



MARINE POWER SYSTEM

MARINE ISOLATION BOOST TRANSFORMERS



THE ANG-BOOST™ IS THE PERFECT REPLACEMENT FOR THE "CHARLES ISO-BOOST TRANSFORMER"

The following chart shows a comparison between the two boosting isolation transformers:

FEATURES	ANG-BOOST™	CHARLES ISO-BOOST
Steps	Three (3) steps	Two (2) steps
Transformer	Toroidal	Traditional
Soft Start	Incorporated	Optional
Auto Restart	Incorporated	Optional
By-pass	Incorporated	Optional
Electronic Switching	Seamless system	Mechanical Contactors
Weight	Lighter	Heavier
Models Available	7	2
Warranty	2 years	1 year



APPLICATION



ANG-BOOST™ (IsoBoost) combines an Isolation Transformer with a Boost Voltage Increase Circuit in order to provide the automatic rise of line voltage and the complete safety to your boat.

The ANG-BOOST™ (IsoBoost) increases the boat's voltage when it decreases due to low shore voltage.

Our Marine Isolation Boost Transformers (IsoBoost) provide the correct voltage to the onboard equipment as well as preventing turning off in the event of a sudden voltage drop or damage in case of excessive increase (within a given range).

Our Marine Isolation Boost Transformers (IsoBoost) ensure the protection of all the marine electrical equipment.

The output voltage is boosted if the supplied voltage is too low.

Moreover, the SOFT START allows the boat to be safely powered by the shoreline, limiting the peak current that normally occurs when the transformers are inserted.

The special electronic circuitry keeps the boat's power supply at the right level, avoiding unpleasant voltage drops that can be seen in the lighting or in the installed equipments.

ANG-BOOST™ (IsoBoost) is equipped with a BY-PASS system, which allows the user to exclude the ANG-BOOST™ (IsoBoost) in the event of a failure or breakdown. The system will supply the power directly from the shore voltage and will also guarantee the isolation on the boat.

ANG-BOOST™ has the automatic Auto-Restart from high voltage, low voltage, blackout and overload.

FUNCTIONING

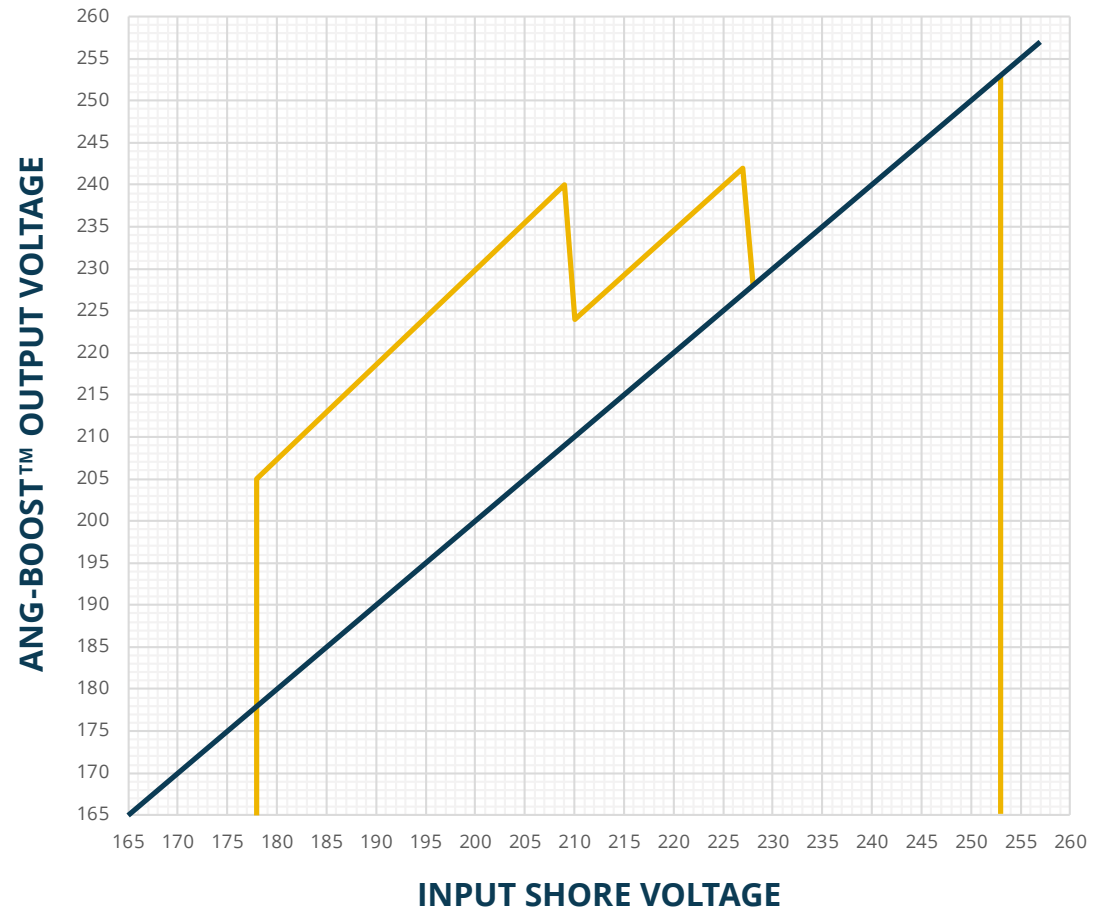
The ANG-BOOST™ is designed to power the boat from a nominal voltage of 240 V with three operating thresholds:

- Shore Voltage from 178 to 209 V (+/- 3V): output voltage from 210 to 240 V (+/- 3V)
- Shore Voltage from 210 to 227 V (+/- 3V): output voltage from 224 to 242 V (+/- 3V)
- Shore Voltage from 228 to 253 V (+/- 3V): output voltage from 228 to 253 V (+/- 3V)

If the input voltage is less than 178V or higher than 253V, the output is deactivated.

THE ANG-BOOST™ GUARANTEES THE MAXIMUM OUTPUT CURRENT EVEN IN BOOST MODE.

The following chart shows the output voltage curve secured by ANG-BOOST™ compared to the Shore Voltage.



MAIN FEATURES

- **ANG-BOOST™ is CE and ISO 9001 certified**, it is manufactured with **UL CERTIFIED** components and complies with **ABYC E-11** Standards.
- **SEAMLESS SYSTEM:** ANG-BOOST™ is provided with SEAMLESS transfer system in order to avoid power interruption during the switching. The system automatically chooses the optimal point of switching without loss of power.
- **OVERLOAD ENDURANCE:** ANG-BOOST™ is designed to withstand 30% overload for at least one hour.
- **ELECTRICAL PROTECTION:** ANG-BOOST™ is provided with a protective shield. The shore grounding conductor is connected to a shield between primary (shore) and secondary (boat) transformer windings. This shield assures isolation on the boat for electrical protection.
- **BY-PASS SYSTEM:** ANG-BOOST™ is provided with manual By-Pass system that allow to manually disconnect the Boost mode in case of breakdown and supply power from the shore. The by-pass system guarantees the isolation protection on the boat.
- **SOFT START SYSTEM:** ANG-BOOST™ is provided with Soft Start System that assures the minimal current in-rush during the power up of the system.
- **FULL OUTPUT POWER GUARANTEED:** ANG-BOOST™ ensures full output power even in boost mode. The output voltage is always stable.
- **AUTOMATIC THERMAL PROTECTION:** ANG-BOOST™ is provided with a thermal protection that automatically shuts down the system until the temperature returns to a normal level. The unit will automatically restart when the temperature returns to a safe operating level.
- **AUTO-RESTART:** ANG-BOOST™ automatically restart after high voltage, low voltage, blackout, and overload. ANG-BOOST™ is equipped with very low peak transformers.
- **The ANG-BOOST™ is provided with cooling fan system.**
- **STATIC SYSTEM:** The static switch doesn't need any maintenance, the only required maintenance is the filter cleaning.
- **ANG-BOOST™ increases the output voltage in two steps up:** 15% (1st step) and 7.5% (2nd step).
 - **1st Step:** from 175V to 209V + 15%
 - **2nd Step:** from 210V to 227V + 7.5%
 - **3rd Step:** from 228V to 253V non-Boost Mode (Shore Supply)The result is a more balanced power supply, eliminating over-voltages in the range 200/205 Vac and increasing the voltage in the range 205/227 Vac.
- **ANG-BOOST™ covers a wide voltage range gradually increasing the output voltage.** (See graph pg.3)
- **Aluminum Construction, Anti-Rust.**
- **2 year International Warranty.**

LED INDICATOR PANEL

ANG-BOOST™ is provided with a LED Control Panel that indicates the operating status of the equipment.

The LED lights indicate the operating status of the ANG-BOOST™.



- **POWER: Green Led Light**
Non-Boost Mode. Boat Voltage equals Shore Voltage.
- **BOOST: Yellow Led light**
Boost Mode ON.
- **OVER TEMPERATURE: Red Led Light**
Thermal Protection automatically shuts down the system until the temperature returns to a safe operating level.
- **LOW VOLTAGE: Solid Red Led Light**
Shore Input Voltage below 178VAC, the system shuts down to protect the boat's electrical equipment.
- **HIGH VOLTAGE: Flashing Red Led Light**
Shore Input Voltage over 253VAC, the system shuts down to protect the boat's electrical equipment.
- **BY-PASS: Red Led Light**
Manual By-Pass ON. NON-Boost Mode, Boat Voltage equals Shore Voltage. Isolation Protection ON.

TECHNICAL SPECIFICATIONS



ANG-BOOST™	3.6 kVa	12.5 kVa	15 kVa	18 kVa	20 kVa	25 kVa	30 kVa
Input Current (A)	30	52	62.5	74.8	83.2	104	125
Input Voltage (Vac)	110/120	208/240	208/240	208/240	208/240	208/240	208/240
Boost Voltage Correction	15%+7.5%	15%+7.5%	15%+7.5%	15%+7.5%	15%+7.5%	15%+7.5%	15%+7.5%
Operating Voltage (Vac)	88/130	178/255	178/255	178/255	178/255	178/255	178/255
Operating Frequency (Hz)	50-60	50-60	50-60	50-60	50-60	50-60	50-60
Output Voltage nominal (Vac)	120	120/240+N	120/240+N	120/240+N	120/240+N	120/240+N	120/240+N
Output Current Boost Mode (A)	29	49.5	59	71	79.5	99	119
Output Current No Boost (A)	30	50.5	60.6	73	82	100	121
Output Connection (Terminal Block)	L1+N	L1+L2+N+G	L1+L2+N+G	L1+L2+N+G	L1+L2+N+G	L1+L2+N+G	L1+L2+N+G
kVA Continuous	3.5	12.1	14.5	17.5	19.3	24	29
Automatic Thermal Protection	110°C	110°C	110°C	110°C	110°C	110°C	110°C
Operating Temperature (°C)	50	50	50	50	50	50	50
Noise Level (Dba)	35	40	40	40	40	40	40
Insulation Transformer Class	H	H	H	H	H	H	H
Degree of Protection	IP21	IP21	IP21	IP21	IP21	IP21	IP21
SEAMLESS TECHNOLOGY	YES	YES	YES	YES	YES	YES	YES
SOFT START	YES	YES	YES	YES	YES	YES	YES
Manual BY-PASS	YES	YES	YES	YES	YES	YES	YES
Automatic Thermal Protection	YES	YES	YES	YES	YES	YES	YES
ALARMS: Over temperature/Over Voltage/Low Voltage	YES	YES	YES	YES	YES	YES	YES
Signal LEDs	YES	YES	YES	YES	YES	YES	YES
Tropicalization Circuit	YES	YES	YES	YES	YES	YES	YES
Aluminium Construction/AntiRust	Powder coated steel	YES	YES	YES	YES	YES	YES
Cooling	Forced	Forced	Forced	Forced	Forced	Forced	Forced
Approximate Weight (lbs/kg)	75 lbs/34 kg	176 lbs/80 kg	187 lbs/85 kg	209 lbs/95 kg	242.5 lbs/110 kg	322 lbs/146 kg	353 lbs/160 kg
Lenght (inch/cm)	12 in/30 cm	18 in/46 cm	18 in/46 cm	18 in/46 cm	18 in/46 cm	18 in/46 cm	18 in/46 cm
Width (inch/cm)	12 in/30 cm	16.5 in/42 cm	16.5 in/42 cm	16.5 in/42 cm	16.5 in/42 cm	16.5 in/42 cm	16.5 in/42 cm
Height (inch/cm)	13.5 in/35 cm	17.5 in/45 cm	17.5 in/45 cm	17.5 in/45 cm	17.5 in/45 cm	23.6 in/60 cm	23.6 in/ 60cm
Auto-Restart	YES	YES	YES	YES	YES	YES	YES
Galvanic Isolation	YES	YES	YES	YES	YES	YES	YES
Low Peak Transformer	YES	YES	YES	YES	YES	YES	YES
Paralleling	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL

QUALITY ASSURANCE

- The entire production cycle of our equipment is subject to surveillance regarding quality assurance. The quality assurance system complies with ISO9001-2008 standard.

DECLARATION OF CONFORMITY

- All A.N.G. USA Inc. equipments are in conformity with UNI CEI EN ISO/IEC 17050-1:2005 and UNI CEI EN ISO/IEC 17050-2:2005 standards.
- We, A.N.G. USA Inc. 3200 S. Andrews Ave, suite 207 Fort Lauderdale, FL 33316, Hereby declare that the product below conforms to the relevant requirements of the appropriate EU directive.
- Complies with ABYC Standards.

APPLICABLE UE DIRECTIVES

- 2006/95/CE (EU Directive on Electrical equipment designed for use within certain voltage limits).
- 2004/108/CE (EU Directive on Electromagnetic Compatibility).
- CEI EN 55022:2006 Information technology equipment. Radio disturbance characteristics. Limits and methods of measurement.
- CEI EN 61000-4-2/A2:2001 Electromagnetic compatibility (EMC). Part 4: Testing and measurement techniques. Section 2: Electrostatic discharge immunity test.
- CEI EN 62040-1-1:2003 Uninterruptible power systems (UPS). Part 1-1: General and safety requirements.
- CEI EN 62040-1-2:2003 Uninterruptible power systems (UPS). Part 1-2: General and safety requirements.



A.N.G. CONVERTERS

A.N.G. USA Inc.

3200 S. Andrews Ave, suite 207
Fort Lauderdale, FL 33316

OFFICE: +1 (954) 368-3214

MOBILE: +1 (786) 447-5273

ITALY: +39 335 6756-169

info@angconverters.com

www.angconverters.com

