Servo amplifier

mcDSA-B55

Article number: 1513867

Certification: c UL us *1
E475093

Picture similar

Technical data

Supply voltages	
Electronic supply voltage Ue*2	9..30 V
Electronic current consumption@ Ue=24V*3	typ. 40 mA
Power supply voltage Up*4	9..60 V
Output current	
Max. output current	50 A
Continuous output current (certified UL)*5 @Up ≤ 24V @Up ≤ 60V	 9.5 A 9 A
Continuous output current (not certified)*6 @Up ≤ 24V @Up ≤ 48V	 11 A 10 A
PWM	
Output voltage	100% Up
PWM frequency	12.5, 25*7 kHz
Mechanical	
Size LxWxH	78 x 74 x 29 mm
Weight	95 g
Environment	
Protection class	IP20
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
Max. baudrate	1 Mbit/s
CAN specification	2.0B
Galvanically isolated	no

Sensor supply (Hall)	
Output voltage	5 V
Max. output current	0.2 A
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	4 (Din0..3)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	4 (Dout0..3)
Continuous output current (certified UL)	0.3 A
Load	resistive, inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	2 (Ain0..1)
Signal type	+/- 10 V, 12 Bit, differential

*1 The certified performance data must be observed (see UL Instruction Note)
*2 No reverse polarity protection, the destruction limit is at overvoltage of >= 33V or short-term peak voltage of 37V < 1s
*3 power amplifier switched off, 5V output (sensor supply) is free
*4 No reverse polarity protection, the destruction limit is at overvoltage of >= 80V
*5 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 → 7.7 Aeff, 9 A → 7.3 Aeff
*6 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C, I/O's and 5V output free, RMS current: 11 A → 9 Aeff, 10 A → 8.2 Aeff
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current
*7 default value

Additional technical data are available in mcManual.

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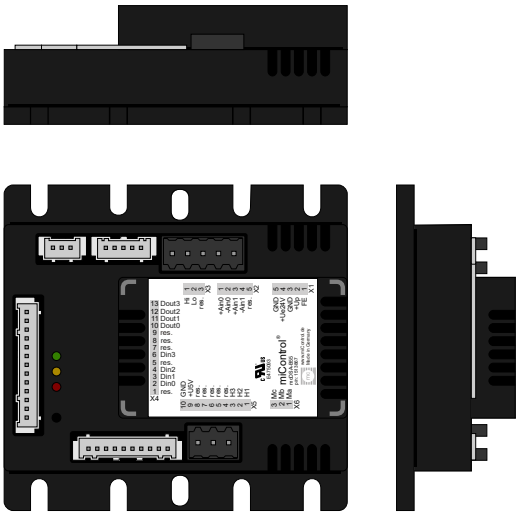
Scheme



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	res.	Reserved
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	res.	Reserved
7	res.	Reserved
8	res.	Reserved
9	res.	Reserved
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	H1	Hall sensor 1
2	H2	Hall sensor 2
3	H3	Hall sensor 3
4	res.	Reserved
5	res.	Reserved
6	res.	Reserved
7	res.	Reserved
8	res.	Reserved
9	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
10	GND	Ground for sensor supply Notice: don't connect with system GND
X6	Motor	
1	Ma	Motor phase A
2	Mb	Motor phase B
3	Mc	Motor phase C

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