



# HELIOS

POWER SOLUTIONS  
MINING APPLICATIONS

2019



BATTERY CHARGERS



AC/DC POWER SUPPLY



AC/DC INVERTER



DC/DC CONVERTER

- ⇒ [DC Systems for Mining Applications](#)
- ⇒ [DC Power Supplies for Harsh Environments](#)
- ⇒ [Communications Enable Power Supplies for Mining Applications](#)
- ⇒ [High Voltage AC/DC Power Supplies for Mineral Separation Processes](#)
- ⇒ [Customized DC Solutions for Mining Applications](#)
- ⇒ [Our Sales & Services Locations](#)

Quality Power Solutions

Backed Up By Real World Engineering Experience

[www.heliosps.com.au](http://www.heliosps.com.au)

24 May 2019

# DC Systems for Mining Applications

Over the past 30 years, Helios Power Solutions has been providing DC Power Systems to the mining sector in Australia and Latin America. Apart from reliability and excellent technical support, our mining customers believe in the importance of having local and experienced companies backing up their critical applications.

## Some Of Our Mining Customers



High-density power + Rugged reliability are words that come together when we are talking about dc power systems in mining applications, check out the most common features required by our mining clients.

- High-grade industrial products
- Robust mechanical construction
- PCB Conformal coated
- Optimal thermal performance - conduction cooled - Convection cooled (no fans) option
- Remote communications
- Remote on/off
- Wide Operating Temperature
- Long -life > MTBF
- Scalability
- Easy Installation
- Output voltage option up to 240Vdc nominal
- Local Support and Maintenance Service
- Preferably "universal" AC input (at least 100-240V for use in EU, Australia and USA)



Portable Battery Charger



Industrial DC UPS

**About Us:** Helios Power Solutions (formerly know as Amtex Electronics) is an expert in providing power conversion solutions for industrial DC and AC Power requirements. Our solutions include our own designed and manufactured products from our ISO9001 accredited facility, a wide range of industry leading products from our global supply partners, and our in house designed and built DC and AC Systems using the best products available. These can be provided as a turnkey, factory acceptance tested product. We can even customise products and components to meet your specific requirements.

**HELIOS**  
POWER SOLUTIONS

[www.heliosps.com.au](http://www.heliosps.com.au)

## Off-the-Shelf DC - Power Supplies

### *Rugged Reliability in Harsh Environments*

Check out our high performance & cost-effective products specially designed for harsh environments. A range of features and options is available depending on the specific model and your requirements. These included EMI filtering to any standard, wide temperature ranges, output fails alarms, redundancy, indicators, enable/inhibit and other controls options, as well as RoHS compliance.

### AC/DC Power Supplies & Battery Chargers

Model Description	Power
<a href="#">HBC200 - HBC500</a>	200 - 500W
<a href="#">BR4U-EURO (Modular)</a>	200-2500W
<a href="#">BCH300 - BCH500</a>	300 - 500W
<a href="#">HBC319F</a>	750W
<a href="#">BCH1K5F-2KF</a>	1000 - 2000W
<a href="#">PFC419F-EURO (Modular)</a>	1000W - 5000W
<a href="#">HBL1K5F</a>	1500W
<a href="#">HBL2KF</a>	2000W
<a href="#">HBC2K5</a>	2500W
<a href="#">PFC4K-3U</a>	4500W

### DC/DC Converters

Our rugged DC-DC power converters employ the latest switching technology to ensure high reliability, high efficiency and compact construction. We can meet any electrical requirement within an output power range of a few watts to several kilowatts.

Model Description	Power
<a href="#">HAE75</a>	75W
<a href="#">DCL60</a>	60W
<a href="#">DCW100 - DCW200</a>	100W - 200W
<a href="#">DCW102 Dual Output</a>	100W
<a href="#">Isolated Series 2</a>	120W - 420W
<a href="#">DCW162 Dual Output</a>	150W
<a href="#">BAP-EURO System (Modular)</a>	200W-2500W
<a href="#">DCW300 -DCW500</a>	300W - 500W
<a href="#">HHT 300-FX High Temperature</a>	300W
<a href="#">LTH400</a>	400W
<a href="#">HHT 500-FX High Temperature</a>	500W
<a href="#">BAP65F</a>	600W - 1000W
<a href="#">BAP319F</a>	750W
<a href="#">BAP1K5</a>	1500W
<a href="#">BAP2K5</a>	2500W

## Off-the-Shelf Products

*Rugged Reliability in Harsh Environments*



### DC/AC Inverters - Single Phase

Our AC-output sine wave products are available with power ratings from 50VA to 75kVA for 50Hz, 60Hz or 400Hz applications. These designs use proven microprocessor controlled high frequency PWM technology to deliver pure sine wave output voltage. High frequency conversion typically enables compact construction, low weight and high efficiency.

Model Description	Power
<a href="#">CSI50 24VAC</a>	50W
<a href="#">CSI100 24VAC</a>	100W
<a href="#">CSI150FT</a>	150VA
<a href="#">CSI200FT</a>	200VA
<a href="#">CSI300FT</a>	300VA
<a href="#">PSI300</a>	300VA
<a href="#">CSI500-IP66</a>	500VA
<a href="#">RM-CSI -Rack Mount</a>	150VA - 500VA
<a href="#">CSI500FT</a>	500VA
<a href="#">CSI500FX</a>	500VA
<a href="#">CSI500FWX</a>	500VA
<a href="#">CSI1K-FT</a>	1000VA
<a href="#">CSI1K5</a>	1500VA
<a href="#">CSI2K5</a>	2500VA
<a href="#">CSI3K</a>	3000VA
<a href="#">CSI4K</a>	4000VA
<a href="#">CSI5K</a>	5000VA

### DC/AC Inverters - Three Phase

Model Description	Power
<a href="#">CTP1K</a>	1500VA
<a href="#">CTP3K</a>	3000VA
<a href="#">CTP6K</a>	6000VA
<a href="#">Opus EIM (modular)</a>	1200VA - 24kVA
<a href="#">Bravo Modular</a>	2500VA - 75kVA

**Our Expertise:** We firmly believe that a well executed project is all about having a clear understanding of the application. The proactive team at Helios has a crew of engineers who have been working for more than two decades for the company. Safety compliances, unique configurations, rugged environments, and special mounting requirements are not new for us because they belong to our daily power conversion challenge.

## Off-the-Shelf Products

### Communications Enable Power Supplies for Mining Applications

Mobile Radio Communications ,ethernet network equipment at RF repeater sites and network junction points are some of the applications where having a rugged power supply it is not good enough to meet the characteristics of the application. Real-time remote monitoring and control of mains, batteries and loads is possible with the following communications enable power supplies and panel distribution.



## AC/DC Power Supplies & Battery Chargers

Model Description	Power
<a href="#">SR100Hi DC UPS</a>	100W
<a href="#">SR250Hi DC UPS</a>	250W
<a href="#">SR500i -SR750i</a>	500W - 750W
<a href="#">Digital Series</a>	675W - 1350W
<a href="#">Redundant Power Series</a>	450W - 1350W
<a href="#">Power Series - Modular</a>	700W - 4900W
<a href="#">MPS Ultra - Modular</a>	2.8kW - 5.6kW
<a href="#">OPUS Modular Battery Charger for Electrical Substations</a>	1.6kW—8kW

## DC Distribution Panels



Model Description	Voltage
<a href="#">Distribution Series 2 150A</a>	12V , 24V or ±48V
<a href="#">Distribution Series 3 200A</a>	12V , 24V or 48V
<a href="#">Distribution Series Front Access 200A</a>	12V , 24V or 48V

### Single-Source Provider of Customised Systems

Our design and production departments are complemented by an excellent and comprehensive portfolio of products and services. This allows us to offer our customers cost-effective solutions as well as meeting even the most stringent specifications.

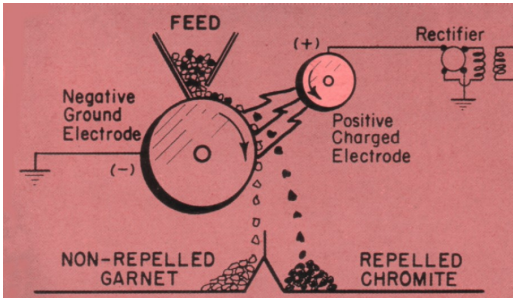


**HELIOS**  
POWER SOLUTIONS

[www.heliosps.com.au](http://www.heliosps.com.au)

# High Voltage AC/DC Power Supplies for Mineral Separation Processes

Mineral separation processes such as magnetic and electrostatic separation require high voltage direct current to carry out the disaggregation of materials. The electrostatic method separates particles of different electrical charges and, when possible, of different sizes. As you can see on the image below, one of the many components of an Electrostatic Separator is the High Voltage Power Supply, at Helios we have available a wide range of [High Voltage AC/DC Power Supplies](#) with negative and positive polarity options and output voltages up to 500 kVDC from **XP Glassman High Voltage**.



Typical Electrostatic Separator Diagram

*Some of our High Voltage Power Supplies for industrial applications have an embedded microcontroller which enable the connection over ethernet with your plant PLC systems Ethernet.*



## High Voltage AC/DC Power Supplies

Model Name	Power	Output Voltage	Mounting
<a href="#">MJ Series</a>	15W	0-30kVDC	Chassis Mount
<a href="#">MK Series</a>	75W	0-60kVDC	Chassis Mount
<a href="#">FJ Series</a>	120W	0-60kVDC	Rack Mount
<a href="#">EJ Series</a>	600W	0-60kVDC	Rack Mount
<a href="#">EY Series</a>	1200W	0-60kVDC	Rack Mount
<a href="#">FL Series</a>	1500W	750V - 1500V	Rack Mount
<a href="#">ET Series</a>	2000W	0-60kVDC	Rack Mount
<a href="#">OS Series</a>	2000W	0-450kVDC	Open Stack
<a href="#">EV Series</a>	3000W	750V - 1500V	Rack Mount
<a href="#">KR Series</a>	3000W	0-100kVDC	Rack Mount
<a href="#">LH Series OS</a>	4kW to 20kW	0-500kVDC	Open Stack
<a href="#">LH Series RM</a>	5kW to 25kW	0-150kVDC	Rack Mount
<a href="#">OQ Series</a>	8kW to 40kW	0-500kVDC	Open Stack
<a href="#">SH Series</a>	8kW to 40kW	0-100kVDC	Rack Mount
<a href="#">LQ Series</a>	10kW to 50kW	0-12kVDC	Rack Mount
<a href="#">GX Series</a>	25kW	0-100kVDC	Rack Mount

## Customized DC Solutions For Mining Applications

Approximately 30% of the product we manufacture/sell, is either a modified unit from one of our standard products or one that is designed to customer's specifications. Check out the features that can be customized specially for your mining applications.



*This wall mounting cabinet, was designed to house a special battery charger for a mining application. The charger was designed for 300VAC input and no fans.*

### Areas of Customization

- IP Rated & Portable Solutions
- Labelling
- Special terminations/connections
- Remote monitoring & Control
- N+X Redundancy Level
- Mounting & Form Factor
- Status Signals & Control
- Voltage Adjustment (Knob/Pot)
- Special Input & Multioutput Options
- Conformal Coating

## 24V DC UPS With Remote Monitoring For Mining Applications



The AMP-K4310 DC UPS is a system designed to provide continuous power of 28V / 5A to run the communication network inside underground mines. AMP-K4310 is able to withstand highly contaminated environments with temperatures up to 50C and perform at 100% load.

It is protected against continuous output short-circuit conditions and be remotely operated and monitored. There is an 800W / 48V output version designed to feed the new communication systems.

### AMP-K4310 Features:

- Wide input 180 – 300VAC
- 500 watts output power
- Output voltage: 28V / 5A
- Short circuit and OVP protection
- Harmonic correction EN61000-3-2
- Remote Monitoring / Control by TCP/IP (internal Web page)
- Charger Fail Alarm. (dry contacts / fail opens)
- Battery Low Alarm

## Battery Charger 125V 6.4KW installed in Chile - Atacama Region

End Customer: Collahuasi Mine - One of the largest copper reserves in Chile



- Installed at 4200 meters above sea level
- IP65
- 6.4kW Modular—Hot-swappable Fully controllable Battery charger using [12U Opus Charger](#)
- Rectifier system and batteries integrated in one single cabinet to meet space restrictions
- Isolation transformer with electrostatic shield
- High temperature operation
- Full electronic protection including surge and transient protection
- Maintenance Switch integrated
- Modbus TCP/IP communications protocol

With our partner Rayo 'ingenieria' in Santiago Chile doing the commissioning of 3 battery chargers systems in Collahuasi mine. The battery chargers have been supplying backup power to the switching system in 3 different substations located at 4200 meters above sea level.



### Testimonials:

*"They have exceeded the design requirements and there have not been issues based on reliability"* Anthony Abbott – Design Manager – Automatic Train Protection System –  
**DOWNER**

**HELIOS**  
POWER SOLUTIONS

[www.heliosps.com.au](http://www.heliosps.com.au)



## Our Sales & Service Locations



### Combined Strength— Helios Power Solutions Group

- Sales and technical support in 6 cities: Singapore - Auckland - Wellington - Christchurch - Sydney - Brisbane
- Two manufacturing/stocking and service centres
- More than 10,000 customers
- Helios Power Solutions products and expertise has been spread globally in more than 40 countries

### HELIOS POWER SOLUTIONS AUSTRALIA

[www.heliosps.com.au](http://www.heliosps.com.au)

#### OFFICE ADDRESS

Unit 6, 2-8 South St,  
Rydalmere, Sydney,  
NSW, Australia, 2116

#### CONTACT INFO

Email: [sales@heliosps.com.au](mailto:sales@heliosps.com.au)  
Phone: [+61 2 7200 9200](tel:+61272009200)

### HELIOS POWER SOLUTIONS NEW ZEALAND

[www.heliosps.co.nz](http://www.heliosps.co.nz)

#### OFFICE ADDRESS

3 Heremai Street,  
Henderson, Auckland,  
New Zealand, 0612

#### CONTACT INFO

Email: [sales@heliosps.co.nz](mailto:sales@heliosps.co.nz)  
Phone: [+64 9 835 0700](tel:+6498350700)

### HELIOS POWER SOLUTIONS MIDDLE EAST & ASIA

[www.heliosps.asia](http://www.heliosps.asia)

#### OFFICE ADDRESS

168 Robinson Road,  
#12-01 Capital Tower  
Singapore, 068912

#### CONTACT INFO

Email: [sales@heliosps.asia](mailto:sales@heliosps.asia)  
Phone: [+65 6871 4140](tel:+6568714140)