

Servo amplifier

mcDSA-E47-EtherCAT

Article number: 1511154



Picture similar

Technical data

Absolute maximum rating (destruction limits)	
Power supply voltage U_p no polarity reversal protection	80 V
Continuous Electronic supply voltage U_e no polarity reversal protection	33 V
Short term peak voltage < 1s U_e no polarity reversal protection	37 V
Power	
Electronic supply voltage U_e	9..30 V
Electronic current consumption@ $U_e=24V^{*1}$	typ. 90 mA
Power supply voltage U_p	9..60 V
Max. output current	50 A
Continuous output current @ $U_p=24V^{*2}$	10 A
Continuous output current @ $U_p=48V^{*2}$	8.5 A
PWM	
Output voltage	100% U_p
PWM frequency	25, 32 ^{*3} , 50 kHz
Mechanical	
Size LxWxH	110 x 45 x 77 mm
Weight	170 g
Environment	
Protection class	IP20
Ambient temperature (operation)	-25..70 °C
Ambient temperature (storage)	-25..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

EtherCAT	
Type	EtherCAT Slave
Physical layer	100 Base-Tx EtherCAT
Bus controller	ET1100
Max. baudrate	100 Mbit/s
Number of ports	2xRJ45 (In,Out)
Protocol	CoE (CANopen over EtherCAT)
Sensor supply (Encoder)	
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	7 (Din0..6)
Low voltage	0..5 V
High voltage	8..30 V
Digital outputs	
Number	2 (Dout0..1)
Continuous output current	1.5 A
Load	resistive, inductive
Output voltage	Electronic supply voltage U_e
Signal type	positive switching
Analog inputs	
Number	2 (Ain0..1)
Signal type - Ain0	+/- 10 V, 12 Bit, differential
Signal type - Ain1	+/- 10 V, 12 Bit, single ended

*1 power amplifier switched off, 5V output (sensor supply) is free, bus not connected

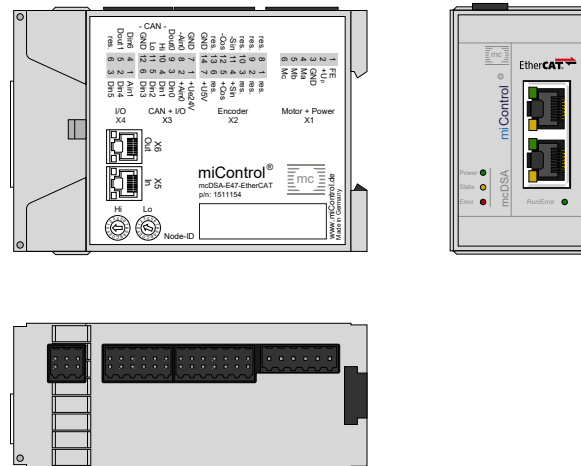
*2 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 10 A → 8.2 A_{eff}, 8.5 A → 6.9 A_{eff}

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

*3 default value

Additional technical data are available in mcManual.

Scheme



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Terminal assignment

X1 Motor		
1	FE	Functional earth
2	+Up	Power supply voltage
3	GND	Ground for power supply voltage
4	Ma	Motor phase A
5	Mb	Motor phase B
6	Mc	Motor phase C
X2 Encoder		
1	res.	Reserved
2	res.	Reserved
3	res.	Reserved
4	+Sin	Encoder, plus sine signal
5	+Cos	Encoder, plus cosine signal
6	res.	Reserved
7	+U5V	5V output voltage for sensor supply Sensors: encoder
8	res.	Reserved
9	res.	Reserved
10	res.	Reserved
11	-Sin	Encoder, minus sine signal
12	-Cos	Encoder, minus cosine signal
13	res.	Reserved
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

X4 I/O's		
1	Ain1	Analog input 1
2	Din4	Digital input 4
3	Din5	Digital input 5
4	Din6	Digital input 6
5	Dout1	Digital output 1
6	res.	Reserved
X5 EtherCAT - In port		
-	In	In
X6 EtherCAT - Out port		
-	Out	Out