

# Servo amplifier

## mcDSA-E42-HC

Article number: 1511132



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. 50 mA
Power supply voltage $U_p$	9..60 V
Max. output current	30 A
Continuous output current @ $U_p=24V^{*2}$	12 A
Continuous output current @ $U_p=48V^{*2}$	12 A
PWM	
Output voltage	90% $U_p$
PWM frequency	25, 32 <sup>*3</sup> , 50 kHz
Mechanical	
Size LxWxH	110 x 39 x 77 mm
Weight	310 g
Environment	
Protection class	IP20
Ambient temperature (operation) <sup>*4</sup>	-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	no

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	4 (Din0..3)
Low voltage	-30..5 V
High voltage	6..30 V
Digital outputs	
Number	1 (Dout0)
Continuous output current	1.5 A
Load	resistive, inductive
Output voltage	Electronic supply voltage $U_e$
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

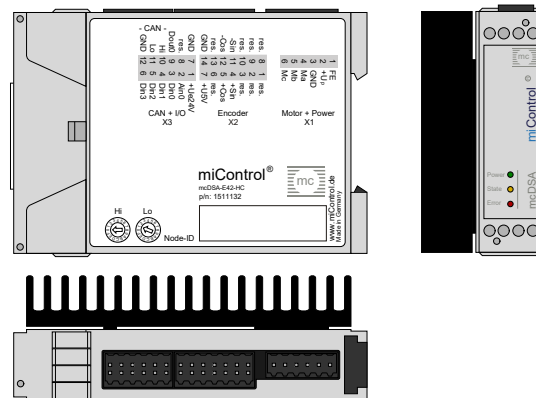
\*3 default value

\*4 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.



## 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 auxiliary voltage (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 5V auxiliary voltage (encoder)
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