## Behlman Power Products

AC Power Source/
Frequency Converter

## ACM SERIES

## FEATURES

- Linear Amplifier with wide bandwidth to $10,000 \mathrm{~Hz}$
- Low output distortion - less than $0.5 \%$ THD
- $\quad$ Plug in oscillator offers flexibility
- Front panel controls for voltage and frequency



## PRECISION, HIGH QUALITY POWER FOR LABORATORY AND PRODUCTION APPLICATIONS

Behlman's ACM Series AC Power Sources deliver clean, regulated linear power. Models provide from 250 VA up to 9000 VA of power at output frequencies from 45 to $10,000 \mathrm{~Hz}$.
The ACM Series combines highly advanced magnetics with solid state circuitry for stability and reliability.

A digital feedback system in the power amplifier ensures precise regulation and low distortion.

Sophisticated electronic overload and short circuit protection systems recover instantly when an overload is removed.

The ACM series has many unique features including: low output The ACM Series is ideal for a variety of laboratory and distortion, wide bandwidth, fast transient response, dual voltage manufacturing applications. ranges, variable voltage \& frequency controls.

All performance specifications are based on $25^{\circ} \mathrm{C}$ ambient temperature, nominal input line, unity power factor and operation at 74 to $100 \%$ of output voltage range.

Specifications subject to change without prior notice.

Table 1: ACM SERIES MODEL SELECTION

| Model Number | Power Output |  | Output Current/Phase(Amps) |  | Weight. lbs (kgs) | Dimensions 19" ( 48.3 cm ) Rack-mount chassis H" x D" (cm) | No. of chassis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rated | Maximum | $\begin{aligned} & 135 \mathrm{~V} \\ & \text { range } \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 270 \mathrm{~V} \\ & \text { range } \end{aligned}$ |  |  |  |
| Single-phase output models |  |  |  |  |  |  |  |
| ACM-250 | 250 VA | 335 VA | 2.5 | 1.3 | 40 (18.2) | 5.25 " $\times 15^{\prime \prime}(13.3 \times 38.1)$ | 1 |
| ACM-750 | 750 VA | 1000 VA | 7.5 | 3.8 | 69 (31.3) | 7.00 " $\times 19$ " (17.8 $\times 48.3$ ) | 1 |
| ACM-1000 | 1000 VA | 1350 VA | 10.0 | 5.0 | 90 (40.9) | $8.75 " \times 19^{\prime \prime}(22.2 \times 48.3)$ | 1 |
| ACM-1500 | 1500 VA | 2025 VA | 15.0 | 7.5 | 126 (57.2) | 14.00 " $\times 19$ " ( $35.6 \times 48.3$ ) | 2 |
| ACM-3000 | 3000 VA | 4050 VA | 30.0 | 15.0 | 189 (85.8) | 21.00 " x 22" (53.3 $\times 48.3$ ) | 3 |
| Three-phase output models |  |  |  |  |  |  |  |
| ACM-3X250 | 750 VA | 1000 VA | 2.5 | 1.3 | 75 (34.0) | 7.00 " $\times 19^{\prime \prime}(17.8 \times 48.3)$ | 1 |
| ACM-3X350 | 1050 VA | 1425 VA | 3.5 | 1.8 | 115 (52.2) | 8.75 " $\times 22^{\prime \prime}(22.2 \times 55.9)$ | 1 |
| ACM-3X500 | 1500 VA | 2025 VA | 5.0 | 2.5 | 153 (69.5) | 14.00 " $\times 19$ " (35.6 $\times 48.3$ ) | 2 |

## OSCILLATOR SPECIFICATIONS

The oscillators and input modules depicted below are designed to plug into Behlman's precision ACM Power Sources. They are available In fixed and variable frequency output configurations. Variable frequency oscillators provide digital readout of frequency.

Table 2: ACM SERIES OSCILLATOR MODEL SELECTION

| Single Phase | Three Phase | Frequency Range | Frequency Accuracy |
| :--- | :--- | :--- | :--- |
| Fixed Frequency | Fixed Frequency |  |  |
| OSN-1-50 | OSN-3-50 | 50 Hz | $++-0.01 \%$ |
| OSN-1-60 | OSN-3-60 | 60 Hz <br> OSN-1-400 <br> OSN-1-CSF | 400 Hz <br> $50 \mathrm{~Hz}, 60 \mathrm{~Hz}, 400 \mathrm{~Hz}$ and <br> customer selected frequency. Note 3 |
| OSN-3-400 |  |  |  |
| OSN-3-CSF |  |  | Meter Accuracy |
| Variable Frequency | Variable Frequency |  | $+/-0.01 \%$ <br> $+/-0.01 \%$ |
| OSN-1-45/2500 reading reading |  |  |  |
| OSN-1-45/10000 | OSN-3-45/2500 |  |  |
| OSN-3-45/10000 | $45-2500 \mathrm{~Hz}$, single band |  |  |
| External Input | External Input | $45-10000 \mathrm{~Hz}$, dual band |  |
| EIP-1 Note 4 \& 5 | EIP-3 Note 4 \& 5 |  |  |

## INPUT

## Voltage:

ACM-250—ACM-1500 and ACM-3X250—ACM-3X500
Standard: $115 / 230$ VAC +/- 10\%, 1-phase
Option 05: 100/200 VAC +/- 10\%, 1-phase

ACM-3000
Standard:
Option 03: $\quad 230 / 400$ VAC $+/-10 \%$, 3 -phase
Option 04: $240 / 415$ VAC $+/-10 \%, 3$-phase
Frequency: $\quad 47-63 \mathrm{~Hz}$

## PROTECTIVE CIRCUITS

Input:
Fast-acting main circuit breaker
Overload: Electronic overload and short circuit protection which folds back the voltage and instantaneously recovers when the overload is removed
Thermal: Internal temperature sensor shuts off output to prevent heat damage

ENVIRONMENTAL / CONNECTIONS

| Operating Temp: | $32^{\circ} \mathrm{F}$ to $131^{\circ} \mathrm{F}\left(0-55^{\circ} \mathrm{C}\right)$ |
| :--- | :--- |
| Humidity: | $0-95 \% \mathrm{RH}$ non-condensing |
| Input Connections: | Barrier strip on rear |
| Output Connections: | Barrier strip on rear |

$32^{\circ} \mathrm{F}$ to $131^{\circ} \mathrm{F}\left(0-55^{\circ} \mathrm{C}\right)$
Barrier strip on rear
Barrier strip on rear

OUTPUT
Power:
Voltage:
0-35, 0-270 VAC, Switch selectable
Option 06: $0-34,0-135$ VAC, Switch selectable
Note: Current output on 0-34VAC range is 4 times the $0-135 \mathrm{VAC}$ range per phase up to maximum of 30 Amps per phase
Frequency: $\quad 45-2500 \mathrm{~Hz}$
Option 07: $\quad 45-10000 \mathrm{~Hz}$
Current: See Table 1
Peak current: 200\% of rated output current... Repetitive current required to charge a capacitor in a typical diode capacitor filter

Power Factor: $100 \%$ of rated output into any power factor load ... (unity to zero, leading or lagging)

Distortion:
Option 07: Less then 1.0\%THD at rated power output into linear load, up to 2500 Hz .
Less then $2.0 \%$ THD at rated power output into linear load, up to 10000 Hz

Max. Power Output: Obtainable at $100 \%$ of either output voltage range
Max. Output Current: Up to 120\% of rated current output for
Line Regulation:
Load Regulation:
Amplifier response:
a maximum of one-half hour $+/-0.1 \%$ for $+/-10 \%$ line change $+/-0.5 \%$ no load to full load 50 microseconds to $90 \%$ of programmed value Less then 0.5\% THD at rated power output into linear load, up to 2500 Hz

CONTROLS/INDICATORS
Power On/Off: Circuit breaker and indicator

Output On/Off:
Range Select:
Volts display:
OSCILATOR
Volts adj.
Freq. adj.
Freq. display

Toggle switch
Toggle switch (High/Low)
DMM for volts

## NOTES

1. Switch selectable -four fixed frequencies of $50,60,400 \mathrm{~Hz}$, and one customer specified frequency, from 45 to 2500 Hz .
2. Provides user direct access to the amplifier for external signal input capability.
3. Amplifier drive signal $0-8.0 \mathrm{~V}$ RMS into 15 K ohms impedance.

ADDITIONAL OPTIONS:
08V/F: $\quad$ External 0-10VDC control of amplitude $(\mathrm{V})$ and frequency ( F ), via rear terminal strip.
(Select 08A or 08B on oscillator options)
Not available with oscillator option 11.
09: $\quad$ Allows user to sync AC source with external signal via BNC connector. Not available with oscillator option 11
13: $\quad$ Allows user to parallel phases on three phase models
CE: Available with CE mark
CS-2:
Slides
OSCILLATOR OPTIONS:
08A: Removes front panel controls for voltage and frequency. To be used with Option 08 on the AC source.
08B: Local-Remote. In remote mode, uses the 0-10VDC control. In local mode, uses front panel controls for voltage and frequency.
To be used with Option 08 on the AC source.
10V/F: Locking controls. Allows user to lock potentiometer adjustment of voltage and/or frequency
11: Specifies original style Behlman oscillator connector for compatibility with legacy Behlman amplifiers.


## www.behIman.com

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