
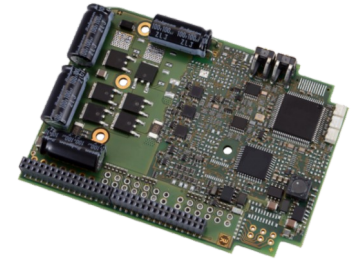


Servo amplifier

mcDSA-E45-Modul

Article number: 1513021

Certification:  *1

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*2 | typ. 60 mA |
| Power supply voltage Up | 9..60 V |
| Max. output current | 50 A |
| Continuous output current @ Up=24V*3 | 10 A |
| Continuous output current @ Up=48V*3 | 8.5 A |
| Continuous output current (certified UL)*4 @Up=24V @Up=60V | 10 A 8 A |
| PWM | |
| Output voltage | 100% Up |
| PWM frequency | 25, 32*5, 50 kHz |
| Mechanical | |
| Size LxWxH | 97.5 x 71 x 13 mm |
| Weight | 56 g |
| Environment | |
| Protection class | IP00 |
| Ambient temperature (operation) (certified UL)*6 | -40..40 °C |
| Ambient temperature (operation) (not certified)*6 | -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 |
| 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. frequency (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. frequency (per channel) | 10 kHz |
| Input voltage (24V tolerant) | 0..5 V |
| Signal type | differential, open collector, single ended |
| Digital inputs | |
| Number - digital inputs | 8 (Din0..7) |
| Low voltage | 0..5 V |
| High voltage | 8..30 V |
| Digital outputs | |
| Number | 2 (Dout0..1) |
| Continuous output current (certified UL) | 0.75 A |
| Continuous output current (not certified) | 1.5 A |
| Load | resistive, inductive |
| Output voltage | Electronic supply voltage Ue |
| Signal type | positive switching |
| Analog inputs | |
| Number | 2 (Ain0..1) |
| Signal type | +/- 10 V, 12 Bit, single ended |

*1 The certified performance data must be observed (see UL Instruction Note)

*2 power amplifier switched off, 5V output (sensor supply) is free

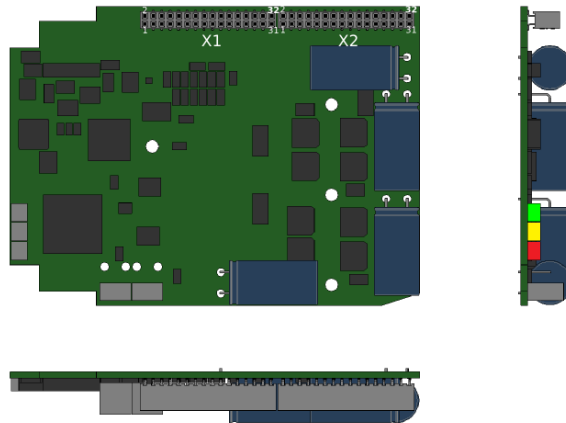
*3 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t > 40 °C derating)
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C, I/O's and 5V output active
*5 default value

*6 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 | Hall, inc. encoder, I/O's and CAN | |
|----|-----------------------------------|--------------------------------------|
| 1 | CAN Hi | CAN High |
| 2 | CAN Lo | CAN Low |
| 3 | Din6 | Digital input 6 |
| 4 | Din7 | Digital input 7 |
| 5 | Din4 | Digital input 4 |
| 6 | Din5 | Digital input 5 |
| 7 | Din2 | Digital input 2 |
| 8 | Din3 | Digital input 3 |
| 9 | Din0 | Digital input 0 |
| 10 | Din1 | Digital input 1 |
| 11 | Ain0 | Analog input 0 |
| 12 | Ain1 | Analog input 1 |
| 13 | SpiMISO | mcSPI Master In Slave Out |
| 14 | Spi/SS | mcSPI Slave Select |
| 15 | SpiMOSI | mcSPI Master Out Slave In |
| 16 | SpiSCK | mcSPI Clock |
| 17 | Rx0 | UART0 Receive Signal |
| 18 | Tx0 | UART0 Transmit Signal |
| 19 | Erw1 | mcSPI expansion signal 1 |
| 20 | Erw2 | mcSPI expansion signal 2 |
| 21 | Inx | Inc. encoder, index channel |
| 22 | /Inx | Inc. encoder, index channel inverted |
| 23 | B | Inc. encoder, B channel |
| 24 | /B | Inc. encoder, B channel inverted |
| 25 | A | Inc. encoder, A channel |
| 26 | /A | Inc. encoder, A channel inverted |
| 27 | H3 | Hall sensor 3 |
| 28 | /H3 | Hall sensor 3 inverted |
| 29 | H2 | Hall sensor 2 |
| 30 | /H2 | Hall sensor 2 inverted |
| 31 | H1 | Hall sensor 1 |
| 32 | /H1 | Hall sensor 1 inverted |

| X2 | Motor | |
|----|--------|---|
| 1 | +U5V | 5V output voltage for sensor supply Sensors: encoder, hall |
| 2 | GND | Ground for sensor supply Notice: don't connect with system GND |
| 3 | Dout0 | Digital output 0 |
| 4 | Dout1 | Digital output 1 |
| 5 | +Ue24V | Electronic supply voltage |
| 6 | +Ue24V | Electronic supply voltage |
| 7 | res. | Reserved |
| 8 | res. | Reserved |
| 9 | res. | Reserved |
| 10 | res. | Reserved |
| 11 | Mc | Motor phase C |
| 12 | Mc | Motor phase C |
| 13 | Mc | Motor phase C |
| 14 | Mc | Motor phase C |
| 15 | Mb | Motor phase B |
| 16 | Mb | Motor phase B |
| 17 | Mb | Motor phase B |
| 18 | Mb | Motor phase B |
| 19 | Ma | Motor phase A |
| 20 | Ma | Motor phase A |
| 21 | Ma | Motor phase A |
| 22 | Ma | Motor phase A |
| 23 | GND | Ground for power and electronic supply voltage |
| 24 | GND | Ground for power and electronic supply voltage |
| 25 | GND | Ground for power and electronic supply voltage |
| 26 | GND | Ground for power and electronic supply voltage |
| 27 | +Up | Power supply voltage |
| 28 | +Up | Power supply voltage |
| 29 | +Up | Power supply voltage |
| 30 | +Up | Power supply voltage |
| 31 | FE | Functional earth |
| 32 | FE | Functional earth |