



Sentinel Series

DC Power Systems

Description

12, 24, 36, 48 and 120VDC output systems in capacities up to 10,000 watts for normally-off DC load applications.

Features

- 12, 24, 36, 48 and 120VDC models
- 500 to 10,000 watt models
- 100ms transfer time
- 97% efficiency rating
- Small footprint
- Single cabinet configuration (except 10,000W model HDC-T2100)
- Front access to batteries and electronics
- Low audible noise
- Normally-off operation
- Automatic low battery voltage disconnect
- 90 minute operation standard, alternate run times available
- Maintenance-free lead calcium battery standard
- Optional long life lead calcium and wet-cell nickel cadmium batteries
- 32°F to 104°F (0°C to 40°C) operating range
- Meets NFPA Life Safety Code 101, NEC, OSHA, State and local codes
- UL924 listed



Ordering Guide

HDC-B1100APAB		-A	-P	-ICB
Model	Rating	Options (See below)		
HDC-B0500APAB	12VDC, 500W	Battery Type -P Sealed Lead Calcium (10 year life) -G Sealed Lead Calcium (20 year life) -V Wet-Cell Nickel Cadmium (25 year life)		
HDC-B1100APAB	12VDC, 1,000W			
HDC-B1150APAB	12VDC, 1,500W	Input Voltage Designator Suffix Input VAC -A 120 -R 277 -Z Special Voltages*		
HDC-B1200APAB	12VDC, 2,000W			
HDC-D1100APAB	24VDC, 1,000W	* Specify Example: -Z (240V)		
HDC-D1200APAB	24VDC, 2,000W			
HDC-D1300APAB	24VDC, 3,000W			
HDC-F1150APAB	36VDC, 1,500W			
HDC-F1300APAB	36VDC, 3,000W			
HDC-F1450APAB	36VDC, 4,500W			
HDC-F1600APAB	36VDC, 6,000W			
HDC-H1200APAB	48VDC, 2,000W			
HDC-H1400APAB	48VDC, 4,000W			
HDC-T1500APAB	120VDC, 5,000W			
HDC-T2100APAB	120VDC, 10,000W			

NOTE: All product specifications shown are subject to change without notice.

Options⁽¹⁾⁽²⁾

Add Suffix	Description
-OCB	Output Circuit Breaker(s) ⁽³⁾
-ICB	Input Circuit Breaker
-AR	Alternate Run Time (Specify Time in Minutes)
-FCH	Battery Charger Upgrade (12-Hour Recharge Cycle)
-VTD	Variable Time Retransfer Delay
-UF	Utility Failure Form C Contacts
-CFA	Charger Failure Alarm
-EW	Extended Warranty (Includes Factory Start-Up Service) ⁽⁴⁾
-FS	Factory Start-Up (Includes One Additional Year Of Warranty) ⁽⁴⁾

(1) Other options available. Consult factory.

(2) Some options may impact product UL listing. Consult factory.

(3) To specify, refer to Output Circuit Breaker Ordering Guide on back page.

(4) Warranty extensions apply to system electronics only. System batteries are covered by a separate pro-rata warranty which remains unchanged.

NOTE: Refer to page 4 for additional option information.

Specifier Reference

Project: _____

Fixture Type: _____

Model No.: _____

Comments: _____

Application

The HDC Series is designed to back up critical DC loads where transfer to emergency mode must be rapid. The HDC Series with fast, 100ms switching is ideally suited for incandescent emergency lighting, including DC lamps mounted within HID fixtures, fire or burglar alarms, fire doors and DC emergency fluorescent ballasts. Additionally, the HDC Series delivers superior reliability and 250,000 hour MTBF.

Construction

Cabinetry: Freestanding heavy duty NEMA Type 1 steel cabinets are finished in neutral tan baked-on powder paint providing scratch and corrosion resistance.

Cooling: Convection cooling.

Access: Front access via hinged, lockable doors.

Installation

Mounting: Freestanding cabinets bolt together when more than one cabinet is required.

Wiring: All battery and inter-cabinet wiring is provided pre-cut and terminated along with the necessary inter-cabinet hardware and electrical fittings required for proper installation.

Code Information

UL924 Listed and meets NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes

Battery

Standard Type P Battery: Sealed lead calcium maintenance free battery designed to provide 10 years of dependable service

Optional Batteries:

Type G: Sealed lead calcium maintenance free with 20 year life

Type V: Wet-cell Nickel Cadmium with 25 year life

Electrical Specifications

Input

Input Voltages: (60Hz) 120 or 277VAC, +10%, -15%

Input Frequencies: 60Hz ± 3%

Input Power Walk-In: 2 cycles

Input Current Distortion: 6% at full load (normal line voltage)

Input Lightning Protection : Up to 10,000V (320 joules) Meets IEEE 587

Input Protection: Standard fuse or optional circuit breaker

Output

Output Voltages: 12, 24, 36, 48 and 120VDC

Output Current: 41 to 166 amperes depending on model

Transfer Time: 100 ms

Output DC Voltage Range: 2.3 to 1.6 volts per cell (lead calcium batteries) or 1.55 to 0.96 volts per cell (nickel cadmium batteries)

Power Factor: Resistive

Overload Protection: 130% for 5 minutes

Output Protection: Standard fuse or optional output circuit breakers

Altitude: < 10,000 feet (3,000m) above sea level without derating

Batteries and Charger

Charger Type: Fully automatic, microprocessor controlled, temperature compensating charger

Operating Temperature Range: 32°F to 104°F (0°C to 40°C) with optimum performance between 68°F and 86°F (20°C and 30°C)

Relative Humidity: 0 to 95% non-condensing

Recharge Duty Cycle: 24 hours

Charger Protection: Fused output and automatic low voltage battery disconnect

Standard Battery: Sealed Lead Calcium (10 year life)

Optional Batteries:

Sealed Lead Calcium (20 year life)

Wet-cell Nickel Cadmium (25 year life)

Battery Voltage: 12 to 120VDC (depending on system rating)

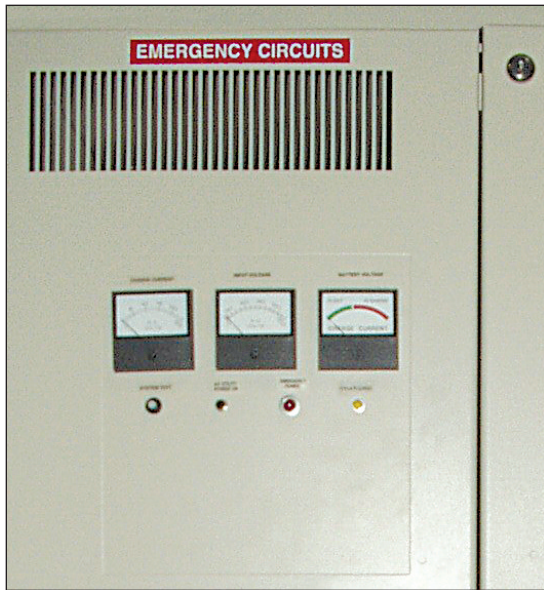
Runtime: 90 minutes standard - based on battery performance at 77°F (25°C) . Other runtimes available, consult factory.

General Specifications

System Model Number	Wattage Rating	System Voltage	Input Current (Amps)	Audible Noise (DBA) (@ 1 Meter)	Heat Loss (BTUs)	Number Of Batteries	Battery Runtime (Hours)	Output Current (Amps)	Total System Weight	
									Lbs	Kg
HDC-B0500APAB	500	12	4	45	44	1	1.5	41	283	129
HDC-B1100APAB	1,000	12	4	45	44	2	1.5	83	359	163
HDC-B1150APAB	1,500	12	4	45	88	3	1.5	125	451	205
HDC-B1200APAB	2,000	12	4	45	88	4	1.5	166	527	240
HDC-D1100APAB	1,000	24	4	45	88	2	1.5	41	357	162
HDC-D1200APAB	2,000	24	4	45	88	4	1.5	83	507	230
HDC-D1300APAB	3,000	24	5	45	175	6	1.5	125	673	306
HDC-F1150APAB	1,500	36	4	45	132	3	1.5	41	431	196
HDC-F1300APAB	3,000	36	4	45	132	6	1.5	83	655	298
HDC-F1450APAB	4,500	36	8	45	264	9	1.5	125	919	417
HDC-F1600APAB	6,000	36	8	45	264	12	1.5	166	1,143	519
HDC-H1200APAB	2,000	48	5	45	175	4	1.5	41	505	230
HDC-H1400APAB	4,000	48	5	45	175	8	1.5	83	827	375
HDC-T1500APAB	5,000	120	12	45	430	10	1.5	41	984	447
HDC-T2100APAB	10,000	120	12	45	430	20	1.5	83	1,926	874

Specifications listed are for 90 minute rated systems utilizing standard type "P" batteries. Consult factory for specifications on models with alternate batteries and runtimes.

Control Panel



The HDC system's user interface control panel provides access to the following features:

LED Indicators

- Battery High Charge
- Utility Voltage Present

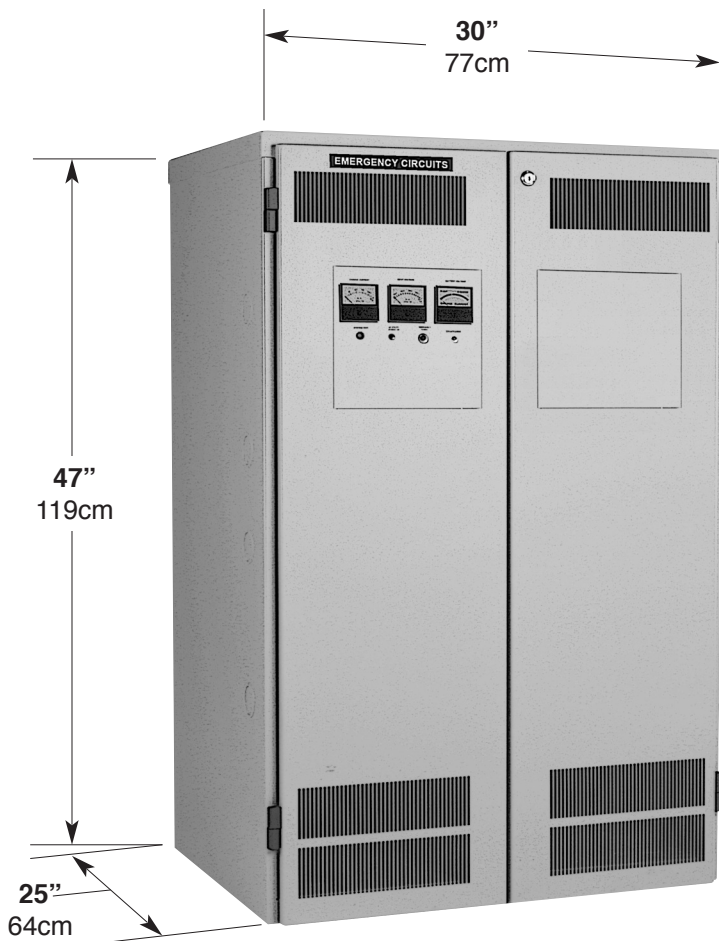
Meter Functions

- AC Input Voltage
- Battery Voltage
- Charger Current

Testing

- Panel mounted, manual momentary push button test switch (simulates utility failure)

Cabinet Dimensions



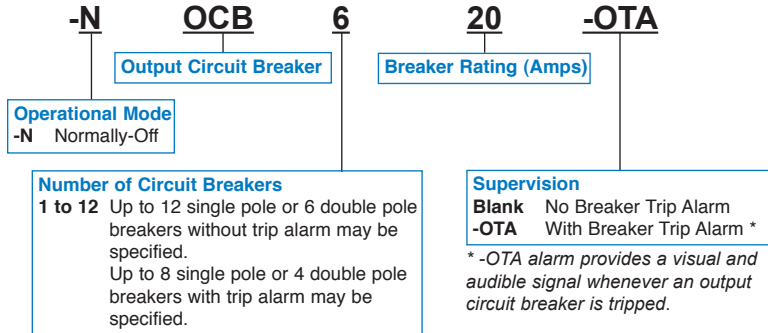
NOTE: All HDC Series models are supplied in the single cabinet configuration shown with the exception of the HDC-T2100APAB model which requires an additional battery cabinet of the same dimensions. Overall dimensions on the HDC-T2100APAB are 60" (152cm) W x 47" (119cm) H x 25" (64cm) D. Consult factory for system configurations on models utilizing type -V wet-cell nickel cadmium batteries.

Required Clearances

- Sides: 0" (0.0cm)
- Top: 12" (30.5cm)
- Front: 39" (99.1cm)

System Options

Output Circuit Breaker Ordering Guide



Input Circuit Breaker (-ICB)

Provides a single circuit breaker, properly sized for the system's total input requirements in place of the standard input fuse protection.

Alternate Run Time (-AR)

The system's normal 90-minute discharge cycle can be specified to meet decreased or increased run times in special product applications. Specify required discharge time in minutes. Example: **-AR (30)**

Battery Charger Upgrade (-FCH)

The battery charger upgrade option decreases the time required to return a fully discharged battery to the fully charged state. The normal 24 hour recharge cycle is reduced to 12 hours.

Variable Time Delay (-VTD)

Delays the retransfer of the system from emergency operation to standby mode to assure the utility voltage has had time to stabilize or to allow areas illuminated by HID fixtures time for the lamps to re-strike and attain full brilliance. Retransfer cycles are user selectable from 1 minute to 30 minutes.

Utility Failure Form C Contacts (-UF)

Summary form C low power contacts provide connection points for alarm relay outputs that monitor utility voltage. Rated at 5 amps (250VAC/30VDC), the contacts will change state when utility power fails and provide an audible alarm warning.

Charge Failure Alarm (-CFA)

Provides an audible alarm in the event that the battery charger's monitored output falls above or below preset normal operating parameters.

Extended Warranty (-EW)

Extends standard one year factory warranty up to an additional four years. Includes Factory Start-Up Service.

Factory Start-Up (-FS)

Initial on-site power up and test of inverter system and accessories performance to factory specifications by the manufacturer's local authorized service representative. Includes one additional year of warranty.

* **Warranty extensions apply to system electronics only. System batteries are covered by a separate pro-rata warranty which remains unchanged.**

Warranty Information

System: 1-year full coverage against defects in materials and workmanship from date of shipment

Battery:

Standard Type P Battery: 1 year full warranty plus an additional 9 years of pro-rata coverage
Optional Type G Battery: 1 year full warranty plus an additional 14 years of pro-rata coverage
Optional Type V Battery: 2 years full warranty plus an additional 18 years of pro-rata coverage