



**KBIC VARIABLE SPEED MOTOR CONTROL**

The **KBIC** DC motor control is used for PM, Shunt and AC/DC motors over a wide range of 1/100 to 3 HP with only a few models. All models can be used on a wide range of motor horsepower by inserting the proper Plug-in Horsepower Resistor. Speed range is 50:1 with load regulation of 1%. Features include Auto Inhibit, Voltage Following, MOV transient protection, 5K speed pot and trim pot adjustments for Min, Max, Accel, IR, CL.

Options include Auxiliary Heatsink\*, AC Line and Armature Fuse Kit, Barrier Terminal Options and SI-5 Signal Isolator.

Dimensions: 3.63" x 4.30" x 1.25".



| MODEL NUMBER | KB PART NO.         | INPUT VOLTAGE | OUTPUT VOLTAGE | MAX RATINGS W/O HEATSINK |      | MAX RATINGS WITH HEATSINK * |      | LIST  |
|--------------|---------------------|---------------|----------------|--------------------------|------|-----------------------------|------|-------|
|              |                     |               |                | HP                       | AMPS | HP                          | AMPS |       |
| KBIC-120     | 9429                | 115           | 0-90           | .5                       | 6.0  | 1.0                         | 12.0 | \$185 |
| KBIC-240     | 9428                | 230           | 0-180          | 1.0                      | 6.0  | 2.0                         | 12.0 | \$202 |
| KBIC-125     | 9433                | 115           | 0-90           | .75                      | 8.0  | 1.5                         | 16.0 | \$202 |
| KBIC-225     | 9432                | 230           | 0-180          | 1.5                      | 8.0  | 3.0                         | 16.0 | \$232 |
| KBIC-240     | 9464                | 115/230       | 0-90/180       | .5 - 1.0                 | 6.0  | 1-2                         | 12.0 | \$202 |
| KB 9861      | *AUXILIARY HEATSINK |               |                |                          |      |                             |      | \$75  |

**KBMM VARIABLE SPEED DC CONTROL**

The **KBMM** full-wave DC motor control is the ultimate in reliability and performance. Contains Direct-Fed current SCR power bridge against direct shorts and prevents demagnetization of PM motors. 25A SCRs and line and armature fusing further enhance reliability. KB's exclusive Plug-in Horsepower Resistor eliminates the need for recalibration when used over a wide range of motor horsepower. Standard features include trim pots for Min, Max, IR, CL, Linear Accel and Decel armature or tach feedback. Also Auto Inhibit, MOV Transient Protection, 5K pot and Noise Rejection Circuitry. Options: Auxiliary Heatsink, Barrier Terminal Options and SI-6 Signal Isolator.

Dimensions: 3.63" x 4.30" x 1.25".



| MODEL NUMBER | KB PART NO.          | INPUT VOLTAGE | OUTPUT VOLTAGE | MAX RATINGS W/O HEATSINK |      | MAX RATINGS WITH HEATSINK* |      | LIST  |
|--------------|----------------------|---------------|----------------|--------------------------|------|----------------------------|------|-------|
|              |                      |               |                | HP                       | AMPS | HP                         | AMPS |       |
| KBMM-125     | 9449                 | 115           | 0-90           | .75                      | 8.0  | 1.5                        | 16.0 | \$244 |
| KBMM-225     | 9450                 | 230           | 0-180          | 1.5                      | 8.0  | 3.0                        | 16.0 | \$255 |
| KBMM-225D    | 9451                 | 115/230       | 0-90/180       | .75 - 1.5                | 8.0  | 1.5-3.0                    | 16.0 | \$271 |
| KB 9861      | * AUXILIARY HEATSINK |               |                |                          |      |                            |      | \$75  |

**KBCC VARIABLE SPEED MOTOR CONTROL**

The **KBCC** chassis controls utilize the **KBMM** modular control to provide a low cost, reliable SCR drive. They include all the features of the **KBMM** plus the Auxiliary Heatsink and Terminal Barrier Block with AC line fuses. The controls are ruggedly constructed and contain a remote 5K speed pot.

Dimensions: 7.00" x 6.25" x 3.00".



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBCC-125     | 9936        | 115           | 0-90           | 1.5             | 16.0 | \$365 |
| KBCC-225     | 9938        | 230           | 0-180          | 3.0             | 16.0 | \$385 |
| KBCC-255     | 9940        | 230           | 0-180          | 5.0             | 26.0 | \$673 |



### KBCC "R" SUFFIX CHASSIS CONTROL

The KBCC "R" Suffix Chassis Control is designed to provide anti-plug, instant reversing, solid state dynamic braking and rapid cycling. It combines all the features of the KBCC control with the features of the KB APRM. The APRM eliminates contact arcing by allowing armature switching to take place only when the current levels are near zero. Specific functions that can be performed by the KBCC-R are Run-Brake, Forward-Brake-Reverse, Run-Stop and Forward-Reverse (instant reverse.)

Dimensions: 9.00" x 6.25" x 4.50".

| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBCC-125R    | 9937        | 115           | 0-90           | 1.5             | 16.0 | \$572 |
| KBCC-225R    | 9924        | 230           | 0-180          | 3.0             | 16.0 | \$625 |



### KBCC CHASSIS MOUNT PENTA DRIVE™ CONTROL

This updated chassis control utilizes state-of-the-art circuitry. It provides motor burnout protection with IXt current limit, trip times and short circuit protection. A jumper selection used to preset motor current eliminates the need to calibrate IR comp and CL. Other features include armature fusing, electronic start/stop, LED array for power on, stop, anti-demagnetization and current limit. Jumpers are also used to select AC line input, DC motor output, speed or torque control, and armature or torque feedback.

Dimensions: 7.00" x 6.25" x 3.00".

| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBCC-240D    | 9947        | 115           | 0-90           | 1.0             | 10.2 | \$374 |
|              |             | 230           | 0-180          | 2.0             | 10.2 |       |



### KBPB CHASSIS MOUNT "CYCLER" CONTROL

The KBPB is a compact version of the KBCC "R" Suffix control. The APRM is mounted directly to the rear of the KBMM speed control. A built in Barrier Terminal Block and its small size make the control ideal for installation where space is at a premium. The KBPB is equipped with a built in dynamic brake resistor, Accel/Decel trim pots and provision for AC line and armature fusing. This control provides functions identical to that of the KBCC-R. A 5K potentiometer is included.

Dimensions: 4.25" x 4.38" x 4.90".

| MODEL NUMBER | KB PART NO.          | INPUT VOLTAGE | OUTPUT VOLTAGE | MAX RATINGS W/O HEATSINK |      | MAX RATINGS WITH HEATSINK* |      | LIST  |
|--------------|----------------------|---------------|----------------|--------------------------|------|----------------------------|------|-------|
|              |                      |               |                | HP                       | AMPS | HP                         | AMPS |       |
| KBPB-125     | 8900                 | 115           | 0-90           | .75                      | 8.0  | 1.5                        | 16.0 | \$513 |
| KBPB-225     | 8901                 | 230           | 0-180          | 1.5                      | 8.0  | 3                          | 16.0 | \$513 |
| KB 9861      | * AUXILIARY HEATSINK |               |                |                          |      |                            |      | \$75  |





### KBWM CASED VARIABLE SPEED DC CONTROL

The KBWM is a compact version of our Multi-Drive™. The control is packaged in an all metal NEMA 1 enclosure. This uni-directional SCR drive utilizes the KBMM speed control module, which prevents motor failure due to demagnetization and contains AC line and armature fusing and a barrier terminal connection block. The KB plug in horsepower resistor automatically calibrates IR Comp and CL.

Dimensions: 5.25" X 3.70" X 2.90".



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBWM-120     | 9380        | 115           | 0-90           | .33             | 3.5  | \$220 |
| KBWM-240     | 9381        | 230           | 0-180          | .75             | 3.5  | \$220 |

### KBMD-240D VARIABLE SPEED DC CONTROL

The KBMD-240D, also called the Multi-Drive™ is a packaged SCR drive in a NEMA 1 enclosure. It utilizes the KBMM™ speed control for its electronics. The Multi-Drive™ is rugged and compact. It handles both 115 and 230 volt AC line inputs by setting the built-in dual voltage switch. This model can be used on a wide range of motor horsepower by inserting the appropriate plug-in horsepower resistor. The optional auxiliary heat sink increases the rating of the basic unit. An optional Forward-Brake-Reverse kit is also available.

Dimensions: 5.06" x 5.35" x 7.13".



| MODEL NUMBER | KB PART NO.          | INPUT VOLTAGE | OUTPUT VOLTAGE | MAX RATINGS W/O HEATSINK |           | MAX RATINGS WITH HEATSINK* |      | LIST  |
|--------------|----------------------|---------------|----------------|--------------------------|-----------|----------------------------|------|-------|
|              |                      |               |                | HP                       | AMPS      | HP                         | AMPS |       |
| KBMD-240D    | 9370                 | 115/230       | 0-90/180       | .75 - 1.0                | 0.5 - 8.0 | 1.0 - 2.0                  | 11.0 | \$304 |
| KB 9861      | * AUXILIARY HEATSINK |               |                |                          |           |                            |      | \$75  |

### KBPC CASED VARIABLE SPEED MOTOR CONTROL

The KBPC series NEMA 4X SCR DC Motor Speed and Torque Control is designed for applications requiring washdown/watertight integrity. It's housing is ruggedly constructed of die-cast aluminum which is protected with an acrylic coating. Exclusive short circuit and timed current limit (TCL) circuitry prevents motor burnout and prevents demagnetization of PM motors. Features such as selectable current range eliminate unnecessary calibration of IR and current limit trim pots. Other selectable features include: input voltage 115/230 VAC, 90/180 VDC, current range 2.5, 5.0, 7.5, 10.0 amps, input signal 0-5/0-20 VDC, armature or tach feedback, tach voltage 7/25/50V/100 RPM. Adjustments include: Min, Max, Accel, Decel, IR, CL, TCL. Standard features include: Armature fusing, electronic start/stop, and LED indicator array for "Power On", "Stop", and "Overload". The KBPC-225 contains all of the features of the KBPC-240D except armature fusing. In addition, it is designed specifically for 3HP, 180 VDC PM or shunt motors operating from a 230 VAC line.

Dimensions: 5.90" x 9.50" x 5.00".



| MODEL NUMBER           | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST    |
|------------------------|-------------|---------------|----------------|-----------------|------|---------|
|                        |             |               |                | HP              | AMPS |         |
| KBPC-240D (BLACK CASE) | 9338        | 115/230       | 0-90/180       | 1.0 - 2.0       | 10.2 | \$418   |
| KBPC-240D (WHITE CASE) | 9342        | 115/230       | 0-90/180       | 1.0 - 2.0       | 10.2 | \$462   |
| KBPC-225 (BLACK CASE)  | 9391        | 230           | 0-180          | 3.0             | 15.0 | \$1,462 |
| KBPC-225 (WHITE CASE)  | 9392        | 230           | 0-180          | 3.0             | 15.0 | \$506   |

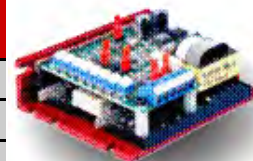


### KBMG ULTRA COMPACT CHASSIS MOUNT REGENERATIVE DRIVE

The KBMG-212D is an ultra-compact, full-wave regenerative drive capable of operating DC PM or Shunt motors in a bidirectional mode. Its 4-quadrant operation provides forward and reverse torque in both speed directions. Through a jumper selection, the motor can be controlled to rapidly “regenerate to stop” or to “coast to stop.” KB’s exclusive Auto Inhibit® circuit provides safe, smooth starting even during rapid cycling of the AC line. The Over-speed Protect Circuit prevents failure of the power bridge in extreme overhauling conditions. Reliability of the KBMG is further enhanced with the use of a high speed current limit circuit and MOV transient protection. LED’s, which can be used for diagnostics, are provided for power on and motor overload. A rugged extruded aluminum heatsink ensures enhanced heat transfer, which provides a higher control rating while maintaining cooler running SCR’s. Power connections to the KBMG are made via quick connect terminals and signal input connections are made via a removable barrier terminal block.

Dimensions: 4.30" x 3.625" x 1.75".

| MODEL NUMBER | KB PART NO.         | INPUT VOLTAGE | OUTPUT VOLTAGE | MAX RATINGS W/O HEATSINK |      | MAX RATINGS WITH HEATSINK * |      | LIST  |
|--------------|---------------------|---------------|----------------|--------------------------|------|-----------------------------|------|-------|
|              |                     |               |                | HP                       | AMPS | HP                          | AMPS |       |
| KBMG-212D    | 8831                | 115           | 0-90           | .75                      | 8.0  | 1.0                         | 16.0 | \$330 |
|              |                     | 208/230       | 0-180          | 1.5                      | 8.0  | 2.0                         | 16.0 | \$330 |
| KBMG-21D     | 8830                | 115           | 0-90           | .075                     | 1.0  |                             |      | \$330 |
|              |                     | 208/230       | 0-180          | .15                      | 1.0  |                             |      | \$330 |
| KB 9861      | *AUXILIARY HEATSINK |               |                |                          |      |                             |      | 75    |



### KBRG CHASSIS MOUNT REVERSING REGENERATIVE DRIVE

The KBRG™ is a full-wave regenerative control, capable of operating a DC motor (Permanent Magnet or Shunt) in a bidirectional mode. It provides 4-quadrant operation which allows forward and reverse torque in both speed directions. The KBRG™ contains many standard features, such as: armature and tach feedback, built-in horsepower selection, trim pots for Fwd CL, Rev CL, IR Comp, Response, Max Spd, Offset, Deadband, Fwd Accel, Rev Accel and Timed Current Limit. LED indicators for: Power On, Current Limit, Fwd Enable and Rev Enable. A 5K speed pot is included.

Dimensions: 7.70" x 10.0" x 2.50" (KBRG-225D X 3.50").

| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBRG-240D    | 8802        | 115/230       | 0-90/180       | 1.0 - 2.0       | 11.0 | \$680 |
| KBRG-225D    | 8800        | 115/230       | 0-90/180       | 1.0 - 2.0       | 16.0 | \$807 |
| KBRG-255     | 8621        | 230           | 0-180          | 5.0             | 26.0 | \$990 |



### KBRC FULL WAVE REGEN CONTROL IN NEMA 4X/IP65 ENCLOSURE

The KBRC-240D is a 115/230vac, Full-Wave Regenerative Variable Speed DC Drive in a NEMA-4X / IP-65 washdown and watertight enclosure. It is designed to operate 90 and 180 Volt Permanent Magnet and Shunt Wound DC motors in a bidirectional mode. It provides 4-quadrant operation, which allows forward and reverse torque in both speed directions. Motor overload protection (I x t) will shut down control if the motor is overloaded for a predetermined amount of time. The exclusive Auto-Inhibit® circuit allows safe, smooth starting during rapid cycling of the AC line. The KBRC-240D Regenerative Variable Speed DC Drive can be operated from a two or three wire start/stop circuit or can be started from the AC line. A set of dedicated normally open or normally closed relay contacts are provided, which are activated via the start/stop circuit. Main features of the KBRC-240D Regenerative Variable Speed DC Drive include Speed or Torque modes. In addition, Regenerate-to-Stop (RTS) or Coast-to-Stop (CTS) stopping modes are also provided. Standard front panel features of the KBRC-240D include diagnostic LEDs (for Power On, Stop and Overload), a Start/Stop Switch and a Main Speed Potentiometer. Other features include Barrier Terminal Blocks, adjustable trim pots, selectable jumpers and LEDs. The KBRC-240D Regenerative Variable Speed DC Drive is available in black finish or white FDA approved finish.

Dimensions: 5.80" x 9.50" x 5.0".

| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBRC-240D    | 8840        | 115/208-230   | 0-90           | 1.0             | 11.0 | \$599 |
|              |             | 208-230       | 0-180          | 2.0             | 11.0 |       |
|              | 8841        |               |                |                 |      | \$642 |



NOTE: Pricing and specifications subject to change without notice.



**KBWD PULSE WIDTH MODULATED (PWM) CHASSIS MOUNT CONTROL**

The KBWD-13, 16 models provide a low cost alternative for pulse-width-modulated (PWM) control applications. Their compact size allows for direct replacement of other types. Standard features include instantaneous short circuit protection, under voltage protection and KB's Plug-in Horsepower Resistor®, which eliminates the need to calibrate IR Comp and CL. A potentiometer (5k), isolated analog signal (0-5VDC) or PWM microprocessor output can be used as an input signal.  
 Dimensions: 4.30" x 3.60" x 2.50".



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBWD-13      | 8609        | 115           | 0-130          | .33             | 3.0  | \$187 |
| KBWD-16      | 8607        | 115           | 0-130          | .50             | 5.0  | \$216 |

**KBWS PULSE WIDTH MODULATED (PWM) CHASSIS MOUNT WHISPER DRIVE™ W/BUILT IN SIGNAL ISOLATION**

The KBWS PWM (pulse width modulated) controls are designed to operate PWM and SCR rated Permanent Magnet motors ranging from 1 HP to 1.5 HP. They operate at a switching frequency greater than 16 kHz to provide high motor efficiency and quiet operation. The KBWS contains pulse-by-pulse current sensing, which provides short circuit protection and prevents control damage due to commutator arcing. Permanent magnet motor demagnetization is completely eliminated because current peaks are reduced to safe levels. The controls contain an AC line inrush current limiter (ICL) which reduces the AC line surge current during startup. The KBWS contains built-in isolation for all inputs. This includes signal voltage, Main Speed Potentiometer, Inhibit Circuit and +5VDC Power Supply. The dual voltage models contain a jumper to select motor voltage and special circuitry which automatically accepts AC line input voltages of 115 or 208/230 Volts AC without having to make a jumper selection.  
 Dimensions: KBWS-12, 15, 22: 4.30" x 3.60" x 2.20", KBWS-25D: 4.30" x 3.60" x 3.20"



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |                |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|----------------|------|-------|
|              |             |               |                | HP (SCR RATED)  | HP (SCR RATED) | AMPS |       |
| KBWS-12      | 9490        | 115           | 0-90, 130      | .25             | .33            | 2.5  | \$269 |
| KBWS-15      | 9491        | 115           | 0-90, 130      | .50             | .75            | 5.0  | \$288 |
| KBWS-22D     | 9492        | 115           | 0-90, 130      | .25             | .33            | 2.5  | \$286 |
|              |             | 208/230       | 0-180, 220     | .50             | .75            | 2.5  |       |
|              |             | 208/230       | 0-90, 130      | .25             | .33            | 2.5  |       |
| KBWS-25D     | 9493        | 115           | 0-90, 130      | .50             | .75            | 5.0  | \$319 |
|              |             | 208/230       | 0-180, 220     | 1.0             | 1.5            | 5.0  |       |
|              |             | 208/230       | 0-90,130       | .50             | .75            | 5.0  |       |

**KBWT PULSE WIDTH MODULATED (PWM) HIGH CURRENT CHASSIS MOUNT CONTROL**

The KBWT Pulse Width Modulated Drive is rated through 10.0 amps DC. Several models are offered that provide the user a choice of input voltage and output current. An important feature of this control is its active bridge circuitry that limits inrush current during AC line startup and prevents control runaway due to a shorted output transistor. The KBWT also contains (I X t) motor overload protection and instantaneous short circuit protection.  
 Dimensions: KBWT16/26 7.0"x5.0"x2.0", KBWT-110/112/210 6.75" x 7.0" x 3.25".



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|--------------|-------------|---------------|----------------|-----------------|------|-------|
|              |             |               |                | HP              | AMPS |       |
| KBWT-16      | 8614        | 115           | 0-130          | .75             | 6.0  | \$209 |
| KBWT-26      | 8615        | 230           | 0-260          | 1.5             | 6.0  | \$231 |
| KBWT-110     | 8603        | 115           | 0-130          | 1.2             | 8.5  | \$253 |
| KBWT-112     | 8612        | 115           | 0-130          | 1.5             | 10.5 | \$308 |
| KBWT-210     | 8610        | 230           | 0-260          | 2.2             | 8.5  | \$308 |



NOTE: Pricing and specifications subject to change without notice.



### KBWD PULSE WIDTH MODULATED (PWM) CASED CONTROL

The KBPW-240D is a 115/230vac, Full-Wave PWM Variable Speed DC Drive in a NEMA-4X / IP-65 washdown and watertight enclosure. It is designed to operate 90 and 180 Volt Permanent Magnet and Shunt Wound DC motors. Motor overload protection (I x t) will shut down control if the motor is overloaded for a predetermined amount of time. The exclusive Auto-Inhibit® circuit allows safe, smooth starting during rapid cycling of the AC line. The KBPW-240D Variable Speed DC Drive can be operated from a two or three wire start/stop circuit or can be started from the AC line. A set of dedicated normally open or normally closed relay contacts are provided, which are activated via the start/stop circuit. Main features of the KBPW-240D Variable Speed DC Drive include Speed or Torque modes. Standard front panel features of the KBPW-240D include diagnostic LEDs (for Power On, Stop and Overload), a Start/Stop Switch and a Main Speed Potentiometer. Other features include Barrier Terminal Blocks, adjustable trim pots, selectable jumpers and LEDs. The KBPW-240D Variable Speed DC Drive is available in black finish or white FDA approved finish. Dimensions: 5.90" x 9.50" x 5.00"

| MODEL NUMBER            | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |             | LIST  |
|-------------------------|-------------|---------------|----------------|-----------------|-------------|-------|
|                         |             |               |                | HP (115V)       | AMPS (230V) |       |
| KBPW-240D<br>BLACK CASE | 8401        | 115/230       | 0-130          | .75 (SCR)       | 1.5 (SCR)   | \$638 |
| KBPW-240D<br>WHITE CASE | 8402        |               | 0-220          | 1.0 (PWM)       | 2.0 (PWM)   | \$681 |



### KBVF AC ADJUSTABLE FREQUENCY DRIVES - IP20

Sensorless Flux Vector Compensation with Static-Auto-Tune to provide excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque. They are designed for applications that may or may not require digital programming and a digital display. Hybrid KBVF AC Drives provide variable speed control of standard 3 phase AC induction motors from 1/8 to 5 horsepower.

The KBVF Hybrid AC Digital Drives use an Analog Interface to set motor speed and trim pots to make the most common adjustments - minimum and maximum speed, acceleration, deceleration, current limit, and slip compensation. In addition, a variety of optional accessories including: SIVR Signal Isolator with Run/Fault Relay, Class "A" or "B" RFI/EMI Filter, Dynamic Brake Module, I/O Multi-Function Expansion Module, Multi-Speed Board, Modbus Serial Communication, Drive Link™ Programming Kit, and a KBRK Remote Digital Keypad are available to meet the most demanding applications.

| MODEL NUMBER                  | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM HP RATING | MAX. CONT. OUTPUT LOAD RMS AMPS/PHASE | MAX. AC LINE INPUT AMPS | LIST  |
|-------------------------------|-------------|---------------|----------------|-------------------|---------------------------------------|-------------------------|-------|
| KBVF-13                       | 9957        | 115           | 0 - 230        | 0.5               | 2.4                                   | 11.0                    | \$453 |
| KBVF-23                       | 9958        | 230           | 0 - 230        | 0.5               | 2.4                                   | 7.0                     | \$468 |
| KBVF-23D                      | 9959        | 115/230       | 0 - 230        | 0.5               | 2.4                                   | 11.0/7.0                | \$484 |
| KBVF-14                       | 9977        | 115           | 0 - 230        | 1.0               | 4.0                                   | 16.0                    | \$510 |
| KBVF-24                       | 9978        | 230           | 0 - 230        | 1.0               | 4.0                                   | 10.0                    | \$510 |
| KBVF-24D                      | 9979        | 115/230       | 0 - 230        | 1.0               | 4.0                                   | 16.0/10.0               | \$520 |
| KBVF-26D <sub>1</sub>         | 9496        | 115/230       | 0 - 230        | 2.0/1.5           | 5.5                                   | 22.0/14.0               | \$650 |
| KBVF-27                       | 9591        | 230 - 1,3PH   | 0 - 230        | 2.0               | 6.7                                   | 15.0                    | \$675 |
| KBVF-29 <sub>2</sub>          | 9593        | 230 - 3PH     | 0 - 230        | 3.0               | 9.0                                   | 10.8                    | \$700 |
| KBVF-45/SIVR <sub>3</sub> *   | 9590        | 460 - 3PH     | 0 - 460        | 3.0               | 4.6                                   | 5.3                     | \$750 |
| KBVF-48/SIVR <sub>2,3</sub> * | 9592        | 460 - 3PH     | 0 - 460        | 5.0               | 8.3                                   | 9.6                     | \$960 |



#### NOTES:

\*\* = Equipped with signal isolator

1. Model KBVF-26D is rated 2HP (1.5kW) for most Premium Efficient motors.
2. Models KBVF-29, 48 contain a built-in cooling fan.
3. Models KBVF-45, 48 are rated 0-400 VAC for 50HZ operation and 0-460 VAC for 60HZ operation.



**KBMA NEMA 1/IP50 AC FREQUENCY DRIVES**

Sensorless Flux Vector Compensation with Static-Auto-Tune to provide excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque. They are designed for applications that may or may not require digital programming and a digital display. Hybrid KBVF AC Drives provide variable speed control of standard 3 phase AC induction motors from 1/8 to 5 horsepower (jumper selectable). There are 2 KBMA Hybrid Ac Digital Drives which use an Analog Interface to set motor speed and trim pots to make the most common adjustments - minimum and maximum speed, acceleration, deceleration, current limit, and slip compensation. In addition, a variety of optional accessories including: Forward - Stop-Reverse switch and Signal Isolator with Auto/Manual Switch.  
 Dimensions approx. 7.00" X 4.95" X 4.15"



| MODEL NUMBER   | KB PART NO. | INPUT VOLTAGE | OUTPUT VOLTAGE | MAXIMUM RATINGS |      | LIST  |
|----------------|-------------|---------------|----------------|-----------------|------|-------|
|                |             |               |                | HP              | AMPS |       |
| KBMA-24D       | 9533        | 115/230       | 0 - 230        | 1.0             | 3.6  | \$507 |
| KBMA-24D w/FSR | 9640        | 115/230       | 0 - 230        | 1.0             | 3.6  | \$554 |
| KBMA-24DF*     | 9534        | 115/230       | 0 - 230        | 1.0             | 3.6  | \$539 |

\*\* = F suffix for built-in Class A RFI (EMI) AC Line Filter

**KBAC NEMA 4X/IP65 AC FREQUENCY DRIVES**

Sensorless Flux Vector Compensation with Static-Auto-Tune to provide excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque. They are designed for applications that may or may not require digital programming and a digital display. Hybrid KBAC 4X/IP65 AC Drives provide variable speed control of standard 3 phase AC induction motors from 1/8 to 5 horsepower.

The KBAC Hybrid AC Digital Drives (also available in white case) uses an Analog Interface to set motor speed and trim pots to make the most common adjustments - minimum and maximum speed, acceleration, deceleration, Current Limit and Slip compensation. In addition, a variety of optional accessories are available including: On/Off Line Switch, Forward-Stop-Reverse Switch, Signal Isolator with Auto Manual Switch, Class "A" RFI/EMI Filter and Liquid Tight Fittings.

Due to its user friendly design the KBAC is easy to install and operate. Tailoring to specific operations is accomplished by the use of selectable jumpers and trim pots, which eliminate the computer like programming required on other drives. However, for most applications, no adjustments are necessary. The drive has many built in features as well - I2T Motor Overload Protection, Adjustable Slip Compensation (EICLTM) which eliminates harmful AC line inrush current. A Run/Fault Relay is provided, which can be used to turn on or off equipment or to signal a warning if the drive is put into the Stop Mode or a fault has occurred. The drive is suitable for machine or variable torque (HVAC) applications. Also, a jumper is provided for the selection of Regenerative or DC Injection Braking. KBAC models are enclosed in a Rugged Die-Cast Aluminum NEMA 4X/IP65 Enclosure with Hinged Cover.  
 Dimensions: KBAC-24D - 9.53 x 5.51" x 5.86" All other Models - 9.80" x 7.55" x 7.25"



| MODEL NUMBER | KB PART NO. | INPUT VOLTAGE                 | OUTPUT VOLTAGE | MAXIMUM HP RATING | MAX. CONT. OUTPUT LOAD RMS AMPS/PHASE | MAX. AC LINE INPUT AMPS | LIST    |
|--------------|-------------|-------------------------------|----------------|-------------------|---------------------------------------|-------------------------|---------|
| KBAC-24D     | 9987        | 115<br>208-230, 1PH           | 0 - 230        | 1.0               | 3.6                                   | 16.0<br>10.0            | \$580   |
| KBAC-27D     | 9520        | 115<br>208-230, 1PH           | 0 - 230        | 1.5<br>2.0        | 5.5<br>6.7                            | 5.5<br>6.7              | \$824   |
| KBAC-29      | 9528        | 208-230, 1 PH<br>208-230, 3PH | 0 - 230        | 2.0<br>3.0        | 6.7<br>9.0                            | 15.0<br>10.8            | \$942   |
| KBAC-45      | 9530        | 460, 3PH                      | 0 - 460        | 3.0               | 4.6                                   | 5.3                     | \$1,000 |
| KBAC-48      | 9540        | 460, 3PH                      | 0 - 460        | 5.0               | 8.3                                   | 9.6                     | \$1,050 |



NOTE: Pricing and specifications subject to change without notice.