

IsoBoost Transformers

The Energy Solutions IsoBoost transformer provides a cost effective and reliable solution to isolate and manage a shore line. It provides all of the features of a normal isolation transformer, as well as providing a boost function to manage the volt drop on heavily loaded shore lines, or to cope with a 208V (phase to phase) supply. On startup, the isolation transformer automatically soft starts the transformer to prevent inrush from tripping the supply breaker. If the voltage is in range, it operates in 1:1 mode, so that the output voltage matches the input voltage. If the supply voltage drops below 215V, it automatically switches into boost mode, effectively raising the output voltage by around 10%. If the supply voltage recovers, the IsoBoost automatically switches back to 1:1 operation.



- Double wound isolation transformer to BS EN 60076-1.
- Custom enclosure, powder coated RAL9016 traffic white finish.
- Input is automatically switchable between 208/400 (configured at time of order) and 240 volts nominal.
- Protective screen between input and output windings (normally connected to incoming earth)

- Output is 240 volt nominal, with centre tap available.
- Dual frequency (but no frequency conversion)
- Input 3 wire (earth and two conductors)
- Output options for 3 wire or 4 wire
- Models available for US or EU operation (208V or 400V).
- Automatic soft start to prevent shore supply tripping
- Inbuilt metering, logging and power analysis
- Fit and form replacement for Charles Industries™ IsoBoost transformers



Marine IsoBoost Transformers

A sophisticated power meter is built into the case of the IsoBoost. It provides detailed monitoring of the output supply of the transformer, allowing the user to check that the supply is acceptable before connecting it to the vessel switchboard. The power monitor is also used to provide the control of the boosting function. It includes the following features:

- Voltage, frequency, current monitoring
- Power, power factor and energy usage
- Harmonic content and THD
- Event and alarm recording
- Modbus RTU communication for optional remote display

Energy Solutions IsoBoost Transformers				
	1 : 1 or 15% voltage boost	1 : 1 or 10% voltage boost	1 : 1 or 15% voltage boost	1 : 1 or 400V to 230V dropdown
	USA	EURO	USA	EURO
	12kVA ISO-Boost	15kVA ISO-Boost	24kVA ISO-Boost	24kVA ISO-Boost
Input voltage	208V or 240V (Input auto switching)	208V or 230V (Input auto switching)	208V or 240V (Input auto switching)	400V or 230V (Input auto switching)
Input Current (at max load)	50A @ 240V	63A @ 230V	100A @ 240V	104A @ 230V 63A @ 400V
Output voltage (Nominal)	240V / 120V	230V	240V / 120V	230V
Output Current (1:1)	50A	63A	100A	100A
Output Current (Boost)	43A	57A	85A	100A
Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
Common characteristics				
Power Monitor	Included (All models)			
Input device	Isolator			
Output device	Circuit breaker			
Enclosure material	Powder coated zintec (RAL9016 traffic white)			
IP rating	IP 21			
Weight	104Kg (230lb)	115Kg (253lb)	185Kg (408lb)	185Kg (408lb)
Dimensions mm (HxWxD)	309.5 x 381 x 467	309.5 x 381 x 467	504.5 x 508 x 620	504.5 x 508 x 620
Dimensions inch (HxWxD)	12.19 x 15 x 18.39	12.19 x 15 x 18.39	19.86 x 20 x 24.41	19.86 x 20 x 24.41

Images are for illustrative purposes only and actual products and examples may differ from those shown. All details correct at time of going to press but subject to change. E & EO.
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Boost function

The output voltage of the transformer is directly related to the input voltage. This output voltage, when the transformer is in Boost mode, is +10% higher than the input voltage on the European specification transformers and +15% higher than the input voltage on US specification transformers. The boost function will typically happen at the following voltage levels:

European Spec: Input Voltage is below 218V **USA Spec:** Input Voltage is below 220V