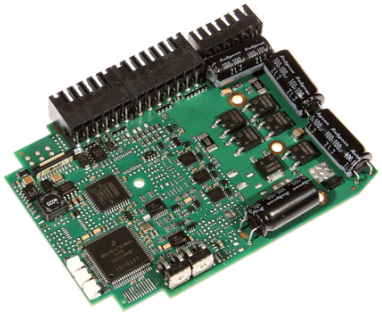
Servo amplifier

# mcDSA-E42-Lp

Article number: 1504953



Picture similar

## Technical data

| Supply voltages | |
|---|---|
| Electronic supply voltage Ue*1 | 9..30 V |
| Electronic current consumption@ Ue=24V*2 | typ. 50 mA |
| Power supply voltage Up*3 | 9..60 V |
| **Output current** | |
| Max. output current | 30 A |
| Continuous output current @ Up=24V*4 | 10 A |
| Continuous output current @ Up=48V*4 | 8.5 A |
| **PWM** | |
| Output voltage | 90% Up |
| PWM frequency | 25, 32*5, 50 kHz |
| **Mechanical** | |
| Size LxWxH | 97 x 73 x 14 mm |
| Weight | 58 g |
| **Environment** | |
| Protection class | IP00 |
| Ambient temperature (operation)*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 |

| 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 Ue |
| Signal type | positive switching |
| **Analog inputs** | |
| Number | 1 (Ain0) |
| Signal type | 0..10 V, 12 Bit, single ended |

*1 No reverse polarity protection, the destruction limit is at overvoltage of >= 33V or short-term peak voltage of 37V < 1s
*2 power amplifier switched off, 5V output (sensor supply) is free
*3 No reverse polarity protection, the destruction limit is at overvoltage of >= 80V
*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 10 A → 8.2 Aeff, 8.5 A → 6.9 Aeff
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current
*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.

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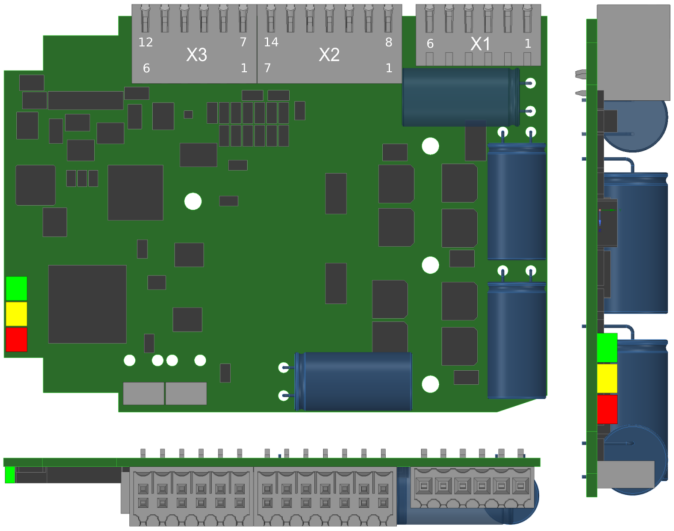
## Scheme




## 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 |
| **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 |

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