KBAC Hybrid Drive™
A Digital AC Drive with Analog Interface

Rugged Die-Cast Aluminum NEMA 4X / IP 65 Enclosure with Hinged Cover

Primary Features
- Horsepower 1/8 to 5 HP, Jumper Selectable
- 1Ø & 3Ø Input 115/230/460 VAC, 50/60 Hz
- 3Ø Output 230/460 VAC
- 200% Starting Torque
- Diagnostic LED Status Indicators
- FDA Approved Finish*

Benefits
- Saves Time
  - Easy to Install and Simple to Operate
  - Does not require programming or commissioning
  - Up and running in less than 10 minutes.
- Motors Last Longer
  - Proprietary CL Software
  - Provides overload protection, prevents motor burnout and eliminates nuisance tripping. UL approved as electronic overload protector for motors.
- Energy Saving
  - Uses only the power the application requires
  - Replacing constant speed with variable speed will significantly reduce energy costs.
- Economical to Use: Indoors or Out
  - Eliminates secondary enclosure
  - No holes to drill, no switches to install.
  - No need to derate drive for high starting torque applications.
- Combines Soft Start with Variable Speed
  - Adjustable Soft Start.

Customization for OEM’s
- When an off the shelf drive does not meet your needs, we will work with you to provide a custom drive solution, Ready to Use, “Out-of-the-Box.”
- Customization includes: Pre-calibrating or programming of a stock control, adding a custom label or branding, custom software, PLC functions or designing a new control.
- GFCI Software, with factory programming, allows the equipment to operate with Ground Fault Circuit Interruption circuit breakers or outlets.

*White case only.
Additional Features

Sensorless Flux Vector Control
Flux Vector Compensation with Static Auto-Tune provides excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque.

Electronic Inrush Current Limit (EICL™) Protection
Eliminates harmful inrush AC line current during power up.

Run/Fault Relay
Can be used to turn equipment on or off, to signal a warning if the drive is put into “Stop” mode, or to signal if a fault has occurred.

Start/Stop Switch
Provides electronic “Start” and “Stop” functions.

Ride-Through
Provides smooth recovery to the previous set speed during a momentary power loss.

Holding Torque at Zero Speed
Resists motor shaft rotation when the drive is in “Stop” mode.

Regeneration Protection
Eliminates tripping due to high bus voltage caused by rapid deceleration of high inertial loads.

Undervoltage and Overvoltage Protection
Shuts down the drive if the AC line input voltage goes above or below the operating range.

Short Circuit Protection
Shuts down the drive if a short circuit occurs at the motor (phase-to-phase).

Trimpot Adjustments
Min. Speed, Max. Speed, Accel, Decel, DC Injection Brake, Current Limit, Boost, Jog, Slip Comp.

Jumper Selections
AC Line Input Voltage, Horsepower, Auto Ride-Through, 50Hz/60Hz Motor Frequency, 1X/2X Motor RPM, Boost Mode, Brake Mode, Run/Fault Output Relay, NO/NC Stop Contact, Constant/Variable Torque Mode, Constant/Variable Torque I2t.

Applications

Visit kbelectronics.com
to learn about Build-A-Drive™, KB’s New AC Inverter Program and
to watch the new KBAC installation demo video.
### Ratings

**115/230 VAC 1-Phase Input • 230 VAC 3-Phase Output**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Ratings</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBAC-24D</td>
<td>9987</td>
<td>1, (0.75)</td>
<td>3.6</td>
</tr>
<tr>
<td>KBAC-27D</td>
<td>9520</td>
<td>2, (1.5)</td>
<td>6.7</td>
</tr>
</tbody>
</table>

**230 VAC 1-Phase Input • 230 VAC 3-Phase Output**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Ratings</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBAC-29 (1P)</td>
<td>10001</td>
<td>3, (2.25)</td>
<td>9.0</td>
</tr>
</tbody>
</table>

**230 VAC 1 and 3-Phase Input • 230 VAC 3-Phase Output**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Ratings</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBAC-29**</td>
<td>9528</td>
<td>3, (2.25)</td>
<td>9.0</td>
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</table>

**460 VAC 3-Phase Input • 460 VAC 3-Phase Output**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Part No.</th>
<th>Ratings</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBAC-45</td>
<td>9530</td>
<td>3, (2.25)</td>
<td>4.6</td>
</tr>
<tr>
<td>KBAC-48</td>
<td>9540</td>
<td>5, (3.75)</td>
<td>8.3</td>
</tr>
</tbody>
</table>

*FDA approved (white case only). **Rated 2 HP, 6.7 Amps w/ 1-Phase Input.

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Load (% of Current Overload for 2 Minutes)</td>
<td>150</td>
</tr>
<tr>
<td>Carrier, Switching Frequency (kHz)</td>
<td>16, 8</td>
</tr>
<tr>
<td>Output Frequency Resolution (Hz)</td>
<td>0.06</td>
</tr>
<tr>
<td>Minimum Output Frequency to Motor (Hz)</td>
<td>0.3</td>
</tr>
<tr>
<td>Acceleration Time (Seconds)</td>
<td>0.3 – 20</td>
</tr>
<tr>
<td>Deceleration Time (Seconds)</td>
<td>0.3 – 20</td>
</tr>
<tr>
<td>Speed Range (Ratio)</td>
<td>60:1</td>
</tr>
<tr>
<td>Speed Regulation (30:1 Speed Range, 0 – Full Load) (% Base Speed)</td>
<td>2.5</td>
</tr>
<tr>
<td>Stalled Motor Trip Time (Seconds)</td>
<td>6</td>
</tr>
<tr>
<td>Braking</td>
<td>DC Injection*</td>
</tr>
<tr>
<td>Operating Temperature Range (°C / °F)</td>
<td>0 – 40 / 32 – 104</td>
</tr>
<tr>
<td>Storage Temperature (°C / °F)</td>
<td>-25 – +85 / -13 – +185</td>
</tr>
</tbody>
</table>

*Jumper selectable.