

# Servo amplifier

## mcDSA-E45-SSI

Article number: 1511152



Picture similar

### Technical data

Supply voltages	
Electronic supply voltage $U_e^{*1}$	9..30 V
Electronic current consumption @ $U_e=24V^{*2}$	typ. 60 mA
Power supply voltage $U_p^{*3}$	9..60 V
Output current	
Max. output current	50 A
Continuous output current @ $U_p=24V^{*4}$	10 A
Continuous output current @ $U_p=48V^{*4}$	8.5 A
PWM	
Output voltage	100% $U_p$
PWM frequency	25, 32 <sup>*5</sup> , 50 kHz
Mechanical	
Size LxWxH	110 x 45 x 77 mm
Weight	170 g
Environment	
Protection class	IP20
Ambient temperature (operation)	-25..70 °C
Ambient temperature (storage)	-25..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	no
RS485	
Type	2-Wire EIA-485
Signals	DATA,/DATA,CLK,/CLK
Sensor supply (Encoder/Hall/SSI)	
Output voltage	5 V
Max. output current	0.2 A

Incremental encoder	
Type	incremental
Signals	A,/A,B,/B,Inx,/Inx
Max. frequency (per channel)	500 kHz
Input voltage (24V tolerant)	0..5 V
Signal type	differential, open collector, single ended
Hall sensors	
Signals	H1,/H1,H2,/H2,H3,/H3
Max. frequency (per channel)	10 kHz
Input voltage (24V tolerant)	0..5 V
Signal type	differential, open collector, single ended
Digital inputs	
Number - digital inputs	8 (Din0..7)
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 $U_e$
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 32 kHz, ambient temperature 40 °C ( $t > 40$  °C derating), RMS current: 10 A  $\rightarrow$  8.2 Aeff, 8.5 A  $\rightarrow$  6.9 Aeff

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

\*5 default value

Additional technical data are available in mcManual.



miControl® GmbH

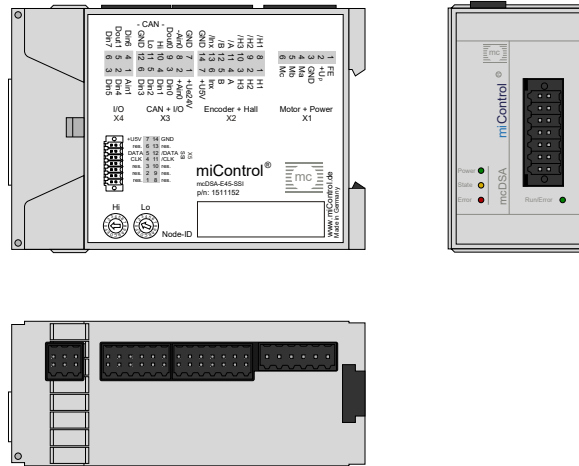
Chausseestraße 34

14979 Großbeeren (bei Berlin)

Copyright 2024 by miControl® - Modifications and errors excepted  
mcDSA-E45-SSI - PV1.13.00.00 / DV1.00.00.00

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

## Scheme



©2024 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 Hall and inc. encoder		
1	H1	Hall sensor 1
2	H2	Hall sensor 2
3	H3	Hall sensor 3
4	A	Inc. encoder, A channel
5	B	Inc. encoder, B channel
6	Inx	Inc. encoder, index channel
7	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
8	/H1	Hall sensor 1 inverted
9	/H2	Hall sensor 2 inverted
10	/H3	Hall sensor 3 inverted
11	/A	Inc. encoder, A channel inverted
12	/B	Inc. encoder, B channel inverted
13	/Inx	Inc. encoder, index channel inverted
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	Din7	Digital input 7
X5 Encoder		
1	res.	Reserved
2	res.	Reserved
3	res.	Reserved
4	CLK	SSI clk
5	DATA	SSI data
6	res.	Reserved
7	+U5V	5V output voltage for sensor supply Sensors: encoder, SSI
8	res.	Reserved
9	res.	Reserved
10	res.	Reserved
11	/CLK	/SSI clk
12	/DATA	/SSI data
13	res.	Reserved
14	GND	Ground for sensor supply Notice: don't connect with system GND