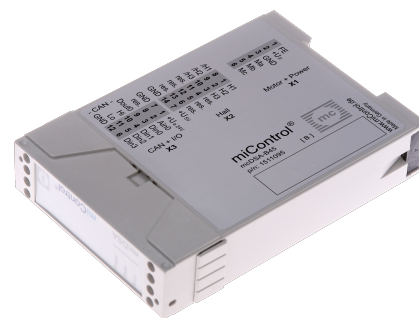


# Servo amplifier

## mcDSA-B45

Article number: 1511095



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. 40 mA         |
| Power supply voltage Up                                                    | 9..60 V            |
| Max. output current                                                        | 50 A               |
| Continuous output current @ Up=24V*2                                       | 10 A               |
| Continuous output current @ Up=48V*2                                       | 8.5 A              |
| PWM                                                                        |                    |
| Output voltage                                                             | 100% Up            |
| PWM frequency                                                              | 12.5, 25*3 kHz     |
| Mechanical                                                                 |                    |
| Size LxWxH                                                                 | 110 x 22.5 x 77 mm |
| Weight                                                                     | 110 g              |
| Environment                                                                |                    |
| Protection class                                                           | IP20               |
| Ambient temperature (operation)                                            | -40..70 °C         |
| Ambient temperature (storage)                                              | -40..85 °C         |
| Rel. humidity (non-condensing)                                             | 5..90 %            |
| CAN bus                                                                    |                    |
| Protocol                                                                   | DS301              |
| Max. baudrate                                                              | 1 Mbit/s           |
| CAN specification                                                          | 2.0B               |
| Galvanically isolated                                                      | no                 |

| Sensor supply (Hall)         |                                                            |
|------------------------------|------------------------------------------------------------|
| Output voltage               | 5 V                                                        |
| Max. output current          | 0.2 A                                                      |
| Hall sensors                 |                                                            |
| Signals                      | H1,/H1,H2,/H2,H3,/H3                                       |
| Max. frequency (per channel) | 10 kHz                                                     |
| Input voltage (24V tolerant) | 0..5 V                                                     |
| Signal type                  | open collector, differential,<br>5V pull up intern 920 Ohm |
| Digital inputs               |                                                            |
| Number - digital inputs      | 4 (Din0..3)                                                |
| Low voltage                  | 0..5 V                                                     |
| High voltage                 | 8..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 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 &gt; 40 °C derating), RMS current: 8.5 A → 6.9 Aeff, 10 A → 8.2 Aeff

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

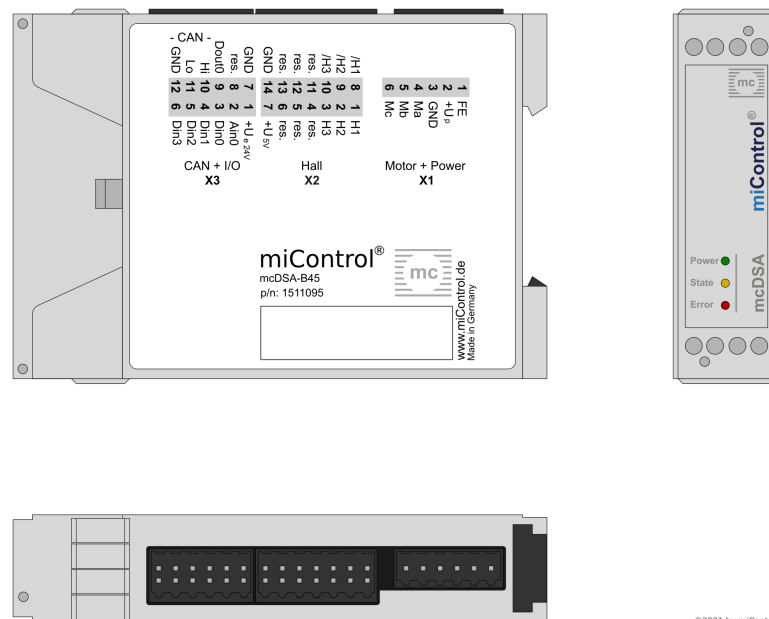
\*3 default value

Additional technical data are available in mcManual.



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## 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          |         |                                                                   |
| 1                | H1      | Hall sensor 1                                                     |
| 2                | H2      | Hall sensor 2                                                     |
| 3                | H3      | Hall sensor 3                                                     |
| 4                | res.    | Reserved                                                          |
| 5                | res.    | Reserved                                                          |
| 6                | res.    | Reserved                                                          |
| 7                | +U5V    | 5V output voltage for sensor supply<br>Sensors: hall              |
| 8                | /H1     | Hall sensor 1 inverted                                            |
| 9                | /H2     | Hall sensor 2 inverted                                            |
| 10               | /H3     | Hall sensor 3 inverted                                            |
| 11               | res.    | Reserved                                                          |
| 12               | res.    | Reserved                                                          |
| 13               | res.    | Reserved                                                          |
| 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                                                    |
| 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                                                        |