Decentralized drive technology

iSA

Decentralized power supply with integrated motion controller for automation without switch cabinet

iSA
Motion control and energy recovery

Everything that is needed for completely decentralised machine automation:

Decentralized power supply with integrated motion controller iSA, synchronous servo motor with integrated inverter ihXT.

The decentralized power supply with integrated motion controller iSA from AMKmotion provides the basis for truly modularising machines, independent of switch cabinets.

The iSA includes a three-phase connection and offers both a DC bus supply for servo drives and an integrated 24 V supply and control intelligence. The iSA is a powerful motion controller with a Linux real-time operating system that provides decentralised intelligence. EtherCAT technology is used for cross-communication in master-slave operation and for general gateway functions. There are also optional connection possibilities for CAN, Profi net and Ethernet IP.
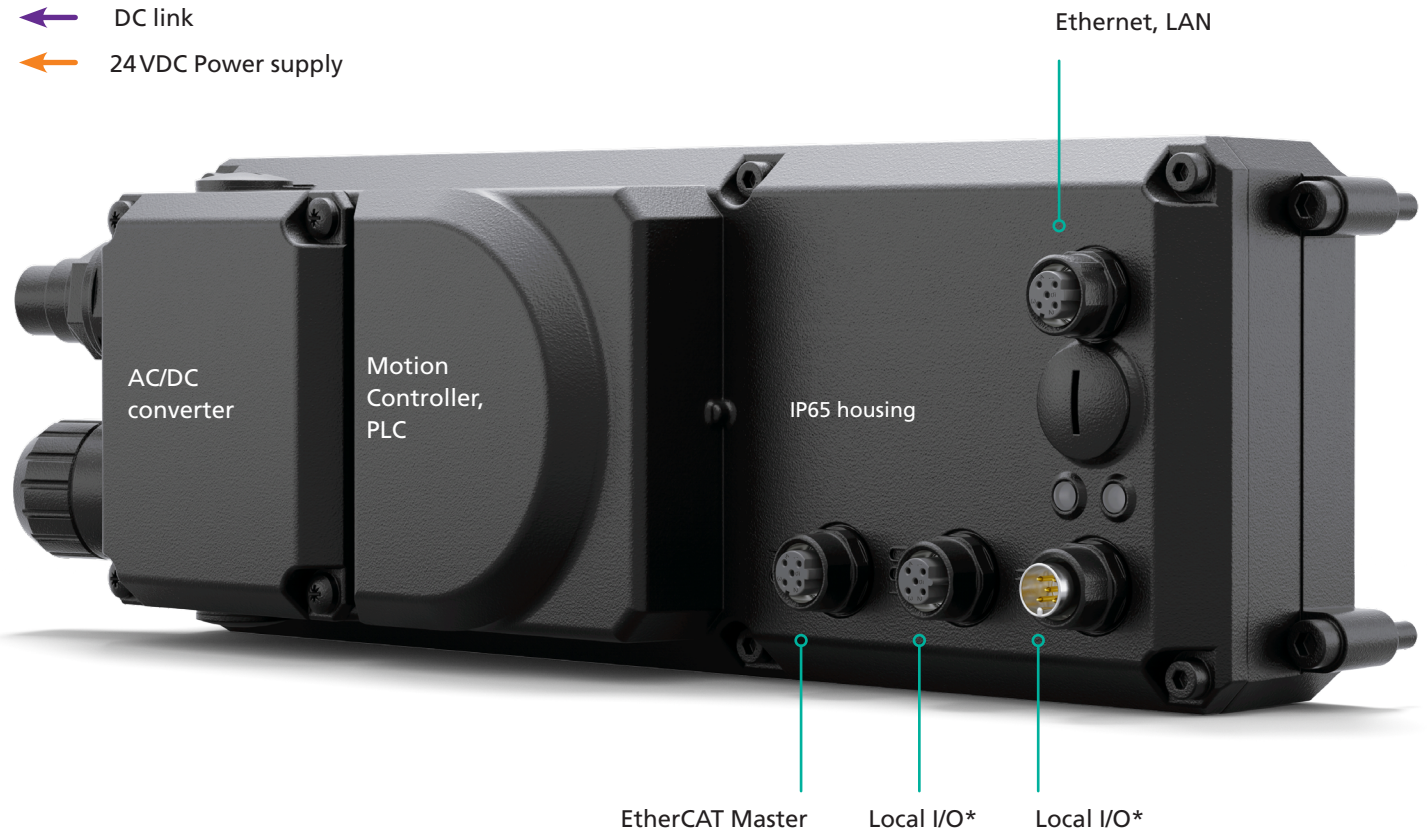
The iSA with IP65 protection provides design fl exibility and is ideal for modular machine construction, as the subsystems are connected by three-phase current and can be included in the control network via the real-time Ethernet interface.

Advantages

- Powerful motion controller
- DC power supply 5 kW
- 24 V / 3 A power supply
- Optional gateway functions
- PLC programmable according to IEC 61131-3

Product overview: Connections and interfaces

→ 3 x 400 VAC

← DC link

← 24 VDC Power supply

Ethernet, LAN

AC/DC converter

Motion Controller, PLC

IP65 housing

EtherCAT Master   Local I/O*   Local I/O*

*optional real-time Ethernet slave

Motion Control

Powerful motion control and techno-
logy functions for easy programming
of machines and plants, e.g:

- Virtual master axis
- Electronic cam
- Print mark control
- NC motion

The internationally renowned CODE-
SYS programming
platform enables programming in
accordance with IEC 61131-3.

24-V power supply

The 24 V / 3 A power supply for ad-
ditional modules is generated in the
integrated AC/DC converter.

PLC properties

- High-precision synchronisation of
  many axes
- with only one controller
- High-precision synchronisation of
  cross-communication
- in real time over several levels
- EtherCAT master and slave (op-
  tion)
- Data exchange with other pro-
  grams via OPC
- server, connection to ERP system
- Real-time Linux
- Non-volatile process data memory
  without
- battery
- No UPS required

DC power supply

- Power supply 3 x 400 VAC
- DC link output
- Rated current 8 A
- Mains filter
- Integrated braking resistor

Gateway

Gateway functionality for

- Profi net
- Ethernet/IP
- CAN, EtherCAT, CAN DS402

I/Os

4 digital inputs and outputs

Technical data

Processor	ARM11 with 500 MHz
RAM memory	256 MByte
Flash memory	256 MByte
Remanent memory	32 KByte
Ethernet	1 x 10/100 Mbits/s
Fieldbus Master	EtherCAT
Fieldbus Slave optional	ACC (CAN), EtherCAT, Profinet, Ethernet/IP
I/Os	4 digital I/Os
Programming	IEC 61131-3, CODESYS, optional PLCopen
Performance	50.000 Instructions/ms
Visualisation	iSA-VIS for WebVisu or Qt
Protection class	IP65
Ambient temperature	0 - 50°C
Power supply	integrated power supply unit
Input voltage in network	3 x 230...480 VAC ± 10%, 47...63 Hz
Voltage transmission DC bus	300 - 650 VDC
DC bus switch-off threshold	850 VDC
Rated current DC bus	10 A
Dimensions (LxWxH)	293 x 100 x 75.6 mm
Weight	2.2 kg

The information in this brochure is intended solely as a series product description. Deviations are possible due to specific products and continuous further developments. Before using data for calculations or designs, please check in advance the latest status and request product-specific dimension and data sheets. We reserve the right to make technical changes.

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