

## MINIMOTOR - MCDBS BRUSHLESS SERVOMOTORS WITH WORM GEARBOX

MCDBS 55/50-10 B3  
24/48V dc 300rpm 2.7 Nm B3 mount

- Efficient and compact
- Saves separate cable runs
- Up to 13Nm rated torque
- Open Bus protocols
- Reduce machine build components



### PRODUCT DESCRIPTION

**MOTOR:** Brushless 4-pole three-phase sinusoidal motor, totally enclosed. Rotor with NdFeB magnets. Thermal cutoff. Winding Class F. Thermal cutoff. Protection IP65 in compliance with IEC/EN 60529 standards. Bearings with reduced backlash and special grease for high temperatures.

**DRIVE:** Power 24 and/or 48 Vdc • Magnetic absolute encoder SSI (12bit single-turn / 16bit multi-turn) with internal buffer battery • 5 PNP digital inputs and 1 analogue input -10 +10V ext. (0-5 or 4-20mA optional) • 1 relay output (NC-NO) • USB port for parametrisation • Torque, speed, position and homing control.

**GEAR UNIT:** with worm screw and die-cast aluminium gearcase. 26 mm centre distance. CARO bronze crown with a hardness of 120÷160 HB. The worm is made of tempered steel, with ground thread. Seal rings in special high-temperature rubber (FKM). Lubrication with special long-lasting oil. There are 10 available gear ratios (i), from 5 to 80. Rated torque up to 9 Nm.

Version B3 - B5 (B5/S left - B5/D right).

All the models are implemented with the new "open" platform, which permits configuration with the following primary protocols: CanOpen, Ethercat, Modbus, Ethernet/IP, Profinet, Powerlink.

For full motor specifications please see motor only 'DBS' or download literature below.

N.B. To choose the right gear motor, please refer to the relevant charts for duty and maximum shaft load coefficients.

These gear motors need to be run in. Therefore, for approximately the first 30 operating hours the torque will be lower than what indicated in the data.

[Please click here for 2D and 3D drawings](#)

## TECHNICAL DATA

### GENERAL DATA

Nominal speed	300 rpm
Nominal torque	2,7 Nm
Input voltage dc	24/48 Vdc
Digital inputs	2 pnp (24Vdc, 500kHz) , 3 pnp (24Vdc, 7kHz)
Outputs	1 NO 2A (42 Vdc)
Output power	125 W
Rated current	8A@24V/4.2A@48V A

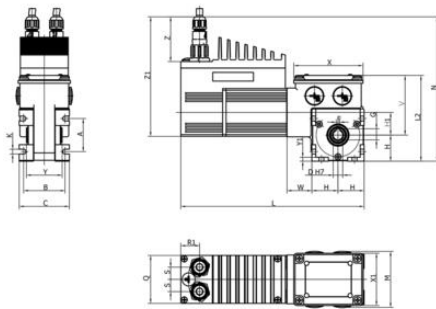
<b>Nominal overload</b>	200% x 60 sec
<b>Motor control algorithm</b>	Sinusoidal brushless with 12Bit single-turn / 20Bit multi-turn absolute encoder
<b>Nominal output frequency carrier</b>	4/8/12 kHz
<b>Electronic brake output</b>	24Vdc, max 0.5A
<b>Ambient temperature</b>	-10 ... +40°C

## SAFETY FEATURES

<b>IP class</b>	IP65
<b>CE approved</b>	Yes
<b>Over voltage protection</b>	Yes
<b>Under voltage protection</b>	Yes
<b>Overheat protection</b>	Yes
<b>Memory error protection</b>	Yes
<b>Polarity reverse protection</b>	Yes
<b>Overcurrent protection</b>	Yes
<b>Communication error protection</b>	Yes
<b>Overload protection</b>	Yes

## COMMUNICATION

<b>Communication</b>	USB
<b>Ethercat</b>	Yes
<b>CanOpen</b>	Yes
<b>ProfiNET</b>	Yes
<b>Ethernet IP</b>	Yes
<b>Modbus RTU</b>	Yes
<b>PowerLink</b>	Yes
<b>Ratio</b>	10:1



3D model selection

Electric motor

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Sensored motor

15.06.2017

Worm gearmotors

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Brushless servomotors

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Clean products

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Directs

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Please see product description above for 2D and 3D drawings

Dimensions		mm	
Symbol	Value	Symbol	Value
A	100	U	100
B	100	V	100
C	100	W	100
D	100	X	100
E	100	Y	100
F	100	Z	100
G	100		
H	100		
I	100		
J	100		
K	100		
L	100		
M	100		
N	100		
O	100		
P	100		
Q	100		
R	100		
S	100		
T	100		
U	100		
V	100		
W	100		
X	100		
Y	100		
Z	100		