

Success Story

Flat Glass, Double Edger "TITAN" Model Uses Proven Cost-Effective Motion Control Solution

AKD® PDMM Significantly Lowers Machine Costs while Offering Outstanding Machine Performance

The [AKD PDMM servo system](#) combines a multi-axis motion controller with AKD servo drive in a compact, cost-effective package. This complete solution set delivers scalable, high-performance motion control that enables OEMs to greatly simplify machine design.

Challenge

Bottero is a leading glass technology manufacturer and needed a more compact, flexible system approach for their "TITAN" grinding machine. The complex system consisted of commissioning 10 AKD drives to control 20 different motors.

The challenge was to simplify machine design and reduce space by connecting multiple motors to the same AKD drive. Reducing overall machine cost without sacrificing performance were also important factors.

Solution

New system approach consisted of motors such as [AKM™](#) to position and move the flat glass while other independent motors used as the spindle for grinding and other optional processes. Applying absolute multturn encoder versions of AKM on the glass moving axes avoided a lengthy homing procedure. Induction motors were introduced to drive the grinding tooling with some of them using the V/Hz technique while others using vector control with incremental AqB encoder feedback.

This solution was implemented successfully due to AKD's ability to switch the primary feedback between two encoders connected on two separate ports, X9 and X10. This is used in conjunction with an application specific function block which carries out the task to switch the motors by changing all the motor related parameters via EtherCAT. I/O slices were significantly reduced by using the analog and digital I/O onboard the AKD drives.

In this configuration the I/O points available are: 75 Digital In – 22 Digital Out – 10 Analogue In – 10 Analogue Out. This reduced the bill of materials which had a significant impact on total machine cost and also dramatically reduced the amount wiring time.



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Because Motion Matters™

FAST FACTS

Challenge:

Simplify machine design and reduce cost without sacrificing performance

Solution:

AKD PDMM based control system consisting of permanent magnet servomotors as well as induction motors with both open and closed loop functionality

Measurable Benefits:

- AKD PDMM controlling -9- AKD drives
- 50% reduction of axes count
- 30% reduction of slice I/Os by using the ones built in the AKD
- 30% reduction in cabinet manufacturing costs

Other features:

- High-performance motion
- Remote service via Internet
- HMI interface
- Simplified programming

Have Similar Challenges and Want to See Real Results?

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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 kollmorgen.com, email support@kollmorgen.com, or call 540-633-3545.