

Servo amplifier

mcDSA-E27-EtherCAT

Article number: 1511114



Picture similar

Technical data

Supply voltages	
Electronic supply voltage Ue*1	9..30 V
Electronic current consumption@ Ue=24V*2	typ. 70 mA
Power supply voltage Up*3	9..60 V
Output current	
Max. output current	100 A
Continuous output current @ Up=24V*4	35 A
Continuous output current @ Up=48V*4	26 A
PWM	
Output voltage	100% Up
PWM frequency	25, 32*5, 50 kHz
Mechanical	
Size LxWxH	111 x 100 x 54 mm
Weight	580 g
Environment	
Protection class	IP20
Ambient temperature (operation)*6	-40..70 °C
Ambient temperature (storage)	-40..85 °C
Rel. humidity (non-condensing)	5..90 %
CAN bus	
Protocol	DS301
Device profile	DS402
Max. baudrate	1 Mbit/s
CAN specification	2.0B
Galvanically isolated	yes
EtherCAT	
Type	EtherCAT Slave
Physical layer	100 Base-Tx EtherCAT
Bus controller	ET1100
Max. baudrate	100 Mbit/s
Number of ports	2xRJ45 (In,Out)
Protocol	CoE (CANopen over EtherCAT)

Sensor supply (Encoder)	
Output voltage	5 V
Max. output current	0.2 A
Encoder	
Type	sin / cos
Signals	+Sin,-Sin,+Cos,-Cos
Resolution	13 bit per sine period
Input voltage	1 V peak-peak, differential
Signal type	sine/cosine, analog, differential
Digital inputs	
Number - digital inputs	7 (Din0..6)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	2 (Dout0..1)
Continuous output current	1.5 A
Load	resistive, inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	2 (Ain0..1)
Signal type - Ain0	+/- 10 V, 12 Bit, differential
Signal type - Ain1	+/- 10 V, 12 Bit, single ended

*1 No reverse polarity protection, the destruction limit is at overvoltage of $\geq 33V$ or short-term peak voltage of $37V < 1s$

*2 power amplifier switched off, 5V output (sensor supply) is free

*3 No reverse polarity protection, the destruction limit is at overvoltage of $\geq 80V$ *4 connector cable with max. possible cable cross-section, PWM frequency 25 kHz, ambient temperature 40 °C ($t > 40$ °C derating), RMS current: 35 A $\rightarrow$ 28.5 Aeff, 26 A $\rightarrow$ 21.2 Aeff

no guarantee, since value is determined empirically, please consider the application notes to determine the continuous current

*5 default value

*6 Hex-Switches should be not used at $T < -25^{\circ}C$ (setting of node ID only possible by firmware parameters)

Additional technical data are available in mcManual.



miControl® GmbH

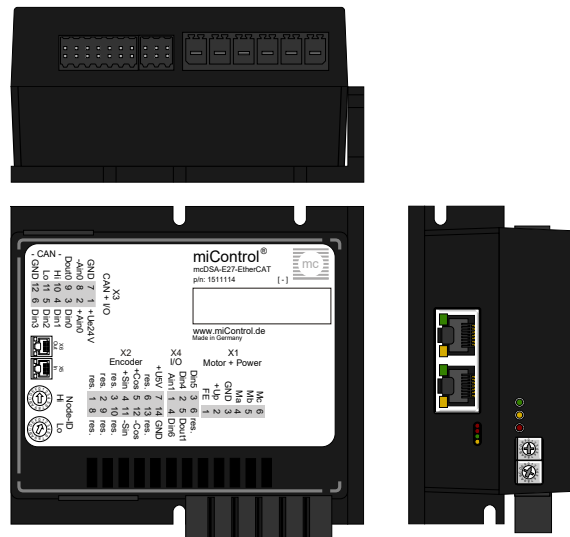
Chausseestraße 34

14979 Großbeeren (bei Berlin)

Copyright 2024 by miControl® - Modifications and errors excepted
mcDSA-E27-EtherCAT - PV1.13.00.00 / DV1.00.00.02

Web: www.miControl.de e-mail: info@miControl.de Tel.: +49 (3379) 312 59-0 Fax: +49 (3379) 312 59-19

Scheme



©2023 by miControl

Terminal assignment

X1	Motor	
1	FE	Functional earth
2	+Up	Power supply voltage
3	GND	Ground for power supply voltage
4	Ma	Motor phase A
5	Mb	Motor phase B
6	Mc	Motor phase C
X2	Encoder	
1	res.	Reserved
2	res.	Reserved
3	res.	Reserved
4	+Sin	Encoder, plus sine signal
5	+Cos	Encoder, plus cosine signal
6	res.	Reserved
7	+U5V	5V output voltage for sensor supply Sensors: encoder
8	res.	Reserved
9	res.	Reserved
10	res.	Reserved
11	-Sin	Encoder, minus sine signal
12	-Cos	Encoder, minus cosine signal
13	res.	Reserved
14	GND	Ground for sensor supply Notice: don't connect with system GND
X3	I/O's and CAN	
1	+Ue24V	Electronic supply voltage
2	+Ain0	Analog input 0, plus
3	Din0	Digital input 0
4	Din1	Digital input 1
5	Din2	Digital input 2
6	Din3	Digital input 3
7	GND	Ground for electronic supply voltage
8	-Ain0	Analog input 0, minus
9	Dout0	Digital output 0
10	CAN Hi	CAN High
11	CAN Lo	CAN Low
12	CAN GND	CAN Ground

X4	I/O's	
1	Ain1	Analog input 1
2	Din4	Digital input 4
3	Din5	Digital input 5
4	Din6	Digital input 6
5	Dout1	Digital output 1
6	res.	Reserved
X5	EtherCAT - In port	
-	In	In
X6	EtherCAT - Out port	
-	Out	Out