

Servo amplifier

mcDSA-E30-HC

Article number: 1514002

 Certification:  *1
E475093


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 | 18..30 V |
| Electronic current consumption@ Ue=24V*2 | typ. 45 mA |
| Power supply voltage Up | 9..60 V |
| Max. output current | 40 A |
| Continuous output current (certified UL)*3 @Up ≤ 60V | 22.6 A |
| Continuous output current (not certified)*4 @Up ≤ 24V | 27 A |
| @Up ≤ 48V | 26 A |
| PWM | |
| Output voltage | 90% Up |
| PWM frequency | 25, 32*5, 50 kHz |
| Mechanical | |
| Size LxWxH | 87 x 74 x 29 mm |
| Weight | 155 g |
| Environment | |
| Protection class | IP20 |
| Ambient temperature (operation) (certified UL) | -40..40 °C |
| Ambient temperature (operation) (not certified) | -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 (Hall) | |
|---|--|
| Output voltage | 5 V |
| Max. output current | 0.05 A |
| 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. frequency (per channel) | 500 kHz |
| Input voltage | 0..5 V |
| Signal type | differential, open collector, single ended |
| Hall sensors | |
| Signals | H1,H2,H3 |
| Max. frequency (per channel) | 10 kHz |
| Input voltage | 0..5 V |
| Signal type | 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 | 3 (Dout0..2) |
| Continuous output current (certified UL) | 1 A |
| Continuous output current (not certified) | 1.5 A |
| Load Dout0..1 | resistive, low inductive |
| Load Dout2 | resistive, inductive |
| Output voltage | Electronic supply voltage Ue |
| Signal type | positive switching |
| Analog inputs | |
| Number | 2 (Ain0..1) |
| Signal type - Ain | 0..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 (asymmetrical), ambient temperature 40 °C, I/O's and 5V output active, RMS current: 22.6 A → 18.5 Aeff

*4 connector cable with max. possible cable cross-section, PWM frequency 32 kHz (asymmetrical), ambient temperature 40 °C, I/O's and 5V output free, RMS current: 27 A → 22 Aeff, 26 A → 21.2 Aeff

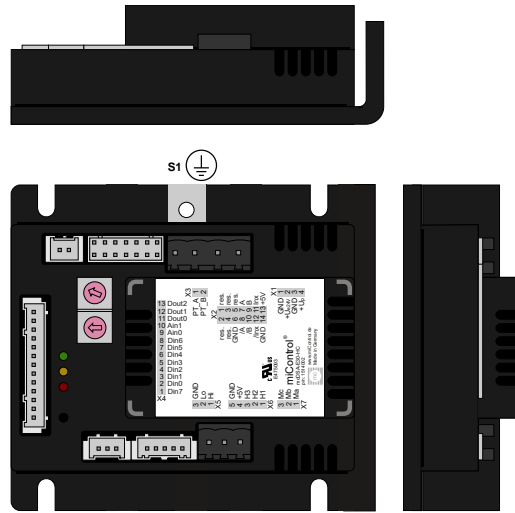
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current

*5 default value

Additional technical data are available in mcManual.


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Scheme



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Terminal assignment

| X1 Supply | | |
|------------|--------|---|
| 1 | GND | Ground for electronic supply voltage |
| 2 | +Ue24V | Electronic supply voltage |
| 3 | GND | Ground for power supply voltage |
| 4 | +Up | Power supply voltage |
| X2 Encoder | | |
| 1 | res. | Reserved |
| 2 | res. | Reserved |
| 3 | res. | Reserved |
| 4 | res. | Reserved |
| 5 | res. | Reserved |
| 6 | GND | Ground for sensor supply Notice: don't connect with system GND |
| 7 | A | Inc. encoder, A channel |
| 8 | /A | Inc. encoder, A channel inverted |
| 9 | B | Inc. encoder, B channel |
| 10 | /B | Inc. encoder, B channel inverted |
| 11 | Inx | Inc. encoder, index channel |
| 12 | /Inx | Inc. encoder, index channel inverted |
| 13 | +5V | 5V output voltage for sensor supply Sensors: encoder, SSI |
| 14 | GND | Ground for sensor supply Notice: don't connect with system GND |
| X3 PT1000 | | |
| 1 | PT_A | PT_A |
| 2 | PT_B | PT_B |
| X4 I/O's | | |
| 1 | Din7 | Digital input 7 |
| 2 | Din0 | Digital input 0 |
| 3 | Din1 | Digital input 1 |
| 4 | Din2 | Digital input 2 |
| 5 | Din3 | Digital input 3 |
| 6 | Din4 | Digital input 4 |
| 7 | Din5 | Digital input 5 |
| 8 | Din6 | Digital input 6 |
| 9 | Ain0 | Analog input 0 |
| 10 | Ain1 | Analog input 1 |
| 11 | Dout0 | Digital output 0 |
| 12 | Dout1 | Digital output 1 |
| 13 | Dout2 | Digital output 2 |

| X5 CAN bus | | |
|-----------------|---------|---|
| 1 | CAN Hi | CAN High |
| 2 | CAN Lo | CAN Low |
| 3 | CAN GND | CAN Ground |
| X6 Hall encoder | | |
| 1 | H1 | Hall sensor 1 |
| 2 | H2 | Hall sensor 2 |
| 3 | H3 | Hall sensor 3 |
| 4 | +U5V | 5V output voltage for sensor supply Sensors: hall |
| 5 | GND | Ground for sensor supply Notice: don't connect with system GND |
| X7 Motor | | |
| 1 | Ma | Motor phase A |
| 2 | Mb | Motor phase B |
| 3 | Mc | Motor phase C |
| S1 Screw (M3) | | |
| - | FE | Functional earth |