

# Power Conversion Equipment

ASEA FREQUENCY CONVERTERS

## ASEA

- Precision regulation (<1%) and low harmonic distortion (<1%) to the yacht's power distribution grid
- Modular design and construction
- Compact size allows for various environments including tight spaces
- Stainless steel enclosures with conformally coated circuit boards
- Accepts 170-520 volt AC and 40-75Hz.
- Industry options for every application: seamless transfer, load management, remote touch panels, generator management modules, dual master controller
- Extensive selection of repair and replacement parts in stock



AC SERIES

Item Number	Ratings KVA	Input/Output	Weight in lbs.(kg)
<b>See cabinet selection chart for casement dimensions. Call for pricing.</b>			
AC12	12	1 Phase – 1 Phase	230(104)
AC15	15	1 Phase – 1 Phase	290(132)
AC18	18	1 Phase – 1 Phase	300(136)
AC24	24	1 Phase – 1 Phase	490(222.3)
AC25-1	25	1/3 Phase – 1 Phase	575(261)
AC25-3	25	1/3 Phase – 3 Phase	575(261)
AC30	30	1 Phase – 1 Phase	490(222)
AC30-1	30	1/3 Phase – 1 Phase	590(268)
AC30-3	30	1/3 Phase – 3 Phase	590(268)
AC36	36	1 Phase – 1 Phase	530(240.4)
AC36-1	36	1/3 Phase – 1 Phase	825(374)
AC36-3	36	1/3 Phase – 3 Phase	825(374)
AC45-1	45	1/3 Phase – 1 Phase	850(386)
AC45-3	45	1/3 Phase – 3 Phase	850(386)
AC54-1	54	1/3 Phase – 1 Phase	890(404)
AC54-3	54	1/3 Phase – 3 Phase	890(404)
AC75-3	75	3 Phase – 3 Phase	1240(562.45)
AC75-3/2	75	1/3 Phase – 3 Phase	1650(748.43)
AC90-3	90	3 Phase – 3 Phase	1400(635)
AC100-3	100	3 Phase – 3 Phase	1400(635)

# Power Conversion Equipment

## ASEA FREQUENCY CONVERTERS

### ASEA CABINET SELECTION

MODEL	STYLE	HEIGHT	WIDTH	DEPTH	COMMENTS
AC08, AC12	A	20.00"	23.00"	10.00"	Bulkhead Mount
AC15, AC18	B	22.40"	29.125"	12.00"	Bulkhead Mount
AC24, AC30, AC36	F	41.00"	18.00"	30.25"	Dual Shore Cords/Top Display
	O (xmfr)	14.625"	17.25"	25.75"	Dual Shore Cords/Split Cabinet
AC25, AC30, AC36	O (Control)	24.00"	24.00"	24.00"	Dual Shore Cords/Split Cabinet
	F	41.00"	18.00"	30.25"	Top Display
	L	57.675"	18.00"	21.00"	Front Display
AC25, AC30	O (xmfr)	16.00"	19.00"	24.00"	Split Cabinets
	O (Control)	24.00"	24.00"	24.00"	Split Cabinets
	M1	25.00"	37.25"	23.875"	Side Display
AC25, AC30	M2	25.00"	23.875"	37.25"	Top Display
	M3	25.00"	23.875"	37.25"	Front Display
	Q	41.00"	13.75"	26.125"	Front Display
	N	53.00"	59.875"	10.00"	Front Display
HF: AC25, AC30, AC36, AC45	P	42.25"	18.75"	28.75"	Front Display
AC36, AC45 AC54	D1	41.00"	23.875"	30.25"	Top Display
	D2	41.00"	23.875"	30.25"	Front Display
	H1	25.00"	37.25"	23.875"	Side Display
	H2	25.00"	23.875"	37.25"	Top Display
	H3	25.00"	23.875"	37.25"	Front Display
	I	56.125"	25.00"	20.00"	Front Display
AC55, AC63, AC75	N	53.00"	59.875"	10.00"	Front Display
	E1	50.00"	23.875"	30.25"	Top Display
	E2	50.00"	23.875"	30.25"	Front Display
	K	48.25"	23.375"	28.50"	Front Display
LC: AC55, AC63, AC75, AC90	J	62.125"	25.00"	20.00"	Front Display
	S	40.00"	23.675"	28.00"	Front Display
AC90, AC100	G1	50.00"	23.875"	34.00"	Top Display
	G2	50.00"	23.875"	34.00"	Front Display
	K	48.25"	23.375"	28.50"	Front Display
	R	65.125"	25.00"	23.00"	Front Display
LC: AC100, AC125	U	46.00"	25.675"	30.37"	Front Display

#### Notes:

1. All units can be paralleled for higher power levels, redundant cabinets and dual shore cord applications.
2. AC125 "Chassis Style R" is high range input and output only.
3. LC: AC100LC, AC113LC and AC125LC — "Chassis Style U" is high range input and output only
4. Styles "J & R" are available with rear mounted, liquid cooled heated exchangers.
5. AC90LC is available with a low range 120/208VAC output.

## ASEA Q CABINET SELECTION

MODEL NUMBER	DIMENSIONS	COMMENTS
AC15Q	33.5"H x 13.75"W x 26.11"D	Dual Shore Cords 340lbs
AC20Q	33.5"H x 13.75"W x 26.11"D	Dual Shore Cords 340lbs
AC25Q-1 AC25Q-3	40.0"H x 13.75"W x 26.11"D	472lbs Field Upgradeable to 30kVA
AC30Q-1 AC30Q-3	40.0"H x 13.75"W x 26.11"D	472lbs
AC30Q/2	Dual Cabinets 33.5"H x 13.75"W x 26.11"D	Dual Shore Cords (per cabinet) 340lbs (per cabinet)
AC36Q-1 AC36Q-3	47.1"H x 19.2"W x 25.3"D	680lbs Field Upgradeable to 45kVA
AC40Q/2	33.5"H x 13.75"W x 26.11"D	Dual Shore Cords (per cabinet) 340lbs (per cabinet)
AC45Q-1 AC45Q-3	47.1"H x 19.2"W x 25.3"D	680lbs
AC50Q-3	37.5"H x 19.2"W x 25.3"D	900lbs Field Upgradeable to 63kVA and 75kVA
AC50Q-1/2 AC50Q-3/2	Dual Cabinets 40.0"H x 13.75"W x 26.11"D	472lbs per cabinet Field Upgradeable to 60kVA
AC60Q-1/2 AC60Q-3/2	Dual Cabinets 40.0"H x 13.75"W x 26.11"D	472lbs per cabinet
AC63Q-3	42.5"H x 19.2"W x 25.3"D	975lbs Field Upgradeable to 75kVA
AC75Q-3	42.5"H x 19.2"W x 25.3"D	975lbs
AC75Q-1/2 AC75Q-3/2	Dual Cabinets 47.1"H x 19.2"W x 25.3"D	680lbs per cabinet Field Upgradeable to 90kVA
AC90Q-1/2 AC90Q-3/2	Dual Cabinets 47.1"H x 19.2"W x 25.3"D	680lbs per cabinet
AC100Q-3/2	Dual Cabinets 37.5"H x 19.2"W x 25.3"D	900lbs per cabinet Field Upgradeable to 125kVA and 150kVA

# Power Conversion Equipment

## MASTERVOLT INVERTERS & OPTIONS

### Combi Series

- Charges two individual battery banks
- Powerboost from battery when shore power is limited
- Parallel function, with shore generator
- Maintenance free vario fans
- 32°F to 77°F, thereafter derating
- Overcurrent, short circuit, and over temperature safety features
- Meets CE and ABYC Standards (A-31)



COMBI SERIES

Item Number	Series	Power Ratings	Charger Ratings	Charger Input Volts	Inverter Output Volts	Dimensions in " (mm) HxWxD	Weight lbs.(kg)	Price
<b>12V</b>								
36012200	Mass Combi 12/2200-100	2150 W	100A @ 14.25V	180-265V/ 45-65Hz.	230V, 50Hz.	19.5(495) x 12.5(318) x 6.1(155)	24.3(11)	\$3,460.49
<b>24V</b>								
38023500	Mass Combi Ultra 2 4/3500-100	3500W	100A @ 28.5V	184-275V/ 35-68Hz.	230V, 50/60Hz.	18.6(472) x 12.5(318) x 7(178)	33.7(15.3)	\$5,150.40

### CombiMaster Series

- UL Listed, IP23, 2 year warranty
- Intelligent 3-step+ battery charger for fast and safe charging for lithium Ion, Gel, AGM, flooded
- Wide DC input voltage ranges 10- 18VDC and flat battery support at 25% under 10V.
- Wide AC input range (90-135V)
- Allows both vertical and Horizontal mounting orientations.
- Micro processor functionality delivers true rated output even at elevated temperatures up to 104°F (40°C)- Transfer (time)- 30A(10ms)
- Battery Chemistry: Flooded, AGM, Gel, Li-on
- Communication: CZone/ NMEA 2000/ MasterBus
- AC voltage/ Frequency: 120V/60Hz



COMBIMASTER SERIES

Item Number	Series	Continuous Power Rating 104°F/40°C	Surge Power (200%)	DC Output (full power)	Continuous Battery Charge Output	Dimensions in" (mm) HxWxD	Weight lbs.(kg)	Price
<b>12V</b>								
35512000	CombiMaster 12/2000- 100 120V	2000W	4000W	10-15V	100A DC@ 14.25V	17.6(447)x 11.3(287)x6.10(155)	16(7)	\$1,550.95
35513000	CombiMaster 12/3000- 160 120V	3000W	6000W	10-15V	160A DC@ 14.25V	17.6(447)x 11.3(287)x6.10(155)	19(9)	\$1,831.95
35522000	CombiMaster 24/2000-60 120V	2000W	4000W	20-30V	60A DC@ 28.25V	17.6(447)x 11.3(287)x6.10(155)	16(7)	\$1,987.20
35523000	CombiMaster 24/3000-70 120V	3000W	6000W	20-30V	70A DC@ 28.50V	17.6(447)x 11.3(287)x6.10(155)	19(9)	\$2,187.61

### Accessories

- Adapter cable connects Mastervolt equipment with NMEA 2000 network
- M12 to RJ45 drop cable contains an extra plug for seating into MasterBus ports

Item Number	Description	Price
77060100	Czone- MasterBus Drop Cable 1m	\$10.21
77060200	Czone- MasterBus Drop Cable 2m	\$11.18
77060500	Czone- MasterBus Drop Cable 5m	\$14.76

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# Power Conversion Equipment

MASTERVOLT OPTIONS + OUTBACK INVERTERS & OPTIONS

## Remote Options

### CombiMaster Smart Remote

- 2.8" TFT full color display with 3 buttons
- Czone/ NMEA and MasterBus networks
- Displays four key parameters
- Protection degree: IP20
- Dimensions: 2.8"(71mm)x 2.8"(71mm)x 1.2"(30mm)

### Easyview5

- Waterproof color display
- Logbook for alarms and warnings
- Buzzer and home button
- Easy mounting: front, wall, or retrofit
- Masterbus Power or 12/24volt input
- Dimensions: 4.4" (112mm) x 5.0"(127mm) x 1.7"(43mm)



MASTERLINK



EASYVIEW5

Item Number	Series	Price
77010500	CombiMaster Smart Remote	\$772.01
77010310	EasyView5	\$397.42

## Outback

- True sinewave AC output
- Intelligent battery charging
- High surge capacity
- Corrosion resistant circuit boards
- Neutral/ ground switching

- Silent operation
- Standard 5 year warranty
- Vented models have fully screened bug proof openings to help keep equipment cool in hot environments



SEALED AND VENTED

Item Number	Model	Power Ratings	Charger Ratings	DC Input Volts	Inverter Output Volts	Dimensions in " (mm) HxWxD	Weight lbs.(kg)	Price
FX2012MT	Sealed	2000 VA	80A DC	10.5 to 17.0	120VAC/ 60 Hz.	13(330) x 8.25(210) x 16.25(413)	62(29)	\$2,369.00
FX2524MT	Sealed	2500 VA	55A DC	21.0 to 34.0	120VAC/ 60 Hz.	13(330) x 8.25(210) x 16.25(413)	62(29)	\$2,369.00
FX2532MT	Sealed	2500 VA	35A DC	28.0 to 45.3	120VAC/ 60 Hz.	13(330) x 8.25(210) x 16.25(413)	62(29)	\$2,369.00
VFX2812M	Vented	2800 VA	125A DC	10.5 to 17.0	120VAC/ 60 Hz.	13(330) x 8.25(210) x 16.25(413)	61(28)	\$2,580.00
VFX3524M	Vented	3500 VA	82A DC	21.0 to 34.0	120VAC/ 60 Hz.	13(330) x 8.25(210) x 16.25(413)	61(28)	\$2,580.00

## Remote Options

### Mate2

- Backlit 4 line LCD display
- 4 soft keys, dedicated inverter and AC input keys
- Input OutBack Cat5e RJ45 network cable
- Monitors AC/DC voltage and current meters, errors and warnings
- 2 year warranty
- Dimensions in " (mm): 4.5(114.30) x 6.15(156.21) x 1.7(43.18)

### Mate3S

- Program, manage and monitor entire system Intuitive menu structure Easy-to-read graphical display System configuration wizard Internet-enabled Field upgradable Up to 1-year of data logging SD memory card slot\*



MATE 2



MATE 3S

Item Number	Description	Price
MATE2	Complete management tool for OutBack mobile power conversion systems	\$295.00
MATE3S	Advanced System Display and Controller	\$595.00

Images are representative of products listed and may not be actual product.

# Power Conversion Equipment

OUTBACK ACCESSORIES + VICTRON INVERTERS & ACCESSORIES

## Accessories

### HUB4

- Communicates stacking, load share, and power save off/on signals
- Ethernet CAT 5 with RJ45 modular jacks
- Ports 4 plus MATE
- Dimensions in " (mm): 10.50(266.70) x 6.25(158.75) x 1.27(32.25)

### RTS

- Measures ambient temperatures in order to recharge batteries safely and efficiently
- Systems using only 1 HUB4 or 1 HUB10 require single RTS



HUB4



RTS

Item Number	Description	Price
HUB4	Communication Manager	\$195.00
RTS	Remote Temperature Sensor	\$45.00

## Multi Plus / Multi Plus Compact

- Multi-functional with intelligent power management, true sine wave inverter & battery charger
- Automatic and uninterruptible switching
- Virtually unlimited power thanks to parallel operation. Up to six Multi's can operate in parallel
- Split phase options, two units can be stacked to provide 120-0-120 volt
- Power control, dealing with limited generator, shore, or grid power
- Power assist, boosting the capacity of shore or generator power
- Four stage adaptive charger and dual bank battery charging



MULTIPLUS

Item Number	VA Ratings	Charger Ratings	Input Volts	Output Volts	Dimensions in " (mm) HxWxD	Weight lbs.(kg)	Price
<b>Multi Plus</b>							
PMP123021102	3000	120A	9.5-17VDC	120VAC/ 60 Hz.	14.3(364) x 10.2(259) x 8.6(218)	40(19)	\$1,679.00
PMP243021102	3000	70A	19-33VDC	120VAC/ 60 Hz.	14.3(364) x 10.2(259) x 8.6(218)	40(19)	\$1,679.00
<b>Multi Plus Compact</b>							
MP122200100	2000	80A	9.5-17VDC	120VAC/ 60 Hz.	20.5(521)x10(254)x5(127)	25(13)	\$1,359.00
CMP242200100	2000	50A	19-33VDC	120VAC/ 60 Hz.	20.5(521)x10(254)x5(127)	25(13)	\$1,359.00

## Phoenix

- Developed for professional duty, suitable for widest range of applications
- True sine wave inverter with optimized efficiency
- Output AC & frequency: 110 volt AC/ 60Hz.
- Operating temperature: -40°C to 50°C
- IP 20 protected
- EN 60335-1, EN55014-1/ EN858014-2/ EN 61000-6-2/ EN 61000-6-3 certified



PHOENIX

Item Number	VA Ratings	Cont. Power Rating @ 40°C	Input Volts	Output Volts	Dimensions in " (mm) HxWxD	Weight lbs.(kg)	Price
PHO24/800	800	700W	21-31	120VAC/ 60 Hz.	4.1(104) x 8.5 (216) x 12.0(305)	12(5.5)	\$448.00

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# Power Conversion Equipment

VICTRON INVERTERS & ACCESSORIES

## Quatro

- Two AC inputs with integrated transfer switch, can be connected to two independent AC sources
- Two AC outputs, main output has no-break functionality
- Virtually unlimited power thanks to parallel operation. Up to six quatro units can operate in parallel
- Three phase capability (requires multiple units)
- Power control, dealing with limited generator, shore side, or grid power. Powerful battery charger
- Power assist, boosting the capacity of shore or generator power



QUATRO

Item Number	VA Ratings	Charger Ratings	Input Volts	Output Volts	Dimensions in " (mm) HxWxD	Weight lbs.(kg)	Price
QUA2450231100	5000	120A	19-33VDC	120VAC/ 60Hz.	17.5(445) x 13.0(330) x 9.6(244)	66(30)	\$3,324.00
QUA125021100	5000	200A	9.5-17VDC	120VAC/ 60Hz.	18.5(470)x 14(356)x 11.2(284)	75(34)	\$3,976.00
QUA485021100	5000	70A	38-66VDC	120VAC/ 60Hz.	17.5(445)x 13(330)x 9.6(244)	66(30)	\$3,324.00

## Accessories

### Color Control GX

- Same as Panel2, different mounting systems
- Panel is made of plastic with a more modern look
- Easy mounting from either back or front.
- **Hidden mounting holes**
- Monitor, control and configure the CCGX remotely over the internet
- BMV-7000 family can be connected directly to the VE.Direct ports on the CCGX.
- Use the CCGX as a Modbus- TCP gateway to all connected Victron products

### BMV-712 Smart Battery Monitor

- Customize settings
- Monitor all important data on single screen
- View historical data
- Update the software when new features become available.

### VE.BUS Smart Dongle

- Measures battery voltage
- Allows monitoring and control of Multis and Quattros with a smartphone or other bluetooth enabled device.



COLOR CONTROL GX



BPP010300100R



REC020005010

### Digital Multi Control

- Remote monitoring includes: rotary knob to set power control and power assist levels

Item Number	Descriptions	Price
BPP010300100R	Color Control GX	\$318.00
REC020005010	Digital Multi Control 200/200A	\$173.00
BMV-712 Smart	Smart Battery Monitor	\$243.00
ASS030065000	RJ 45 UTP Patch Lead 5M	\$17.00
ASS030065010	RJ 45 UTP Patch Lead 10M	\$21.00
ASS030065020	RJ 45 UTP Patch Lead 15M	\$29.00
ASS030064920	RJ 45 UTP PATCH LEAD .9M	\$9.00
ASS030064980	RJ 45 UTP PATCH LEAD 3M	\$14.00
ASS030537010	VE.Bus Smart Dongle	\$92.00
ASS030140000	MK3-USB VE.Bus to USB interface	\$81.00
ASS030520110	VE.Bus to NMEA 2000 interface	\$253.00
ASS030530209	VE. Direct cable .9m (use to connect BMV-712 to Color Control GX)	\$17.00
ASS030530230	VE. Direct cable 3m (use to connect BMV-712 to Color Control GX)	\$20.00
ASS030530250	VE. Direct cable 5m (use to connect BMV-712 to Color Control GX)	\$22.00
ASS030530310	VE. Direct cable 10m (use to connect BMV-712 to Color Control GX)	\$27.00

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# Power Conversion Equipment

PHOENIX POWER SUPPLY

## Mini

- Worldwide application thanks to wide range input and international approval package
- Din rail mounting
- High degree of operational safety due to high MTBF > 500,000 Hrs. and long mains buffering times > 20ms
- Compensation of voltage drops and recharging of batteries based on adjustable output voltage
- Connection in parallel possible for increased performance and redundancy
- Simplified commissioning due to LED function monitoring
- Active function monitoring through switching output for remote diagnostics
- UL and cUL Listed



MINI

Item Number	Input Volt	Output Volts	Amps	Dimensions in " (mm) HxWxD	Price
MINI-PS-12-8	85-264VAC 90-350VDC	10-15VDC	8/6.6	2.66(68) x 3.90(99) x 4.21(107)	\$339.90

## Trio

- Din rail mounting
- Worldwide application thanks to wide range input and international approval packages
- High degree of operational safety due to high MTBF > 500,000 hrs
- Connection in parallel possible for increased performance and redundancy
- Simplified commissioning due to LED function monitoring
- Compensation of voltage drops and recharging of batteries based on adjustable output voltage
- Efficient function of the 3-phase devices even if one phase fails permanently
- Temperature range -25°C to +70°C
- UL and cUL Listed



TRIO

Item Number	Input Volt	Output Volts	Amps	Dimensions in " (mm) HxWxD	Price
TRIO-PS-24-5	85-264VAC	22.5-29.5VDC	5	1.58(40) X 5.12(130) x 4.52(115)	\$273.36
TRIO-PS-24-10	85-264VAC	22.5-29.5VDC	10	2.36(60) X 5.12(130) x 6.00(152)	\$390.50
TRIO-PS-24-20	85-264VAC	22.5-29.5VDC	20	4.52(115) X 5.12(130) x 6.00(152)	\$609.82

## Uno

- Higher power density and tailored to all conventional 12mm control cabinets
- High efficiency
- More than 700,000 hour MTBF rating a full nominal load
- Wide operating temperature -25 C to 70 C



UNO

Item Number	Input Volt	Output Volts	Amps	Dimensions in " (mm) HxWxD	Price
UNO-PS-12-55W	85-264VAC	12VDC +/-1%	4.6	3.5(89) x 1.3(33) x 3.3(84)	\$80.78
UNO-PS-24-30W	85-264VAC	24VDC +/-1%	1.25	3.5(89) x .88(22) x 3.3(84)	\$58.76
UNO-PS-24-60W	85-264VAC	24VDC +/-1%	2.5	3.5(89) x 1.3(33) x 3.3(84)	\$72.24
UNO-PS-24-100W	85-264VAC	24VDC +/-1%	4.2	3.5(89) x 2.2(56) x 3.3(84)	\$116.28

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# Power Conversion Equipment

PHOENIX POWER SUPPLY + TRIPPLITE POWER SUPPLY

## Steppower

- Energy savings due to maximum energy efficiency and low no load losses
- Flexible assembly by DIN rail or screw mounting
- Reliable power supply, high MTBF of more than 500,000 hours and UI characteristics curve
- Input voltage range: 100 volt AC to 240 volt AC
- Frequency range: 45Hz. - 65Hz.
- UL approved



STEPPOWER

Item Number	Input Volts	Output Current	Output Volts	Dimensions in " (mm) HxWxD	Price
STEP-PS-12-1.5	85-264VAC	1.5 A	12VDC +/- 1%	1.41(36) x 3.54(90) x 1.7(43)	\$80.28
STEP-PS-12-3	85-264VAC	3 A	10-16.5VDC	2.12(54) x 3.54(90) x 2.4(61)	\$115.30

## Tripplite

- Heavy duty casings
- Multiple safety features
- Chassis mount
- Low profile design
- 1 year warranty



TRIPPLITE

Item Number	Input Cont.	Intermittent	Continuous Amps	Dimension in " (mm) HxWxD	Weight in lbs. (kg)	Price
<b>AC Input Volt 120/60, Output Rating 13.8 DC (+/- .5V)</b>						
PR-7		7	5	3.75(95) x 6.5(165) x 7.5(191)	7(3.17)	\$123.44
PR-10		10	7.5	4.5(114) x 6.75(171) x 7.75(197)	10(4.53)	\$176.90
PR-15		15	12	4.5(114) x 6(152) x 10(254)	13(5.89)	\$244.82

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# Power Conversion Equipment

VANNER EQUALIZERS

## Vanner Voltmaster

- Equalizers allow for operation of 12 volt lighting equipment on 24 volt electrical systems
- Standby mode current @28.4 volt 17 milliamp nominal, operating temperature -40°C to +75°C, >97% efficiency



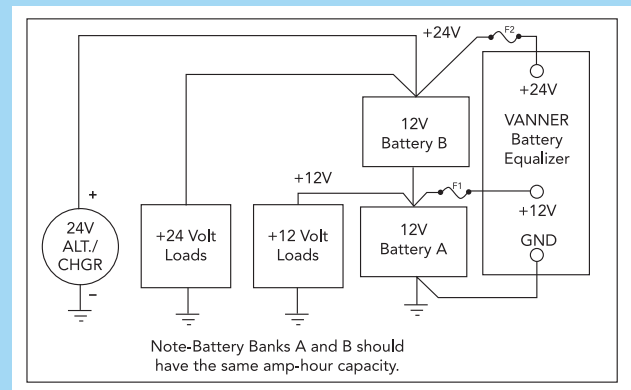
EQUALIZER

Item Number	Output	Input Voltage DC	Current Amps	Dimensions in " (mm) HxWxD	Weight lbs. (kg)	Price
60-20A	20 A	20-35	12	9.4(239) x 8.5(216) x 3.20(81)	5.0(27)	\$485.50
66-60	60 A	18-32	32	9.8(249) x 8.5(216) x 2.47(63)	6.3(2.96)	\$663.32
66-80	80 A	18-32	43	9.8(249) x 8.5(216) x 2.47(63)	6.9(3.24)	\$747.00
66-100	100 A	18-32	53	9.8(249) x 8.5(216) x 2.47(63)	6.9(3.24)	\$966.64

### Vanner Voltmaster Equalizer Operation

In many 24 volt electrical systems, it is desirable to tap into the battery system to obtain power for 12 volt loads. This method, while seemingly simple, causes a charge imbalance resulting in Battery B (see diagram) being overcharged, and possibly boiling, while Battery A discharges.

To solve this application problem, the Vanner VoltMaster battery equalizer is connected to the battery system at the +24, +12 and ground points. The battery equalizer maintains the voltage balance and charge acceptance rate of each battery to within 0.1 volt under light loads and within 0.5 volt at full loads. When the voltage of Battery A is lighter than that of Battery B, the battery equalizer is in standby mode - meaning it is not transferring power from its 24 volt input to its 12 volt output. When a 12 volt load is present, and Battery A's voltage decreases to just below the voltage of Battery B, the battery equalizer activates and transfers sufficient current from Battery B to Battery A, satisfying the load and maintaining an equal voltage and charge in both batteries.



# Power Conversion Equipment

NEWMAR CONVERTERS + NEWMAR POWER SUPPLY

## Newmar

- Output: 13.6 volt DC (internally adjustable 12.6-14.5)
- Output voltage maintained within 1% under all line and load conditions within rating
- Ripple: 150 mV P-P maximum
- Polyurethane conformal coating on pc board
- Duty cycle ratings: intermittent- 20 min. max on 20% duty. Current limit set at approx. 105% of intermittent rating
- Idle current less than 100 mA (including power "ON" light)
- Operating temp: 0-50°C, derate linearly from 100% at 40°C to 50% @ 50°C thermal shutdown at 70°C case temperature
- Convert 20-50 volt DC to 12 volt DC output for powering communication, navigation equipment on negative ground systems
- CE Marked
- 85% typical efficiency
- Reverse polarity protected and overvoltage protection



NEWMAR

Item Number	Amp Ratings	Dimensions in " (cm) HxWxD	Weight in lbs.(kg)	Price
<b>Input Volts 20-50</b>				
32-12-6C	6 Int/6 Cont	2.8(71) x 4.2(107) x 10(254)	2.5(0.9)	\$325.00
32-12-10	10 Int/10 Cont	4.5(114) x 5.9(150) x 11(279)	4(1.8)	\$421.64
32-12-15C	15 Int/15 Cont	4.5(114) x 5.9(150) x 11(279)	5(2.3)	\$471.00
32-12-25A	25 Int/20 Cont	6(152) x 4.7(119) x 14(356)	7(3.4)	\$710.48
32-12-35A	35 Int/30 Cont	6(152) x 4.7(119) x 16(406)	12(5.5)	\$959.48
32-12-50	50 Int/40 Cont	6.2(157) x 6.8(173) x 18(457)	16(7.3)	\$1,021.00
32-24-50	50int/40cont	6.2(157) x 6.8(173) x 18(457)	16(7.3)	\$1162.00

## Newmar

- Polyurethane conformal coated PC board
- Corrosion resistant heavy duty aluminum case
- Integral shock mounts
- Heat sink fins maximize air contact for cool operation and long life of components
- Supply and load circuit protection
- Over voltage protection
- Current limit (set @ 105% of intermittent rating)
- Thermal overload and input/output fusing protection
- Thermal activated cooling fan (CD units only)
- Adjustable output volt 12.6-14.5 volt DC
- Selectable input volt 115/230, 50/60 Hz.



NEWMAR

Item Number	Intermittent	Continuous	Operating Temperature	Dimension in " (cm) HxWxD	Weight in lbs. (kg)	Price
115-12-8	8	5	0-50°C	6.0(152) x 4.6(117) x 8.5(216)	10(4.5)	\$446.54
115-12-20	20	8	0-50°C	5.7(145) x 4.8(122) x 16.3(414)	20(9.1)	\$976.08
115-12-35CD	35	35	0-65°C	6.5(165) x 9.5(241) x 14.0(356)	32(14.6)	\$1,425.94

Images are representative of products listed and may not be actual product.

# Power Conversion Equipment

## MASTERVOLT CONVERTERS

### Mastervolt

- Offers full galvanic isolation between input and output  
\*except model 81200100
- Step down from a 24 volt bank to a 12 volt bank
- Will charge a 12/24 volt battery with a 3 step charge characteristic
- Programmable via a PC
- Voltage stabilizing: 28.5 volt In/ 24-26 Out
- 12 or 24 volt halogen light dimmer function
- Guaranteed operation 0°C to 60°C (de-rating above +40°C, 5% per °C)



MASTER VOLT CONVERTER

Item Number	Maximum Amps	Input Volts	Output Volts	Dimensions in " (mm)	Weight lbs(kgs)	Price
81200100	20	20-32VDC	10-15VDC	7.5(191) x 5.1(130) x 2.4(61)	2.2(1)	\$370.95
81300100	20	19-32VDC	10-15VDC	8.9(226) x 6.1(155) x 3.2(81)	4(1.8)	\$523.45
81300200	20	19-32VDC	20-28.5VDC	8.9(226) x 6.1(155) x 3.2(81)	4(1.8)	\$523.45
81300400	20	11-16VDC	10-15VDC	8.9(226) x 6.1(155) x 3.2(81)	4(1.8)	\$523.45

### Accessories



6769 TEMPSENSOR



PC LINK

Item Number	Description	Function	Price
21730300	PC-Link for Wizard	Interface between Mass Combi, Chargers & PC in combination with serial to QRS 232 master adjust software (free download). Can be directly mounted to a computer serial port	\$170.00
41500500	Temperature Sensor 6m		\$51.47
41500800	Temperature Sensor 15m		\$55.62

List pricing in catalog is subject to change without notice.

## Orion Series

- Maintain output voltage within 1% under all line and load conditions
- Large heat sink fins maximize air contact for cool operation and long life of components
- Polyurethane conformal coating on PC boards
- Corrosion resistant anodized aluminum case
- Overcurrent, overheating, overvoltage protection
- Short circuit proof
- Fuse and reverse connected diode across input
- Varistor (also protects against load dump)
- Reverse polarity protection
- 3% voltage tolerance



ORI24-12-5

Item Number	Continuous Amps/ Max Amps	Output Volts	Input Volts	Dimensions in " (mm) HxWxD	Weight in lbs. (kg)	Price
<b>Standard - 12 Volts</b>						
ORI24/12-25	25/35	10-15	18-35	2.6(66) x 3.5(89) x 6.3(160)	1.5(0.7)	\$92.22
ORI24/12-40	40/55	12	18-35	2.6(66) x 3.5(89) x 7.7(196)	2.0(0.9)	\$131.11
ORI24/12-70	70/85	10-15	18-35	2.6(66) x 3.5(89) x 7.7(196)	2.0(0.9)	\$184.44
<b>Standard - 24 Volts</b>						
ORI12/24-8	8/20	20-30	9-18	1.8(46) x 3.5(89) x 4.5(114)	0.4(0.8)	\$75.56
ORI12/24-10	10/20	20-30	9-18	1.8(46) x 3.5(89) x 4.5(114)	0.9(0.4)	\$92.22

## Orion TR Series

- Remote on-off, eliminates the need for a high current switch in the input wiring
- Adjustable output voltage, can also be used as a battery charger
- IP43 protection when installed with the screw terminals oriented downwards



STANDARD



ISOLATED

Item Number	Continuous Amps / Max Amps	Output Volts	Input Volts	Dimensions in " (mm) HxWxD	Weight in lbs. (kg)	Price
<b>Standard</b>						
ORI-TR-24/12-10	10/12	12.5	18-35	2.9(74) x 3.7(94) x 1.5(38)	0.44(0.20)	\$42.00
ORI-TR-24/12-5	5/7	12.7	18-35	2.1(53) x 2.0(51) x 1.1(28)	0.20(0.09)	\$23.33
<b>Isolated</b>						
ORI-TR-12/12-110W	9/12.5	10-15	8-17	4.0(102) x 4.5(114) x 1.9(48)	1.0(0.45)	\$84.44
ORI-TR-24/12-110W	6/12.5	10-15	16-35	4.0(102) x 4.5(114) x 1.9(48)	1.0(0.45)	\$84.44
ORI-TR-24/24-120W	5/6.3	20-30	16-35	4.0(102) x 4.5(114) x 1.9(48)	1.0(0.45)	\$84.44
ORI-TR-24/24-280W	6/12.5	20-30	16-35	7.38(187) x 4.34(110) x 2.34(59)	2.80(1.27)	\$152.22