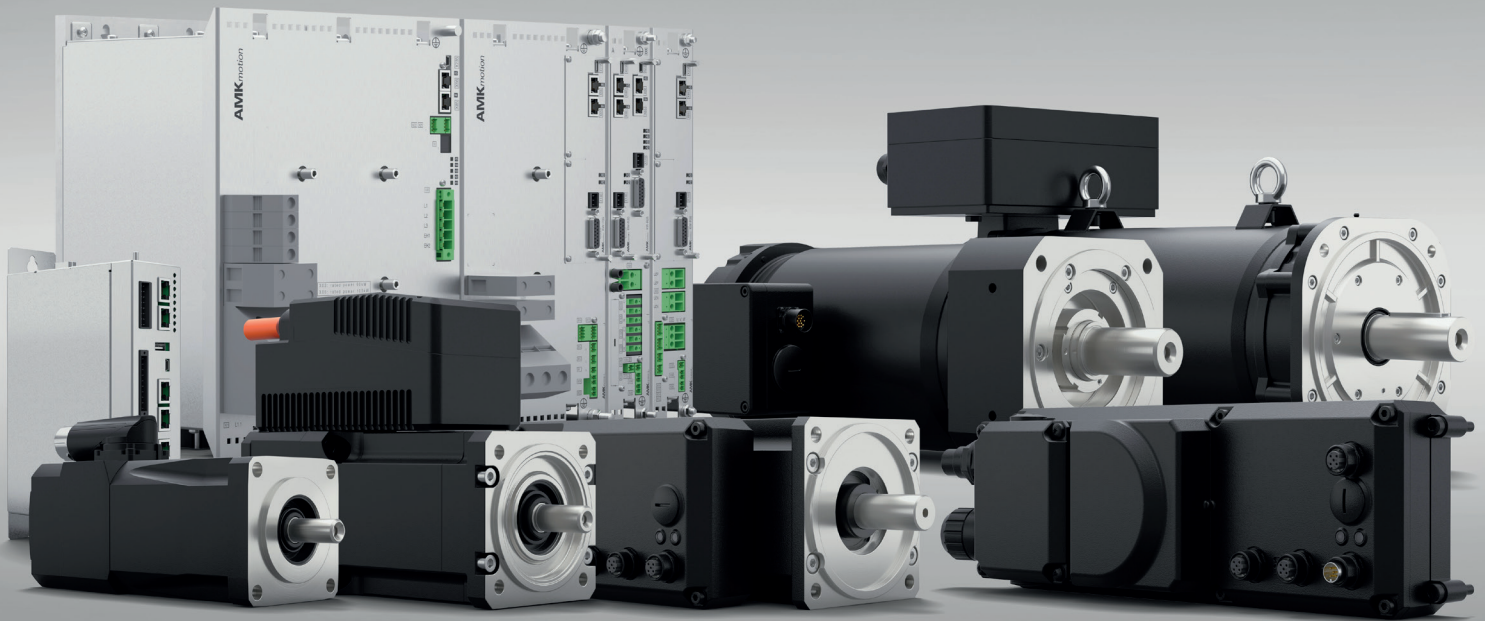


Hybrid Automation Solutions



Flexible & combinable

As a result of modularization in mechanical engineering, processes are functionally and spatially divided into subprocesses. This means that drives are moving increasingly 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 switch cabinet remain an essential automation solution.

So regardless of where computing and controlling take place, the ideal solution for efficiency gains is to combine the two solutions, thereby ensuring the best of both worlds.

This is why AMKmotion focuses on making automation technology more flexible, in particular making the various system architectures combinable. Set to become the standard in automation technology, these hybrid automation solutions offer a whole new range of opportunities for machine design.

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

All AMKmotion drives support the safety function STO. Components can also be equipped with functional safety.

Centralized drive solutions

Motion controller



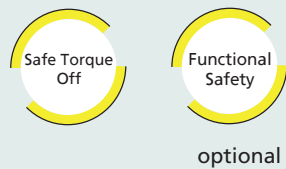
A series

Power supply



KE

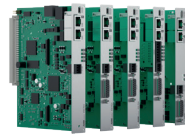
Inverter



optional

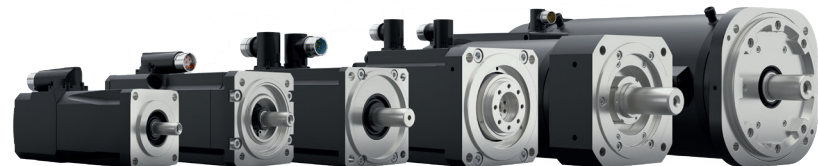


KW



KW-R

Servo motors



Consulting

We support you in using your engineering resources efficiently, taking the pressure off your planning and design department. Choosing the right system components is crucial to creating an efficient and economical solution that meets your specific requirements. With our experience and expertise, we help you achieve long-term technological success in project planning and design.



Training courses

Our comprehensive training program on the theory and practice of drive and control technology gives you various training options: either at our training center or on site on your premises. The options range from basic training to expert workshops and individual training courses.



Service

As far as we are concerned, a comprehensive service is the norm. Our specialists are there for you whenever you need support – from planning and design to installation and start-up, including programming and operation of a machine or retrofitting systems.

Hybrid drive solutions

AIPEX5

Engineering tool



KHY

Decentralized drive solutions



ISA



ihP



iC



iX



ihD*



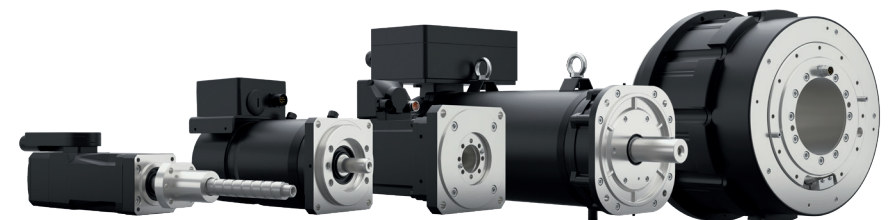
iDT 5



ihD-DT5*



ihXT*



*with hybrid cable connection

Centralized drive solutions

The centralized drive solutions are operated in conjunction with a central switch cabinet.



Motion controllers A series



Compact power supply & compact inverter KE/KW



Hybrid distributor KHY



Servo motors from 280 W to 150 kW

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

The **compact power supplies KE** generate the DC bus and, depending on the version (KES), can also feed energy back into the grid in sinusoidal form. These devices are available in power ratings from 5 to 180 kW.

The DC bus supplies the modular **compact inverters KW**. The KW series is available as single and double-axis modules in power ratings from 1 kVA to 200 kVA. With the scalable controller cards, they offer exactly the right performance as well as functional safety (FSOE) for all applications in mechanical engineering as required.

The **hybrid distributor KHY** is the intelligent interface between centralized and decentralized drive technology. Safety fuses are integrated for short-circuit and overload protection. In addition, the KHY monitors the DC bus current and the decentralized drive train via an I²t counter. Switch-off response can be configured individually.

The connection technology is matched to the decentralized drive solutions and 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. The hybrid distributor enables the creation of decentralized star topologies in the existing EtherCAT network.

The **synchronous servo motors** offer an extremely high power density featuring efficient cooling methods, with convection-cooled, forced-ventilation and liquid-cooled versions available. The various motor series offer a range of different characteristics in terms of continuous torque, maximum torque and acceleration capacity.

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

Decentralized drive solutions

The decentralized drive solutions can be operated on a hybrid basis, i.e. in conjunction with a central switch cabinet or without a switch cabinet.

The decentralized **power supply with integrated motion controller iSA** has an output of 5 kW continuous load and takes over the entire control of a machine segment. In addition, the iSA can be used as a gateway to higher-level controllers.

The well-established iSA has been further evolved to create the **decentralized power supply ihP**. This increases the output to 8 kW continuous load and simplifies handling: in the ihP, the power and data cables are combined in a hybrid connector, so downstream drives can be installed quickly and easily via plug-and-play.

In the **iDT5**, the **synchronous servo motor and inverter** are combined to form a compact unit, so there is no need for a motor and encoder cable.

The **iX** is a **decentralized servo inverter** for installation close to the motor. It can be supplied both on a decentralized basis and from the central switch cabinet.

The **decentralized servo inverter iC** can supply one axis with up to 5 kVA while also providing a DC bus for additional servo inverters.

The **decentralized servo inverter with hybrid cable connection ihD** offers a triple overload for one second with a continuous power output of 5 kVA. The ihD is available as a standalone version or mounted on the DT motor series as the ihD-DT5.

The distinctive feature of the decentralized ihD servo inverter is its hybrid cabling concept. A single cable transmits power, STO (Safe Torque Off), 24 volts and communication in equal measure, connecting all interlinked components using the daisy chain method. This significantly reduces installation effort.

The most compact members of the decentralized product family are the **synchronous servo motors with integrated inverter ihXT**. They are equipped with hybrid cables that combine the DC bus with real-time Ethernet communication, STO and 24 V.

Up to 40 drives can be connected via the daisy-chain option and innovative plug-in terminal technology in IP65, thereby reducing installation costs by up to 90%.



Decentralized power supply with integrated motion controller iSA and ihP



Decentralized servo inverter iX, synchronous servo motor with integrated inverter iDT5 and decentralized servo converter iC



Synchronous servo motor with integrated inverter iDT5 and decentralized servo inverter with hybrid cable connection ihD-DT5



Synchronous servo motors with integrated inverter ihXT

Centralized automation

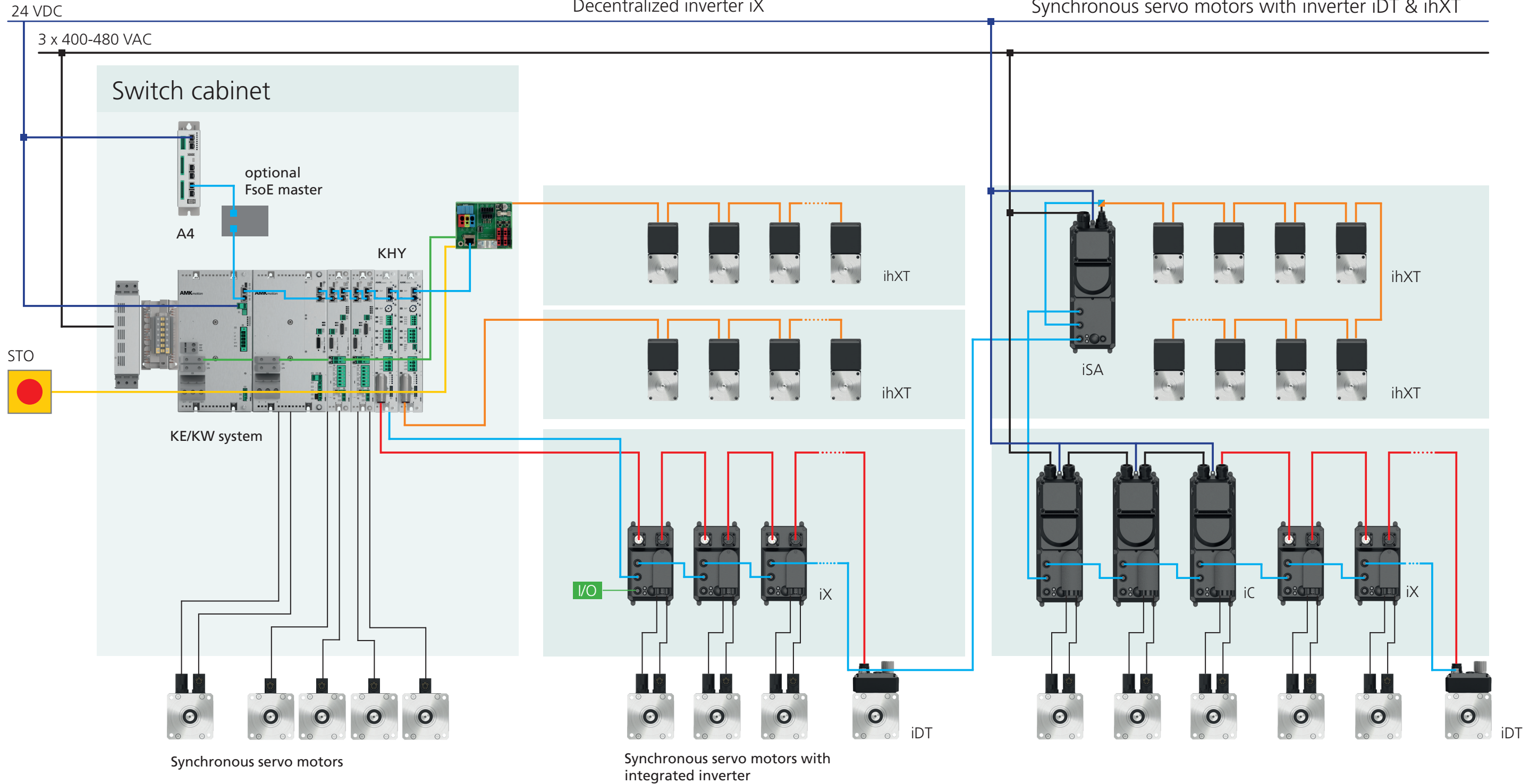
- Central motion controller A4
- Central power supply KE
- Central inverter KW

Hybrid automation

- Central motion controller A4
- Central servo drive system KE/KW
- Hybrid distributor KHY
- Decentralized inverter iX

Decentralized automation

- Decentralized motion controller iSA
- Decentralized converter with power supply iC
- Decentralized inverter iX
- Synchronous servo motors with inverter iDT & ihXT



- Real-time Ethernet (EtherCAT, VARAN) as gateway (Ethernet, Profibus, Ethernet/IP)
- Decentralized power supply (DC bus, 24 VDC, STO)
- DC bus
- Hybrid cable (DC bus, real-time Ethernet, 24 VDC, STO)

YOUR SOLUTION PARTNER

Our drive for your technology leadership

AMKmotion specializes in the development and manufacture 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. In addition to its headquarters in Kirchheim unter Teck, AMKmotion has production sites in Weida (Thuringia) 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

info@amk-motion.com

www.amk-motion.com