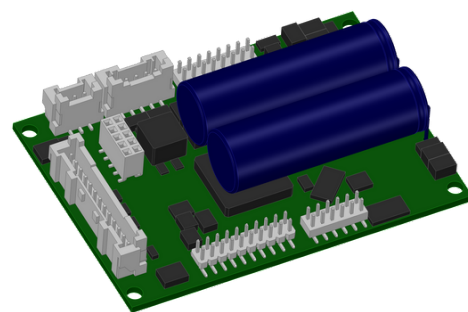


Servo amplifier

mcDSA-F57-Modul

Article number: 1515982



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 @ $U_p=24V^{*4}$	14.5 A
Continuous output current @ $U_p=48V^{*5}$	13 A
PWM	
PWM frequency	32 kHz
Commutation type	Field Oriented Control
Mechanical	
Size LxWxH	70 x 50 x 19 mm
Weight	50 g
Environment	
Protection class	IP00
Ambient temperature (operation)	-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

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	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	0..10 V, 12 Bit, single ended
Signal type - Ain2 / PT1000	0..5 V, 12 Bit, single ended / PT1000

*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 $\geq 70V$

*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz (SVPWM), ambient temperature 40 °C, I/O's and 5V output active, RMS current: 14.5 A \rightarrow 10.3 Aeff

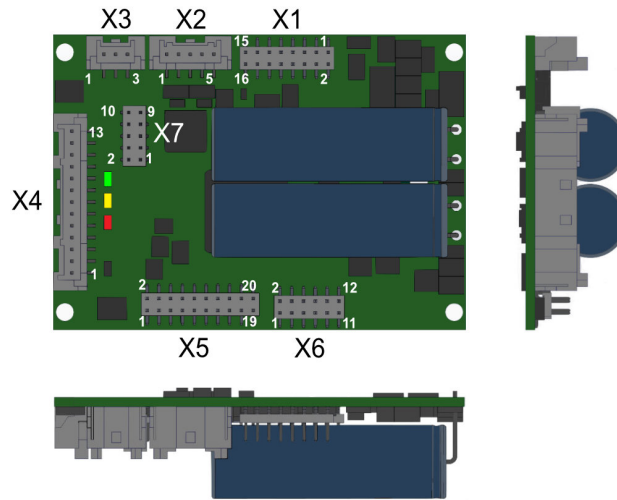
*5 connector cable with max. possible cable cross-section, PWM frequency 32 kHz (SVPWM), ambient temperature 40 °C, I/O's and 5V output free, RMS current: 13 A \rightarrow 9.2 Aeff

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

Additional technical data are available in mcManual.



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
2	res.	Reserved
3	Ain1	Analog input 1
4	res.	Reserved
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