

Servo drive E°Darc K10



Functional characteristics

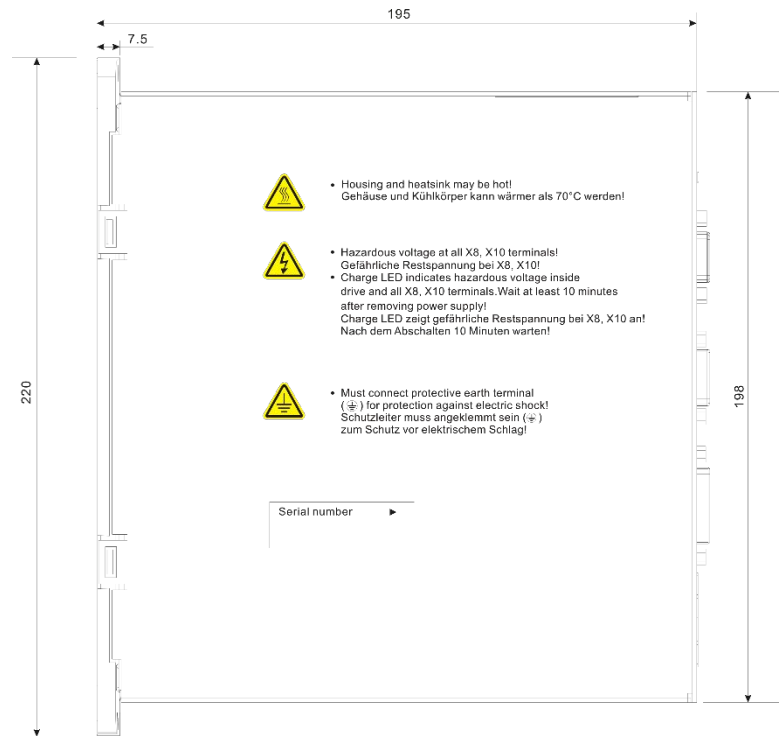
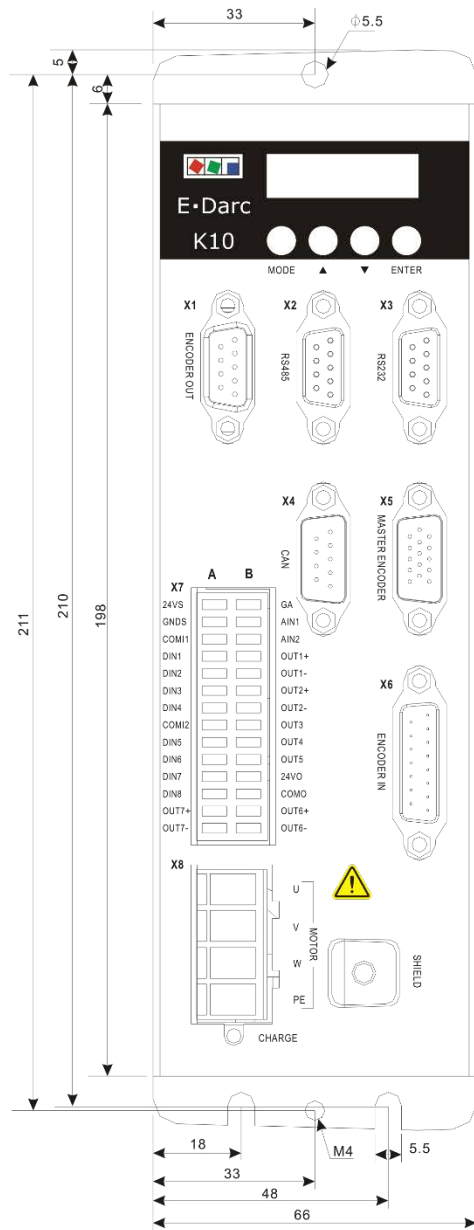
- Operation of synchronous and linear motors
- Interpolated operation via CANopen
- Digital current, speed und position control with limitation of position, speed and torque
- Feedback: optical incremental encoder, RS422, 6 channels: ABZ + UVW, open-circuit detection and counting error detection; absolute encoder, singleturn and multiturn (battery-buffered)
- STO (Safe Torque Off)
- Monitors short circuits, voltage, temperature, encoder, lag error and I^2t
- Communication via RS232, RS485 or CANopen
- Parameters and setpoints set via CANopen or front-side input buttons
- Configurable digital in- and outputs
- Processes end 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 K10	119657



Dimensions



All dimensions indicated in mm



Connections

X1 - ENCODER OUT

Pin	Designation	Assignment
1	+5V	Power supply
2	A	Output of A phase signal
3	B	Output of B phase signal
4	Z	Output of Z index signal
5	Z2	Open collector output
6	GND	Ground
7	/A	Output of A phase signal
8	/B	Output of B phase signal
9	/Z	Output of Z index signal

X2 – RS485

Pin	Designation	Assignment
1	NC	--
2	RX	Receive data
3	TX	Send data
4	NC	--
5	GND	Ground
6	+5V	Power supply
7	/RX	Receive data
8	/TX	Send data
9	NC	--

X3 – RS232

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

X4 – CAN

Pin	Designation	Assignment
1	NC	--
2	CAN_L	CAN low
3	GND	Ground
4	NC	--
5	NC	--
6	NC	--
7	CAN_H	CAN high
8	NC	--
9	NC	--

X5 – MASTER ENCODER

Pin	Designation	Assignment
1	+5V	Supply voltage
2	GND	Ground
3	NC	--
4	Pul+/A1+/CW+	Pulse, A1 signal encoder input
5	Pul-/A1-/CW-	
6	Z	Z signal encoder input
7	B	B signal encoder input
8	A	A signal encoder input
9	Z1	Z1 signal encoder input
10	DIR+/B1+/CCW+	Pulse, B1 signal encoder input
11	/Z	
12	/B	B signal encoder input
13	/A	A signal encoder input
14	/Z1	Z1 signal encoder input
15	DIR-/B1-/CCW-	Pulse, B1 signal encoder input

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



Connections (cont.)

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

X7 – (see next page)

X8 – Motor

Pin	Assignment
U	U
V	V
W	W
PE	PE

X9 – STO

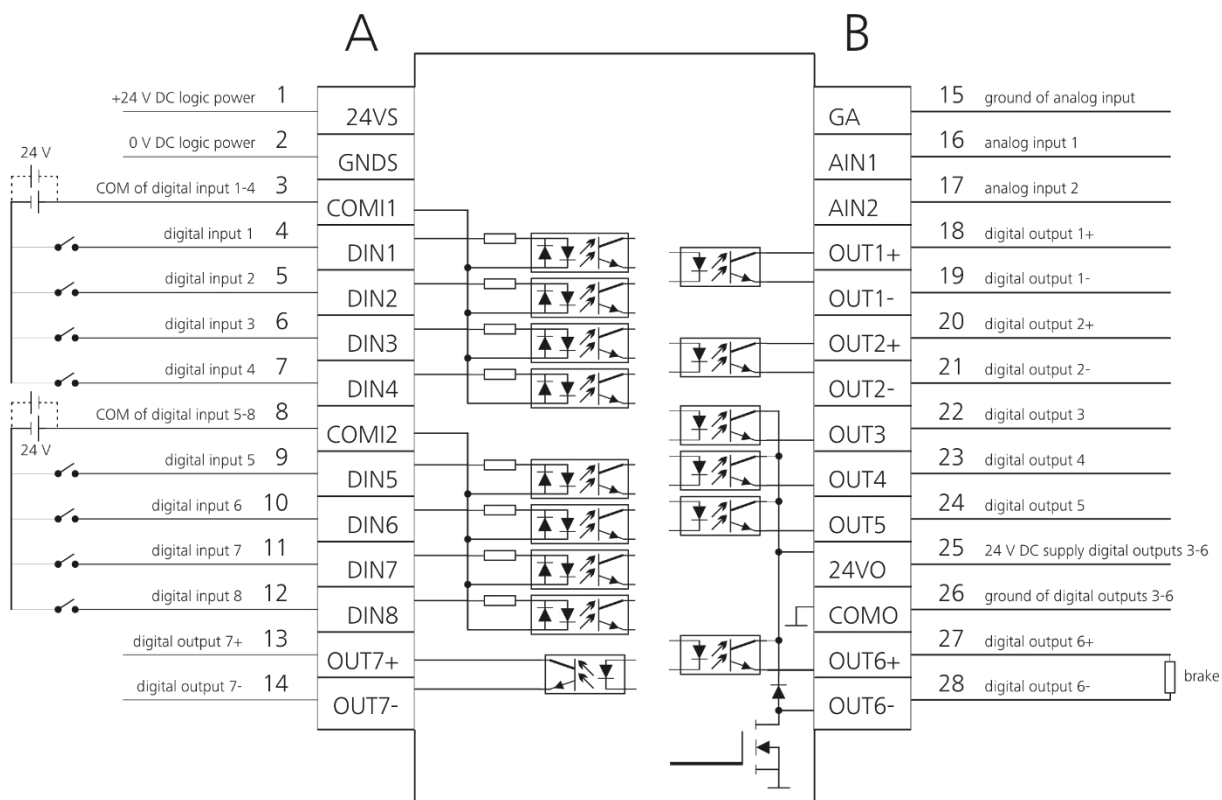
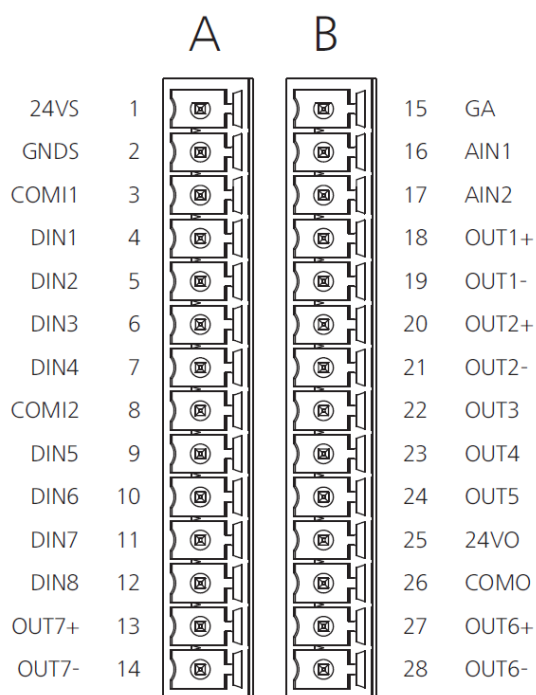
Pin	Assignment
24V	NC
STOA+	STO input A
STOA-	
STOB+	STO input B
STOB-	
GND	NC

X10 – Power supply and braking resistor

Pin	Assignment
R	Main power supply (230 V AC)
S	
T	
RB-	Braking resistor
DC+/RB+	Braking resistor +/DC link +
DC-	DC link -



X7 – Pinout and wiring



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
	STO power supply	24 V (18 ... 30 V) DC
Power	Rated apparent power (max., depending on rated motor current)	4 kVA
	Power dissipation at 11 A _{RMS} continuous current/2000 W el. power output	ca. 70 W
Motor output	Rated current I _{N (RMS)}	10 A _{RMS}
	Peak current I _{S (PEAK)}	27.5 A DC
Feedback	Incremental encoder	RS422, 6 channels: ABZ + UVW, 5 V Max. input frequency: 8 MInc/s or 2 MHz
	Absolute encoder	Singleturn/multiturn (battery-buffered)
Digital inputs	DIN1 to DIN4	Ground reference COMI1
	DIN5 to DIN8	Ground reference COMI2
Analog inputs	ANIN1, ANIN2	Ground reference GA
Digital outputs	OUT1, OUT2, OUT7	differential, floating
	OUT3 to OUT6	Ground reference COMO
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 and fan
Ambient conditions	Ambient temperature (operational)	0 ... +45 °C
	Ambient temperature (storage)	-10 ... +55 °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.