Servo amplifier

mcDSA-F10

Article number: 1515513

Picture similar

Technical data

Supply voltages	
Electronic supply voltage Ue*¹	9..30 V
Electronic current consumption@ Ue=24V*²	typ. 70 mA
Power supply voltage Up*³	9..60 V
Output current	
Max. output current	225 A
Continuous output current @ Up=24V*⁴	70 A
Continuous output current @ Up=48V*⁴	63 A
PWM	
PWM frequency	32 kHz
Commutation type	Field Oriented Control
Mechanical	
Size LxWxH	111 x 100 x 39 mm
Weight	400 g
Environment	
Protection class	IP20
Ambient temperature (operation)*⁵	-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,/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,/H1,H2,/H2,H3,/H3
Max. freqency (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	1.5 A
Load	resistive, low inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	1 (Ain0)
Signal type - Ain	+/- 10 V, 12 Bit, differential

*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, ambient temperature 40 °C (t >40 °C derating), RMS current: 70 A → 49.5 Aeff, 63 A → 44.5 Aeff
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current
*⁵ Hex-Switches should be not used at T < -25°C (setting of node ID only possible by firmware parameters)

Additional technical data are available in mcManual.

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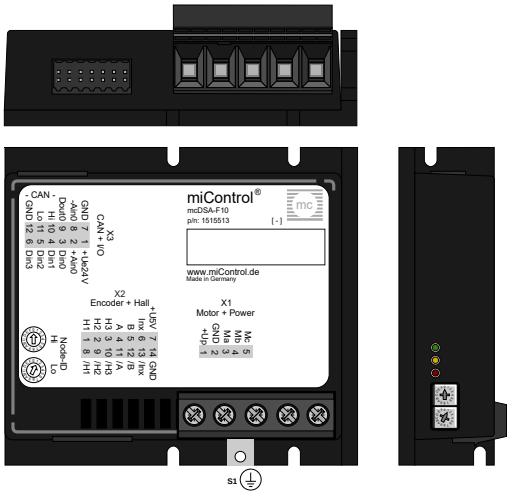
Scheme



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Terminal assignment

X1	Motor	
1	+Up	Power supply voltage
2	GND	Ground for power supply voltage
3	Ma	Motor phase A
4	Mb	Motor phase B
5	Mc	Motor phase C
X2	Hall and inc. encoder	
1	H1	Hall sensor 1
2	H2	Hall sensor 2
3	H3	Hall sensor 3
4	A	Inc. encoder, A channel
5	B	Inc. encoder, B channel
6	Inx	Inc. encoder, index channel
7	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
8	/H1	Hall sensor 1 inverted
9	/H2	Hall sensor 2 inverted
10	/H3	Hall sensor 3 inverted
11	/A	Inc. encoder, A channel inverted
12	/B	Inc. encoder, B channel inverted
13	/Inx	Inc. encoder, index channel inverted
14	GND	Ground for sensor supply Notice: don't connect with system GND
X3	I/O's and CAN	
1	+Ue24V	Electronic supply voltage
2	+Ain0	Analog input 0, plus
3	Din0	Digital input 0
4	Din1	Digital input 1
5	Din2	Digital input 2
6	Din3	Digital input 3
7	GND	Ground for electronic supply voltage
8	-Ain0	Analog input 0, minus
9	Dout0	Digital output 0
10	CAN Hi	CAN High
11	CAN Lo	CAN Low
12	CAN GND	CAN Ground
S1	Screw (M4)	
-	FE	Functional earth

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