

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.



Automation and Control

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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.

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.

Juniper 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.

Drive Options

On/Off AC Line Switch

Disconnects the AC line.

Forward-Stop-Reverse Switch

Provides motor reversing and stop functions.

Run-Stop-Jog Switch

Selects speed setting from either the Main Speed Potentiometer or the JOG Trimpot.

Signal Isolator

Provides isolation between a non-isolated signal source and the drive.

Auto/Manual Switch

When used with the Signal Isolator, it selects the remote process signal or the Main Speed Potentiometer.

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

to learn about Build-A-Drive™, KB's New AC Inverter Program and to watch the new KBAC installation demo video.



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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Automation and Control

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	
KBAC-24D	9987	9988	1, (0.75)	3.6	5.9	2.7	A
KBAC-27D	9520	9521	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	
KBAC-29 (1P)	10001	10002	3, (2.25)	9.0	10.3	4.7	B

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

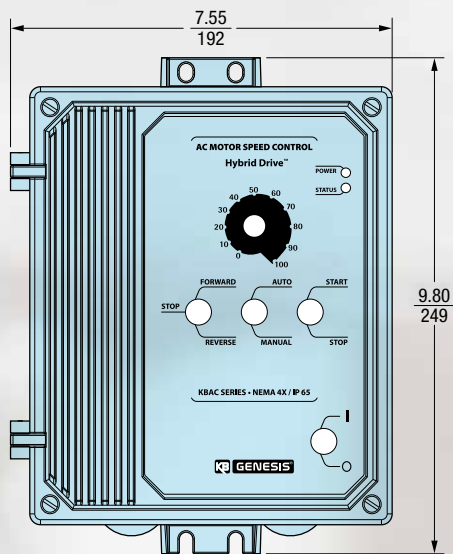
Model No.	Part No.		Ratings		Net Weight		Case
	Gray	White*	HP, (kW)	Amps	Lbs.	kg	
KBAC-29**	9528	9529	3, (2.25)	9.0	10.3	4.7	B

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	
KBAC-45	9530	9531	3, (2.25)	4.6	10.3	4.7	B
KBAC-48	9540	9541	5, (3.75)	8.3	10.3	4.7	B

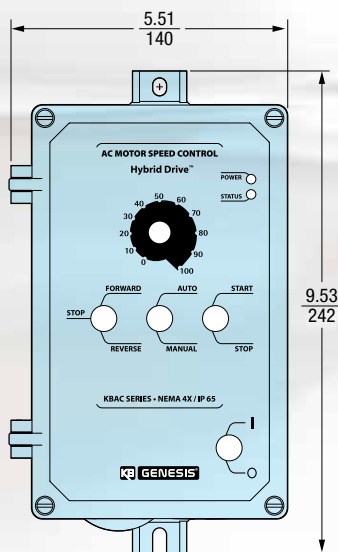
*FDA approved (white case only). ** Rated 2 HP, 6.7 Amps w/ 1-Phase Input.

Case "B" – (Inches/mm)



Maximum Depth: $\frac{7.25}{184}$

Case "A" – (Inches/mm)



Maximum Depth: $\frac{5.86}{149}$

Specifications

Maximum Load (% of Current Overload for 2 Minutes)	150
Carrier, Switching Frequency (kHz)	16, 8
Output Frequency Resolution (Hz)	0.06
Minimum Output Frequency to Motor (Hz)	0.3
Acceleration Time (Seconds)	0.3 – 20
Deceleration Time (Seconds)	0.3 – 20
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

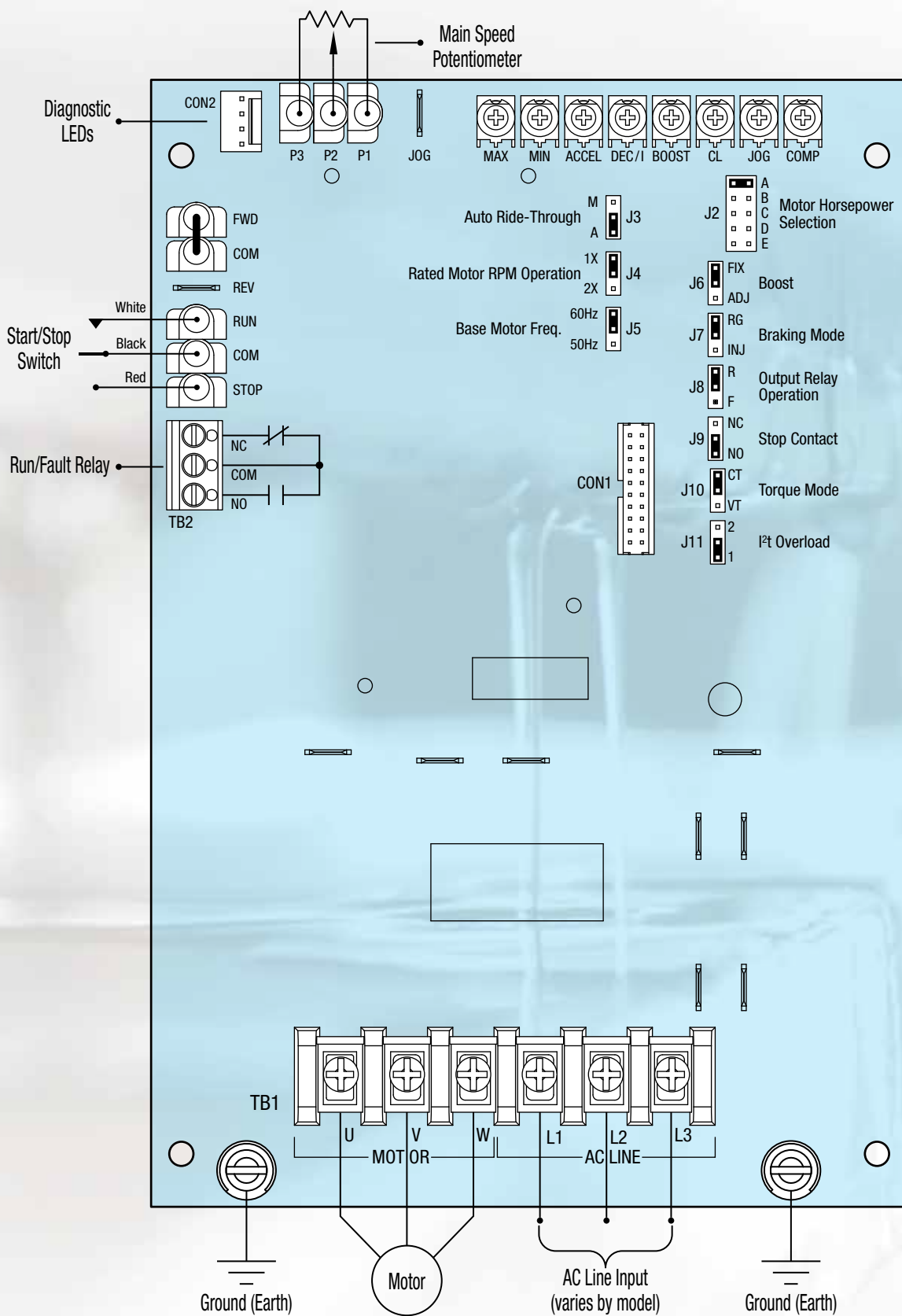
*Jumper selectable.



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General Connection Diagram



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