

# Servo amplifier

## mcDSA-E65-PN

Article number: 1512091



Picture similar

### Technical data

| Absolute maximum rating (destruction limits)                                  |                               |
|---|-------------------------------|
| Power supply voltage $U_p$<br>no polarity reversal protection                 | 80 V                          |
| Continuous Electronic supply voltage $U_e$<br>no polarity reversal protection | 33 V                          |
| Short term peak voltage < 1s $U_e$<br>no polarity reversal protection         | 37 V                          |
| Power   |                               |
| Electronic supply voltage $U_e$   | 9..30 V                       |
| Electronic current consumption@ $U_e=24V^{*1}$                                | typ. 65 mA                    |
| Power supply voltage $U_p$  | 9..60 V                       |
| Max. output current   | 15 A                          |
| Continuous output current @ $U_p=24V^{*2}$                                    | 5 A                           |
| Continuous output current @ $U_p=48V^{*2}$                                    | 4.3 A                         |
| PWM   |                               |
| Output voltage  | 100% $U_p$                    |
| PWM frequency   | 25, 32 <sup>*3</sup> , 50 kHz |
| Mechanical  |                               |
| Size LxWxH  | 74 x 45.5 x 36 mm             |
| Weight  | 60 g                          |
| Environment   |                               |
| Protection class  | IP20                          |
| Ambient temperature (operation)   | -25..70 °C                    |
| Ambient temperature (storage)   | -25..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                            |

| PROFINET                     |  |
|------------------------------|--|
| Type                         | Slave                                  |
| Physical layer               | 100 Base-Tx                            |
| Max. baudrate                | 100 Mbit/s                             |
| Number of ports              | 2xRJ45 (PORT1, PORT2)                  |
| Sensor supply (Encoder/Hall) |  |
| Output voltage               | 5 V                                    |
| Max. output current          | 0.2 A                                  |
| Incremental encoder          |  |
| Type                         | incremental                            |
| Signals                      | A,B,Inx                                |
| Max. frequency (per channel) | 100 kHz                                |
| Input voltage                | 0..5 V                                 |
| Signal type                  | open collector, single ended           |
| Notice                       | Inx parallel with H3                   |
| Hall sensors                 |  |
| Signals                      | H1,H2,H3                               |
| Max. frequency (per channel) | 10 kHz                                 |
| Input voltage                | 0..5 V                                 |
| Signal type                  | open collector, single ended           |
| Notice                       | H3 parallel with Inx                   |
| Digital inputs               |  |
| Number (+/-30V tolerant)     | 2 (Din0..1)                            |
| Number (0..30V tolerant)     | 1 (Din2)                               |
| Low voltage                  | 0..5 V                                 |
| High voltage                 | 8..30 V                                |
| Notice                       | Din2 parallel with Dout0 <sup>*4</sup> |
| Digital outputs              |  |
| Number                       | 1 (Dout0)                              |
| Continuous output current    | 1.5 A                                  |
| Load                         | resistive, inductive                   |
| Output voltage               | Electronic supply voltage $U_e$        |
| Signal type                  | positive switching                     |
| Notice                       | Dout0 parallel with Din2               |
| Analog inputs                |  |
| Number                       | 1 (Ain0)                               |
| Signal type                  | +/- 10 V, 12 Bit, single ended         |

\*1 power amplifier switched off, 5V output (sensor supply) is free, bus not connected

\*2 connector cable with max. possible cable cross-section, PWM frequency 32 kHz, ambient temperature 40 °C (t >40 °C derating), RMS current: 5 A → 4.1 Aeff, 4.3 A → 3.5 Aeff

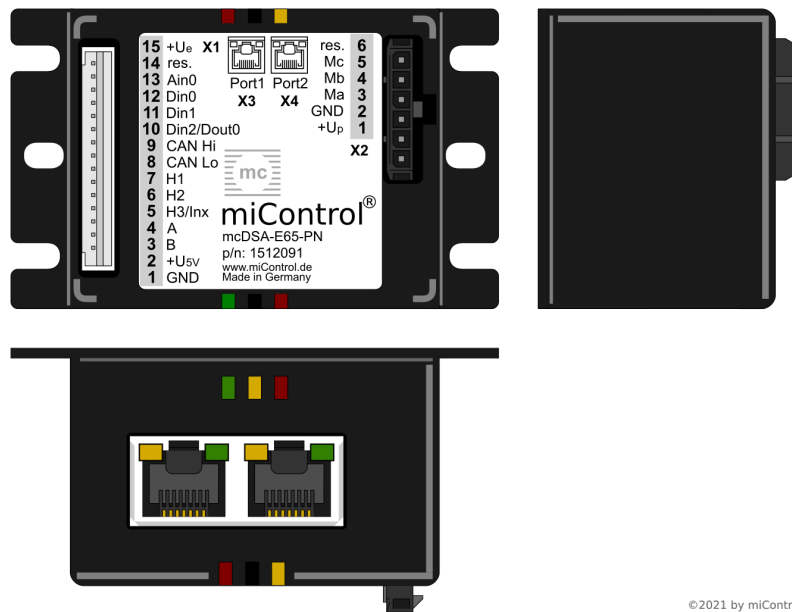
no guarantee, since value is determined empirical, please consider the application notes to determine the continuous current

\*3 default value

\*4 Input voltage must not exceed Electronic supply voltage  $U_e$

Additional technical data are available in mcManual.

## Scheme



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## Terminal assignment

| X1 Hall, inc. encoder, I/O's and CAN |            |   |
|--------------------------------------|------------|---|
| 1                                    | GND        | Ground for sensor supply<br>Notice: don't connect with system GND |
| 2                                    | +U5V       | 5V output voltage for sensor supply<br>Sensors: encoder, hall     |
| 3                                    | B          | Inc. encoder, B channel   |
| 4                                    | A          | Inc. encoder, A channel   |
| 5                                    | H3/Inx     | Hall sensor 3 / Inc. encoder, index channel                       |
| 6                                    | H2         | Hall sensor 2   |
| 7                                    | H1         | Hall sensor 1   |
| 8                                    | CAN Lo     | CAN Low   |
| 9                                    | CAN Hi     | CAN High  |
| 10                                   | Din2/Dout0 | Digital input 2 / Digital output 0                                |
| 11                                   | Din1       | Digital input 1   |
| 12                                   | Din0       | Digital input 0   |
| 13                                   | Ain0       | Analog input 0  |
| 14                                   | res.       | Reserved  |
| 15                                   | +Ue        | Electronic supply voltage   |
| X2 Motor                             |            |   |
| 1                                    | +Up        | Power supply voltage  |
| 2                                    | GND        | Ground for power supply voltage                                   |
| 3                                    | Ma         | Motor phase A   |
| 4                                    | Mb         | Motor phase B   |
| 5                                    | Mc         | Motor phase C   |
| 6                                    | res.       | Reserved  |
| X3 PROFINET - PORT1                  |            |   |
| -                                    | PORT1      | PORT1   |
| X4 PROFINET - PORT2                  |            |   |
| -                                    | PORT2      | PORT2   |