2400 Ampere-hours



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FEATURES & BENEFITS

- Electrical testing to 100% capacity of all battery cells prior to shipping ensures performance of every battery string upon delivery
- Long life positive plates cast with a proprietary process and alloy
- Suspended positive plates permit free growth without pressure on jar and cover
- Waterbath charging results in consistently formed plates for reliable performance out of the box (no cycling required in the field)
- Nuclear versions qualified per IEEE 535 for Class 1E nuclear applications

SAFE OPERATION

- Standard flame-retardant covers enhance battery plant safety with self-extinguishing properties, LOI>32%, UL94V-0
- Low-evaporation, flame-arrester vent to extend watering intervals and prevent external sparks from reacting with the hydrogen inside the cell.

COST SAVINGS

- Transparent container allows visual inspection of plates
- Soft rubber post seal minimizes stress on post reducing maintenance requirements
- Computer controlled heli-arc welded post seals result in consistent and reliable seals for less maintenance and longer product life

APPLICATIONS

- Electric Power Generations
 - Facilities
- Nuclear Power Plants
- Emergency Systems
- Manufacturing Facilities
 - Assembly Lines
 - Process Controls
- Petrochemical Plants
- Pipelines

