

Go Beltless

HBA[®]

Hybrid Beltless Alternator

This year's fashions are in and all point to beltless. Throw those heavy, bulky accessory belts and energy *in*-efficient alternators away. Then slip into something more environmentally elegant like the Vanner Hybrid Beltless Alternator.

Vanner's HBA[®] is the sustainable, energy efficient alternative to traditional mechanical-drive alternator systems that reduces maintenance, fuel consumption and emissions.

Vanner HBA[®]s deliver up to 300 amps at idle (24 VDC) and up to 600 amps at idle with a Dual HBA[®] configuration in a rugged, maintenance-free, air-cooled design. Add Vanner's Model Based Battery Monitoring (MBBM[®]) technology for dynamic voltage regulation.

Built for the Hybrid bus the HBA[®] also offers a solid state DC conversion solution for electric, fuel cell and battery buses with EBA[®] models.

Make your hybrid bus fleet the envy of the busway with a Vanner HBA[®].



VANNER[®]

Power Management For Transit

www.vanner.com

Vanner, Inc. 4282 Reynolds Drive - Hilliard, OH USA 43026 - 1-800-227-6937 - (614) 771-2718

VANNER®



Configurations

- **HBA**
(Up to 300A at Idle)
- **Dual HBA/EBA**
(Up to 600A at Idle)
- **EBA**
(Up to 300A at Idle)

- Solid-State, high efficiency DC-DC converter

- Eliminates belt-drives and alternators

- Controls state of health/state of charge with Vann-Bus Equalizer and MBBM®

Dynamic Battery Management!

- 10-15% in-service fuel economy improvement reports

- Combined maintenance and fuel savings means payback possible less than one Year

- Converts 600 VDC to 24 VDC

- 92-96% energy conversion efficiency

- Clean ripple-free 24 VDC output

- Full current at idle

- Maintenance free air cooled via brushless fan

- More vehicle uptime

- Potential \$25000 USD maintenance savings over bus life

Spec.

(250A Shown)

DC Output Voltage	28VDC +/- 2%
DC Output Amperage	250A @ Curb idle
DC Input Voltage	500 VDC Minimum
	550 VDC Full Output Power
	624 VDC Nominal
	780 VDC Maximum
DC Input Amperage	15A Maximum
Ripple	100MV RMS
Storage Temperature	-40C to 105C
Operating Temperature	-40C to 80C
	-40C to 55C @ full load
Communication / Controls	SAE J-1939
Environmental Standards	SAE J-1455
Radiated Emission Standards	SAE J1113-41
Dimensions	25H x 62.3D x 43.2W cm (9.86H x 24.53D x 17.0W in)
Weight	34kg (75 lbs.)

Tech.

