Servo amplifier

mcDSA-E40-EtherCAT-HC

Article number: 1511120

Picture similar

Technical data

Absolute maximum rating (destruction limits)	
Power supply voltage Up no polarity reversal protection	80 V
Continuous Electronic supply voltage Ue no polarity reversal protection	33 V
Short term peak voltage < 1s Ue no polarity reversal protection	37 V
Power	
Electronic supply voltage Ue	9..30 V
Electronic current consumption@ Ue=24V*1	typ. 80 mA
Power supply voltage Up	9..60 V
Max. output current	30 A
Continuous output current @ Up=24V*2	12 A
Continuous output current @ Up=48V*2	12 A
PWM	
Output voltage	90% Up
PWM frequency	25, 32*3, 50 kHz
Mechanical	
Size LxWxH	110 x 61 x 77 mm
Weight	357 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/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, inductive
Output voltage	Electronic supply voltage Ue
Signal type	positive switching
Analog inputs	
Number	1 (Ain0)
Signal type	0..10 V, 12 Bit, single ended

*1 power amplifier switched off, 5V output (sensor supply) is free
*2 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 12 A → 9.8 Aeff 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.

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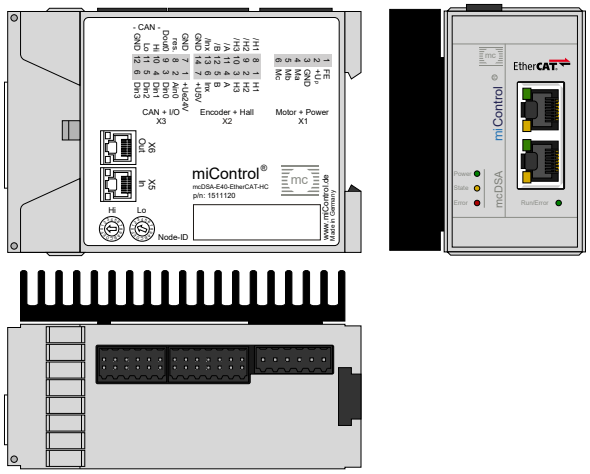
Scheme



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	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
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	res.	Reserved
9	Dout0	Digital output 0
10	CAN Hi	CAN High
11	CAN Lo	CAN Low
12	CAN GND	CAN Ground
X5	EtherCAT - In port	
-	In	In
X6	EtherCAT - Out port	
-	Out	Out

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