

Servo drive E°Darc K04E



Functional characteristics

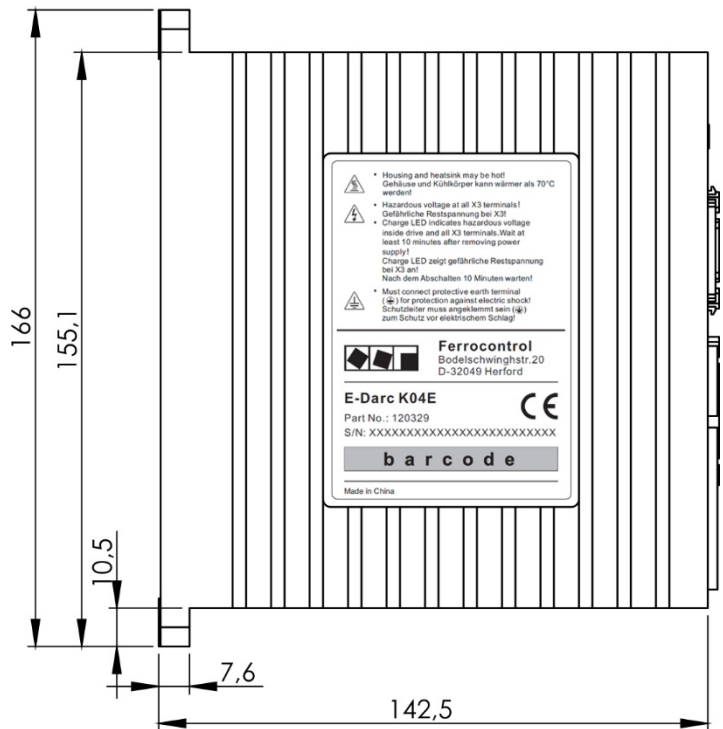
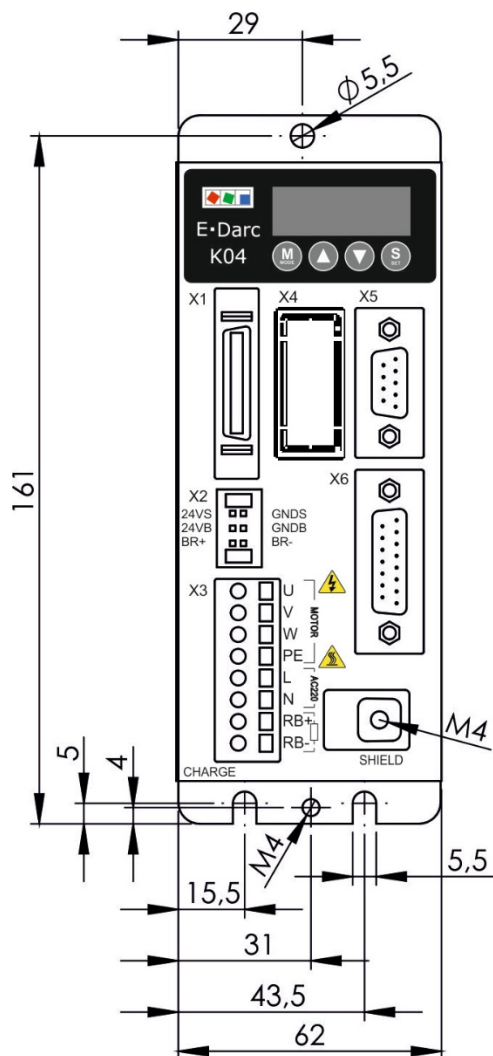
- Operation of synchronous and linear motors
- Communication via EtherCAT® bus following the CoE (CANopen® over EtherCAT) protocol, operation following CANopen® drive profile DS 402
- Reduced expenses and complexity due to standard Ethernet (Cat6) cabling
- Digital current, speed and position control with limitation of position, speed and torque
- Feedback: optical incremental encoders, 6 channels: ABZ + UVW, open-circuit detection and counting error detection; absolute encoder, singleturn and multiturn (battery-buffered)
- Monitors short circuits, voltage, temperature, encoder, lag error and I²t
- Parameters and setpoints set via EtherCAT® (CoE) or front-side input buttons
- Configurable digital in- and outputs
- Processes limit switches, several homing methods available
- Power stage release and error reset via digital inputs
- Status display and various settings via 7-segment-display and front-side input buttons

Article description

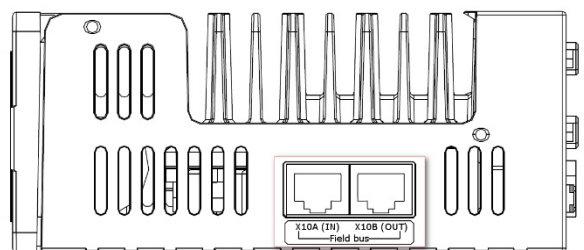
Designation	Item no.
E°Darc K04E	120329



Dimensions



Top side



All dimensions indicated in mm



Connections

X1 – Inputs/outputs

See Digital inputs and outputs

X2 – Supply and brake

Designation	Assignment
24VS	Control voltage 24 V
GNDS	Control voltage GND
24VB	Brake supply 24 V
GNDB	Brake supply GND
BR+	Brake +
BR-	Brake -

X3 – Power supply

Designation	Assignment
U	Motor phase U
V	Motor phase V
W	Motor phase W
PE	Protective earth
L	Line
N	Neutral
RB+	Braking resistor +
RB-	Braking resistor -

X5 – RS232

Pin	Designation	Assignment
1	NC	--
2	TX	Transmit data
3	RX	Receive data
4	NC	--
5	GND	Ground
6	NC	--
7	NC	--
8	NC	--
9	NC	--

X6 – ENCODER IN

Operated with incremental encoder:

Pin	Designation	Assignment
1	+5V	Supply voltage
2	A	A signal
3	B	B signal
4	Z	Z signal
5	U	U signal
6	V	V signal
7	W	W signal
8	PTC-IN	Motor temperature input
9	GND	Ground
10	/A	A signal
11	/B	B signal
12	/Z	Z signal
13	/U	U signal
14	/V	V signal
15	/W	W signal

X6 – ENCODER IN

Operated with absolute encoder:

Pin	Designation	Assignment
1	+5V	Supply voltage
2	NC	NC
3	NC	NC
4	NC	NC
5	NC	NC
6	NC	NC
7	SD	SD
8	PTC-IN	Motor temperature input
9	GND	Ground
10	NC	NC
11	NC	NC
12	NC	NC
13	NC	NC
14	NC	NC
15	/SD	/SD

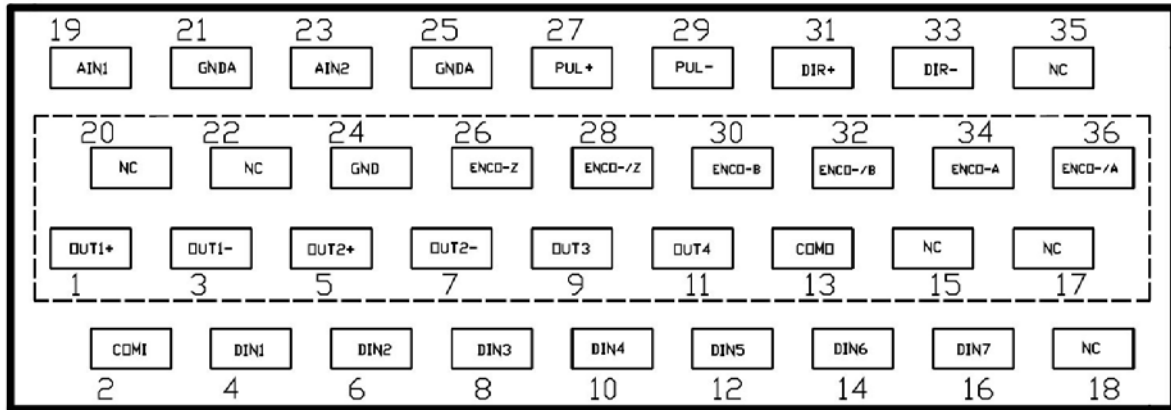
X10A/B – Fieldbus

Designation	Assignment
X10A (IN)	EtherCAT® input
X10B (OUT)	EtherCAT® output

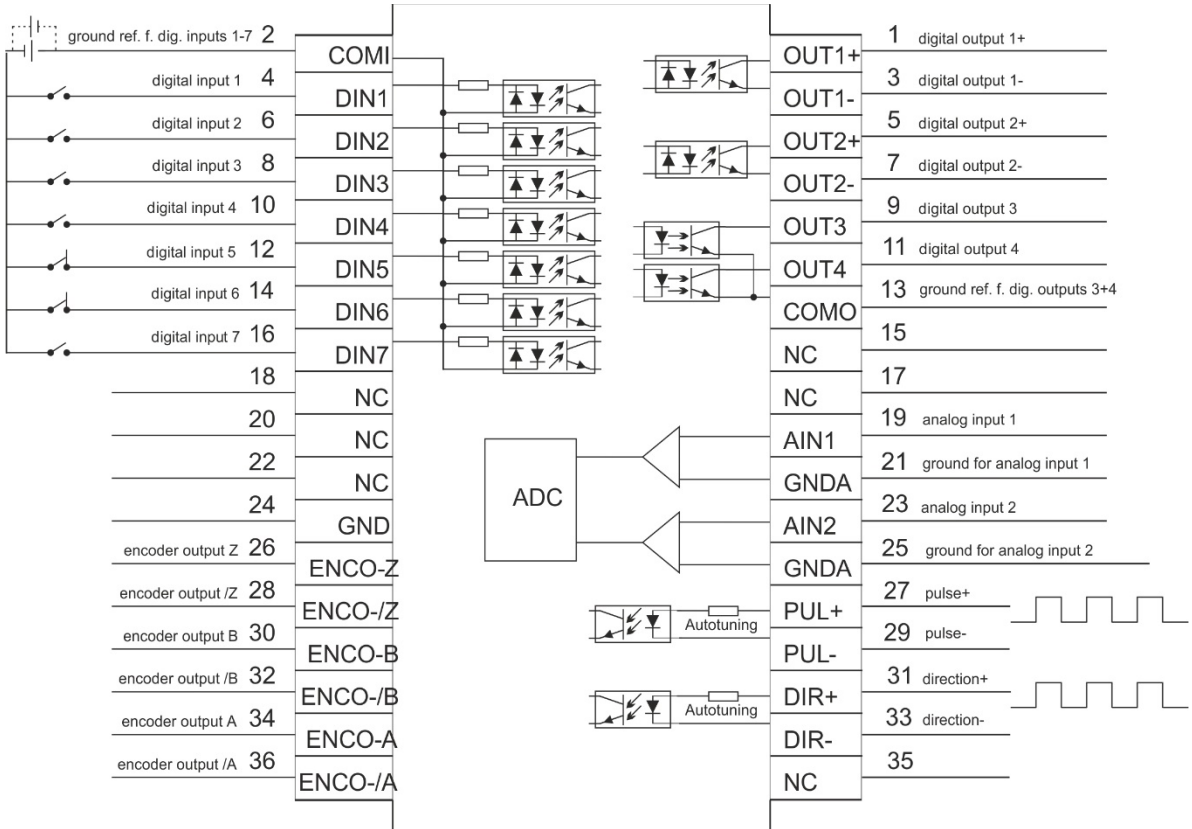


Digital inputs and outputs

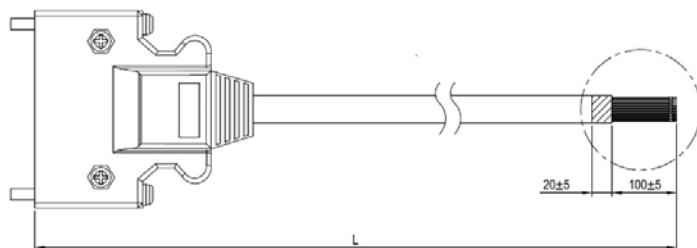
X1 – Connection layout



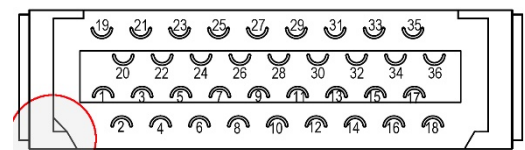
X1 – Connections



Cable (item no. 2252)



Connector



Technical data

Power supply	Main power supply	230 V AC +/-10%
	Power frequency	47 ... 63 Hz
	Control voltage	24 V (18 ... 30 V) DC / 1 A DC
Power	Nominal apparent power (max., depends on rated motor current)	1,6 kVA
	Power dissipation at 4 A _{RMS} continuous current /820 W el. power output	ca. 25 W
Motor output	Rated current I _{N (RMS)}	4 A _{RMS}
	Peak current I _{S (PEAK)}	15 A DC
Feedback	Incremental encoder	6 channels: ABZ + UVW, 5 V Max. input frequency: 8 MInc/s or 2 MHz
	Absolute encoder	Singleturn/multiturn (battery-buffered)
Digital inputs	DIN1 ... DIN7	Ground reference COMI
Digital outputs	OUT1, OUT2	Differential, floating
	OUT3, OUT4	Ground reference COMO
Analog inputs	AIN1, AIN2	Ground reference GNDA
Miscellaneous	Switching threshold for braking resistor	380 V DC +/- 5 V
	Overvoltage threshold	400 V DC +/- 5 V
	Undervoltage threshold	200 V DC +/- 5 V
	Cooling type	Convection
Ambient conditions	Ambient temperature (operational)	0 ... +40 °C
	Ambient temperature (storage)	-10 ... +70 °C
	Permitted air humidity	< 90% at 40 °C (non-condensing)
	IP code of case	IP20
	Mounting orientation	vertical
	Permitted operating altitude	Typ. 1000 m a. s. l.

Braking resistor

(68 Ω/100 W, item no.: 119159)

