

Servo amplifier

mcDSA-E55-EtherCAT

Article number: 1513205



Picture similar

Technical data

Supply voltages		Sensor supply (Encoder/Hall)	
Electronic supply voltage Ue* ¹	9..30 V	Output voltage	5 V
Electronic current consumption@ Ue=24V* ²	typ. 70 mA	Max. output current	0.2 A
Power supply voltage Up* ³	9..60 V	Incremental encoder	
Output current		Type	incremental
Max. output current	50 A	Signals	A,/A,B,/B,Inx
Continuous output current @ Up=24V* ⁴	10 A	Max. frequency (per channel)	500 kHz
Continuous output current @ Up=48V* ⁴	10 A	Input voltage	0..5 V
PWM		Signal type	differential, open collector, single ended
Output voltage	100% Up	Hall sensors	
PWM frequency	25, 32* ⁵ , 50 kHz	Signals	H1,H2,H3
Mechanical		Max. frequency (per channel)	10 kHz
Size LxWxH	78 x 74 x 49 mm	Input voltage	0..5 V
Weight	141 g	Signal type	open collector, single ended
Environment		Digital inputs	
Protection class	IP20	Number - digital inputs	8 (Din0..7)
Ambient temperature (operation)	-40..70 °C	Low voltage	0..5 V
Ambient temperature (storage)	-40..85 °C	High voltage	8..30 V
Rel. humidity (non-condensing)	5..90 %	Digital outputs	
CAN bus		Number	4 (Dout0..3)
Protocol	DS301	Continuous output current	0..3 A
Device profile	DS402	Load Dout0..2	resistive, low inductive
Max. baudrate	1 Mbit/s	Load Dout3	resistive, inductive
CAN specification	2.0B	Output voltage	Electronic supply voltage Ue
Galvanically isolated	no	Signal type	positive switching
EtherCAT		Analog inputs	
Type	EtherCAT Slave	Number	3 (Ain0..2)
Physical layer	100 Base-Tx EtherCAT	Signal type - Ain0..1	+/- 10 V, 12 Bit, differential
Bus controller	ET1100	Signal type - Ain2 / PT1000	0..5 V, 12 Bit, single ended / PT1000
Max. baudrate	100 Mbit/s		
Number of ports	2xRJ45 (In,Out)		
Protocol	CoE (CANopen over EtherCAT)		

*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, bus not connected*³ No reverse polarity protection, the destruction limit is at overvoltage of >= 80V*⁴ 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 Aeff no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current*⁵ default value

Additional technical data are available in mcManual.



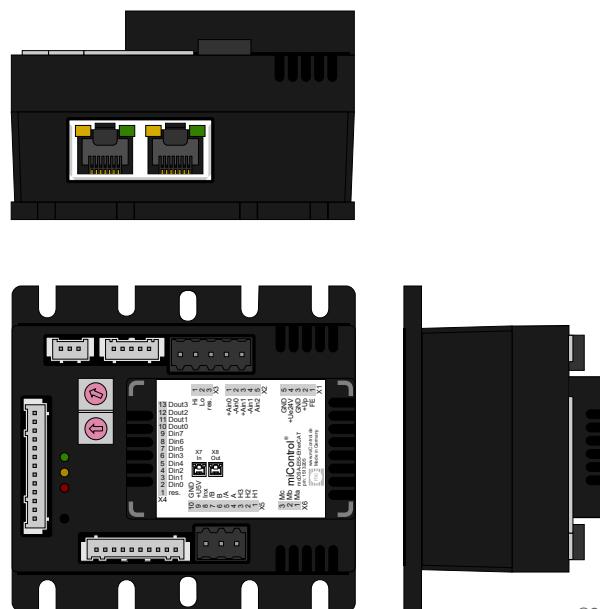
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Scheme



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Terminal assignment

X1 Supply		
1	FE	Functional earth
2	+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	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	H1	Hall sensor 1
2	H2	Hall sensor 2
3	H3	Hall sensor 3
4	A	Inc. encoder, A channel
5	/A	Inc. encoder, A channel inverted
6	B	Inc. encoder, B channel
7	/B	Inc. encoder, B channel inverted
8	Inx	Inc. encoder, index channel
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
X7 EtherCAT - In port		
-	In	In
X8 EtherCAT - Out port		
-	Out	Out