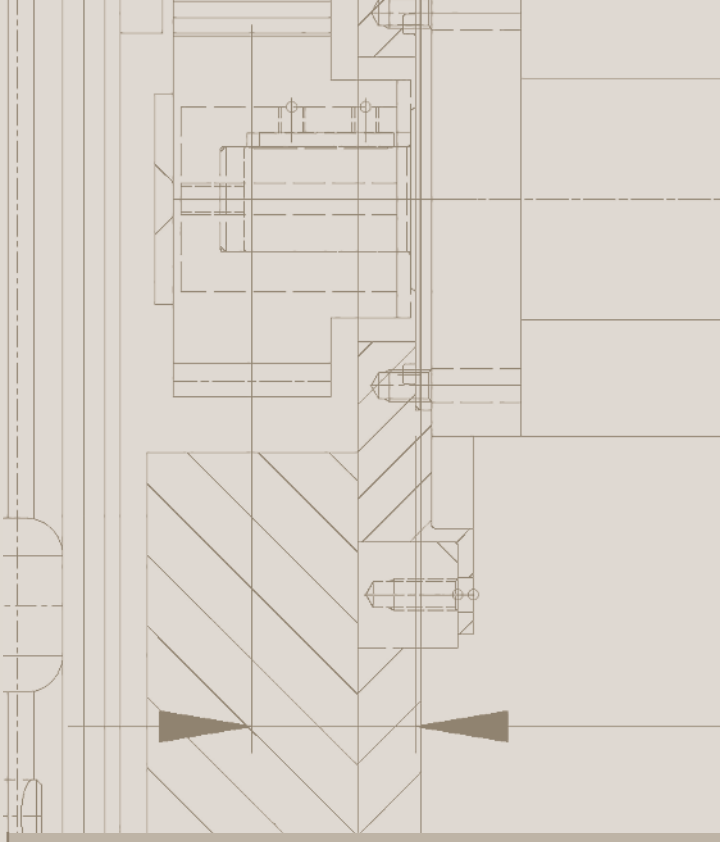
KOLLMORGEN®



AKD2G IRT for Siemens S7 PLC

DELTA ELEKTRONIK A/S

Powerful, yet Simple. Integrated Safe Motion Increases Ease-of-Use!

The newest member of the AKD family is our most powerful yet:

The new AKD2G servo drive introduces the Kollmorgen Servo-on-a-Chip: A powerful compute engine that can control 2 axes simultaneously while handling Safe Motion Monitor (an integrated safety solution), and up to 28 I/O. While we were at it, we streamlined the design by optimising the AKD2G for single-cable motors.

Dual-Axis AKDG2 Servo Drive

Flexible

- One and two axis variants available
- Modular design allows the user to specify only the features needed
- Supports a variety of feedback devices—SFD & HIPERFACE® DSL standard;
- optional feedbacks include EnDat2.2, BiSS 1.0, Analog Sine/Cos encoder, incremental encoder, resolver and more
- Multiple bus choices for system optimization, including EtherCAT® & FSoE, and CANopen®
- SIL-qualified over-voltage, current, and temperature detection provided for added dependability
- Optional Safe Motion Monitor (SMM), SIL3/PLe
- Industry-leading power density for greater flexibility in mounting
- Fits into a 10" deep control panel

Easy to Use

- Plug-and-play compatibility with Kollmorgen controls and motors
- WorkBench GUI, acclaimed for customer experience and usability
- Hybrid Motor-Power connector is optimized for single-cable motors:
  - No adaptors, no D-subs, no splitters
- Cage-clamp spring terminal connectors on I/O allow for fast and easy installation
- Optically-isolated I/O reduces noise, and eliminates need for additional hardware

Fast

- Accommodates changing load conditions immediately:
  - Current loop updates in 1.28 µs, nearly 50x the speed of our nearest competitors
  - Velocity and position loops lead the market at 62.5 µs and 250 µs, respectively
- Servo on a Chip™ includes dual-core ARM™ A9, 800 MHz µP, 1.5 M gates
- Auto-tuning with a click of a button gets you started quickly
- Wizard-based tuning uses advanced Bode Plot tool to help you efficiently manual-tune when desired
- Fast data acquisition with TCP/IP Ethernet service channel

AKD2G WITH IRT INTERFACE FOR SIEMENS S7 PLC AND TIA TECHNOLOGY

In cooperation with Siemens, Kollmorgen has added ProfiDrive IRT protocol to the ProfiNet interface to its AKD2G high performance servo drives.

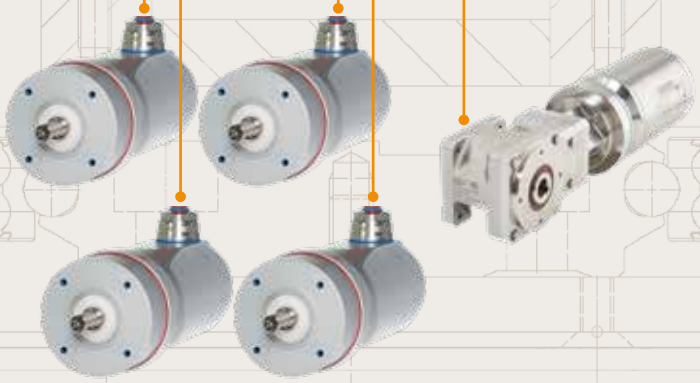
This allows the AGD2G drive to be used as an integrated axis into the Siemens S7 PLC. All functions and motions supported by the TIA Technology Objects.

ProfiDrive enables very precise synchronization accuracy between two or more AGD2G and Siemens servo axes in one system. ProfiDrrive provides the increased control coordination required for servo applications where absolute time synchronization is critical to achieve real-time synchronization between distributed intelligent servo axes.

- **Synchronized motion between linear and rotation servo axis**
- **Synchronized motion linked to virtual master axis in the PLC**
- **Cyclic positions data with timestamp**

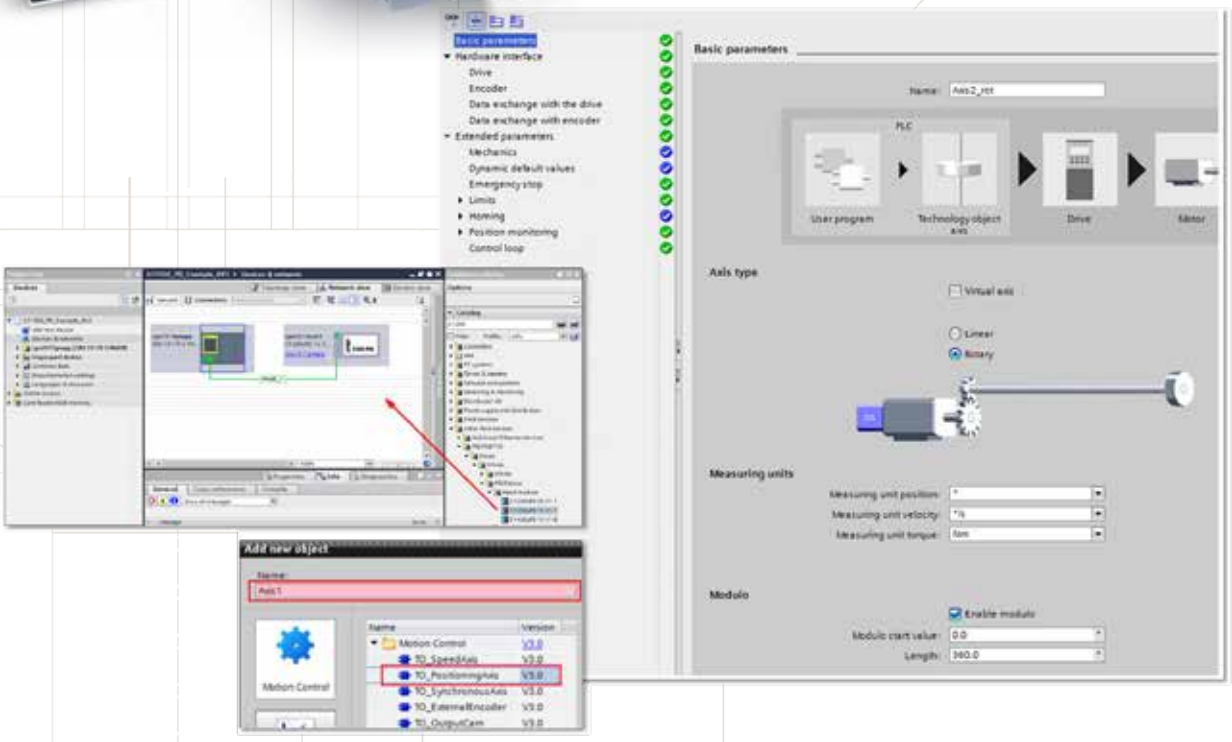
Save Your Panel Space

Dual -axis drives mean twice the power density over single axis drives and 20% less space than competitors' dual axis technology.



COMMISSIONING LIKE IT WAS A SIEMENS FROM TIA

- Install GSDML file set up Siemens Telegram
- TIA assign name and IP address of the drive
- Insert and setup the new Technology Object
- Commissioning of the Basic Parameters



We can put 40 years of Motion experience into your application:

- Benefit of our know how in combination with the PLC you know best
- We can fully support you in the structure of “PLC open” programming
- Benefit of our knowledge about mechatronics solutions.
- A drive packaged for IP69K hygienic applications with AKMA or AKMH motors
- A drive packaged with integrated safety
- Twin drive – OneCabel solution – reduces installations cots
- Achieve outstanding performance with our combination of geared motors and mechatronics solutions.

REDUCE COST AND SIMPLIFY WITHOUT COMPROMISE

Plug & Safe – Functional Safety over EtherCAT (FSoE) reduces wiring and simplifies engineering

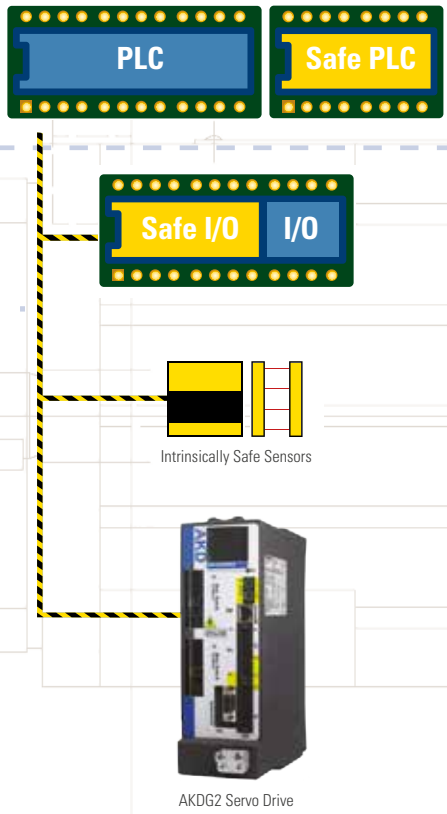
Drive-integrated FSoE is the core technology of the 3rd-generation of the Kollmorgen SafeMotion solution.

Prior generations of SafeMotion, although better than mechanical guarding, required additional edge devices and complicated hardwiring between them.

3rd-generation SafeMotion reduces component count and wiring, which simplifies the system and reduces cabinet size.

Key benefits of AKD2G FSoE Technology

- Smooth integration with an array of FSoE master devices
- Complies with ETG standard and ETG SafeMotion Profile
- Safe activation via FSoE master with only Ethernet cabling
- Very fast response to safe I/O such as a light curtain
- Safe position transmitted to FSoE master



EXTENSIVE SAFETY FUNCTIONS FOR SAFE MOTION

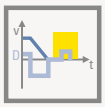
STO (Safe Torque Off)

STO safely interrupts the power supply to the motor in the servo drive. The motor becomes torque-free.

SS1 (Safe Stop 1)

The drive is brought to a standstill by controlled braking. After a specified time the power supply to the motor is safely interrupted and the motor becomes torque-free.

SBC/SBT (Safe Brake Control & Safe Brake Test)



Test function for external brakes and the internal motor holding brake: Far simpler than testing brake from PLC/PAC

SOS[2] (Safe Operating Stop)

Monitors the stop position reached and triggers SS1 in the event of deviations beyond the specified limits.

SS2[1] (Safe Stop 2)

The drive is brought to a standstill by controlled regenerative braking and subsequently remains in controlled standstill. SS2 terminates in SOS

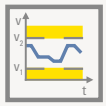
SDI[1] (Safe Direction)

The SDI function ensures that the drive can only move in a defined direction. In the event of an error, SS1 is triggered.

SLS[1] (Safe Limited Speed)

Monitors that the drive observes a defined speed limit. In the event of an error, SS1 is triggered.[2]

SSR[1] (Safe Speed Range)



Monitors that the drive observes a defined speed limit. In the event of an error, SS1 is triggered.

SLP[1] (Safe Limited Position)

Monitors the absolute position of the drive. If the limit value is reached or the brake torque is too low to keep the drive within the limit value, SS1 is triggered. [2]

SLI[1] (Safe Limited Increments)

Monitors the relative position of the drive with respect to the current position when activating the SLI function. SS1 is triggered when the prescribed limit value is reached.

[1] Requires "Safe" feedback device

[2] SS1 if *faulted* is the default setting. Users can easily configure this or other actions in WorkBench.

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