Servo amplifier

# mcDSA-S45

Article number: 1511175


Picture similar

## Technical data

| | |
|---|---|
| **Absolute maximum rating (destruction limits)** | |
| Power supply voltage Up<br>no polarity reversal protection | 80 V |
| Continuous Electronic supply voltage Ue<br>no polarity reversal protection | 33 V |
| Short term peak voltage < 1s Ue<br>no polarity reversal protection | 37 V |
| **Power** | |
| Electronic supply voltage Ue | 9..30 V |
| Electronic current consumption@ Ue=24V*1 | typ. 60 mA |
| Power supply voltage Up | 9..60 V |
| Max. output current | 20 A |
| Continuous output current @ Up=24V*2 | 7 A |
| Continuous output current @ Up=48V*2 | 6 A |
| **PWM** | |
| Output voltage | 85% Up |
| PWM frequency | 32 kHz |
| **Mechanical** | |
| Size LxWxH (HC Version) | 110 x 22.5 x 77 mm |
| Weight (HC Version) | 112 g |
| **Environment** | |
| Protection class | IP20 |
| Ambient temperature (operation)*3 | -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)** | |
| 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 |
| **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 Ue |
| 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 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
*3 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.

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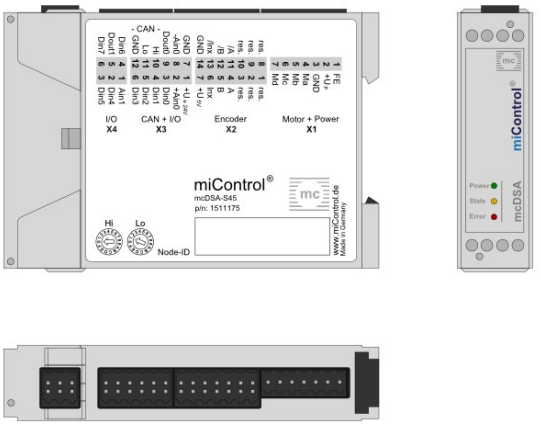
**Scheme**






**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 |
| 7 | Md | Motor phase D |
| **X2** | **Inc. encoder** | |
| 1 | res. | Reserved |
| 2 | res. | Reserved |
| 3 | res. | Reserved |
| 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<br>Sensors: encoder |
| 8 | res. | Reserved |
| 9 | res. | Reserved |
| 10 | res. | Reserved |
| 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<br>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 |

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