# KBWK **Digital AC Drive with CSP™**\* **Rugged Aluminum NEMA 1 / IP 50**

# **Primary Features**

Horsepower 1/8 to 1 HP, Programmable 10 Input 115/230 VAC, 50/60 Hz 30 Output 230 VAC 200% Starting Torque **Digital Display with LED Status Indicators** Class "A" (CE) RFI Filter\*\*

# **Benefits**

## **Saves Time**

Easy to Install and Simple to Operate Does not require commissioning With CSP<sup>™</sup> you are 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**

**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 allows the equipment to operate with Ground Fault Circuit Interruption circuit breakers or outlets.

\*CSPTM = Common Sense Programming. Parameters are organized into easy-to-understand intuitive groups. \*\*KBMK-24DF.



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## **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.

#### **Multi-Function Output 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.

#### Jog-Local/Remote

Set the drive to Jog Mode or changes between Local (Keypad) or Remote Operation.

#### **On/Off AC Line Switch**

Disconnects the AC Line.

## **Built-in Potentiometer**

Quickest way to change motor speed.

#### **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).

## **Drive Options**

#### **IODA Input/Output Multi-Function Board**

Adds up to 17 points of additional I/O.

## **On/Off AC Line Switch**

Disconnects the AC line.

Visit kbelectronics.com to learn about Build-A-Drive™ , KB's New AC Inverter Program.



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## **Applications**

- Actuators 
  Air Cleaners 
  Amusement Rides
- Ball Pitching Machines 
  Blowers 
  Boat Lifts
- Bowling Alley Lane Cleaners 
  CNC 
  Conveyors
- Door and Gate Openers Drilling Duct Cleaners
- Dumbwaiters Elevators and Hoists
- Exercise Equipment Fabric Processing Fans
- Feeders Film Processing Floor Cleaning
- Food Processing Garment Cutting
- Grinding and Polishing Hoppers Horse Walkers
- HVAC Indexers Irrigation Laminating
- Lift Station Pumps Machine Tools
- Medical 
  Milling 
  Mixers 
  Oven Conveyors
- Packaging Paint Blenders, Shakers, and Sprayers
- Paper Handling Portable Equipment Used with GFCIs
- Pottery Wheels 
  Printing
- Pumps Range Hoods Sandblasting Saws
- Sewing Stretch Wrap Textile Treadmills
- Therapeutic Vibrators Washing Machines
- Wave Soldering 
  Web Processing 
  Wheelchair Lifts
- Whole House Vacuums and Attic Fans
- Wire Feeders Wood and Metal Lathes and Cutters
- Winders and Unwinders

# Ratings

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

		Ratings		Net Weight	
Model No.	Part No.	HP, (kW)	Amps	Lbs.	kg
KBMK-24D	9680	1, (0.75)	3.6	2.26	1.03
KBMK-24DF*	9681	1, (0.75)	3.6	2.33	1.06

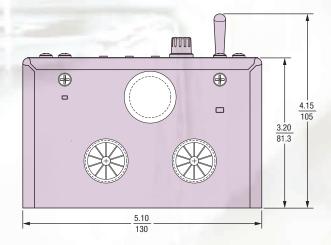
\*"F" Suffix for Built-In Class A RFI (EMI) AC Line Filter.

# **Specifications**

Maximum Load (% of Current Overload for 2 Minutes)	150	
Switching Frequency (kHz)	8, 10, 12	
Output Frequency Resolution (Hz)	0.06	
Minimum Output Frequency to Motor (Hz)	0.3	
Acceleration Time (Seconds)	0.1 – 180.0	
Deceleration Time (Seconds)	0.3 – 180.0	
Speed Range (Ratio)	60:1	
Speed Regulation (30:1 Speed Range, 0 – Full Load) (% Base Speed)	2.5	
Stalled Motor Trip Time (Seconds)	6	
Braking	DC Injection	
Operating Temperature Range (°C / °F)	0 - 40 / 32 - 104	
Storage Temperature (°C / °F)	-25 - +85 / -13 - +185	

# Dimensions - (Inches/mm)

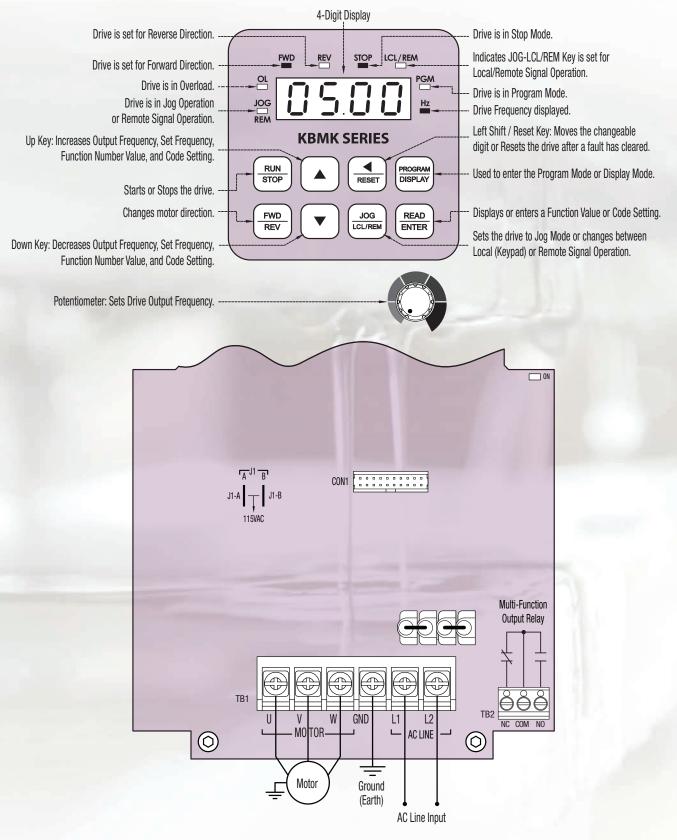






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# **General Connection Diagram**



KB ELECTRONICS, INC.

(954) 346-4900 • Fax (954) 346-3377 Outside Florida Call Toll Free (800) 221-6570 info@kbelectronics.com • www.kbelectronics.com Represented by:

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