

AC BRUSHLESS SERVOMOTORS - MBM2x



The MBM Brushless Servomotors are AC PM Synchronous servomotors. They have been designed using the latest generation of magnets and construction techniques to provide very high performance, low cogging and torque ripple. They can be supplied with resolver or Incremental / absolute encoder.

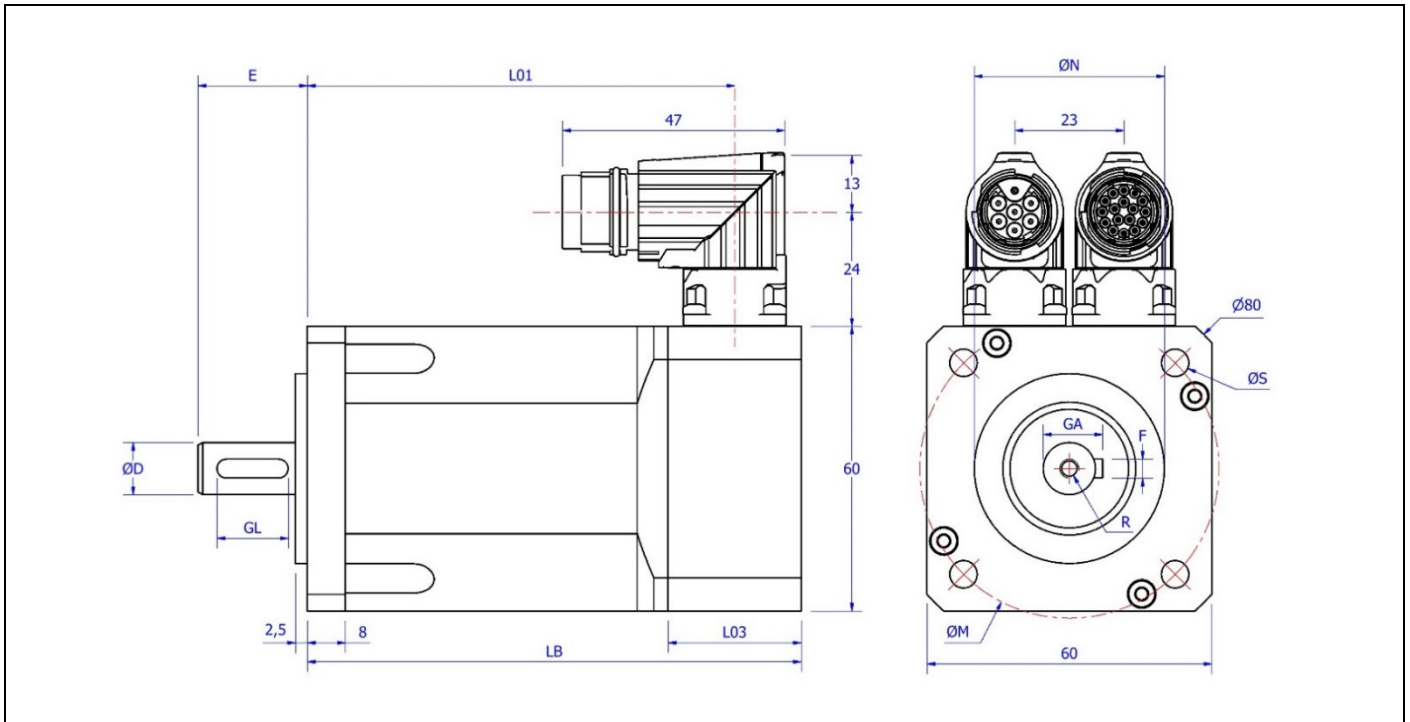
Their main characteristics are:

- Frame size 60mm
- Rare earth magnets for high performance
- 8 pole construction for high torque density
- Low cogging and torque ripple
- Sinusoidal back EMF
- Integrated PTC thermal protection
- Rotatable connectors
- Compact design
- High IP rating
- Smooth finish

Technical Data

Tab. 1

Description Winding code	Symbol	Motor Units	MBM21		MBM22	
			1	2	1	2
Standstill Torque	M_0	Nm	0,7		1,4	
Maximum Torque	M_{pk}	Nm	2,5	2,5	4,7	4,9
Standstill Current	I_0	A	1,6	1,0	2,8	1,7
Peak current	I_{pk}	A	6,4	4,0	11,2	6,8
Maximum mechanical revs	N_{mec}	min ⁻¹	8500		8500	
Maximum revs @ 230Vac	N_{MAX}	min ⁻¹	6200	3600	6300	3900
Maximum revs @ 400Vac	N_{MAX}	min ⁻¹	8000	6000	8000	6000
Voltage constant	K_E	V/krpm	27	44	30	49
Torque constant	K_T	Nm/A	0,45	0,73	0,5	0,82
Rotor Inertia	J_R	kg cm ²	0,13		0,23	
Resistance @ 20°C	R_{U-V}	Ohm	8,6	23	3,2	8,4
Inductance @ 1 kHz	L_{U-V}	mH	10	27	5,6	13
Mass	m	kg	1,2		1,7	



Dimension in mm

Tab. 2

Feedback device	EQI1130, TTL 2048ppr, Resolver,			EKS36		
Dimension	LB	L01	L03	LB	L01	L03
MBM21	104	90	28	118	104	42
MBM22	132	118		146	132	
MBM21 Brake	134,4	120,4		148,4	134,4	
MBM22 Brake	162,4	148,4		176,4	162,4	

Dimensions in mm

Tab. 3

Flange	40/63	56B14	50/70
N	40j6	50j6	50j6
M	63	65	70
S	5,8	M5	5,5

Dimensions in mm

Tab. 4

Shaft	Dimension		
D	9j6	11j6	14j6
E	20	23	30
GL	12	15	20

Values in this catalogue are true for the following conditions:

Max ambient temperature 40° C
 Min ambient temperature 0 °C
 Max Altitude 1000 m (above sea level)
 Insulation class F (materials F & H)
 RMS values
 Insulation system conforms to UL
 IP65 enclosure protection with shaft seal

Motor Installation B5 – V5
 Cooling IC0041
 Typical tolerance value ±10%
 Continuous ratings apply with a rise of ΔT=100K on the windings when fitted on an aluminium plate with dimensions 254 x 254 x 8mm

PART NUMBER COMPOSITION

1	2	3	4	5	6	7	8	9	10	11	12
M	B	M		2	2	1	1	4	8	x	x

POS. DESCRIPTION

1-3 **Product**

MBM = PM synchronous motor, self-cooled

4 Blank

5 **Motor size**

Size Two

6 **Motor length**

1 = Mo 0,70 Nm

2 = Mo 1,40 Nm

7 **Voltage**

1 = Winding code 1

2 = Winding code 2

8 **Holding brake**

0 = Without brake

1 = Permanent Magnet Brake $24 \pm 6\% V_{DC} M_{br} = 2Nm$ 10W $J_{br} = 0,045 kgcm^2$ $m = 200g$

9 **Feedback**

0 = Sensor-less

1 = Heidenhain encoder EQI1130 EnDat Multi-turn

4 = Encoder 2048ppr TTL LD + hall sensors

9 = Resolver size 15 2p 7V 10KHz

C = Encoder Biss-C MT at battery cell

L = Sick encoder SEL37 Hiperface Multi-turn

W = Sick encoder EKS36 Hiperface DSL Single-turn no SIL 17bit

Y = Sick encoder EKM36 Hiperface DSL Multi-turn no SIL 17bit

Z = Sick encoder SKM36 Hiperface 128i PPT Multi-turn

10 **Connection type**

1 = Cable glands

8 = 90° rotatable connectors M17

B = 90° rotatable connector M15 I-tec single 9 pin (DSL Hiperface)

11-12 **Special version**

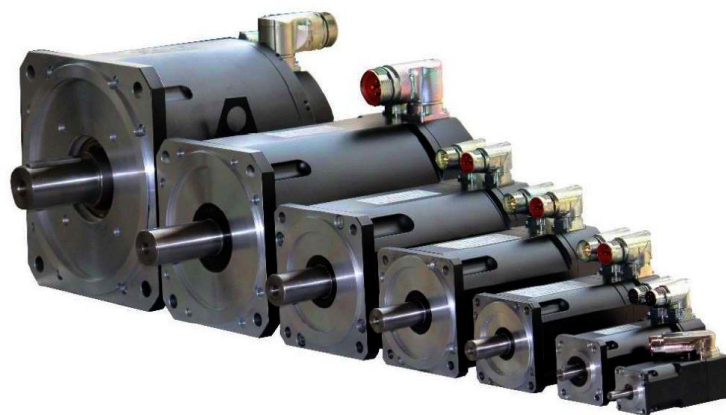
48 = Shaft 14 x 30mm and Flange 50/70mm (spigot/PCD)

62 = Shaft 9 x 20mm

66 = IP65 Shaft Protection

90 = Thermal protection PT1000

xx = Special Shaft and Flanges (on request)



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