



AMKASYN iX.

The decentralised
servo controller solution.

AMK

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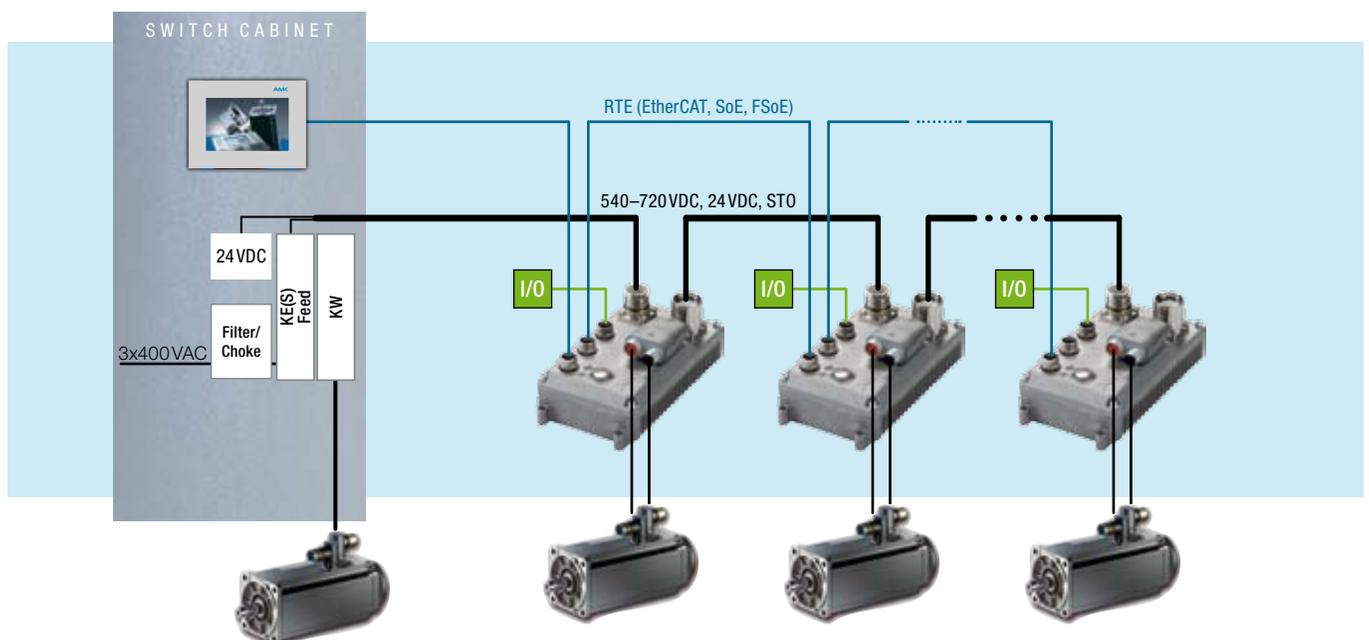
Features

- Servo controller in IP65 (with fan: IP54)
Version for decentralised assembly
- Encoder interface
 - E-, F-encoder, Endat 2.1
 - P-, Q-encoder, Endat 2.2 light
 - Analogue sin/cos 1Vss
- Realtime Ethernet fieldbus (EtherCAT)
- Power supply 540/720VDC
- Controller output power for motors up to max.10kW
- 5 multifunctional I/Os incl. 24VDC supply output
- Central STO (Safe Torque Off) PL d
- Functional safety optional

Functions

- Control of synchronous and asynchronous motors, linear and rotative
- Torque control
- Speed control
- Position control
- Software commutation
- Voltage/frequency control
- Cyclic filter
- Position setpoint filter
- Load model
- Homing cycle
- Parameter storage
- Monitoring
- Motor brake control

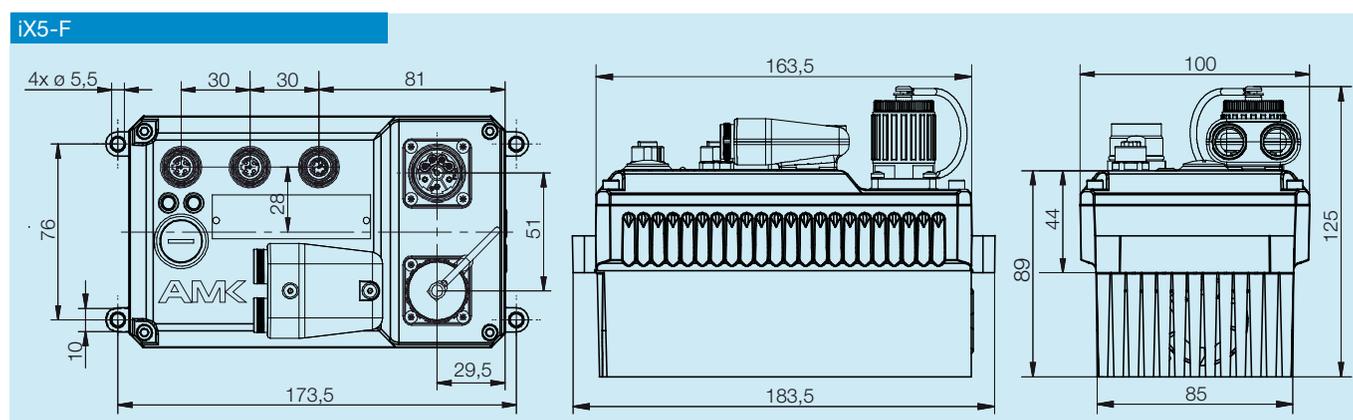
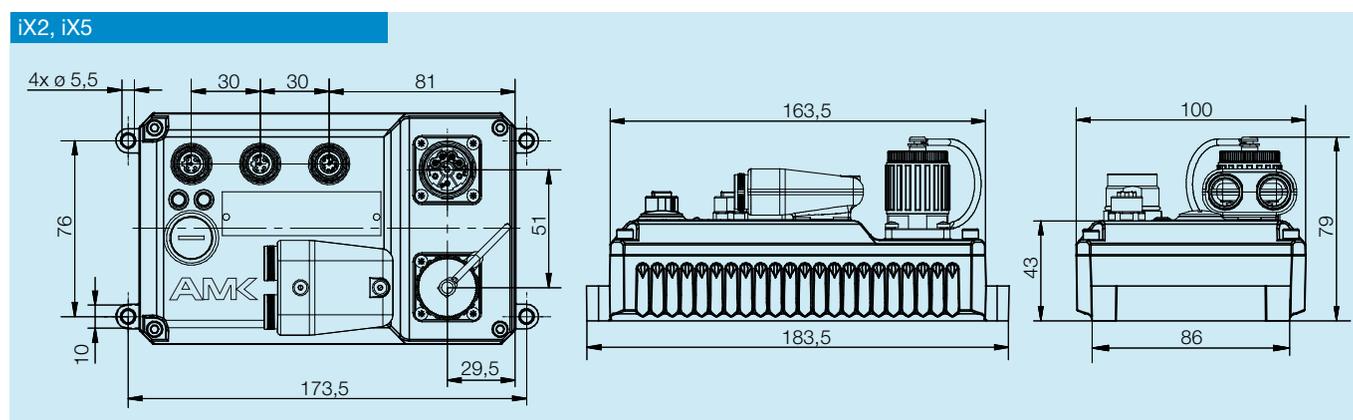
System structure



Technical Data

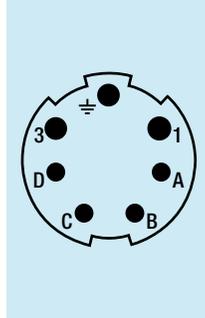
Controller type		iX2	iX5	iX5-F
Cooling		Convection cooling	Cold plate	Integrated air cooling
Assembly plate		No requirements	Cold plate	No requirements
Output rated power	kVA	2	5	5
Rated output current	A	3.3	8.2	8.2
Maximum output current (duration <1 s)	A	6.6	16.5	16.5
Rated output voltage (sine-wave)	V	3x350		
Output frequency	Hz	0–800		
DC bus input voltage	VDC	540–720		
Input voltage switch-off threshold	VDC	850		
DC bus connector rated current	A	25		
Electronics supply voltage	VDC	24V±15%		
Electronics power consumption (with I/Omax.)	W	6 (18)		14 (26)
Motor electronics efficiency	%	98		
Brake supply voltage	VDC	24V±15%		
Holding brake maximum current consumption	A	1		
Protection class		IP65	IP65	IP54
Dimensions (WxLxH) without socket/ connector height	mm	162x100x43	162x100x43	162x100x89
Weight	kg	0.8	0.8	1.2

Dimensions



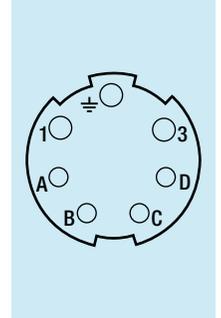
Power connection supply line (M23, 6-pin, pin)

PIN	Signal	Meaning
1	UZP	Positive DC bus voltage
3	UZN	Negative DC bus voltage
A	24V	24VDC electronics supply
B	0V	Electronics supply 0 V
C	24B	STO/24VDC supply Holding brake
D	0B	STO 0V/holding brake
Q	PE	Protective earth conductor on housing



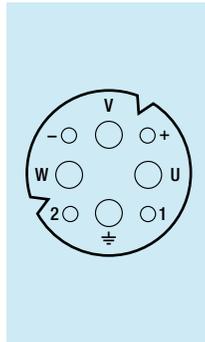
Power connection, transmission (M23, 6-pin, socket)

PIN	Signal	Meaning
1	UZP	Positive DC bus voltage
3	UZN	Negative DC bus voltage
A	24V	24VDC electronics supply
B	0V	Electronics supply 0V
C	24B	STO/24VDC supply Holding brake
D	0B	STO 0V/holding brake
Q	PE	Protective earth conductor on housing



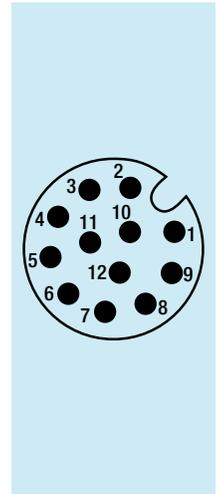
Motor connection iX (M16, 8-pin, socket)

PIN	Signal
U	U (1)
V	V (2)
W	W (3)
PE	PE
1	KTY84
2	KTY84
+	Brake +
-	Brake -



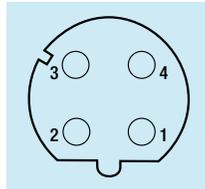
iX encoder connection (M12, 12-pin, pin)

PIN	Signal
1	G2I(Sin+)
2	0V
3	G2N(Sin-)
4	G1N(Cos-)
5	Data -
6	G1I(Cos+)
7	0V
8	Data +
9	5V
10	5V
11	Clk +
12	Clk -



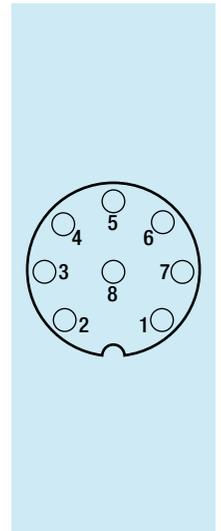
EtherCAT connection input and transmission (M12, 4-pin, socket)

PIN	Signal	Meaning
1	TX+	Transmission Data +
2	RX+	Receive data +
3	TX-	Transmission Data -
4	RX-	Receive data -



I/O pin assignment (M12, 8-pin, socket)

Pin	Signal	Description	Level
1	GND	Ground	-
2	BE1	Binary input	24V/8mA
	AE+	Analogue input not inverted	±10V/10-bit
3	BE2	Binary input	24V/8mA
	AE-	Analogue input inverted	±10V/10-bit
4	BE3	Binary input 3	24V/8mA
	BA1	Binary output 1	24V/max. 100mA
5	BE4	Binary input 4	24V/8mA
	BA2	Binary output 2	24V/max. 100mA
6	BE5	Binary input 5	24V/8mA
	BA3*	Binary output 3	24V/max. 250mA
7	Data+	ModBus/CAN high	Differential signal, 5V
8	Data-	ModBus/CAN low	Differential signal, 5V



* BA3 as voltage supply, parametrisable

AMK

AMK Arnold Müller GmbH & Co. KG
Drives and Controls

Postfach 1355
73221 Kirchheim/Teck, Germany

Gaußstraße 37-39
73230 Kirchheim/Teck, Germany

Phone: +49(0) 7021/5005-0
Fax: +49(0) 7021/5005-199

info@amk-antriebe.de
www.amk-antriebe.de