

Servo amplifier

mcDSA-E25

Article number: 1511110



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. 70 mA |
| Power supply voltage U_p | 9..60 V |
| Max. output current | 100 A |
| Continuous output current @ $U_p=24V^{*2}$ | 35 A |
| Continuous output current @ $U_p=48V^{*2}$ | 26 A |
| PWM | |
| Output voltage | 100% U_p |
| PWM frequency | 25, 32 ^{*3} , 50 kHz |
| Mechanical | |
| Size LxWxH | 111 x 100 x 30 mm |
| Weight | 380 g |
| Environment | |
| Protection class | IP20 |
| Ambient temperature (operation) ^{*4} | -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 | yes |

| 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 | 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

*2 connector cable with max. possible cable cross-section, PWM frequency 25 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 35 A → 28.5 Aeff, 26 A → 21.2 Aeff

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

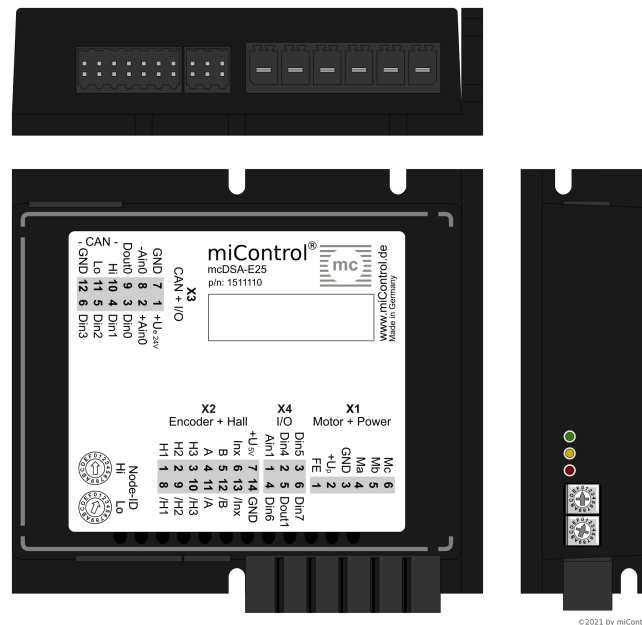
*3 default value

*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 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, 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 | Din7 | Digital input 7 |