



Product brochure

# Cyberex<sup>®</sup> Cyberwave DC Charger

Digital microprocessor controlled  
float battery charger  
Single phase 6A – 100A

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## Cyberwave DC Charger

### Microprocessor controlled float battery charger

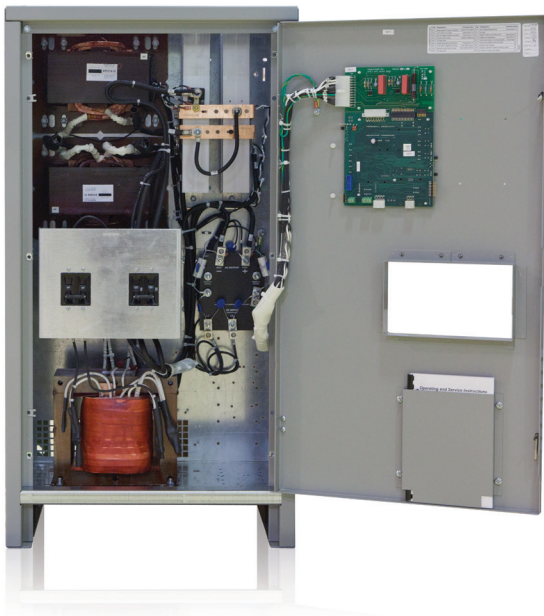
Constant potential DC power supplies for:

- Floating & charging stationary batteries
- Power for industrial loads

Combining the performance and accuracy of a microprocessor with the reliability of SCR power conversion technology makes the DC Charger the standard in stationary chargers. Easy to install, operate and maintain. The DC Charger is packed with the most standard features and best warranty in the industry.

## Applications include

- Power generation
- Substations
- Microwave relay sites
- Switchgear
- Emergency DC power
- DC operated breakers
- Alarm systems
- Uninterruptible power systems
- DC control systems and signal systems



## Design features

### Modular construction

- Rectifier, microprocessor control, input/output, power transformer, filter and alarm assemblies are all modular and easily replaceable.

### Thirty-year life

- All chargers are engineered for greater than 30-year life with a MTBF of 100,000 hours.

### Trouble diagnosis: less than 60 minutes

- Trouble diagnosis and repair in an MTTR of less than 60 minutes.
- All service can be performed from front of opened unit without disturbing chassis or installed conduit.

### Flexible installation

- Rack mounted
- Wall mounted
- Floor standing

### Fast, online adjustment

- Control, alarm and operating level set points are adjusted digitally from the front panel while on line, without the need to vary loads or external conditions.

### Engineered for safety and acceptance

- The battery charger is designed and tested for worldwide applications.
  - Meets NEMA PE5-1996, NEMA PE5-1997 (R2003) specifications
  - NEMA-1/IP20 type standard enclosure
- Third party agency approvals:
  - CSA C22.2 compliant
  - NRTL/C – UL 1012/UL1564 compliant
  - Seismic qualified



# Digital Single Phase

## Standard features

- 5-year product warranty
- Universal main control board operates in any of our DC Charger digital chargers
- 1% digital LED meter for VDC, ADC, timer hours and alarm settings
- AC on indicating light
- AC input and DC output circuit breakers
- Float/equalize selector switch with indicating light
- Manual equalize timer (0–255 hr.) with indicating light
- AC line failure automatic equalize timer (0–255 hr.) with indicating light
- Self-diagnostics
- Local or remote voltage sense with redundancy to protect against remote sense failure
- High DC voltage shutdown (HVSD)
- Reverse polarity protection via free wheeling diodes
- Front panel controls can be disabled for security
- Input and output MOV surge suppressors
- CU-AL I/O compression lugs
- Switchboard wire, UL VW-1
- Membrane front panel
- Enclosure pre-treated using a 5-stage iron phosphate process with baked epoxy powder coating in ANSI 61 gray
- Alarm assembly with local LEDs and summary relay contact for AC failure, DC failure, high VDC, low VDC, positive and negative ground fault
- A redundant analog circuit for LVDC alarm, independent of the microprocessor
- Forced load share during parallel operation
- Redundant control loops for higher reliability
- Custom parts data package and production test data reports shipped with each unit
- User-friendly operating manual with standard drawings
- Quick setup sheet

## Options and accessories

- DC output filtering per NEMA PE5-1996, standard and battery eliminator
- Medium or high AIC circuit breakers
- AC lightning arrestor
- Fungus proofing (tropicalization)
- Static proofing
- NEMA type 2 drip shield
- Battery temperature compensation
- Rack mounting
- Mechanical lock for front door
- Cabinet heater assembly
- NEMA 4/12 type enclosure with fan
- Auxiliary alarm relay board
- Copper ground bus
- Wall mounting
- Floor mounting stand
- Communications module for DNP3 level 2 or modbus protocols
- Forced load share cable
- Analog AC ammeter
- Analog AC voltmeter
- Zero-center ground detection meter
- Custom paint
- Barrier type alarm terminal block
- Fan control contactor
- End of discharge alarm
- Battery discharge alarm
- Custom drawing package with optional CAD and PDF files
- ABS certification upon request
- CE marking upon request

## Mimic display



Critical adjustments can be disabled for tamper proof operation.

# Product specifications

## AC input

Voltage	Group 1 (6–25ADC) 120/208/240VAC (Multi-tap) 60Hz 480VAC 60Hz 220VAC, 380/416VAC 50/60Hz 550–600VAC 50/60Hz Group 2 (30–100ADC) 120, 208, 240 or 480VAC 60Hz 220VAC, 380 or 416VAC 50/60Hz 550–600VAC 50/60Hz
Input voltage tolerance	+10%, –12%
Input frequency tolerance	± 5%
Efficiency	85–90% typical for 130VDC at 50–100% load

## DC output

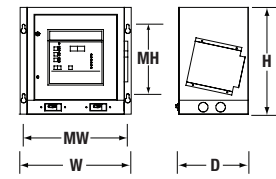
Voltage ratings	12, 24, 48, or 130VDC nominal
Current ratings	Group 1: 6, 12, 16, 20, 25 • Group 2: 30, 40, 50, 75, 100
Continuous ratings	110% rated current at maximum equalized voltage at 50°C
Voltage regulation	± 0.25% for line, load, frequency and temperature variations
Electrical noise	32dBrc
Ripple 12/24/48VDC:	– Unfiltered on battery 1% Vrms – Filtered on battery 30mVrms – Filtered off battery 1% Vrms – Battery eliminator 30mVrms
130VDC:	– Unfiltered on battery 2% Vrms – Filtered on battery 100mVrms – Filtered off battery 2% Vrms – Battery eliminator 100mVrms
Surge withstand capability	Meets IEEE-472, ANSI C37.90a

## Environmental

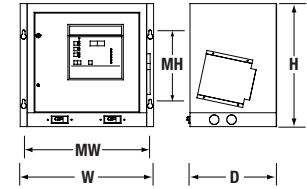
Operating ambient	0°F to 122°F (-18°C to 50°C) temperature without derating
Operating altitude	10,000 feet (3,000 meters) above sea level without derating
Relative humidity	0% to 95% (without condensation)
Audible noise	Less than 65dBA at any point 5ft (1.5m) from any vertical surface of enclosure

## Enclosure dimensions

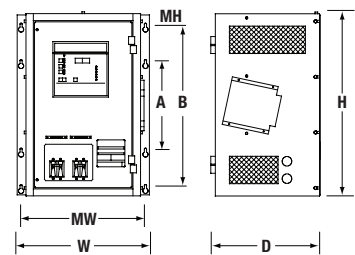
Cabinet style	586	594	5017	5018
Overall dimensions/inch (mm)				
H	15.63 (397)	18.00 (457.2)	26.75 (679)	37.95 (964)
W	15.00 (381)	18.25 (464)	19.29 (490)	20.91 (531)
D	10.25 (260)	12.75 (324)	15.98 (406)	16.77 (426)
Mounting dimensions/inch (mm)				
MW	14.25 (362)	17.375 (441)	17.92 (455)	18.54 (471)
MH	10.00 (254)	10.00 (254)	A: 12.75 (324) B: 23.25 (590)	–
MD	–	–	–	9.00 (229)



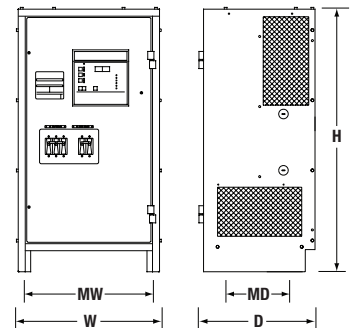
Style-586



Style-594



Style-5017



Style-5018

For more information please contact:

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