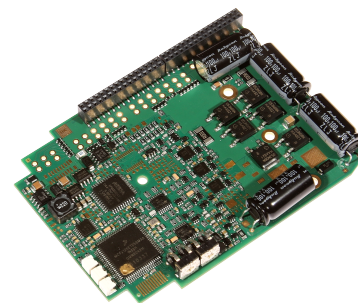


# Servo amplifier

## mcDSA-E40-Modul

Article number: 1512705

 Certification:  **US** \*1  
E475093


Picture similar

### 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*2	typ. 50 mA
Power supply voltage Up	9..60 V
Max. output current	30 A
Continuous output current @ Up=24V*3	10 A
Continuous output current @ Up=48V*3	8.5 A
Continuous output current (certified UL)*4 @Up=24V @Up=60V	10 A 8 A
PWM	
Output voltage	90% Up
PWM frequency	25, 32*5, 50 kHz
Mechanical	
Size LxWxH	97.5 x 71 x 13 mm
Weight	54 g
Environment	
Protection class	IP00
Ambient temperature (operation) (certified UL)	-40..40 °C
Ambient temperature (operation) (not certified)	-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	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,/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	4 (Din0..3)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	1 (Dout0)
Continuous output current (certified UL)	0.75 A
Continuous output current (not certified)	1.5 A
Load	resistive, inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	2 (Ain0..1)
Signal type - Ain	0..10 V, 12 Bit, single ended

\*1 The certified performance data must be observed (see UL Instruction Note)

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

\*3 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t &gt;40 °C derating), RMS current: 10 A → 8.2 Aeff, 8.5 A → 6.9 Aeff

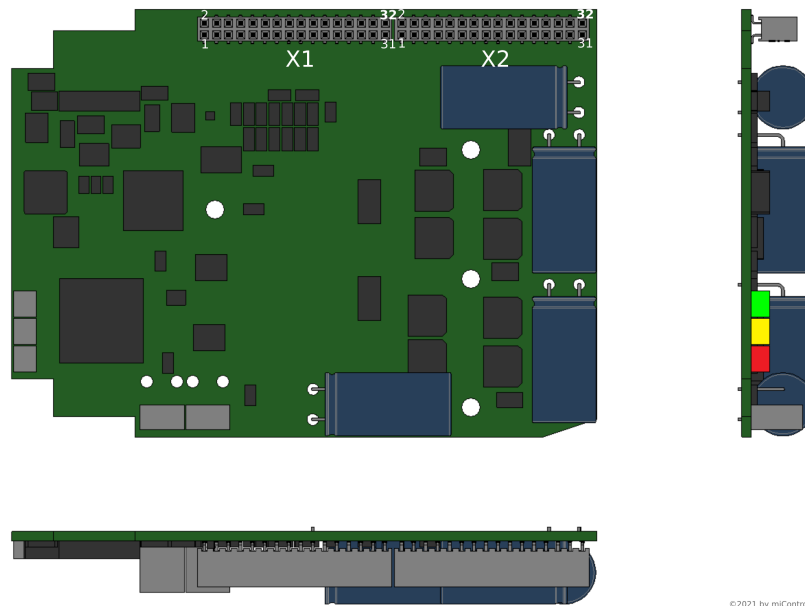
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current

\*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C, I/O's and 5V output active, RMS current: 10 A → 8.2 Aeff, 8 A → 6.5 Aeff

\*5 default value

Additional technical data are available in mcManual.

## Scheme



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## Terminal assignment

X1	Hall, inc. encoder, I/O's and CAN	
1	CAN Hi	CAN High
2	CAN Lo	CAN Low
3	res.	Reserved
4	res.	Reserved
5	res.	Reserved
6	res.	Reserved
7	Din2	Digital input 2
8	Din3	Digital input 3
9	Din0	Digital input 0
10	Din1	Digital input 1
11	Ain0	Analog input 0
12	Ain1	Analog input 1
13	SpiMISO	mcSPI Master In Slave Out
14	SpiSS	mcSPI Slave Select
15	SpiMOSI	mcSPI Master Out Slave In
16	SpiCLK	mcSPI Clock
17	Rx0	UART0 Receive Signal
18	Tx0	UART0 Transmit Signal
19	Erw1	mcSPI expansion signal 1
20	Erw2	mcSPI expansion signal 2
21	Inx	Inc. encoder, index channel
22	/Inx	Inc. encoder, index channel inverted
23	B	Inc. encoder, B channel
24	/B	Inc. encoder, B channel inverted
25	A	Inc. encoder, A channel
26	/A	Inc. encoder, A channel inverted
27	H3	Hall sensor 3
28	/H3	Hall sensor 3 inverted
29	H2	Hall sensor 2
30	/H2	Hall sensor 2 inverted
31	H1	Hall sensor 1
32	/H1	Hall sensor 1 inverted

X2	Motor	
1	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
2	GND	Ground for sensor supply Notice: don't connect with system GND
3	Dout0	Digital output 0
4	res.	Reserved
5	+Ue24V	Electronic supply voltage
6	+Ue24V	Electronic supply voltage
7	res.	Reserved
8	res.	Reserved
9	res.	Reserved
10	res.	Reserved
11	Mc	Motor phase C
12	Mc	Motor phase C
13	Mc	Motor phase C
14	Mc	Motor phase C
15	Mb	Motor phase B
16	Mb	Motor phase B
17	Mb	Motor phase B
18	Mb	Motor phase B
19	Ma	Motor phase A
20	Ma	Motor phase A
21	Ma	Motor phase A
22	Ma	Motor phase A
23	GND	Ground for power and electronic supply voltage
24	GND	Ground for power and electronic supply voltage
25	GND	Ground for power and electronic supply voltage
26	GND	Ground for power and electronic supply voltage
27	+Up	Power supply voltage
28	+Up	Power supply voltage
29	+Up	Power supply voltage
30	+Up	Power supply voltage
31	FE	Functional earth
32	FE	Functional earth