

## PoWerMaster<sup>®</sup> ADV

### ADVanced PWM Technology

### 45kVA to 180kVA Vertical Solid State Frequency Converters



### DESCRIPTION

The Hobart PoWerMaster<sup>®</sup> ADV vertical mount solid state frequency converter combines state-of-the-art technology and over 55 years of ground power experience to provide the highest quality of power under the most demanding conditions. User-friendly controls and a superior diagnostic system result in a converter that is easy to use and requires minimal training. With a wide array of output ratings available, 575 volt output option, paralleling capability and a broad choice of input voltage configurations offered, this unit has the versatility to be the perfect fit for all applications where floor space is limited. State-of-the-art design, ease of use and proven reliability are among the many reasons the PoWerMaster<sup>®</sup> ADV has set a new industry standard.

*Hobart is an ISO9001 Certified Manufacturer*

### FEATURES:

- State-of-the-art ADVanced PWM switching technology
- Clean, reliable power
- NBPT compatibility
- Lightest weight in the industry
- User-friendly controls
- Easy access for service
- Rust-free aluminum enclosure
- Built-in input power circuit breaker
- Memory stores 200 events for >30 years
- Measures power flow (kwh)
- High efficiency for low operating costs
- ETL (UL 1020) Certification
- CE compliant
- Advanced diagnostics
- RS232 Communication Port
- Simplified fault reporting & maintenance
- Protected against input micro breaks

### OPTIONS:

- Single or dual output
- 12 pulse input current harmonic kit
- Remote Annunciation
- 600V input
- 208/230 volt input (45 kVA & 60 kVA only)
- Parallelable
- 28.5 VDC (45-90 kVA only)
- 575V output

### Aviation Ground Equipment Corp.

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# 45kVA to 180kVA Vertical Solid State Frequency Converters

## Specifications

### Inputs

Model	Amperage	Hertz	Voltage
45SX200	55 @ 460VAC 61 @ 400 VAC 120 @ 208 VAC	45-65	340-530
60SX200	68 @ 460VAC 78 @ 400 VAC	45-65	340-530
90SX200	100 @ 460VAC 118 @ 400 VAC	45-65	340-530
120SX20	134 @ 460VAC 156 @ 400 VAC	45-65	340-530
140SX20	156 @ 460VAC 180 @ 400 VAC	45-65	340-530
160SX20	179 @ 460VAC 205 @ 400 VAC	45-65	340-530
180SX20	200 @ 460VAC 230 @ 400 VAC	45-65	340-530

### Output

- Ratings: 45kVA ( 36kW continuous)  
60kVA ( 43kW continuous)  
90kVA ( 72kW continuous)  
120kVA ( 96kW continuous)  
140kVA (112kW continuous)  
160kVA (128kW continuous)  
180kVA (144kW continuous)
- Overloads: 125% - 10 minutes  
150% - 30 seconds  
200% - 10 seconds
- 115/200 VAC, 3Ph, 400Hz
- Short Circuit Protected
- NBPT: specifically designed to service present and future aircraft no-break power requirements

### Protection

- Input: Phase loss  
Low/High Input Voltage
- Output: Over/Under Voltage  
Over/Under Frequency  
Overload: (see above)  
Short Circuit – Solid state shutdown of unit without damage to unit
- Internal: Door interlock  
Cooling loss/Over temperature  
Bridge Interlock  
Contactor Failure –  
Contacts Stuck – (Open/Closed)  
Coil Open  
Power Supply Voltage  
Transistor failure/overcurrent  
Lamp test

### Environmental

- Acoustical Noise: <65dBA @ 1.5M high, 1M distance
- Operating Temperature: -40°C to +52°C (-40°F to +125°F)
- Non-Operating Temperature: -40°C to +60°C (-40F to +140°F)

### Voltage

- Voltage Regulation: ±1% up to rated load
- THD (total harmonic distortion): <3%
- IHD (individual harmonic content): <2%
- DC Content: 100mV maximum
- Phase Displacement: 120±1.5 degrees
- Transient Performance exceeds MIL-STD-704E
- Output Voltage Adjustment Range: ±15%
- Phase voltage displacement with balanced load: <2%
- Phase voltage balance (with 10% unbalanced load on a single phase): <3 volts
- Crest Factor: 1.414±0.07
- Line Drop Compensation: Automatic up to 8%

### Enclosure

- Aluminum NEMA 3R IP54
- Ventilation: Filtered forced air
- External circuit breaker handle with lock-out capability

### Codes and Standards

- UL1012
- MIL-STD 704E
- ARP 5015
- DFS 400
- EMC (89/336/EEC)  
EN55011: 1991  
EN61000-4-3: 1996  
EN60204: 1995  
EN61000-4-6: 1996  
EN61000-4-4: 1995  
EN61000-4-2: 1995
- Low Voltage (73/23/EEC)
- MIL-STD-461B/462

### Frequency

- Frequency Modulation: <±0.25%
- Frequency Regulation: ±0.2Hz (.05%)
- Frequency Drift: ±0.05% at any load

### Maintenance

- No preventative maintenance required
- Mean time to repair (MTTR) = 20 minutes

### Controls/Indicators

- On/Off: each output
- Output voltage: each phase (L-N) and average
- Output Current: each phase and average
- Input Power Lamp (green)
- Output Power Lamp: each output (amber)
- Fault Lamp (red)
- EF Interlock Status
- Circuit Breaker Handle: removes input power
- Door Interlock
- Line Drop Compensation Adjust
- Elapsed time hour meter

### Dimensions

- Length: 51 inches (129.5 cm)
- Width: 23.2 inches (59 cm)
- Height: 78 inches (198 cm)

### Weight

	Standard	12-Pulse
45SX200	1300 lbs. (589 kg)	1550 lbs. (703 kg)
60SX200	1300 lbs. (589 kg)	1550 lbs. (703 kg)
90SX200	1300 lbs. (589 kg)	1550 lbs. (703 kg)
120SX200	1600 lbs. (726 kg)	2053 lbs. (931 kg)
140SX200	1600 lbs. (726 kg)	2053 lbs. (931 kg)
160SX200	1600 lbs. (726 kg)	2053 lbs. (931 kg)
180SX200	1720 lbs. (780 kg)	2173 lbs. (986 kg)

Specifications subject to change without notice.

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