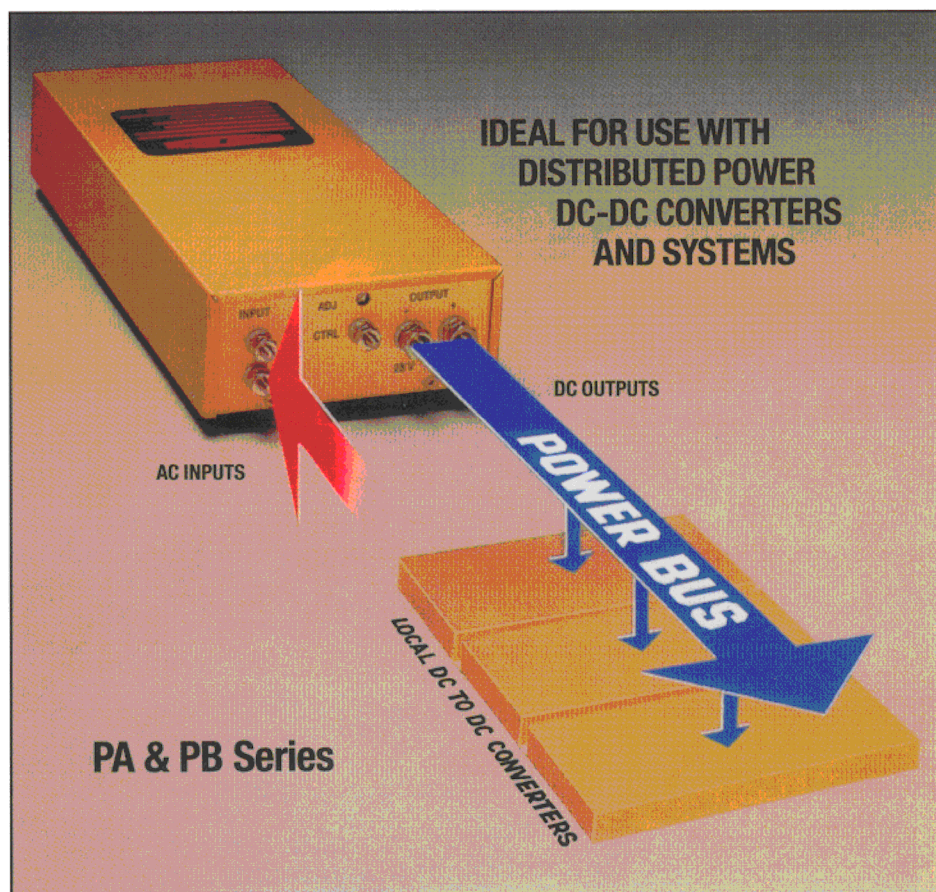


# 19280-PS CONDITIONED "FRONT END" POWER

## RUGGED AC-DC OFF LINE SOURCES



### FEATURES

- **.99 Power Factor Correction:**  
Active circuitry allows more usable power to be drawn from your source. Added benefits include low harmonic distortion, longer holdup times and simplified EMI filtering.
- **True N+1 Current Sharing:**  
Single wire connection allows current sharing for loads to kilowatts.
- **Line Isolation & EMI Filtering:**  
EMI suppression to RTCA Spec. DO-160C as well as Mil-Std-461C (including CE01, CE03, RE02).
- **Surge & Spike Protection:**  
Per Mil-Std-704D; Mil-Std-1399 Sect. 300A and RTCA Spec. DO-160C.

**We've Moved!**

**Our New Address is:**  
841 Avenida Acaso  
Camarillo, CA 93012

### SINGLE PHASE

| INPUT 1 $\phi$           | PA SERIES MODELS | PB SERIES MODELS (NOTE 1) | NOMINAL VDC OUTPUT (V) (NOTE 2) | MAX CURRENT OUTPUT (A) |
|--------------------------|------------------|---------------------------|---------------------------------|------------------------|
| 105-127 VAC<br>47-500 HZ | PAA-24           | PBA-24                    | 24                              | 22                     |
|                          | PAA-28           | PBA-28                    | 28                              | 20                     |
|                          | PAA-48           | PBA-48                    | 48                              | 12                     |
|                          | PAA-155          | PBA-155                   | 155                             | 3.6                    |
|                          | PAA-270          | PBA-270                   | 270                             | 2.1                    |

NOTE 1: PB Series Models include EMI Filter & Unity Power Factor Correction.

### THREE PHASE

| INPUT 3 $\phi$                           | PA SERIES MODELS | PB SERIES MODELS (NOTE 1) | NOMINAL VDC OUTPUT (V) (NOTE 2) | MAX CURRENT OUTPUT (A) |
|------------------------------------------|------------------|---------------------------|---------------------------------|------------------------|
| 115/200 3 $\phi$ /4W<br>Wye<br>47-500 Hz | PAD-24           | PBD-24                    | 24                              | 22                     |
|                                          | PAD-28           | PBD-28                    | 28                              | 20                     |
|                                          | PAD-48           | PBD-48                    | 48                              | 12                     |
|                                          | PAD-155          | PBD-155                   | 155                             | 3.6                    |
|                                          | PAD-270          | PBD-270                   | 270                             | 2.1                    |

NOTE 2: For other output voltages consult factory.

## ARNOLD MAGNETICS CORPORATION

4000 Via Pescador, Camarillo, California 93012 • Phone: (805) 484-4221 • Fax: (805) 484-4113  
<http://www.amcpower.com>    [info@amcpower.com](mailto:info@amcpower.com)

## OPERATING SPECIFICATIONS

**LINE REGULATION:** .1%  $E_o$

**LOAD REGULATION:** .25%  $E_o$ , half to full load.

**TEMPERATURE COEFFICIENT:** .01%/°C, -55°C to +85°C.

**RIPPLE & NOISE:** .15%  $E_o$  RMS

1%  $E_o$  pk to pk - 20mHz BW.

**OPERATING TEMPERATURE RANGE (BASE PLATE):** -40°C to +85°C. (Optional -55°C to +85°C - full output current available over entire operating range.)

**STORAGE TEMPERATURE:** -65°C to +100°C.

**EFFICIENCY (TYPICAL):** 75% to 80% depending on model and options required.

**SHORT CIRCUIT PROTECTION:** All outputs are short circuit protected with automatic electronic current limiting to preset value.

**OUTPUT ADJUSTMENT RANGE:** All outputs are adjustable over a  $\pm 5\%$  range.

**DERATING:** per NAVMAT P4855-1A and Mil-Std-454K.

**ISOLATION RATING:** The inputs, case and outputs are insulated (floating) from each other.

Input to Case: 500 VDC (on 1 $\phi$ ); 1000 VDC (on 3 $\phi$ )

Output to Case: 50 VDC or 1.3 X  $E_o$ , whichever is greater.

Input to Output: 500 VDC (on 1 $\phi$ ); 1000 VDC (on 3 $\phi$ )

**HOLD UP TIME:** 20 milliseconds @ full load & normal line typical.

**MTBF:** Greater than 350,000 hours as calculated per Mil Handbook 217E (40°C ground benign environment). For extended reliability designs or other environments consult factory.

**N+1 CURRENT SHARING:** All units have internal circuitry that allows units operated in parallel to share load current. A single control wire is needed between supplies.

**INHIBIT:** Output inhibited may be achieved by TTL low signal applied to the control terminal.

**TRANSIENT PROTECTION:** Input surge & spike protection is provided which meets requirements of Mil-Std-704, Mil-Std-1399, Sect. 300A and RTCA Spec. DO-160C.

## ENVIRONMENTAL SPECIFICATIONS

**TEMPERATURE RANGE:** Operating Temperatures: -40°C to +85°C

Baseplate Temperature: Optional -55°C to +85°C range

Non-Operating Storage Temperature: -65°C to +100°C

**HIGH TEMPERATURE:** Per Mil-Std-810, Method 501, Procedure II.

**LOW TEMPERATURE:** Per Mil-Std-810, Method 502, Procedure I.

**TEMPERATURE-ALTITUDE:** Per Mil-Std-810, Method 504, Procedure I; the following details apply: -40°C to +85°C (and -55°C to +85°C) at Altitude: Sea level to 70,000 ft.

**HUMIDITY:** Per Mil-Std-810, Method 507, Procedure I.

**ACCELERATION:** Per Mil-Std-810, Method 513, Procedure I and II, at a test level of 14 G.

**VIBRATION:** Per Mil-Std-810, Method 514, Procedure I, at a test level of 15 G.

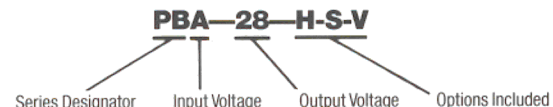
**SHOCK:** Per Mil-Std-810, Method 516, Procedure I, II, III, V, and VI at a test level of 40 G.

## PA/PB SERIES OPTIONS

| OPTION LETTER | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E             | <b>Extended Input Voltage</b> -92-138/160-240 3 $\phi$ VAC<br>For other ranges please contact factory with your requirements. Input range may affect unit efficiency and/or maximum output current.                                                                                                                                                                                                                                                                                                                                |
| H             | <b>Helicoil Mounting Inserts</b> -Locking or free running Helicoil inserts are provided (specify 6-32 or 8-32.)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| S             | <b>Stud Terminals</b> -8-32 threaded studs are provided for input and control terminations - 1/4"-28 threaded studs are provided for output terminations.<br><b>Note 1:</b> Units come standard with turret style solder terminals and Teflon insulation on all input & control connections as well as 155V & 270V output connections. Standard 24V, 28V, & 48V output connections are 1/4"-28 threaded studs.<br><b>Note 2:</b> Maximum torque of retaining nut-15inch-pounds for 8-32 studs; 25 inch-pounds for a 1/4"-28 studs. |
| T             | <b>Extended Temperature Range</b> -55°C to +85°C. Contact factory for other requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| V             | <b>Output Overvoltage Protection</b> -120% $\pm$ 10% nominal $E_o$ electronic shutdown type.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| F             | <b>Filtering (Standard on PB Series)</b> -Provides EMI/RFI protection to Mil-Std-461C including CE01, CE03, RE02, CS06 as well as RTCA Spec. DO-160C. Specific EMI requirements may affect case size.                                                                                                                                                                                                                                                                                                                              |
| U             | <b>Unity Power Factor Correction (Standard on PB Series)</b> -Active circuits provide greater than .99 power factor and total harmonic distortion in compliance with IEC-555-2 & Mil-Std-1399 Sec. 300A.                                                                                                                                                                                                                                                                                                                           |
| I             | <b>Inrush Soft Start</b> -Unit limited to 20A peak current at turn-on.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| TS            | <b>Thermal Shutdown</b> -Power Supply will shut off during over-temp condition and automatically reset within specific range.                                                                                                                                                                                                                                                                                                                                                                                                      |

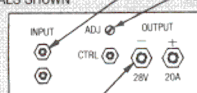
## HOW TO ORDER

Consult Factory for Model Number, pricing and delivery information as needed.



## MECHANICAL SPECIFICATIONS

SINGLE PHASE WITH STUD TERMINALS SHOWN



1/4-28 STUD (TYPICAL FOR OUTPUT TERMINALS)

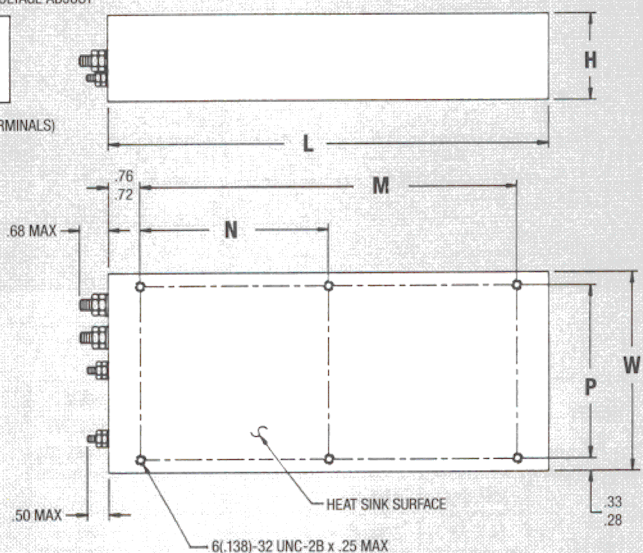
| MODEL NO. |     | MAXIMUM CASE DIMENSIONS (INCHES) |      |   | MOUNTING HOLES (INCHES) |      |     | UNIT WT. (OZ.) |
|-----------|-----|----------------------------------|------|---|-------------------------|------|-----|----------------|
|           |     | L                                | W    | H | M                       | N    | P   |                |
| 1 $\phi$  | PAA | 10.5                             | 4.63 | 2 | 9                       | 4.5  | 4   | 80             |
|           | PBA | 10.5                             | 4.63 | 2 | 9                       | 4.5  | 4   | 80             |
| 3 $\phi$  | PAD | 8                                | 6    | 2 | 6.5                     | 3.25 | 5.4 | 86             |
|           | PBD | 10.5                             | 6    | 2 | 9                       | 4.5  | 5.4 | 115            |

**NOTE:** Size dependent on options included.

### THERMAL INTERFACE

Arnold Magnetics Power Supplies are cooled by conduction. Always use thermal compound during installation. To assure reliability the thermal interface must be designed to maintain specified Baseplate Temperature under worst-case conditions. Heat transfer via forced air or natural convection will be minimal.

Please consult the Factory to discuss heat-sinking considerations.



Specifications subject to change without prior notice.

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