

Servo amplifier

mcDSA-E55-Modul

Article number: 1511968

Technical data

Absolute maximum rating (destruction limits)	
Power supply voltage Up no polarity reversal protection	80 V
Continuous Electronic supply voltage Ue no polarity reversal protection	33 V
Short term peak voltage < 1s Ue no polarity reversal protection	37 V
Power	
Electronic supply voltage Ue	9..30 V
Electronic current consumption @ Ue=24V**1	typ. 60 mA
Power supply voltage Up	9..60 V
Max. output current	50 A
Continuous output current**2	10 A
Output voltage	100% Up
PWM frequency	25, 32**3, 50 kHz
Mechanical	
Size LxWxH	70 x 50 x 18 mm
Weight	50 g
Environment	
Protection class	IP00
Operating temperature	-25..55 °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

Sensor supply (Encoder/Hall)	
Output voltage	5 V
Max. output current	0.2 A
Incremental encoder	
Type	incremental
Signals	A,/A,B,/B,Inx
Max. frequency (per channel)	500 kHz
Input voltage (24V tolerant)	0..5 V
Signal type	differential, open collector, single ended, 2,5 kOhm input impedance
Hall sensors	
Signals	H1,H2,H3
Max. frequency (per channel)	10 kHz
Input voltage	0..5 V
Signal type	open collector, single ended, 5V pull up intern 920 Ohm
Digital inputs	
Number	8 (Din0..7)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	4 (Dout0..3)
Continuous output current	0.3 A
Load	resistive, inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	3 (Ain0..2)
Signal type - Ain0..1	+/- 10V, 12 Bit, differential, 200 kOhm input impedance
Signal type - Ain2	0..5 V, 12 Bit, single ended, 5V pull up intern 1,5 kOhm

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

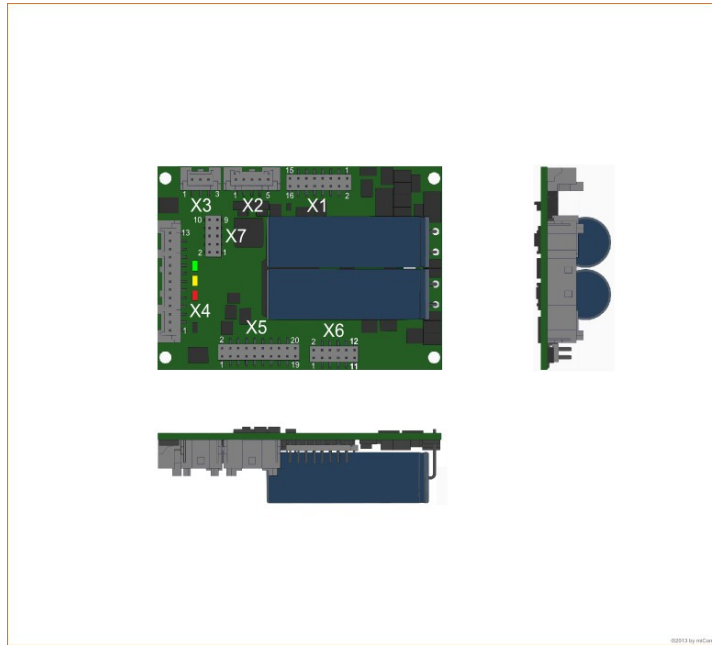
*2 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t > 40 °C derating)
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current

*3 default value

Additional technical data are available in mcManual.



Scheme



Terminal assignment

X1 Supply		
1	FE	Functional earth
2	FE	Functional earth
3	+Up	Power supply voltage
4	+Up	Power supply voltage
5	+Up	Power supply voltage
6	+Up	Power supply voltage
7	GND	Ground for power supply voltage
8	GND	Ground for power supply voltage
9	GND	Ground for power supply voltage
10	GND	Ground for power supply voltage
11	+Ue24V	Electronic supply voltage
12	+Ue24V	Electronic supply voltage
13	GND	Ground for electronic supply voltage
14	GND	Ground for electronic supply voltage
15	GND	Ground for electronic supply voltage
16	GND	Ground for electronic supply voltage
X2 Analog inputs		
1	+Ain0	Analog input 0, plus
2	-Ain0	Analog input 0, minus
3	+Ain1	Analog input 1, plus
4	-Ain1	Analog input 1, minus
5	Ain2	Analog Input 2 (5V)
X3 CAN bus		
1	CAN Hi	CAN High
2	CAN Lo	CAN Low
3	res.	Reserved

X4 Digital inputs/outputs		
1	res.	Reserved
2	Din0	Digital input 0
3	Din1	Digital input 1
4	Din2	Digital input 2
5	Din3	Digital input 3
6	Din4	Digital input 4
7	Din5	Digital input 5
8	Din6	Digital input 6
9	Din7	Digital input 7
10	Dout0	Digital output 0
11	Dout1	Digital output 1
12	Dout2	Digital output 2
13	Dout3	Digital output 3
X5 Hall and inc. encoder		
1	res.	Reserved
2	GND	Ground for sensor supply Notice: don't connect with system GND
3	Erw5	mcSPI expansion signal 5
4	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
5	Erw3	mcSPI expansion signal 3
6	Inx	Inc. encoder, index channel
7	Erw4	mcSPI expansion signal 4
8	/B	Inc. encoder, B channel inverted
9	SpiMISO	mcSPI Master In Slave Out
10	B	Inc. encoder, B channel
11	Spi/SS	mcSPI Slave Select
12	/A	Inc. encoder, A channel inverted
13	SpiMOSI	mcSPI Master Out Slave In
14	A	Inc. encoder, A channel
15	SpiCLK	mcSPI Clock
16	H3	Hall sensor 3
17	Erw1	mcSPI expansion signal 1
18	H2	Hall sensor 2
19	Erw2	mcSPI expansion signal 2
20	H1	Hall sensor 1

X6 Motor		
1	Ma	Motor phase A
2	Ma	Motor phase A
3	Ma	Motor phase A
4	Ma	Motor phase A
5	Mb	Motor phase B
6	Mb	Motor phase B
7	Mb	Motor phase B
8	Mb	Motor phase B
9	Mc	Motor phase C
10	Mc	Motor phase C
11	Mc	Motor phase C
12	Mc	Motor phase C
X7 Node ID		
1	Id6	Node-ID Bit 6
2	Id5	Node-ID Bit 5
3	Id7	Node-ID Bit 7
4	Id4	Node-ID Bit 4
5	GND	Ground
6	GND	Ground
7	Id2	Node-ID Bit 2
8	Id1	Node-ID Bit 1
9	Id3	Node-ID Bit 3
10	Id0	Node-ID Bit 0