

# KBDA

## Digital AC Drive with CSP™\*

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

### Primary Features

Horsepower 1/8 to 5 HP, Programmable  
1Ø & 3Ø Input 115/230/460 VAC, 50/60 Hz  
3Ø Output 230/460 VAC  
200% Starting Torque  
Digital Display with LED Status Indicators  
FDA Approved Finish\*\*

### Benefits

#### Saves Time

Easy to Install and Simple to Operate  
Does not require commissioning  
*With CSP™ 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: 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** allows the equipment to operate with Ground Fault Circuit Interruption circuit breakers or outlets.

\*CSP™ = Common Sense Programming. Parameters are organized into easy-to-understand intuitive groups. \*\*White case only



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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.

### 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.

### Modbus Serial Communication Module

See instruction manual for complete description.

### Drive-Link™ Programming Kit

Allows PC programming.

### On/Off AC Line Switch

Disconnects the AC line.

### Class "A" (CE) RFI Filter

Installs inside the drive.

### Liquidtight Fittings

Provides a liquid-tight seal for wiring the drive. Kit includes necessary liquidtight fittings.

Visit [kbelectronics.com](http://kbelectronics.com)

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



## 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

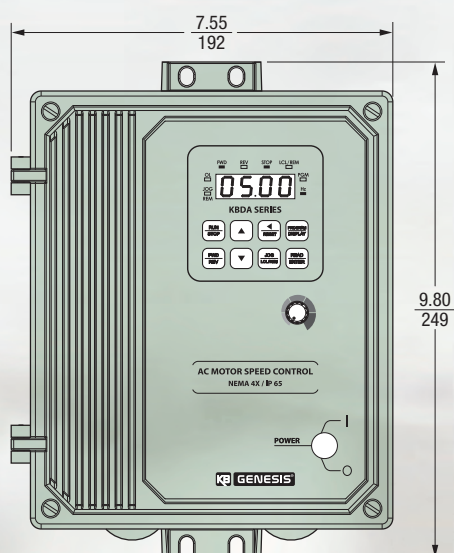


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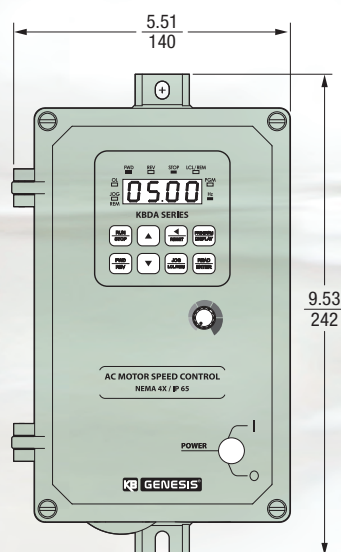


Case "B" – (Inches/mm)



Maximum Depth: 7.25  
184

Case "A" – (Inches/mm)



Maximum Depth: 5.86  
149

## Ratings

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

Model No.	Part No.		Ratings		Net Weight		Case
	Gray	White*	HP, (kW)	Amps	Lbs.	kg	
KBDA-24D	9536	9537	1, (0.75)	3.6	5.9	2.7	A
KBDA-27D	9543	9544	2, (1.5)	6.7	10.3	4.7	B

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

Model No.	Part No.		Ratings		Net Weight		Case
	Gray	White*	HP, (kW)	Amps	Lbs.	kg	
KBDA-29 (1P)	10003	10004	3, (2.25)	9.0	10.3	4.7	B

### 230 VAC 3-Phase Input • 230 VAC 3-Phase Output

Model No.	Part No.		Ratings		Net Weight		Case
	Gray	White*	HP, (kW)	Amps	Lbs.	kg	
KBDA-24P	9766	9767	1, (0.75)	3.6	5.9	2.7	A
KBDA-29	9545	9546	3, (2.25)	9.0	10.3	4.7	B

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

Model No.	Part No.		Ratings		Net Weight		Case
	Gray	White*	HP, (kW)	Amps	Lbs.	kg	
KBDA-42	9763	9764	1, (0.75)	2.0	5.9	2.7	A
KBDA-45	9659	9660	3, (2.25)	4.6	10.3	4.7	B
KBDA-48	9661	9662	5, (3.75)	8.3	10.3	4.7	B

\*FDA approved (white case only).

## Specifications

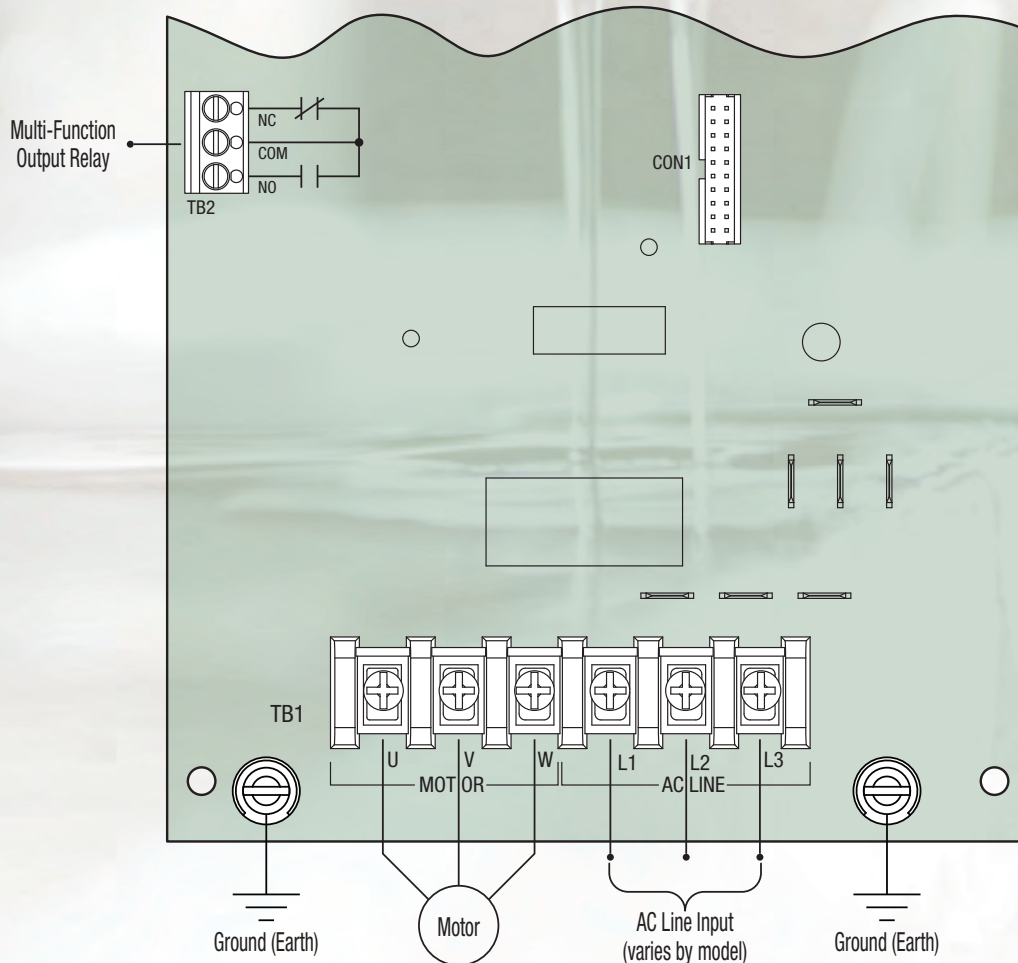
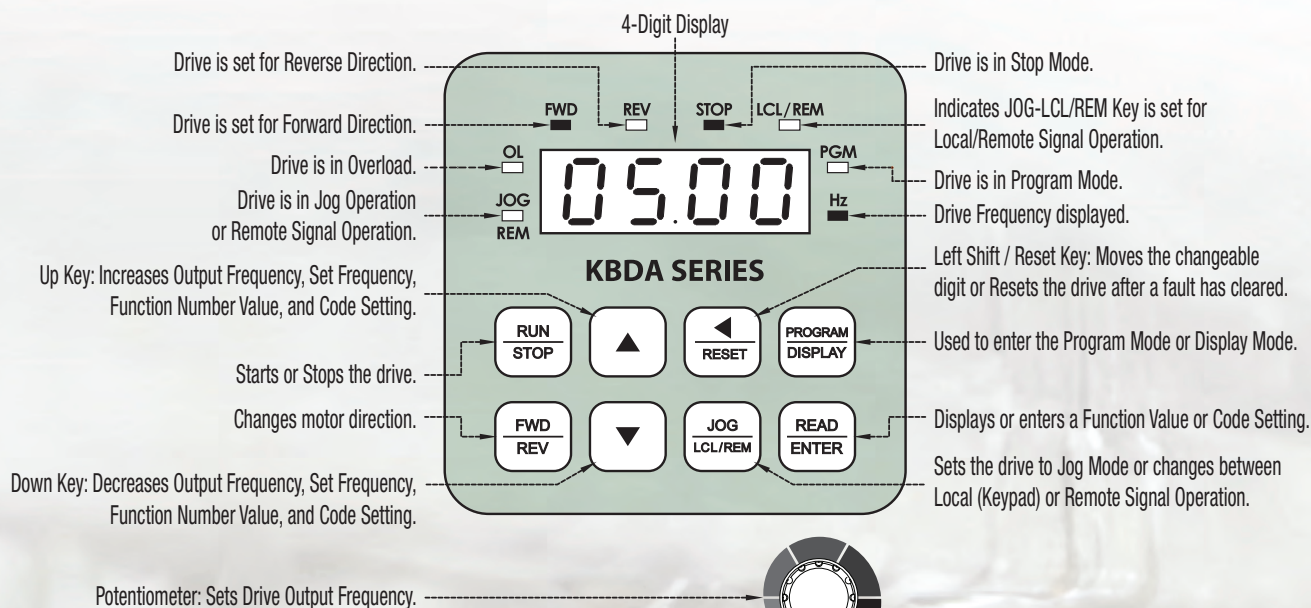
Maximum Load (% of Current Overload for 2 Minutes)	150
Switching Frequency (kHz)	8, 10, 12
Output Frequency Resolution (Hz)	0.06
Minimum Output Frequency to Motor (Hz)	0.3
Acceleration Time (Seconds)	0.1 – 180.0
Deceleration Time (Seconds)	0.3 – 180.0
Speed Range (Ratio)	60:1
Speed Regulation (30:1 Speed 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



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## General Connection Diagram



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