

## Technology Brief

Q & A Format

# AKD® SERVO DRIVES WITH CANopen® AND EtherCAT®

The AKD servo drive offers the functionality of the base analog drive, indexing drive, CANopen drive and EtherCAT drive, all in one product. This was developed to give machine builders expanded flexibility to easily transition from one bus type to another within a single drive product, rather than have to work and manage multiple pieces of hardware.

What is the "standard" approach that the product replaces or improves upon?

Most drives force the machine builder to choose the main functionality that's desired. If, later on, other functionality or a different bus is needed the end-user must purchase additional hardware and are forced to toggle between them and manually switch them out, requiring additional time and resources. This also assumes the drive family has the functionality available to accommodate additional hardware.

Most servo drive hardware and firmware support just a single motion bus, and many drive families do not provide an "all-in-one" drive option that includes basic analog torque and velocity, position indexing, CANopen or EtherCAT.

Kollmorgen's Ethernet-based [AKD servo drive](#) is feature-rich and has the capacity to provide the above mentioned functionality in a single hardware variant that can be experienced with a simple parameter change and power cycle. Being able to quickly and easily change the AKD's communication protocol between **EtherCAT and CANopen gives machine builders a clear competitive advantage** in getting new, better and differentiated machines to market, faster.

How does the product reflect changes and trends in this specific technology and in the packaging industry in general?

This AKD variant supports the move that many machine builders are making, namely to Ethernet-based buses. While many machine builders have used CANopen in the past and others continue to use it in the present, a significant proportion of them are upgrading to faster communication protocols. And in general, their end-users, the people who are purchasing and using next generation packaging machines, expect more flexible, easy-to-use products to support their multiple projects. Having robust value-added features available in one drive provides flexible and powerful solutions no matter what the particular application demands.



In short, this enables packaging machine builders to benefit from more efficient bench testing and prototyping, while enabling them to smoothly transition from one bus type to another.

EtherCAT®

CANopen

## Technology Brief

Insight to Packaging Machine Control Trends

How does the product directly and indirectly benefit a packaging operation? (e.g., efficiency, productivity, cost reduction, information management, etc.)

AKD servo drives deliver cutting edge technology and set the standard in high-performance motion control for packaging operations, whatever the application. Its powerful platform increases overall machine efficiency, provides greater throughput and accuracy, and reduces operational costs by eliminating the need for additional hardware.

Its range of rich features differentiates AKD from the rest: best and fastest auto-tuner (patent-pending), up to 27-bit resolution feedback and fast settling times, easy-to-use graphical interface with a six-channel real-time software oscilloscope, and the ability to support the functionality of the bases analog drive, indexing drive, CANopen drive and EtherCat drive all from a single drive product.

Plug-and-play commissioning provides instant, seamless access to everything on the machine, and even greater optimized performance when paired with perfectly matched Kollmorgen [motors](#). In fact, packaging machine **overall effectiveness can be increased by up to 50 percent** over other motor and drive combinations.

What is required to implement / use the product, and what kind of support is available?

This variant of AKD is as easy to implement as the standard AKD servo drive. A quick start guide is available with the product as is a helpful CD containing supporting literature such as manuals for the base product, bus manuals, etc., which can also be found through the website on its dedicated [product page](#).

What issues should packaging manufacturers and/or users consider in evaluating these types of products for their applications?

Packaging machine builders and end-users should consider some of the following factors when evaluating servo drives and other high-performance products:

- Total Cost of Ownership (TCO) — purchase cost plus operational cost
- Product performance
- Product flexibility
- Product ease-of-use
- Energy consumption
- Product life cycle
- Technology forward and backward compatibility
- Supplier product R&D investment

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### ABOUT KOLLMORGEN

Kollmorgen is a leading provider of motion systems and components for machine builders around the globe, with over 70 years of motion control design and application expertise.

Through world-class knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.

For more information visit [www.kollmorgen.com](http://www.kollmorgen.com), email [support@kollmorgen.com](mailto:support@kollmorgen.com) or call 1-540-633-3534.