

# AKD™ BASIC

Machine and Motion Control with BASIC Programmability  
in an Advanced Kollmorgen Drive™



**KOLLMORGEN**®

*Because Motion Matters™*

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 **ELECTROMATE**

Toll Free Phone (877) SERV098

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[www.electromate.com](http://www.electromate.com)

[sales@electromate.com](mailto:sales@electromate.com)

## The Newest Member of the AKD Family

AKD BASIC drives, including enhanced I/O versions, are available in all of the same voltage and power output ranges as our standard AKD drives, and incorporate the same key features.

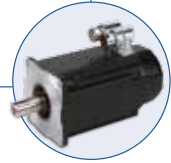
AKD servo drives provide up to 27-bit resolution feedback, the industry's highest-bandwidth torque and velocity loops, the fastest digital current loop and the most advanced observer and filter techniques. With unmatched features, precision and power in a small footprint, AKD drives provide industry leading performance.

- True plug-and-play commissioning with all standard Kollmorgen servomotors and linear positioners
- Full-frequency autotuning to ensure stability across every operational condition
- A fully integrated graphical development environment with BASIC motion programming capabilities

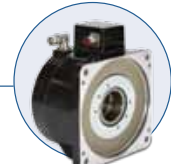
120/240 VAC 1Ø/3Ø (85-265 VAC)	Continuous Current (Arms)	Peak Current (Arms)	Drive Continuous Output Power (watts)
AKD-x00306	3	9	1100
AKD-x00606	6	18	2000
AKD-x01206	12	30	4000
AKD-x02406	24	48	8000
240/480 VAC 3Ø (187-528 VAC)	Continuous Current (Arms)	Peak Current (Arms)	Drive Continuous Output Power (watts)
AKD-x00307	3	9	2000
AKD-x00607	6	18	4000
AKD-x01207	12	30	8000
AKD-x02407	24	48	16,000



Micron™ Gearheads



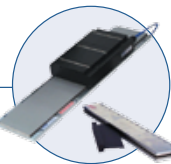
AKM™ Servomotors



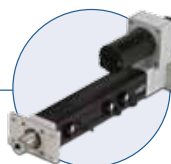
Kollmorgen Cartridge DDR™ Motors



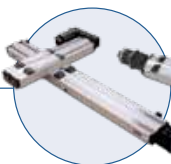
Housed Direct Drive Rotary Motors



Direct Drive Linear Motors



Linear Positioners



Multi-Axis Precision Tables

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# High Performance Capabilities in an Integrated Drive/Control Solution

Add co-engineering to your toolbox. Save money, simplify your machine and customize performance to meet the specific needs of each customer or application – as needed, today or tomorrow.

Our new Kollmorgen AKD™ BASIC drives add BASIC-programmable machine and motion control to the superior performance of our AKD drive platform. So engineers can quickly customize performance at the drive level without touching the PLC. In fact, for many applications you can avoid the expense, wiring and cabinet space of a PLC altogether.

Whether you rely on your own engineering expertise or Kollmorgen's, the base and Expanded I/O versions of our AKD BASIC drive give you the unprecedented machine and motion control flexibility in a compact, fully integrated drive package. It's one more example of our co-engineering mission to help you deliver exactly what your customers want – when they want it – in solutions that are more cost-effective to build, simpler in design and faster to market.

## AKD BASIC Language Programmable Drive

In addition to the wide selection and key features of our proven AKD, the standard version of our AKD BASIC drive offers:

- **Programmable machine control built into the drive**, so you can engineer perfect axis-level performance without touching the machine controller. In fact, AKD BASIC can eliminate the need for a PLC in single and 1.5 axis applications – reducing wiring requirements, panel space, design complexity and cost.
- **High performance motion control built into the drive**, enabling increased speed for more complex moves in a simpler design with reduced wiring.
- **BASIC Language programming**, providing simple program flow control in a solution that's easy to learn, quick to master and universally accepted.
- **An integrated development environment**, allowing single-point programming, de-bugging, commissioning, tuning and management of your AKD BASIC drive from within AKD WorkBench. Our BASIC editor provides innovative features that speed development time and reduce coding errors.
- **Source code lockout with password protection**, freeing you to differentiate your product with drive-level control while safeguarding your intellectual property.

I/O Capabilities	Base Version	Expanded I/O Version
Digital Inputs	8	20
Digital Outputs	3	13
Analog Inputs	1	2
Analog Outputs	1	2

## Expanded I/O AKD BASIC Programmable Drive

Building on the features of the AKD BASIC drive, we also offer an expanded I/O version that adds:

- **A total of 20 digital inputs, 13 digital outputs, 2 analog inputs and 2 analog outputs**, reducing or eliminating the need for remote I/O and its associated installation and wiring costs.
- **An SD memory card slot** for loading, and restoring programs and parameters, without the need for a PC.



# Motion and Machine Control Programmability in One Integrated Servo Drive

If you have already taken advantage of Kollmorgen co-engineering for your own projects, you understand how we can increase performance and add value to your machine without the cost and risk of a customized solution. Now you can provide the same co-engineering benefits to your own customers.

AKD BASIC drives incorporate fully programmable machine and motion control along with the industry-leading performance of the AKD drive platform in a single package. With a complete drive-resident control solution, you can lower design and build costs, reduce complexity and customize performance to individual customer requirements.

- Provide 1- or 1.5-axis control from a single customizable device, without the need for a separate controller and its associated cabinet space and wiring
- Customize and fine-tune individual axes in a multi-axis machine, without reprogramming the PLC
- Simplify development of modular components that deliver perfect motion, without relying on a particular control system or application program
- Co-engineering tools at your fingertips: Why wait for an implementation team when you can generate a program yourself in minutes?

## Programmable Motion Control

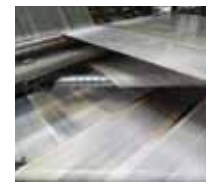
- BASIC-language commands (If...Then...Else, For...Next, GoTo, etc.)
- Comparators (<, >, <=>, =, etc.)
- Boolean (AND, OR, XOR, NOR, NAND, etc.)
- User defined global and local Variables (Integer, Float, and String types)
- Motion Commands (Relative, Home, and Absolute Moves with a Registration mechanism)
- Interrupt Routines and the "When" program conditions that run at a blazing 4Khz rate

## Programmable Machine Control

- Interrupt service routines with a 4Khz update rate
- Deterministic and conditional statements
- Built-in and user-defined functions
- Capture/latch mechanism control
- Modbus TCP/IP slave and master capability

**MARKETS:** Test & Measurement • Print • Pack • Convert • Material Forming • Medical & Diagnostics

**APPLICATIONS:** Labeling • Roll Feeding & Web Indexer • Wrappers • Centrifuge • Shear Control • Sorter • Machining



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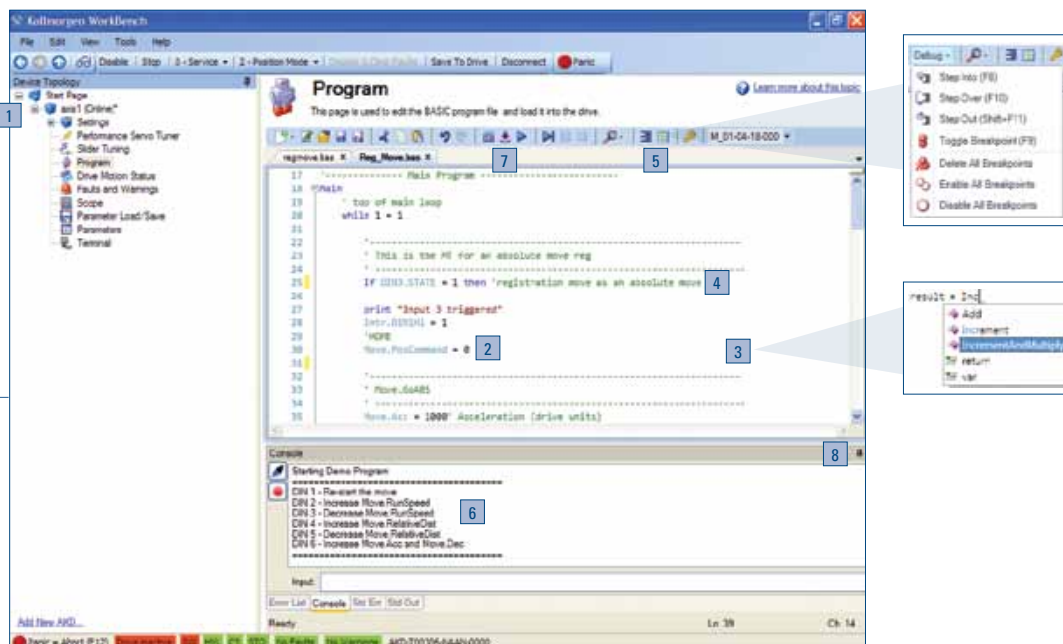
# Development Tools that Speed Programming and Improve Quality

Co-engineering is a powerful tool. To make it easy for you to provide better solutions for your customers, we provide an innovative BASIC programming environment within Kollmorgen WorkBench. So there's only one software package to use for all of your drive setup, configuration, tuning and management tasks in addition to motion and machine control programming.

Pre-built code templates give your application a head-start, while automatic formatting, highlighting and other ease-of-use features increase programming speed and accuracy. Complete access to all programming capabilities and drive features within a single environment helps speed your development of complete, optimally engineered solutions.

Novice users will enjoy a short ramp-up time to productive coding, while experienced users will discover well-designed tools that take their programming skills to new levels of speed and quality.

- 1 Integrated axis setup
- 2 Code snippets simplify formatting
- 3 Auto-complete helps speed coding and reduce errors
- 4 Automatic color coding makes it easy to distinguish comments, parameters, print statements and other types of code
- 5 Full debugger accelerates development
- 6 Packaged program console provides instant program status
- 7 Menu-driven navigation provides intuitive look and feel
- 8 Window pinning maximizes workspace



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