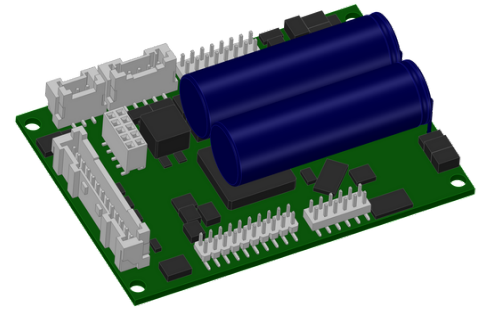


Servo amplifier

mcDSA-E57-Modul

Article number: 1514036

 Certification:  *1
E475093


Picture similar

Technical data

Absolute maximum rating (destruction limits)	
Power supply voltage U_p no polarity reversal protection	80 V
Continuous Electronic supply voltage U_e no polarity reversal protection	33 V
Short term peak voltage < 1s U_e no polarity reversal protection	37 V
Power	
Electronic supply voltage U_e	9..30 V
Electronic current consumption@ $U_e=24V^{*2}$	typ. 40 mA
Power supply voltage U_p	9..60 V
Max. output current	50 A
Continuous output current @ $U_p=24V^{*3}$	10 A
Continuous output current @ $U_p=48V^{*3}$	10 A
Continuous output current (certified UL) ^{*4} @ $U_p=24V$ @ $U_p=60V$	9.5 A 9 A
PWM	
Output voltage	100% U_p
PWM frequency	25, 32 ^{*5} , 50 kHz
Mechanical	
Size LxWxH	70 x 50 x 19 mm
Weight	50 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)	
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	8 (Din0..7)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	4 (Dout0..3)
Continuous output current (certified UL)	0.3 A
Continuous output current (not certified)	0.3 A
Load Dout0..2	resistive, low inductive
Load Dout3	resistive, inductive
Output voltage	Electronic supply voltage U_e
Signal type	positive switching
Analog inputs	
Number	3 (Ain0..2)
Signal type - Ain0..1	+/- 10 V, 12 Bit, differential
Signal type - Ain2 / PT1000	0..5 V, 12 Bit, single ended / PT1000

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

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

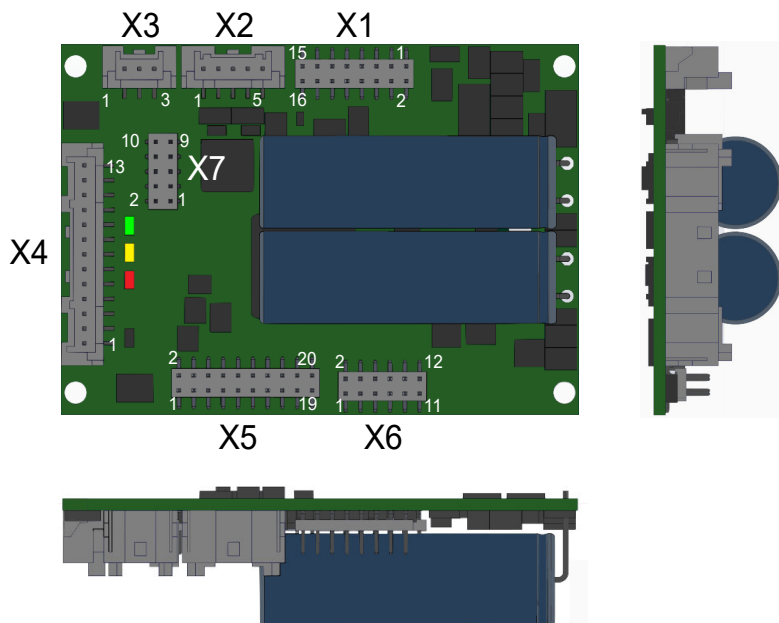
*3 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 10 A → 8.2 A_{eff} no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C, I/O's and 5V output active, RMS current: 9.5 A → 7.8 A_{eff}, 9 A → 7.3 A_{eff}

*5 default value

Additional technical data are available in mcManual.


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Scheme



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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) / PT1000
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
5	Erw3	mcSPI expansion signal 3
6	res.	Reserved
7	Erw4	mcSPI expansion signal 4
8	-Cos	Encoder, minus cosine signal
9	SpiMISO	mcSPI Master In
10	+Cos	Encoder, plus cosine signal
11	Spi/SS	mcSPI Slave Select
12	-Sin	Encoder, minus sine signal
13	SpiMOSI	mcSPI Master Out
14	+Sin	Encoder, plus sine signal
15	SpiCLK	mcSPI Clock
16	res.	Reserved
17	Erw1	mcSPI expansion signal 1
18	res.	Reserved
19	Erw2	mcSPI expansion signal 2
20	res.	Reserved
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

Terminal assignment

X7	Node ID	
1	/ld6	Node-ID Bit 6 inverted
2	/ld5	Node-ID Bit 5 inverted
3	/ld7	Node-ID Bit 7 inverted
4	/ld4	Node-ID Bit 4 inverted
5	GND	Ground
6	GND	Ground
7	/ld2	Node-ID Bit 2 inverted
8	/ld1	Node-ID Bit 1 inverted
9	/ld3	Node-ID Bit 3 inverted
10	/ld0	Node-ID Bit 0 inverted