

**AMK***motion*

MEMBER OF THE ARBURG FAMILY

# Hybrid Automation Solutions



# Flexible & Combinable

Due to the modularization in mechanical engineering, processes are being functionally and spatially divided into subprocesses. As a result, drives are moving ever closer to where the action takes place – a perfect environment for decentralized drive concepts.

Then again, there are clearly some power-intensive processes that require an automation solution with a centralized configuration.

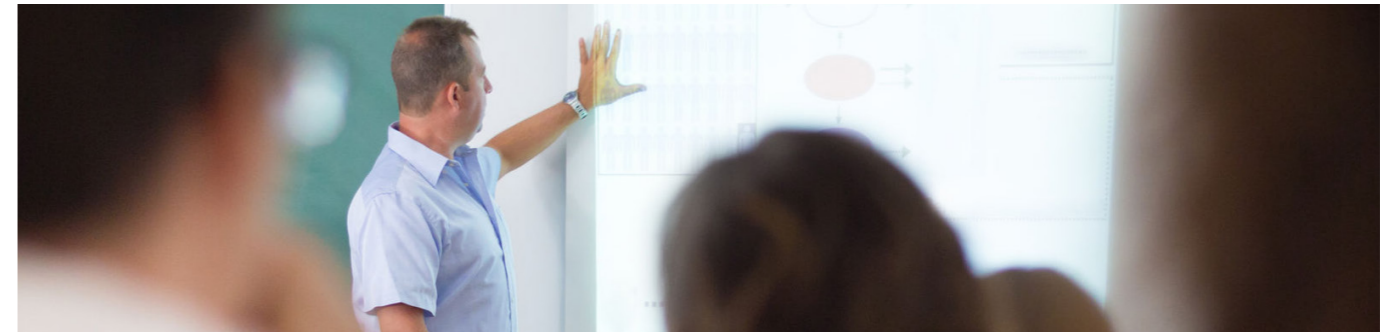
Conventional drives with power supply and inverter inside a control cabinet remain an essential automation solution.

On the contrary: regardless of where computing and controlling take place, the surefire recipe for efficiency gains is to combine both solutions, thereby combining the benefits of each.

That is why AMKmotion relies on the flexibilization of automation technology and, in particular, on the combinability of the various system architectures.

These hybrid automation solutions offer unforeseen opportunities for machine design and are set to become the standard in automation technology.

AMKmotion also develops and manufactures special customized motors to meet your individual requirements.



## Consulting

We support you with individual and project-based consultation on your drives and controls. This saves you valuable engineering resources and costs.

## Training

Our extensive training programme on the subject of drive and control technology includes a diverse range of options in both theory and practice – either at our training centre or on your premises.

We offer everything from basic training courses to expert workshops, including individual project-optimized training on request.

## Service

Comprehensive service is a matter of course as far as we are concerned. Whenever you need support, our specialists are there for you – from planning and design to installation and start-up. Including programming and operation of a machine or retrofitting systems.

## Centralized

## Decentralized

# AIPEXPROv3

ENGINEERING TOOL

**Motion Controller** A-series

**Power Supply** KE KHY

**Inverters** KW KW-R

**Servo motors**

iSA

iC

iDT

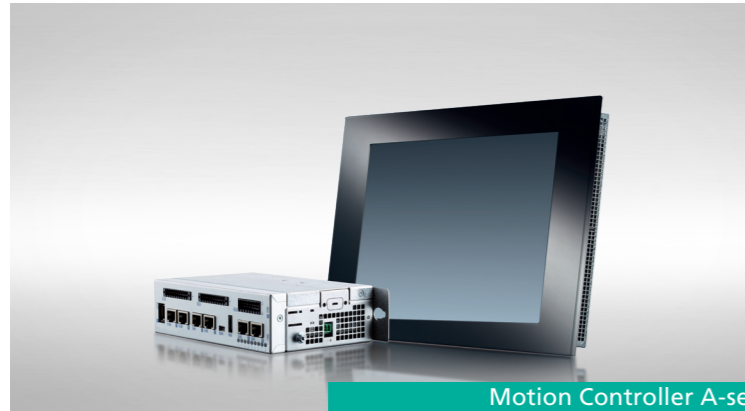
iX

ihXT

Safety over EtherCAT

Servo motors

## Central Drive Solutions



Motion Controller A-series

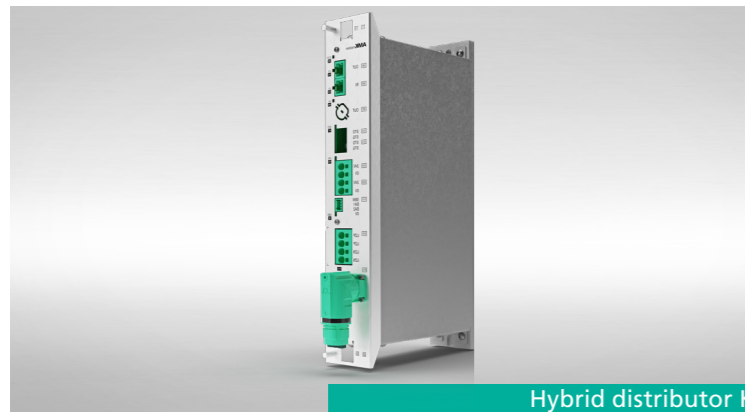
The **motion controllers of the A-series** are available as compact switch cabinet motion controllers and include programming in Codesys, visualization and motion control in one. The A-series ensures high-precision synchronization of servo axes – even across multiple levels.



KE/KW compact power supply & inverter

The compact **KE power** supplies generate the DC link and, depending on the design (KES), can feed energy back to the supply system in sinusoidal form.

The DC link supplies the modular **KW inverters**. The KW series is available in a power range of 1 kVA to 200 kVA. With scalable controller cards, they provide just the right performance and if needed also functional safety for all applications in mechanical engineering.



Hybrid distributor KHY

The **hybrid distributor KHY** is the interface between the central and decentralized drive technology. Fuses are integrated for short-circuit and overload protection. In addition, the KHY monitors the DC link current and the decentralized drive train via an I<sup>2</sup>t counter. The connection technology is matched with the decentralized drive solutions. It is available as hybrid cable or two-cable technology. An existing switch cabinet solution can be expanded with the addition of one or more KHYs. This intelligent T-branch enables the construction of decentralized star topologies.



Servo motors up to 150kW

The **synchronous servo motors** are impressive due to their extremely high power density with efficient cooling methods in forced-ventilation, convection-cooled, and liquid-cooled designs. The different motor series offer motors of various kinds in terms of stall torque, continuous stall torque, and acceleration.

The **SKT hollow-shaft motors** are used with a screw-nut system as linear drives. Like the ready-for-installation SEZ electric cylinders, they are ideal for linear applications with high forces and involving high positioning accuracy.

## Decentral Drive Solutions

The decentralized drive solutions can be operated in a hybrid manner in connection to a centralized switch cabinet or as stand-alone units without a switch cabinet:

The decentralized **iSA motion controller** performs the complete control of a machine segment. Furthermore the iSA can be used as a gateway to higher-level controllers. For automation completely free of switch cabinets, it has an integrated incoming power supply that generates the DC voltage for connected servo axes.



iSA decentralized motion controller

The decentralized **iC converter** powers an axis up to 5KVA. Additionally, it provides a DC link and 24V for additional servo inverters.

The **iX** is a decentralized **inverter** for installation directly at the motor. It can be supplied with the DC voltage in a decentralized manner or from the central switch cabinet.

In the case of the **iDT**, the motor and the inverter are a compact unit, meaning there is no need for a motor or encoder cable.



iC, iX & iDT decentralized servo drives

The **inverter-integrated ihXT** servo motors are the latest members of the decentralized product family. They are equipped with a hybrid cable that combines the DC bus, real-time Ethernet communication, STO, and 24 V. With the convenient daisy-chain option and an innovative plug-in terminal system (in IP 65), up to 40 axes can be connected in series. This saves up to 90% on the cost of installation.



ihXT decentralized servo drive

For the decentralized drive technology, **synchronous servo motors** are available from AMKmotion's large range of motors in the suitable power range of 150 W to 5 KW.



Servo motors up to 150kW

### Centralized Automation

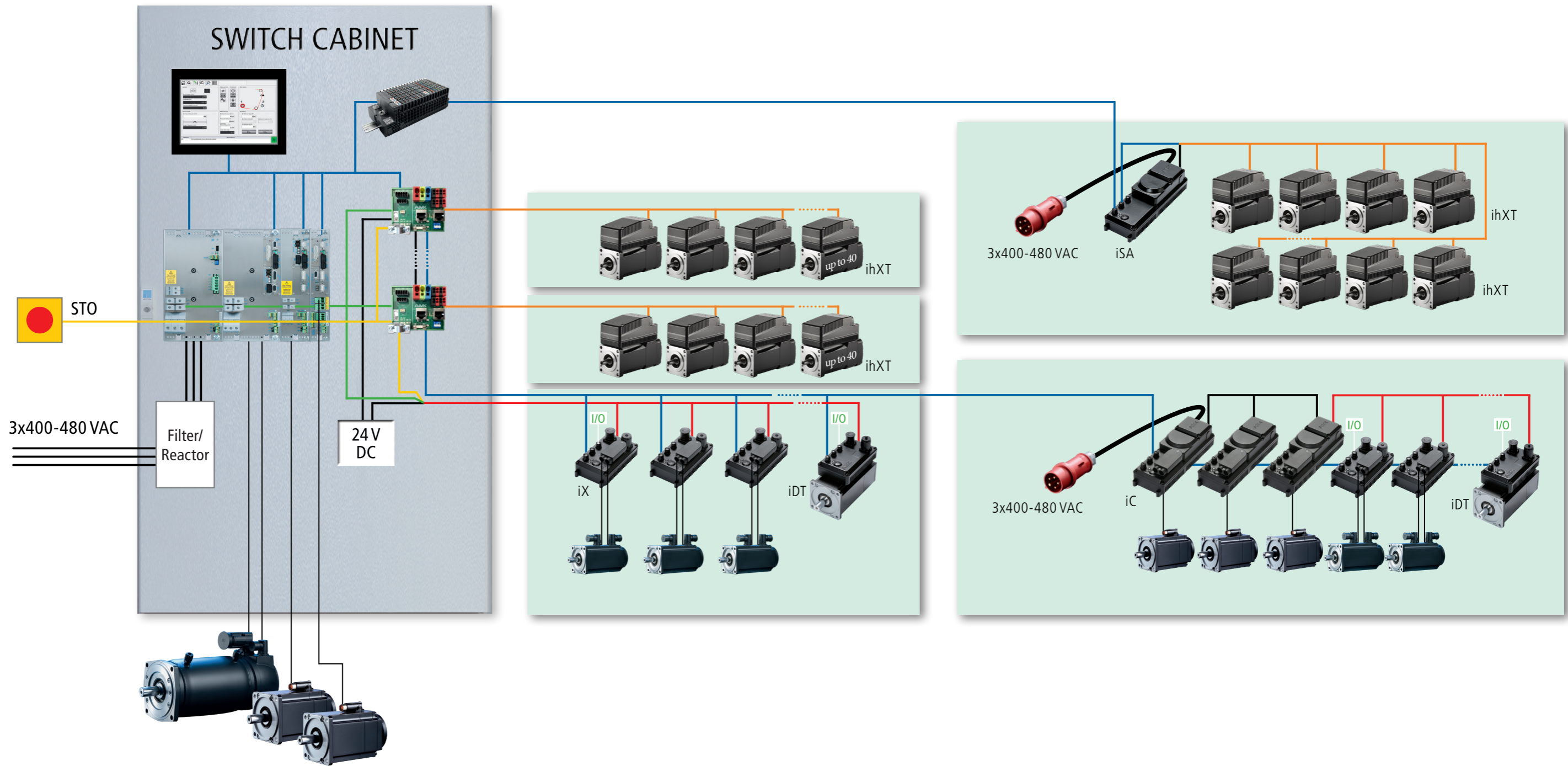
- Centralized power supply
- Centralized motion controller
- Centralized inverter

### Hybrid Automation Solution

- Centralized power supply
- Centralized motion controller
- Hybrid distributor
- Decentralized inverter

### Dezentralized Automation

- Decentralized power supply
- Decentralized motion controller
- Decentralized inverter



— Real-time Ethernet (EtherCAT, VARAN, Sercos III) as gateway (Ethernet, Profibus, Ethernet/IP)  
 — Decentralized power supply (DC bus, 24VDC, STO)

— DC bus  
 — Hybrid cable (DC bus, Real-time Ethernet, 24 VDC, STO)

# Your solution partner: Our drive for your technology leadership

AMKmotion is a developer and manufacturer of electric drive systems and sees itself as a long-term partner in the field of industrial mechanical engineering and plant engineering.

The company's aim is to help its customers achieve technological leadership by integrating individual and sustainable solutions.

The basis for this is AMKmotion's hands-on mentality, combined with expertise acquired in more than 60 years of company history. We

attach particular importance to personal advice and trusting cooperation with customers.

The company was founded in 1963 as AMK Arnold Müller GmbH & Co KG. It has belonged to the Arburg family since 2021 and has operated under the name AMKmotion GmbH + Co KG since then. The portfolio includes electric drive technology, control technology and industrial automation technology.

AMKmotion has a total workforce of 500 people. In addition to its headquarters in Kirchheim unter Teck (Germany), AMKmotion has production sites in Weida (Thuringia, Germany) and in Gabrovo (Bulgaria), as well as twelve branch offices around the world.

## AMKmotion GmbH + Co KG

Gaußstraße 37-39  
73230 Kirchheim unter Teck  
Germany

Phone +49 7021 5005-0  
Fax +49 7021 5005-199

info@amk-motion.com  
www.amk-motion.com

The information in this brochure serves only as a product description for a series of products. Deviations are possible due to specific product features and ongoing development activities. Before using the data for calculation or design purposes, you should enquire about the current status and request product-specific dimension drawings and data sheets.

Subject to technical modifications