

Borealis Series

On-line, Dual Conversion, Three Phase Emergency Lighting Inverters

Always On[™]
UPS Systems Canada Inc.

Always On UPS Systems Canada Inc.
1A—150 Campion Street
Kelowna BC, Canada
V1X 7S8

Emergency lighting is one of the most essential systems in maintaining an environment of safety. These critical systems have to be functioning through the smallest of emergencies all the way to the most catastrophic events. They provide a lifeline for smooth, clearly directed evacuations. People rely on the familiar emergency exit procedures of “follow the lights”. **Your power backup for these systems is equally essential; it ensures that even when the grid turns off, your emergency lighting system stays that beacon of hope.**

There are some major factors to consider when choosing backup power for your emergency lighting. Your system should be able to give you confidence that it is powerful enough to handle your loads, plus overload, and do so while giving good, clean reliable power. It should be durable and rugged but easy to use, easy to maintain, and it should be able to do all of that without costing a fortune in energy consumption and system accommodation.

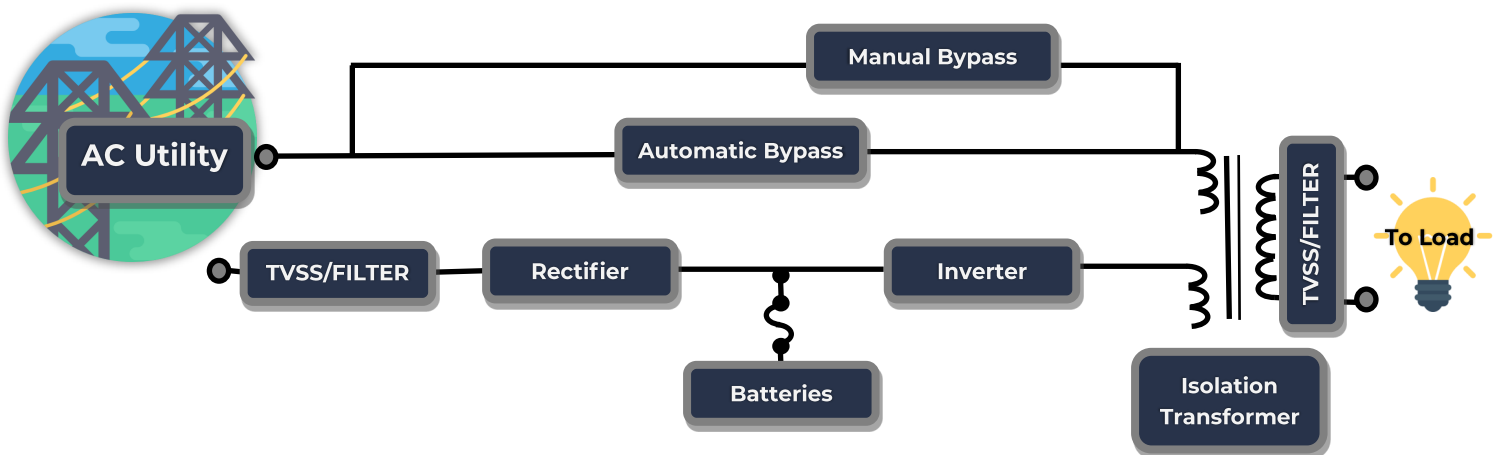
The **Borealis Series** Three Phase Emergency Lighting Inverters are dual-conversion, on-line, three-phase, intelligent systems that offer **full coverage** for your emergency lighting back up power needs.



On-line, Dual Conversion Tech

Borealis Series utilizes an online, dual conversion design to give your systems the **cleanest, most reliable** power

Our use of dual conversion technology allows you to get the best emergency lighting inverter option without compromising on cost, maintenance, or life of your system and its components. Dual conversion allows the UPS to filter utility power before it goes to your systems. It does this by converting the ac power into dc power which is used to charge the batteries and supply power to the inverter. Then the inverter converts the dc power back into a high quality, regulated and isolated ac power source. This power filtration method eliminates power ripple, static, line noise, frequency variation, switching transients, and harmonic distortion, ensuring that sensitive equipment does not become damaged as a result of poor quality utility power.



Features & Benefits



Available Options

- ◆ Output Circuit Breakers
- ◆ Additional Run Times (30,60,90, or 120 minutes)
- ◆ External Maintenance Bypass
- ◆ Remote Control & Monitoring Panel
- ◆ Harsh Environment Protection
- ◆ Top Cable Termination
- ◆ Remote Emergency Power Off Switch

Full Galvanic Isolation

Provides a completely isolated and re-reference output. This isolation protection provides a proven solution to problems created by induced voltages affecting critical loads. This protection increases the lifespan of the equipment by *eliminating* component-wear caused by noise.

Entirely Customizable

The Borealis Series offers tailor-made power protection to comply with your individual installation requirements. With many options to choose from, you're going to get the best system for your application.

High Frequency Design

Design of these systems incorporates three of single phase full bridge inverters with 120 degrees phase displacement between each other. This unique design makes the Borealis Series stand out in offering absolute top level performance when an unbalanced load is connected.

Automatic Battery Test & Boost Charging

The Borealis Series is an entirely low maintenance system. It performs its own automatic battery boost charge and battery test monthly so you don't have to. This ensures the prevention of overcharge and deep-discharge, extending battery life, and gives early notification of bad batteries to avoid unexpected battery backup failure.

Easy to Repair—Modular Design

Our systems are reliable and durable, but if your system does end up needing a repair we make it as easy as possible to get done. Components are installed on slide-out trays for ease of access and all Borealis Series systems come with an internal maintenance bypass switch. This means reduced hours spent on troubleshooting and repairing your unit, saving you money.

Short Circuit, Over-Temp, & Over-Voltage Protection

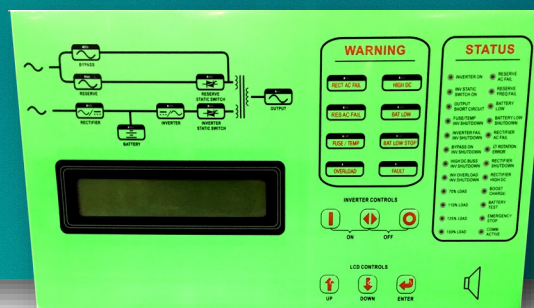
Always On rugged, high quality, custom-engineered design protects your UPS against any issues that might be caused by misuse. Components and batteries are placed on trays designed for maximum airflow. Fans are strategically placed throughout the system and run on a long cycling, variable speed cycle; as an added bonus, this also extends the life of the fan motors.

The **convenient front-panel LCD display** offers full system clarity.

High Quality, Easy-to-Use LCD Display

The LCD displays real time status, data, and historical events. It is designed to be user-friendly and easy to read. The ELI parameters, real time clock, inverter, and buzzer can also be set through this LCD. Backlighting lights up the screen when a key is pressed to give a sharper display.

Any faults or issues that come up are displayed clearly right up front where you can see them, no digging through menus, and the option for audible alerts makes it even more convenient to check the ELI status.



8KW to 48KW

Rectifier		8KW	12KW	16KW	24KW	32KW	40KW	48KW
Input Voltage		120/208V 277/480V 347/600V 3 Phase, 4 wire + ground						
Input Range		±15%						
Input Frequency		45-65Hz						
Input Power Factor		<1						
Normal input current (based on 208Vac)		31	47	62	93	124	155	186
Maximum input current (based on 208Vac)		36	54	71	107	142	178	213
THD		6 pulse: 30% 12 pulse with filter: 9%						
Power walk-in (adjustable)		0%-100%: 20 seconds						
Efficiency		98%						
Voltage regulation		1%						
Ripple voltage		0.50%						
Battery		8KW	12KW	16KW	24KW	32KW	40KW	48KW
Battery Type		Maintenance free sealed lead acid						
Number of cells		174						
Voltage Range		295-410Vdc						
Maximum charge current (ADC)		5	7.5	10	15	20	25	30
Battery low voltage		320Vdc						
Battery low stop		295Vdc						
Inverter		8KW	12KW	16KW	24KW	32KW	40KW	48KW
DC Input Range		295-415Vdc						
Wave form		Sinusoidal						
Output voltage (adjustable)		120/208V 277/480V 347/600V, 3 Phase, 4 wire + ground						
Crest factor		3:1						
Output power factor		0.8						
Voltage regulation 100% unbalance load		±1%						
Frequency lock range		50/60Hz, ±7%						
Output frequency (free running)		50/60Hz, ±0.1Hz						
Output voltage tolerance	Static	±1%						
	Load step 0%-100%-0%	Recovering to within ±1% in 4 cycles						
THD (linear load)		<2%						
Overload	<110%	Continuous						
	110-125%	15 minutes						
	125-150%	5 minutes						
	150-170%	30 seconds						
	>170%	10 seconds						
Efficiency (100% load)		92%						
Maximum output wattage (kW)		8	12	16	24	32	40	48

Borealis Series Specifications
Specifications are subject to change without notice to reflect upgrades and improvement in technology.

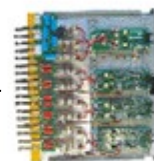
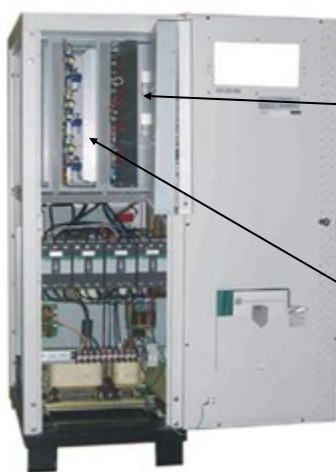
Superior **overload** protection!

8KW to 48KW

Static Switch		8KW	12KW	16KW	24KW	32KW	40KW	48KW
Voltage Range		±20% of input voltage (line to neutral)						
Frequency Range		45-55Hz/55-65Hz						
Efficiency		99.50%						
Efficiency Voltage regulation	Mains → Inverter	0ms						
	Inverter → Mains	0ms						
Isolation with output		Yes						
Overall Characteristics		8KW	12KW	16KW	24KW	32KW	40KW	48KW
Overall Efficiency		90%						
Maximum Heat Dissipation (kW)		0.89	1.32	1.76	2.64	3.52	4.40	5.28
Operating Environment	Temperature	0-40°C (32-104°F)						
	Humidity	0-90% (non-condensing)						
	Altitude	<1500 above sea level						
Protections	Short Circuit	Yes						
	Lightning	MOV						
	EMC Filter	Input & Output						
	Galvanic Isolation	Between input & output						
Indications and alarms		LED, LCD, Buzzer						
Dry contact		Yes						
Battery start		Yes						
Data display by LCD		Yes						
Audible noise		<65dBA (at 1m)						
Standards		UL 924, UL 1778, NFPA 111, CSA 107.3, CCMC, BMEC, CSA 22.2 60950						
Physical Data	W x D x H (mm)	550 x 812 x 1600						
	Weight (kg)	380	415	450	580	650	710	850

Borealis Series Specifications Cont.
Specifications are subject to change without notice to reflect upgrades and improvement in technology.

Module Interior Layout



Plug-in Rectifier Module



Plug-in Inverter Module

Contact Us!

We'd love to hear from you! Please give us a call or send us an email!

Service

1-877-259-2976 ext 234
service@alwayson.com

Sales

1-877-259-2976 ext 451
sales@alwayson.com

Always On UPS Systems Canada Inc.

1A—150 Campion Street
Kelowna, BC V1X 7S8
Canada