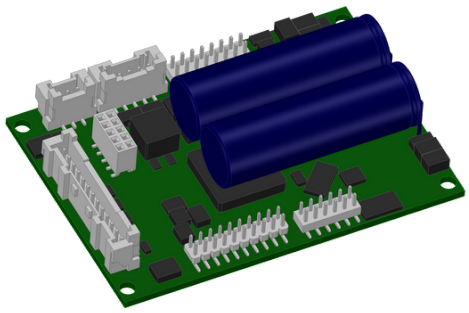
Servo amplifier

mcDSA-F50-Modul

Article number: 1513923



Picture similar

Technical data

Supply voltages	
Electronic supply voltage Ue*1	9..30 V
Electronic current consumption@ Ue=24V*2	typ. 60 mA
Power supply voltage Up*3	9..60 V
Output current	
Max. output current	25 A
Continuous output current @ Up=24V*4	12.5 A
Continuous output current @ Up=48V*5	11 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	yes
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. freqency (per channel)	500 kHz
Input voltage (24V tolerant)	0..5 V
Signal type	differential, open collector, single ended
Hall sensors	
Signals	H1,H2,H3
Max. freqency (per channel)	10 kHz
Input voltage	0..5 V
Signal type	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	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	+/- 10 V, 12 Bit, differential
Signal type - Ain2 / PT1000	0..5 V, 12 Bit, single ended / PT1000

*1 No reverse polarity protection, the destruction limit is at overvoltage of >= 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 >= 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: 12.5 A → 8.8 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: 11 A → 7.8 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.

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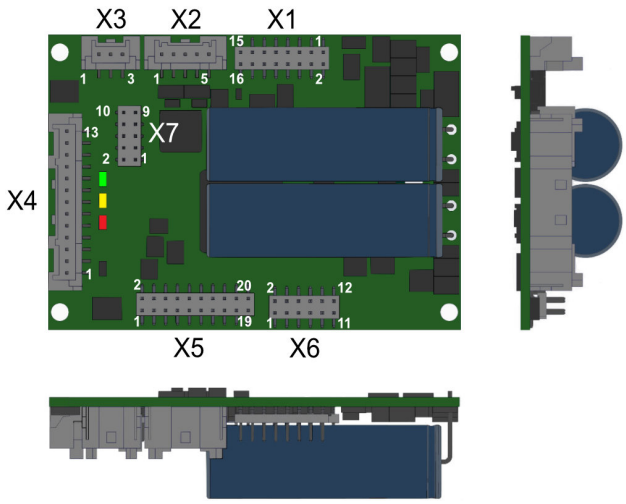
Scheme



Terminal assignment

X1	Supply	
1	FE	Functional earth
2	+Up	Power supply voltage
3	GND	Ground for power supply voltage
4	+Ue24V	Electronic supply voltage
5	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	CAN GND	CAN Ground
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
10	B	Inc. encoder, B channel
11	Spi/SS	mcSPI Slave Select
12	/A	Inc. encoder, A channel inverted
13	SpiMOSI	mcSPI Master Out
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

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Terminal assignment

X7	Node ID	
1	/Id6	Node-ID Bit 6 inverted
2	/Id5	Node-ID Bit 5 inverted
3	/Id7	Node-ID Bit 7 inverted
4	/Id4	Node-ID Bit 4 inverted
5	GND	Ground
6	GND	Ground
7	/Id2	Node-ID Bit 2 inverted
8	/Id1	Node-ID Bit 1 inverted
9	/Id3	Node-ID Bit 3 inverted
10	/Id0	Node-ID Bit 0 inverted

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