

# Servo amplifier

## mcDSA-E65-EtherCAT

Article number: 1511852



Picture similar

### Technical data

Supply voltages	
Electronic supply voltage $U_e^{*1}$	9..30 V
Electronic current consumption @ $U_e=24V^{*2}$	typ. 65 mA
Power supply voltage $U_p^{*3}$	9..60 V
Output current	
Max. output current	15 A
Continuous output current @ $U_p=24V^{*4}$	5 A
Continuous output current @ $U_p=48V^{*4}$	4.3 A
PWM	
Output voltage	100% $U_p$
PWM frequency	25, 32 <sup>*5</sup> , 50 kHz
Mechanical	
Size LxWxH	74 x 45 x 38 mm
Weight	60 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,B,Inx
Max. frequency (per channel)	100 kHz
Input voltage	0..5 V
Signal type	open collector, single ended
Notice	Inx parallel with H3
Hall sensors	
Signals	H1,H2,H3
Max. frequency (per channel)	10 kHz
Input voltage	0..5 V
Signal type	open collector, single ended
Notice	H3 parallel with Inx
Digital inputs	
Number (+/-30V tolerant)	2 (Din0..1)
Number (0..30V tolerant)	1 (Din2)
Low voltage	0..5 V
High voltage	8..30 V
Notice	Din2 parallel with Dout0 <sup>*6</sup>
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
Notice	Dout0 parallel with Din2
Analog inputs	
Number	1 (Ain0)
Signal type	+/- 10 V, 12 Bit, single ended

\*1 No reverse polarity protection, the destruction limit is at overvoltage of  $\geq 33V$  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  $\geq 80V$

\*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C ( $t > 40$  °C derating), RMS current: 5 A  $\rightarrow$  4.1 Aeff, 4.3

A  $\rightarrow$  3.5 Aeff

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

\*5 default value

\*6 Input voltage must not exceed Electronic supply voltage  $U_e$

Additional technical data are available in mcManual.



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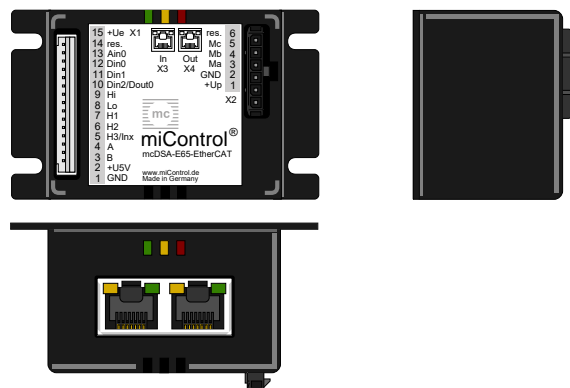
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## Scheme



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## Terminal assignment

X1 Hall, inc. encoder, I/O's and CAN		
1	GND	Ground for sensor supply Notice: don't connect with system GND
2	+U5V	5V output voltage for sensor supply Sensors: encoder, hall
3	B	Inc. encoder, B channel
4	A	Inc. encoder, A channel
5	H3/Inx	Hall sensor 3 / Inc. encoder, index channel
6	H2	Hall sensor 2
7	H1	Hall sensor 1
8	CAN Lo	CAN Low
9	CAN Hi	CAN High
10	Din2/Dout0	Digital input 2 / Digital output 0
11	Din1	Digital input 1
12	Din0	Digital input 0
13	Ain0	Analog input 0
14	res.	Reserved
15	+Ue	Electronic supply voltage
X2 Motor		
1	+Up	Power supply voltage
2	GND	Ground for power supply voltage
3	Ma	Motor phase A
4	Mb	Motor phase B
5	Mc	Motor phase C
6	res.	Reserved
X3 EtherCAT - In port		
-	In	In
X4 EtherCAT - Out port		
-	Out	Out