Always On™

UPS Systems Canada Inc.

Leading Manufacturer of Uninterruptible
Power Supplies & Power Conditioning Equipment

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About Always On UPS

We are an uninterruptible power systems design and manufacturing company specializing in engineering industrial uninterruptible power systems for all applications. We take the details of your project including required backup time, type of environment that your UPS will be in, and the space you have to house the system. Then our engineers design a reliable, high quality uninterruptible power system to meet your needs. After the design of the system, our technicians build, test, and certify your system exactly to specification right here in our factory.

Our Mission

Always On UPS is dedicated to maintaining the highest standard of quality, safety, and sustainability while providing products and services that are unparalleled within our industry and deliver premium value to our customers.

This commitment provides a clear pathway for the continued success and growth of our company.

What is a UPS?

An uninterruptible power system is a system that provides emergency power to a load when the main input power source fails. The main input source can fail due to issues such as utility power outages, or generator failures. The UPS kicks on with no interruption and keeps your load up and running for a set period of time so you can set up an alternate source of power, shut down your devices correctly, or repair your main power source. We strive for our systems to always provide perfect power in all situations to protect all types of loads.

INDUSTRIES WE SERVE

We serve and work with a wide range of industries including, but not limited to: government; oil, gas and mining; rail and marine transportation; public transit facilities; airports and airplane manufacturing; hospitals, labs and operating rooms; schools; data centers; army, navy, marines, and air force; public utilities; residential and commercial building; and even nuclear and other power generating plants.

QUALITY POLICY

Every Always On design incorporates the most efficient and robust devices and system components to provide the highest degree of protection possible for all critical and emergency equipment installations. Extensive experience working on high profile projects, combined with industry leading expertise allows Always On UPS Systems Canada Inc. to custom engineer solutions and manufacture the highest quality uninterruptable power supply and power conditioning products.

Always On is pleased to provide complete solutions. These include all modes and levels of protection being designed into each system we build, eliminating the need for additional equipment to be added. We provide a custom-engineered solution to meet our customer's needs. Ensuring protection and power quality through every mode of operation requires coordination between all system components. These include surge protection devices, inverters, batteries, battery chargers, bypass systems, transfer switches and power distribution units.

Always On products are put into service by many world renowned companies who rely on our expertise and the high reliability of our systems to protect their critical installations. These include industries such as the oil, gas, and mining industries, airplane and other manufacturing plants, hospitals and operating rooms, rail and marine transportation systems, data centers, army, navy, marines, and air force military divisions, nuclear and other power generating plants, public utilities, and emergency systems for buildings.

It is the objective of Always On to provide our customers with the most cost effective, reliable, state of the art UPS and power conditioning products while continuing quality service to the highest degree. We strictly adhere to an ISO 9001 Quality Management System and we work closely with our suppliers to keep them informed of the specific controls we have implemented to ensure the quality of the supplied materials never compromises the performance or functionality of our products. Every employee and manager at Always On takes great pride and personal interest to ensure that all stages of each product are carefully completed to the highest degree of quality within our ISO 9001:2015 certified facility. This QMS certification, along with our numerous safety approvals, gives us the confidence to present Always On as one of the leading UPS manufacturers in the industry.

Jason Holterhus, C.E.T.
General Manager
Always On UPS Systems Canada Inc.

N & TN11 Series

The Always On N & TN Series UPSs are designed to provide compact, reliable, dual conversion backup power for all of your important equipment!

The N and TN11 Series are dual conversion UPS systems that convert incoming AC supply to DC power. The DC power is used to charge the batteries and supply the inverter. The inverter then inverts the DC power into AC power, that in turn is supplied to the load. This dual conversion isolates the line from AC supply and allows for a wide input power variation on both frequency and voltage. Systems in single phase output configurations range from 700VA to 20kVA.

Features & Benefits

Wide Input Range

These systems are designed to function at wide voltage and frequency variations. This makes our systems ideal for generator and problematic area applications.

Auto Restart Function

This feature allows the UPS to restart automatically when utility becomes available, provided it has been shutdown due to an extended blackout.

Intelligent Communication Interface

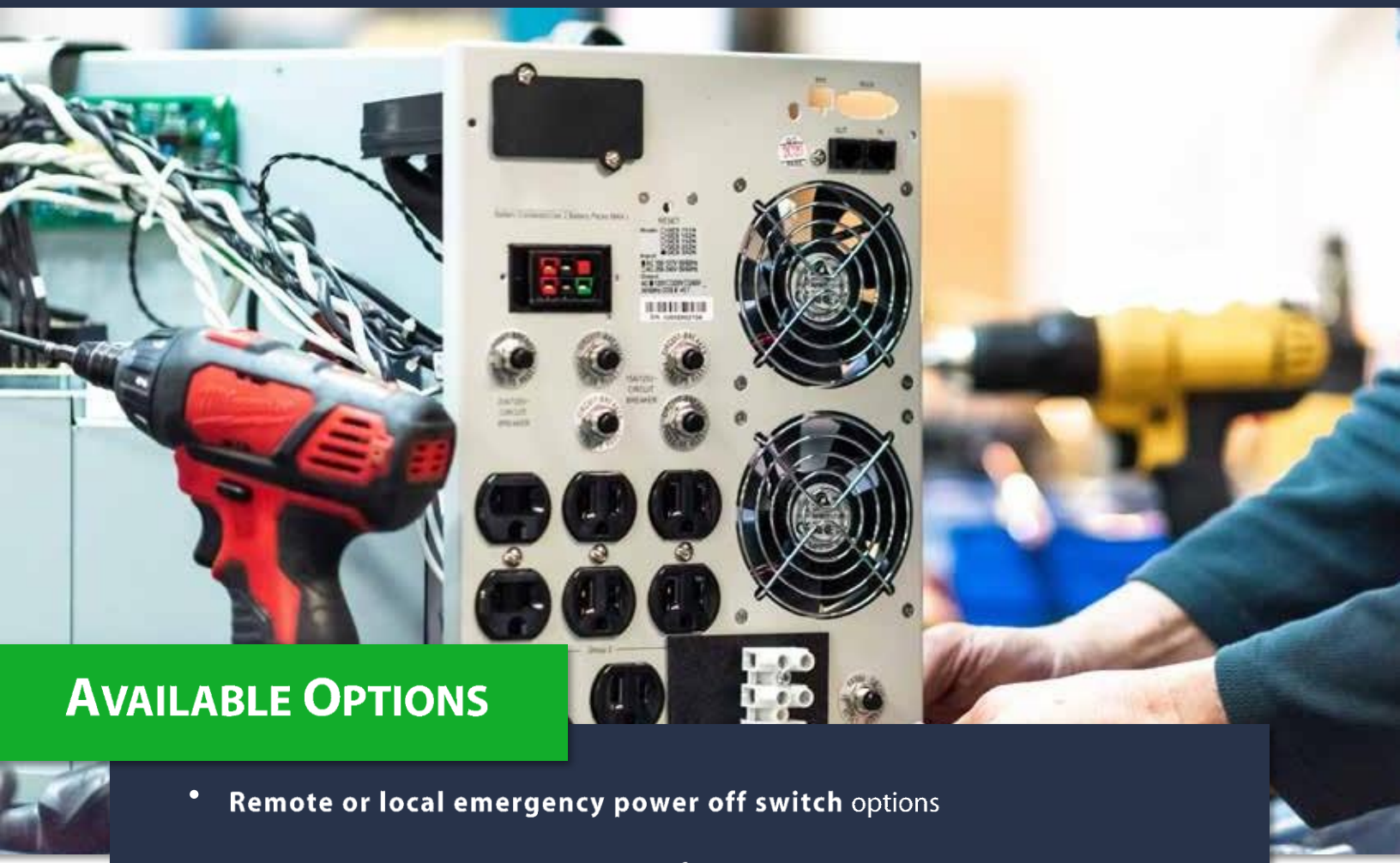
These UPSs are equipped with a RS232 and dry contact interface port for which we provide various powerful management software programs.

High Efficiency Mode

Adds cost effectiveness by reducing power consumption and detecting irregularities in less than a millisecond.

Self-Management Using Microprocessor

These systems perform self-diagnosis to ensure continuous runtime, identify and report failures, and prevent full discharge of the batteries to extend battery performance and life.



Available Options

- **Remote or local emergency power off switch** options
- **Remote LCD** to give you more options for system monitoring
- **Generator and frequency converter modes**
- **SNMP or AS400** to give you more options for remote system monitoring
- **Extended runtime** to meet your backup time requirements
- **External bypass** allows the UPS to be completely shut down or removed for maintenance safely with no downtime
- **Hardwire connections** for installation flexibility
- **Rackmount** for more flexibility in mounting your unit *(up to 3KVA)*
- **Side-mount** for more flexibility in storing your unit *(shown on the right)*

N SERIES SPECIFICATIONS

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

True Sine Wave On-Line UPS 700VA-3kVA						
N Series Model Number :		**GES-701N**	**GES-102N**	**GES-152N**	**GES-202N**	**GES-302N**
General	**Maximum Capacity**	700VA/490W	1000VA/700W	1500VA/1050W	2000VA/1400W	3000VA/2100W
	UPC Order Code	30100	30200	30300	30400	30500
Input	**Nominal Voltage**	120Vac (optional 220Vac available)				
	Voltage Range	60Vac/40% load, 70Vac/70% load, 80 Vac/100% load—144Vac				
	Bypass Voltage	±10%,+10/-15%, +15/-20% (user selectable)				
	Frequency Window	45-65Hz (±2%,±5%, ±7% - user selectable)				
	Synchronization Window	±3Hz				
	Power Factor	0.99				
Output	**Output Voltage**	100/110/115/120/127Vac (user selectable) or 208/220/230/240Vac (user selectable)				
	Voltage Regulation	±2%				
	Frequency Regulation	±0.25Hz (battery or free run mode)				
	Voltage Distortion—THD	<3% linear load, <5% non-linear load				
	Max Current @ 120Vac	5.8A	8.2A	12.4A	16.5A	24.7A
	Overload Capacity	125% for 1 min, 150% for 10 sec				
	Crest Factor	3:1				
	Efficiency	>98% (high efficiency mode)				
	Transfer Time	Zero				
	Outlets	6x5-15R			10x5-20R 1xL5-20R	8x5-15R 2x5-20R 1xL5-30R
Battery	**Battery Type**	Sealed lead acid, maintenance free, swappable cartridge				
	Quantity	2	3	3	6	6
	Voltage	24Vdc	36Vdc	36Vdc	72vdc	72Vdc
	Recharge Time	<4 hours to 90% recovery				
	Advanced Battery Management	Auto self-test, temp compensated 3 stage charging, load dependent discharge				
	Backup Time—full load	9min	10min	8min	12min	8min
	Extended Runtime	Available				
Protection	**Output Short**	Yes				
	Abnormal Voltage	Yes				
	Abnormal Frequency	Yes				
	I/O Noise Protection	Common and normal noise suppression				
	Spike and Transient	Yes				
	Telephone/Network	RJ11/RJ45				
	Display	LCD/LED—Status, readings, and setup parameters				
	Audible Alarms	On battery, low battery, overload, fault				
	Communications	Options: USB, RS232, Dry contact, SNMP, AS400				
	Emergency Power Off	Yes, via normally closed contact				

N Series Specifications Continued

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

True Sine Wave On-Line UPS 700VA-3kVA						
N Series Model Number :		**GES-701N**	**GES-102N**	**GES-152N**	**GES-202N**	**GES-302N**
Environment	**Operating Temperature**	0°C to 40°C (32°F to 104°F)				
	Humidity	0-95% (non-condensing)				
	Audible Noise	<40dBA at 1 meter				
Conformance	**Approvals**	UL1778, CSA107.3 , UL listed, cUL listed, (optional ABS—see below)				
	Surge/Transient	IEEE C62.41 CAT.A				
	EMI/RFI	FCC Part 15				
	Warranty	Two year factory warranty (optional extendable warranties available)				
Physical Data	**WxDxH mm (in)**	152x413x238 (6x16.3x9.4)			225x410x358 (8.9x16.1x14.1)	
	Weight in kg (lbs)	13.5 (29.7)	16.2 (35.6)	17 (37.4)	31.6 (68.4)	32.5 (71.5)
Rack Mount Models	**Model #**	**GES 102NR**		**GES 152NR**	**GES 202NR**	**GES 302NR**
	UPC Order Code	30202		30301	30403	30501
	WxDxH mm (in)	482x425x84 (19x16.75x3.3) [2U]			482x635x84 (19x25x3.3) [2U]	
	Weight in kg (lbs)	20 (44.1)		25 (55)	31.6 (68.4)	32.5 (71.5)
Marine Grade Models	**Model #**	**GES 701N ABS**	**GES 102N ABS**	**GES 152N ABS**	**GES 202N ABS**	**GES 302N ABS**
	UPC Order Code	30112	30231	30318	30401	30509
	WxDxH mm	254x413x256	254x413x256	254x413x256	330x406x381	330x406x381
	Weight in kg (lbs)	15 (33)	20 (44)	21 (46)	37 (82)	38 (84)
	Approval	ABS (American Bureau of Shipping), UL and cUL listed				

Battery Bank Backup Times

Load	**490W**	**700W**	**1050W**	**1400W**	**2100W**
	700VA	**1000VA**	**1500VA**	**2000VA**	**3000VA**
Model					
BBU-701NA	17 min				
BBU-701NB	33 min				
BBU-102NA	25 min	17 min			
BBU-102NB	50 min	33 min			
BBU-102NC	100 min	60 min			
BBU-152NA	25 min	17 min	13 min		
BBU-152NB	50 min	33 min	20 min		
BBU-152NC	100 min	60 min	40 min		
BBU-202NA				18 min	
BBU-202NB				60 min	
BBU-202NC				90 min	
BBU-302NA				18 min	14 min
BBU-302NB				60 min	40 min
BBU-302NC				90 min	60 min

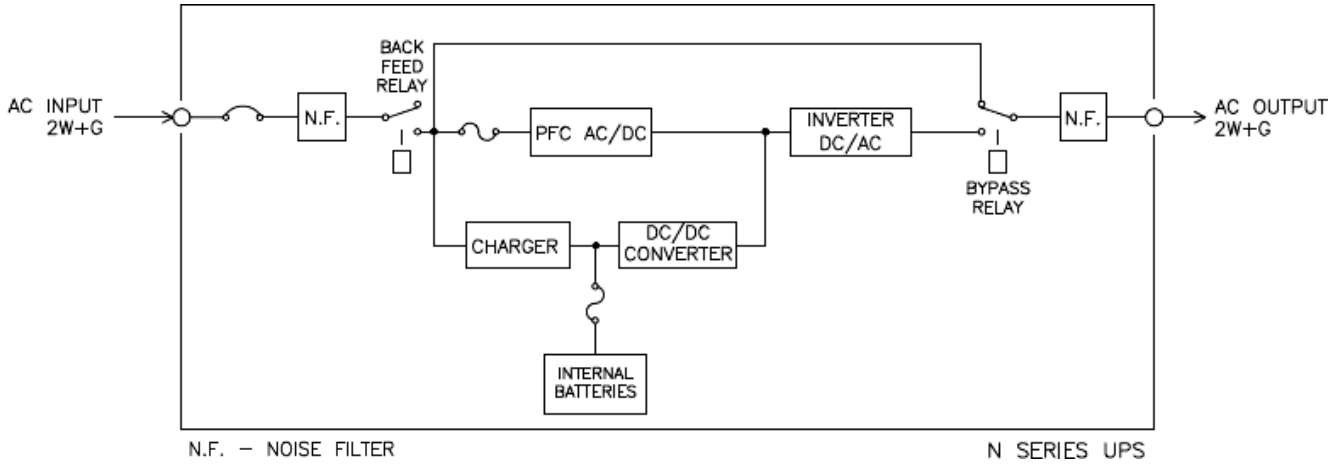
Battery Bank System Dimensions

Model	BBU-701NA	BBU-701NB	BBU-102NA	BBU-102NB	BBU-102NC
Cabinet Style	S	S	S	S	B
WxDxH mm (in)	170x450x225 (6.75x17.75x9)	170x450x225 (6.75x17.75x9)	170x450x225 (6.75x17.75x9)	170x450x225 (6.75x17.75x9)	260x540x740 (10.25x21.25x29)
Weight kg (lb)	20 (44)	33 (73)	23 (51)	33 (73)	67 (148)

Model	BBU-152NA	BBU-152NB	BBU-152NC	BBU-202NA	BBU-202NB
Cabinet Style	S	S	B	S	B
WxDxH mm (in)	170x450x225 (6.75x17.75x9)	170x450x225 (6.75x17.75x9)	260x540x740 (10.25x21.25x29)	170x450x225 (6.75x17.75x9)	260x540x740 (10.25x21.25x29)
Weight kg (lb)	23 (51)	33 (73)	67 (148)	33 (73)	102 (225)

Model	BBU-202NC	BBU-302NA	BBU-302NB	BBU-302NC
Cabinet Style	C	S	B	C
WxDxH mm (in)	400x648x662 (15.75x25.5x26)	170x450x225 (6.75x17.75x9)	260x540x740 (10.25x21.25x29)	400x648x662 (15.75x25.5x26)
Weight kg (lb)	179 (395)	33 (73)	102 (225)	179 (395)

Single Line Drawing



TN11 SERIES SPECIFICATIONS

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

TN11 Series Model Number:		GES-153TN11	GES-203TN11
General	Maximum Capacity	15kVA/10.5kW	20kVA/14kW
	UPC Order Code	40400	40500
Input	Nominal Voltage	208Vac or 240Vac	
	Voltage Range	160-276 Vac	
	Phase	1 Ø (2 wire+ground)	
	Frequency Range	45-65Hz	
	Power Factor	≤0.98	
Output	Output Voltage	120, 120/240, 110/220Vac (other configurations available)	
	Voltage Regulation	±2%	
	Phase	1 Ø (3 wire+ground) (other configurations available)	
	Max Current @ 240Vac	62.5A	83.3A
	Frequency Accuracy	50Hz / 60Hz ±0.5Hz (auto-sensing)	
	THD	<3% linear load, <5% rectified load	
	Overload Capacity	105%-150% for 10 seconds	
	Crest Factor	3:1	
	Efficiency (AC-AC)	>85%	
	Transfer Time	0ms	
	Outlets	Hard-wired (other configurations available)	
Battery	Type	Sealed lead acid—maintenance free	
	Voltage	240Vdc	
	Recharge Time	5-8 hours; recover=90% typically	
Backup Power Time	Full Load	>8min	>4min
	Half Load	>19min	>13min
Extended Run Time		Available, consult "battery banks" section	
Protection	Output Short	Yes	
	Abnormal Voltage	Yes	
	I/O Noise Protection	Common and Normal mode noise suppression	
	I/O Spike and Transient	Yes	
Interface	Communication	RS232/ dry contact/ options SNMP or AS400	
	Display	LEDs and LCD status display	
	Audible Alarms	On battery, low battery, overload, fault	
Environment	Operating Temp	0°C to 40°C (32°F to 104°F)	
	Humidity	0-90% (non-condensing)	
	Audible Noise	55dBA at 1 meter	
Safety Approval	Safety/Approvals	UL1778, CSA C22.2, UL and cUL listed, ABS	
	EMI/RFI	FCC Class A	
	Surge/Transient	IEEE C62.41 CAT.A	
Physical Data	WxDxH mm (in)	342x800x900 (13.5x31.5x35.4)	
	Weight kg (lb)	255 (562)	265 (584)

Battery Bank Backup Times

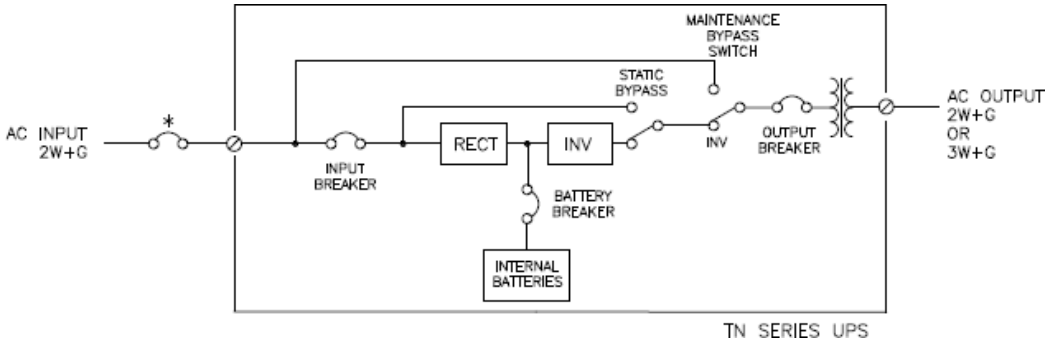
Load	6000VA	8000VA	10000VA	12000VA	15000VA	20000VA
	4200W	5600W	7000W	8400W	10500W	14000W
Cabinet						
D	20 min	16 min	13 min	11 min		
E	45 min	32 min	24 min	18 min	12 min	7 min
KA	55 min	40 min	30 min	25 min	15 min	10 min
KB	105 min	75 min	58 min	45 min	33 min	20 min
KC	155 min	112 min	88 min	70 min	50 min	35 min
KD	235 min	170 min	132 min	105 min	82 min	60 min
KE	385 min	278 min	214 min	174 min	130 min	100 min

Battery Bank System Dimensions

Cabinet Style	D	E	KA	KB
WxDxH mm (in)	238x545x550 (9.375x21.5x21.625)	400x666x1008 (15.75x26.25x39.75)	813x864x1947 (32x34x76.625)	813x864x1947 (32x34x76.625)
Weight kg (lb)	80 (177)	353 (777)	611 (1347)	740 (1632)

Cabinet Style	KC	KD	KE
WxDxH mm (in)	813x864x1947 (32x34x76.625)	813x864x1947 (32x34x76.625)	813x864x1947 (32x34x76.625)
Weight kg (lb)	867 (1912)	1004 (2214)	1259 (2776)

Single Line Drawing



NX Series

The Always On NX Series Industrial UPS is designed to provide reliable, clean, consistent power to critical loads in all emergency applications.

The NX Series is a dual conversion, online system made for use as centralized power protection and distribution. It has a 3 phase input with 3 or 1 phase output, 5-250kVA power capacity range, internal maintenance bypass, and full galvanic isolation. The wide operating range of the system allows it to remain online without discharging or depleting the battery capacity. This makes it fully compatible with poor quality industrial electrical environments and unstable generators.

Features & Benefits

Convenient Front Panel Design

LCD display and control switches are accessible through the up, down, and enter switches below the front panel window and all viewable parameters can be read without opening the front door!

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

Protects your UPS against any form of misuse that may occur.

Automatic Battery Test & Boost Charging

Equalizes the recharging of batteries and extends battery life.

Full Galvanic Isolation

Proven solution to problems created by induced voltages affecting critical loads. This protection increases the lifespan of the equipment by reducing component wear caused by noise.

Remote Connection

SNMP Module gives the convenience of real-time graphical display and allows for variability in method for viewing UPS data.

Modular Design

Major components are installed on slide-out modules to allow for quick repair and easy accessibility.

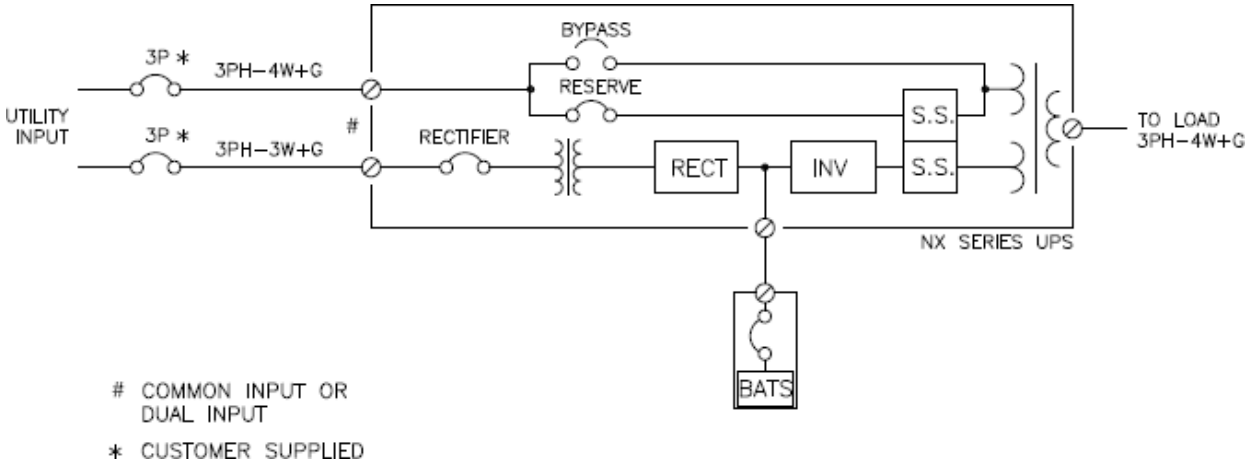
Multi-MCU Design

Increased reliability of all major sub-systems.

Available Options

- **Power distribution panels**
- **Harsh environment protection** options available
- **Remote LCD display / control panel** for full monitoring and control of multiple UPSs
- **Top cable entry** module attached to the rear of UPS cabinet for convenience
- **Remote or local emergency power off switch** options
- **External bypass** allows the UPS to be completely shut down or removed for maintenance safely with no downtime
- **Parallel redundant operation** for the highest standard of reliability in mission critical applications
- **Modbus RTU interface** for SCADA or other industrial data transmitting applications

Single Line Drawing



NX Series Specifications

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

True Sine Wave On-Line UPS 5kVA-250kVA														
General Data														
Topology			True On-Line, Dual Conversion											
Nominal output at PF=0.8		**kVA**	5	10	15	20	30	40	50	60	80	100	120	160	250
Overall Efficiency	**100% load, 0.8 PF**	**%**	90	90	90	90	90	90	90	90	90	90	90	90	90
True galvanic isolation from input to output			Yes												
Operating temperature range	**UPS**		0°C to 40°C (32°F to 104°F)												
	Battery		Optimal 20°C to 25°C (68°F to 77°F); higher temps reduce battery life expectancy.												
Relative humidity			0% to 95%, non-condensing												
Enclosure	**Type**		Indoor (NEMA 1 or 12 available); drip shield and skirting included.												
	Safety		Internal dead front construction												
	Cooling		Forced air—variable speed												
Installation	**Rigging**		Suitable for handling by forklift or overhead crane; eye hooks available												
	Mounting		Casters and levelling feet; optional seismic rated mounting available												
	Installation & maintenance access		Front and right-hand side access required for normal maintenance												
	Conduit access		Bottom entry standard; optional top entry												
Standards			UL 1778, CSA 107.3 listed, FCC Class A, Optional CSA 141, UL924, & ABS												

Rectifier		
Configuration		12 pulse rectifier
Input	**Voltage**	208/480/600, L-L Vac, 3 Phase, 4 (or 3) wire + ground (-20% to 15% without battery discharge)
	Frequency	45-65 Hz
	Power factor	0.8 at full load
Output	**Inrush current**	Limited by soft-start circuit
	Power walk-in	20 seconds

Battery														
Nominal output at PF=0.8	**kVA**	**5**	**10**	**15**	**20**	**30**	**40**	**50**	**60**	**80**	**100**	**120**	**160**	**250**
Battery		Sealed lead-acid												
Voltage range		295-410 Vdc												
Float voltage at 20°C (68°F)		392 Vdc												
Boost charge voltage		410 Vdc												
Recharge time for 30min battery to 95% capacity		10 times the discharge time												
Auto and manual battery test		Standard												

External Interface	
Alarm contacts	8 pre-defined contacts (COM, BATL, BACKUP, BYPASS, SS, FAULT, OVL, INVON)
Communications	SNMP adapter, RS-232 & RS-485
Input signals	Emergency power off contacts provided (optional switch available)

NX Series Specifications Continued

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

Inverter													
Nominal output at PF=0.8	**kVA**	10	15	20	30	40	50	60	80	100	120	160	250
Nominal output voltage		208/120 or 480/277 or 600/347, 3ph, 4 wire + ground											
Inverter		True Sine Wave											
Output Isolation Transformer		Standard											
Output power factor		0.8											
Frequency lock range		50/60 Hz, ±7%											
Output voltage tolerance	**Static**	±1%											
Output voltage distortion	**100% linear load**	<2% THD maximum											
	100% non-linear load	<3% THD maximum											
Crest factor capability		Greater than 3:1											
Output Freq	**Free running**	50/60 Hz, ±0.1% synchronized with utility											
Overload capability (on inverter)	**<110%**	Continuous											
	110-125%	15 minutes											
	125-150%	5 minutes											
	>150%	30 seconds											
Efficiency (100% load)		92%											

Bypass		
Input configuration		Common to rectifier [optional dual input]
Voltage range		±20% of input voltage
Frequency range		45-55 Hz / 55-65 Hz
Transfer time	**Inverter to bypass**	0 ms
	Bypass to inverter	0 ms
Overload capacity	**200% of UPS rating**	30 seconds
	400% of UPS rating	1 second
Isolation transformer		Yes

System Dimensions

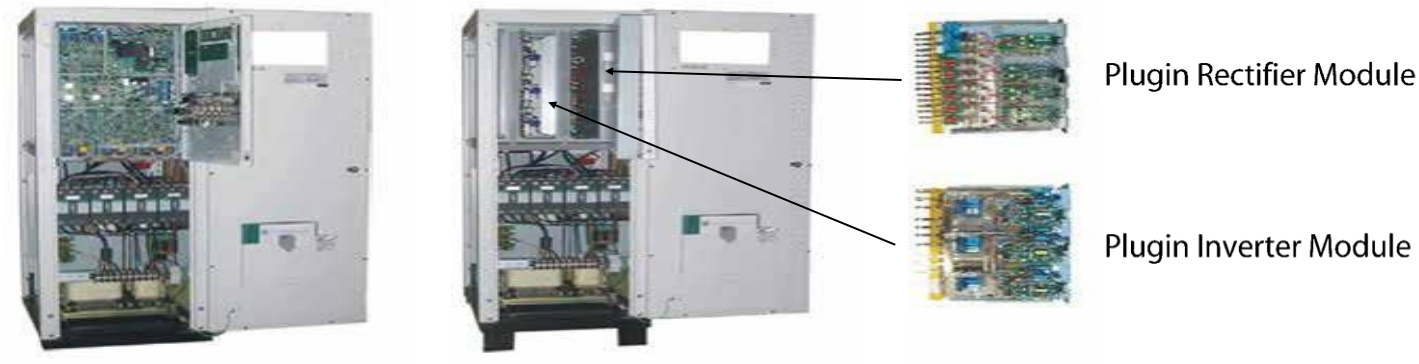
	5-50 KVA UPS System	60-160 KVA UPS System	250-320 KVA UPS System	E-Type Battery Cabinet	K Series Battery Cabinet
Width	550mm (21.7”)	1100mm (44”)	2240mm (88.2”)	400mm (15.75”)	1314mm (51.5”)
Depth	812mm (32”)	812mm (32”)	812mm (32”)	666mm (26.25”)	850mm (33.5”)
Height	1600mm (63”)	1600mm (63”)	1600mm (63”)	1008mm (39.75”)	1945mm (76.5”)
Weight	380-850 kg	920-1600 kg	2700-3050 kg	511 kg	814-1764 kg

Battery Bank Backup Times

Load	4000W	8000W	12000W	16000W	24000W	32000W
	5000VA	10000VA	15000VA	20000VA	30000VA	40000VA
Model						
BBU-NX33E	79 min	34 min	18 min	13 min	6 min	
BBU-NX33KF	100 min	44 min	23 min	18 min	10 min	5 min
BBU-NX33KG	181 min	80 min	48 min	32 min	17 min	10 min
BBU-NX33KH		120 min	76 min	46 min	28 min	19 min
BBU-NX33KI		185 min	116 min	81 min	50 min	24 min
BBU-NX33KJ			189 min	130 min	80 min	46 min

Load	40000W	48000W	64000W	80000W	96000W	128000W
	50000VA	60000VA	80000VA	100000VA	120000VA	160000VA
Model						
BBU-NX33KG	6 min					
BBU-NX33KH	12 min	10 min				
BBU-NX33KI	21 min	18 min	12 min	6 min		
BBU-NX33KJ	33 min	30 min	18 min	10 min	6 min	
BBU-NX33KI X2	64 min	50 min	24 min	21 min	18 min	
BBU-NX33KJ X2	92 min	80 min	60 min	33 min	30 min	17 min

Module Interior Layout



Borealis Series

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

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

Convenient Front Panel Design

The LCD displays real time status, data, and historical events. It is designed to be user-friendly and easy to read. The parameters, real time clock, inverter, and buzzer can also be set through this LCD.

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.

Over-Design & 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.

Full Galvanic Isolation

Proven solution to problems created by induced voltages affecting critical loads. This protection increases the lifespan of the equipment by reducing component wear caused by noise.

Automatic Battery Test & Boost Charging

You will love our low maintenance system. The Borealis Series performs its own monthly automatic battery boost charge and battery test. 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.

High Frequency Design

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

Easy to Repair Modular Design

Our systems are reliable and durable with annual maintenance. Components are installed on slide-out trays for ease of access in the event that repairs are needed. All Borealis Series systems come with an internal maintenance bypass switch, which allows for reduced hours spent on troubleshooting and repairing your unit, and in turn saves you money.

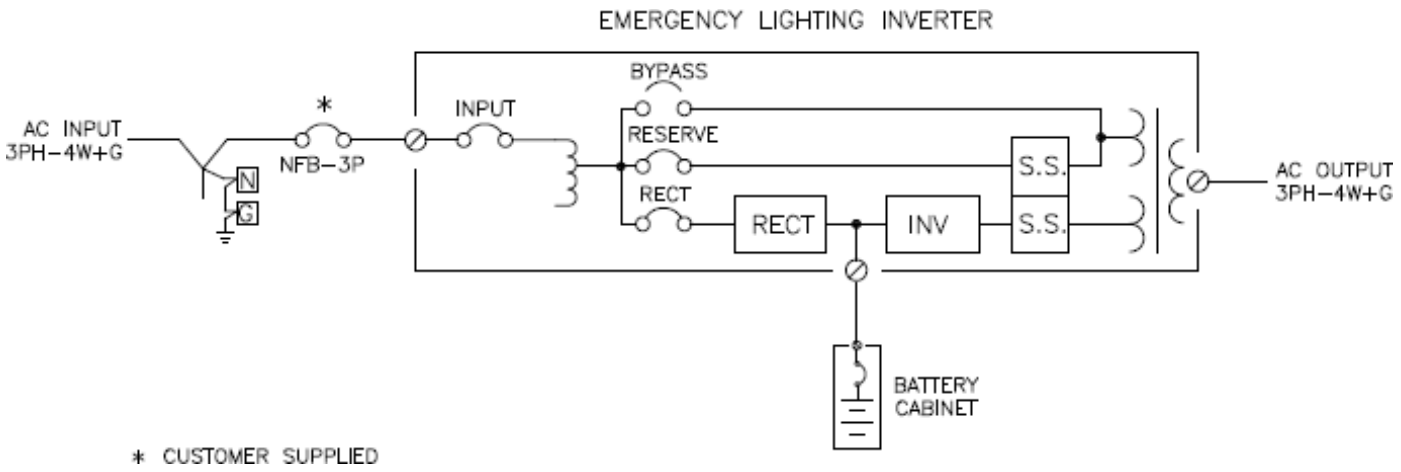
Designed to Your Specifications

The Borealis Series offers tailor-made power protection for your unique requirements. With several product options available, our team will work with you to create the best system for your application.

Available Options

- **Various run times** of 30, 60, 90 or 120 minutes
- **Output circuit breakers**
- **Power distribution panels**
- **Remote emergency power off switch**
- **Normally OFF O/P**
- **Remote LCD display / control panel** for full monitoring and control
- **Top cable entry** module attached to the rear of UPS cabinet for convenience
- **External maintenance bypass** allows the unit to be completely shut down or removed for maintenance safely with no downtime

Single Line Drawing



BOREALIS SERIES SPECIFICATIONS

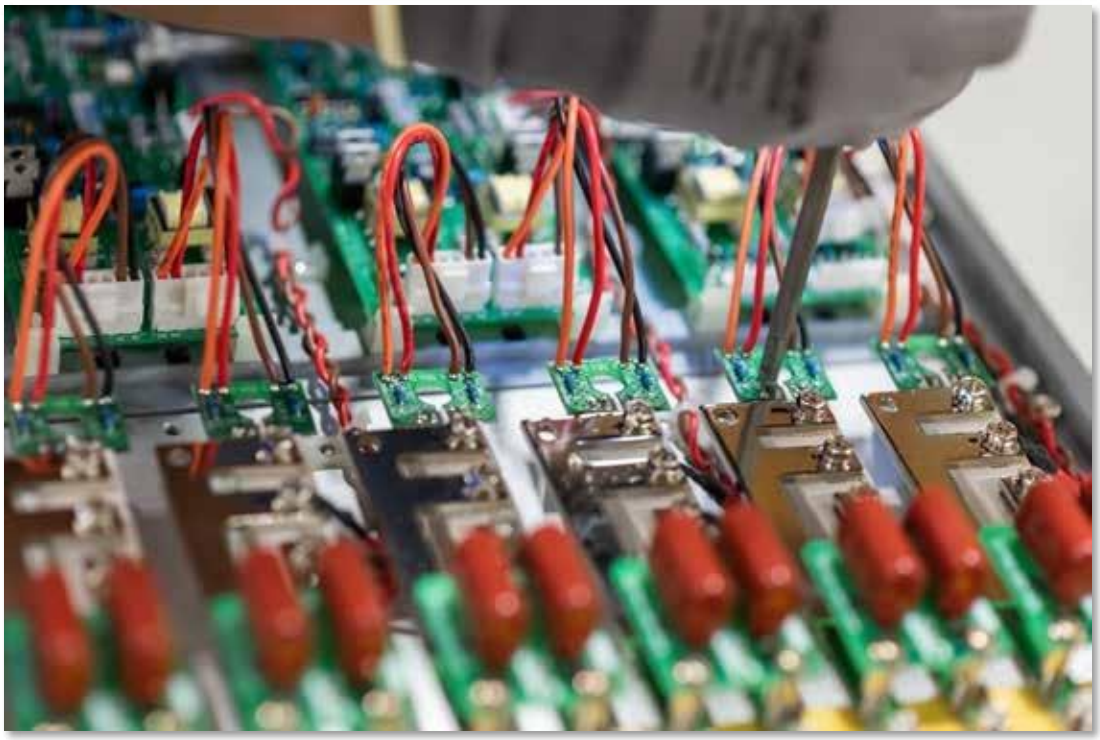
Specifications are subject to change without notice to reflect upgrades and improvement in technology.

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		0.8						
Power walk-in		0%-100%: 20 seconds						
Efficiency		98%						
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
Inverter		**8KW**	**12KW**	**16KW**	**24KW**	**32KW**	**40KW**	**48KW**
DC Input Range		295-415Vdc						
Wave form		True sine wave						
Output voltage (adjustable)		120/208V 277/480V 347/600V, 3 Phase, 4 wire + ground, or 1 phase						
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
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 Voltage regulation	**Mains —> Inverter**	0ms						
	Inverter —> Mains	0ms						
Isolation with output		Yes						

BOREALIS SERIES SPECIFICATIONS CONTINUED

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

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, CSA 141 available						
Physical Data	W x D x H (mm)	550 x 812 x 1600						
	Weight (kg)	380	415	450	580	650	710	850



NX, N, TN Series

External Bypass Systems

We offer various systems which include isolation transformers for different voltage configurations, distribution panels, electro-mechanical interlock protection to ensure proper operation, and rotary switch operation.

Features & Benefits

Modular Design

A separate cabinet allows for complete removal of the UPS system from the load. Systems are supplied in a matching cabinet or wall-mounted cabinet. These systems are recommended for maintenance purposes to prevent accidental removal of power from the loads and to allow for complete power removal from the UPS system for safe maintenance.

Automatic Transfer Switch

Always On also offers an external automatic transfer switch (ATS) that will automatically switch to bypass in the event of loss of power from the UPS system for any reason.

Marine ABS Approved Systems

Our systems provide complete power conditioning to increase reliability for marine equipment and environments. Always On UPS has a full complement line of ABS approved systems ranging from 700VA to 250kVA, with options for bypass systems and extended runtime modules.

We have installations on BC Ferries, Canadian Coast Guard vessels across the country, transport vessels, US Navy vessels, drilling platforms and more.

Features & Benefits

ABS Certified Systems

The ABS flexible approval program allows our systems to meet certification for all required ratings globally.

On-line Dual Conversion Design

All our marine-classed UPS systems are built with an on-line dual conversion design. According to marine standards, an off-line UPS unit, a line-interactive UPS unit, or an on-line UPS unit can be used as needed for your backup power needs onboard. However, only an on-line dual conversion UPS unit will solve all the problems commonly caused by systems used in marine applications.

Designed to Your Specifications

All our marine-classed systems use a high-grade conformal coating on all circuit boards and an enclosure designed specifically for shipboard applications. Systems are specifically designed with your requirements completely fulfilled and expectations exceeded. Our class-approved systems are versatile worldwide for any rating, fully compatible with ungrounded systems, and include everything required for all locations onboard ships (including bridge equipment).

Available Models

ABS approval is available on the following UPS systems:

- **NX31 & NX33 Series:** Three Phase In/ Single or Three Phase Out, 5kVA-250kVA
- **TN11 Series:** Single Phase Input & Output, 15kVA & 20kVA
- **N-Series:** Single Phase Input & Output, 700VA-3kVA

Avoid These Power Problems

- Harmonic Distortion
- Switching Transients
- Line Noise
- Frequency Variations
- Ungrounded Imbalance
- High Voltage Spikes
- Brown Outs
- Power Surges
- Power Sags

LIMOUSIN II

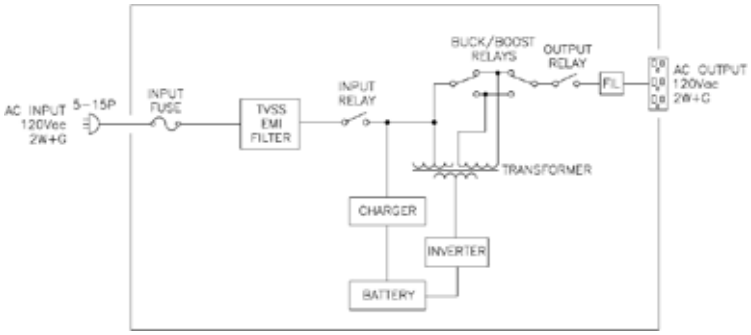
The Limousin II is a transformer-based UPS that provides lightning, surge, transient, and noise protection, as well as voltage regulation and blackout protection for home, office, and commercial applications!

Available with Limousin II:

- Shutdown/control software package
- Communication cable
- Telephone/network protection

Limousin II Specifications		
General	Capacity	600VA/360W
	UPC	00111
Input	Voltage	120V nominal, ±25%
	Frequency	50 or 60Hz ±10%
	Input Socket	(1) IEC 320
Output	Voltage (on battery)	120Vac nominal, simulated sine wave
	Frequency (on battery)	50 or 60Hz, ±0.5Hz (auto sensing)
	Auto Voltage Regulation	±10% of nominal
	Waveform (on battery)	Simulated sine wave
	Transfer Time	4ms, including detection
	Receptacles	(3) NEMA 5-15R (120V)
Protection & Filtering	Spike Protection	480 joules, 2ms
	Overload Protection	110% for 60 seconds, 130% for 30 seconds
	Short Circuit	Fuse protection or immediate shutdown
Battery	Type	Sealed lead acid, maintenance free
	Recharge Time	6 hours (to 90% of full capacity)
	Backup (full load)	5-10 minutes
Interface	Communications	Serial Port
	LED Display	Normal/Backup/Overload
	Audible Alarms	On Battery, Low Battery, Overload
Environment	Temperature Range	0°C to 40°C (32°F to 104°F)
	Humidity	0-95% (non-condensing)
	Audible Noise	<40dBA (1 meter from surface)
Safety Approvals	Safety	cUL, UL1778
	EMI / RF	FCC Part 15 Class B
Physical Data	Net Weight kg (lb)	6.2 (13.6)
	Ship Weight kg (lb)	6.7 (14.9)
	WxDxH mm	97x320x135

SINGLE LINE DRAWING



NFC Series

Three Phase In/Out
Frequency Converters & Voltage Regulators

Features & Benefits

The NFC Series, based on the NX Series, are intelligent, dual conversion, on-line, three phase systems for centralized frequency conversion, power protection, and power distribution in commercial and industrial applications. They provide clean, regulated, and controlled power at the customer specified voltage and frequency for all specific and critical loads, including 50 or 60Hz input frequency 50, 60, or 400Hz user defined output frequency.

Multi-MCU Design

Increased reliability of all major sub-systems.

Full Galvanic Isolation

Proven solution to problems created by induced voltages affecting critical loads. This protection increases the lifespan of the equipment by reducing component-wear caused by noise.

Frequency Conversion

Permits the user to configure a system with any input voltage and frequency with any output voltage and frequency, independent of the input configuration.

NFC Specifications												
Topology			True On-Line, Dual Conversion									
Nominal output at PF=0.8		**kVA**	10	15	20	30	40	50	60	80	100	160	250
Overall Efficiency	**100% load, 0.8 PF**	**%**	90	90	90	90	90	90	90	90	90	90	90
Operating temperature range	**UPS**		0°C to 40°C (32°F to 104°F)										
	Battery		Optimal 20°C to 25°C (68°F to 77°F); higher temps reduce battery life expectancy.										
Relative humidity			0% to 90%, non-condensing										
Enclosure	**Type**		Indoor (NEMA 1 or 12 available); drip shield & additional configurations available.										
	Safety		Internal dead front construction										
	Cooling		Forced air—variable speed										
Installation	**Rigging**		Suitable for handling by forklift or overhead crane; eye hooks available.										
	Mounting		Casters and levelling feet; optional seismic rated mounting available.										
	Installation & maintenance access		Front and right-hand side access required for normal maintenance										
	Conduit access		Bottom entry standard; optional top entry										
Standards			UL 1778, IEC 62040, FCC CLASS A, EN50091-1,-2 , CSA 107.3, Optional ABS										
Electrostatic discharge immunity			6kVA										

ALW Batteries & Battery Bank Units

Our rigid standards during manufacturing, quality control, and testing ensure that only batteries meeting the tight specifications of the product are integrated into the rest of our system designs.

Always On Batteries				
ALW Batteries	ALW56-12UPS	ALW85-12UPS	ALW110-12UPS	ALW160-12UPS
Capacity (25°C/77°F)	56Ah	85Ah	110Ah	160Ah
Voltage	12V			
Weight kg (lb)	17.5 (38.5)	26.0 (57.2)	32.0 (70.4)	45.5 (100.1)

CSA & UL Listing Certified

Each battery, charger, and inverter of a fully assembled system is accurately calibrated and vigorously tested through each mode of operation, including battery discharge and recharge cycles to ensure the complete system is in compliance with the required safety standards.

Designed Battery Cabinets

Our battery cabinets come in a variety of sizes to suit your backup time needs. For even longer run-times, multiple cabinets can be used to increase storage capacity. The cabinets are equipped with heavy duty casters, convenient battery cable with Anderson quick connects, and retractable battery trays to make battery testing and replacement easy.

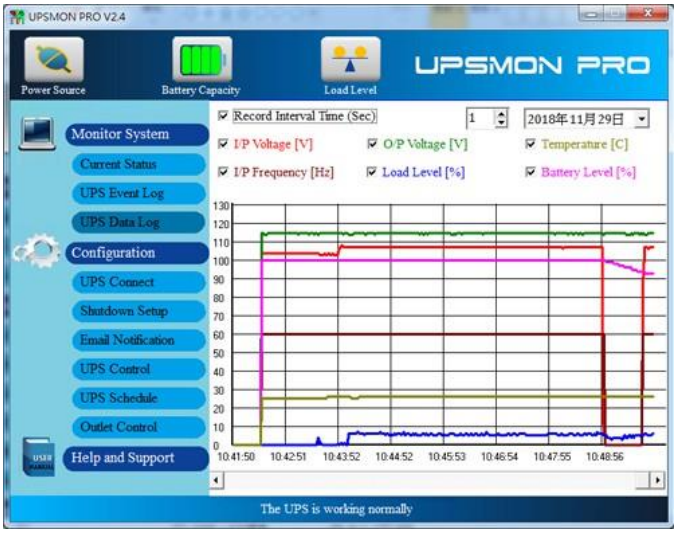
Always On Battery Cabinet Dimensions		
Style:	**KA, KB, KC, KD, KE**	**KF, KG, KH, KI, KJ**
WxDxH (mm)	812x863x1945	1314x850x1945
WxDxH (in)	32x34x76.6	51.7x33.5x76.6

Power Management / Shutdown Software

Always On proudly provides high quality power management and shutdown software to meet your remote management needs.

UPSMON Pro

Complete power management software bundled together in a user-friendly format to make monitoring your UPS systems easy and stress-free.



UPSMON PRO Specs	
Operating System Compatibility	(32 & 64 bits) Windows XP, Vista, 7, 8, 10, Server 2000~2016 and Hyper-V, VMWare ESXI, Linux, Manager, and Android
Interface	USB, SNMP Card
Monitoring	Utility, Voltage, Frequency, Battery Status Temperature
Languages	English, Russian, Japanese, Traditional Chinese, Simplified Chinese
Auto Shutdown	Power Failure Occurs
Log	UPS events, Voltage, Battery, UPS Load, Temperature
Battery Test	Quick Test, Deep Test, Self-Test Scheduled, Self-Test to Specific Load
UPS Control	Outlets Power Control, Bypass Control, Switch UPS Power, High Efficiency Control
Schedule	Battery Test, Auto Shutdown and Startup

NetAgent SNMP

NetAgent SNMP integrates multi-network communication protocols to enable a comprehensive easy-to-understand and secure remote monitoring and management system for your three phase or single phase UPSs.

Among its many functions, the NetAgent SNMP features multi-monitoring functionality for the monitoring of multiple UPSs on one screen, auto-set alerting system, SNMP unattended shutdown application, broadcasting message functionality, and internet time-sync capability. It supports TRAP notification, SMTP, Email notification without a PC required, and Android support.

Preventative Maintenance Programs

We offer a number of custom annual and/or semi-annual preventative maintenance service programs to keep your systems in their absolute best shape.

Always On systems are designed for maximum reliability and peak performance. Even so, a regular maintenance program is necessary to identify and correct potential problems. Preventative maintenance helps prevent unplanned and inopportune downtime and outages of critical systems, more rapidly addresses problems that can occur, and extends battery lifespan.

Major Preventative Maintenance Program Includes

- Disassemble system to conduct visual inspection of internal assemblies, major components, and mechanical connections and modules to ensure they are tight and not generating heat
- Perform a complete operational test of the system, including battery discharge test. Measure and record charging voltages of each battery
- Re-torque all battery connections to their proper specifications
- Check site environment conditions to ensure suitability for UPS
- Perform any necessary factory upgrades
- Clean and vacuum interior and exterior of enclosures
- Record front panel meter reading and status
- Record history logs for further review of UPS performance

Extended Warranty Packages

Extended warranty programs are offered at time of purchase or at any time while the unit is under factory warranty.

Factory warranty for TN, NX and Borealis units include one year onsite 100% parts and labour.

We proudly offer several flexible service and warranty programs tailored to fit the specific needs of your site. The services described below are available in program options A *(most basic)* to N *(most enhanced)*. Can't find one that fits your needs? Our service team will work with you to create a custom program if the ones below aren't quite the right fit.

Have questions or need more information, please contact our service team at Service@AlwaysOn.com or toll-free at 1-877-259-2976 ext. 234

Extended Warranty Summary Table — Offered for TN11, NX, and Borealis Series UPS							
	Coverage Hours		Coverage Area *(from nearest service depot)*		Warranty Coverage		Extras
Program	Business Hours	24/7	50km Radius	100km Radius	100% Parts*	100% Labour	Semi-Annual Minor PMs
A	✓		✓		✓		
L		✓	✓		✓		
W	✓		✓		✓	✓	✓
A2		✓	✓		✓	✓	✓
Y	✓			✓	✓		
S		✓		✓	✓		
O	✓			✓	✓	✓	✓
N		✓		✓	✓	✓	✓
* All service programs include 100% parts coverage excluding batteries.							
* Where external bypass cabinets are installed as part of the system, the cost of all related service programs will increase. Inquire for details.							
* Same location only (per initial installation). For domestic Canada product only. Same day completions. Newfoundland and Labrador, Prince Edward Island, New Brunswick, Nova Scotia, or Remote Northern Canada travel cost is extra.							

Contact Us

We'd love to hear from you! Please connect with our team through phone or email.

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