



AC brushless Servomotors DSM5.3x



DSM5 size Three Brushless Servomotors are AC PM Synchronous servomotors. They have been designed using 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.

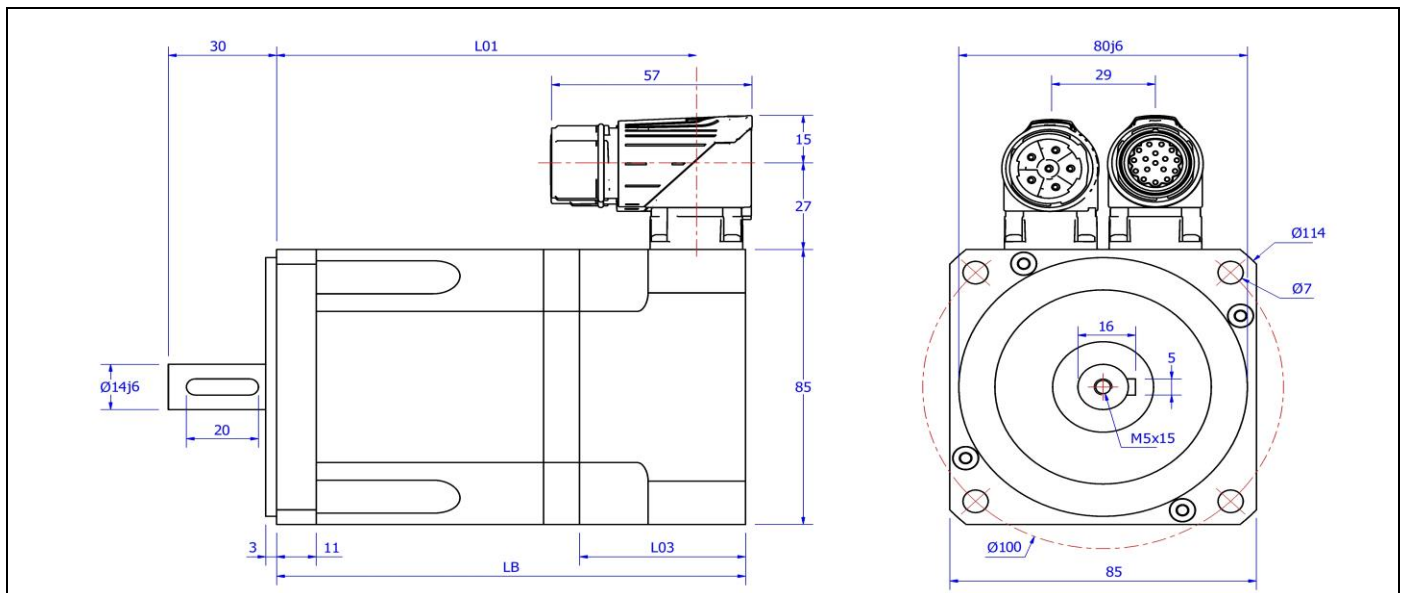
Their main characteristics are:

- Frame size 85mm
- 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	DSM5.31		DSM5.32		DSM5.33		DSM5.34	
		UM	1	2	1	2	1	2	1	2
Stall Torque	M ₀	Nm	1,5		2,9		4,2		5,3	
Maximum Torque	M _{pk}	Nm	5,1	4,8	10	10	14	14	18	18
Stall Current	I ₀	A	1,65	1,1	3,2	2	4,6	2,9	5,8	3,4
Peak current	I _{pk}	A	6,6	4	13	8	19	12	24	15
Maximum mechanical revs	N _{mec}	min-1	7000		7000		7000		6000	
Maximum revs @ 230Vac	N _{MAX}	min ⁻¹	3100	1800	3200	1900	3300	2000	3300	1900
Maximum revs @ 400Vac	N _{MAX}	min ⁻¹	6000	3500	6000	3500	6000	3500	5000	3000
Voltage constant	K _E	V/krpm	55	86	55	88	55	88	55	93
Torque constant	K _T	Nm/A	0,91	1,42	0,91	1,45	0,91	1,45	0,91	1,54
Rotor Inertia	J _R	kg cm ²	0,92		1,72		2,53		3,33	
Resist. @ 20°C	R _{U-V}	Ohm	9	23	3,4	8,3	1,9	5	1,4	4
Induct. @ 1 kHz	L _{U-V}	mH	16	35	7	18	4,5	12	3,5	11
Mass	m	kg	2,4		3,5		4,6		5,7	



Dimension in mm

Tab. 2

Feedback device	EQI1130, TTL 2048ppr, Resolver, SEL52				SinCos, EKS36			
Dimension	LB		L01		LB		L01	
Shaft - $\varnothing D$	14	19	14	19	14	19	14	19
DSM5.31	115	125	101	111	130	140	116	126
DSM5.32	145	155	131	141	160	170	146	156
DSM5.33	175	185	161	171	190	200	176	186
DSM5.34	205	215	191	201	220	230	206	216
DSM5.31 Brake	163	163	149	149	178	178	164	164
DSM5.32 Brake	193	193	179	179	208	208	194	194
DSM5.33 Brake	223	223	209	209	238	238	224	224
DSM5.34 Brake	253	253	283	283	268	268	254	254

Dimension in mm

Tab. 3

Flange	56B5	63B5
N	80j6	95j6
M	100	115
S	7	9

Dimension in mm

Tab. 4

Shaft	Dimension
D	14j6
E	30
GL	20
GA	16
F	5
R	M5 x 15

Values in this catalogue are true for the following conditions:

- Max Temperature ambient 40° C
- Min temperature ambient 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 seal
- Motor Installation B5 – V5
- Cooling IC0041
- Typical tolerance value $\pm 10\%$
- Continuous ratings apply with a rise of $\Delta 100K$ on the windings when fitted on an aluminium plate with dimensions 254 x 254 x 8mm

Sangalli reserves the right to amend the specification of this product without prior notification.

Part number composition

1	2	3	4	5	6	7	8	9	10	11	12
D	S	M	5	5	2	2	0	9	5	x	x

Pos. Description

1-3 **Product**

DSM= PM synchronous motor, self-cooled

4 **Motor type**

Series 5

5 **Motor Size**

Size Three

6 **Motor Length**

1 = Mo 1,5 Nm

2 = Mo 2,9 Nm

3 = Mo 4,2 Nm

4 = Mo 5,3 Nm

7 **Voltage**

1 = Winding code 1

2 = Winding code 2

8 **Holding brake**

0 = Without brake

1 = With holding brake Mb = 9 Nm 18 W 24 VDC PM Jb = 1,1 kgcm² mb = 0,8 kg

9 **Feedback**

0 = Sensor-less

1 = Heidenhain encoder EQI1130 EnDat multi-turn

4 = Encoder 2048ppr TTL LD + hall sensors

6 = Encoder 4096ppr TTL LD + hall sensors

7 = Encoder 1Vpp + position sin-cos

9 = Resolver size 15 2p 7V 10KHz

G = Sick encoder SEL52 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 128ppr multi-turn

10 **Connection type**

1 = Flying leads with cable glands

7 = M23 connectors 90° rotatable

11-12 **Special version**

23 =Shaft 19 x 40mm Flange 63B5

66 = IP65 Shaft Protection

90 = Thermal protection PT1000

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- DSM5 Brushless Servomotors
- DSG synchronous PM generators
- Rare earth SC DC servomotors
- DSW water-cooled
- Low-cost solutions
- Planetary gears
- Customised solutions
- Torque motors
- Frameless spindle motors



ISD : E220486

