



AC BRUSHLESS SERVOMOTORS - DSM7.3x



DSM7 – size THREE Brushless Servomotors are AC PM synchronous servomotors. They have been designed using the latest generation of magnets and are characterized by a high performance/price ratio. The use of quality materials allows high torque/volume ratios and provides excellent dynamic performance, with low cogging torque and low torque ripple. DSM7 is available with resolver, incremental, absolute or sin-cos type encoder feedback.

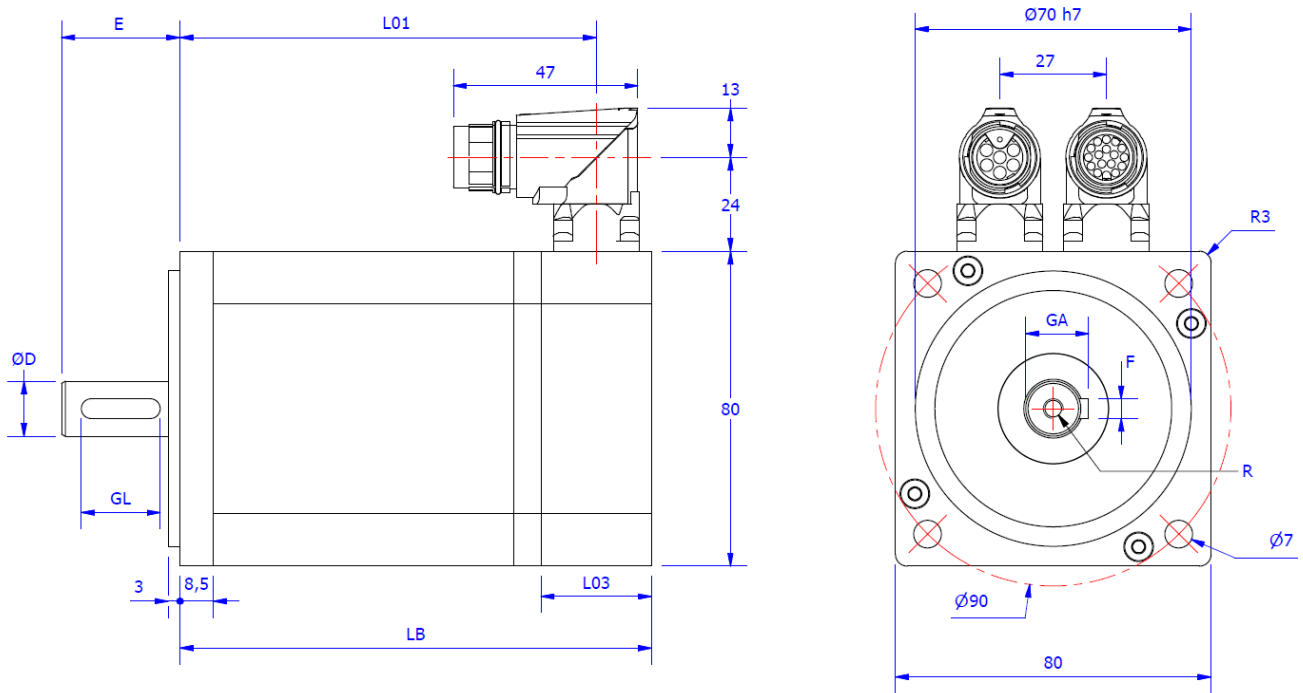
Their main characteristics are:

- Rare earth magnets for high performance
- 8 poles construction, 80 x 80mm frame size.
- Sinusoidal back E.M.F.
- Integrated PTC or PT1000 thermal protection
- Rotatable connectors
- Compact design, low weight
- High IP rating, smooth finish
- High efficiency

Technical Data

Tab. 1

Description	Symbol	Motor	DSM7.31		DSM7.32		DSM7.33	
			1	2	1	2	1	2
Winding code		Unit						
Stall Torque	M_0	Nm	1,4		2,8		3,9	
Maximum Torque	M_{pk}	Nm	5,0		9,5		13,0	
Stall current	I_0	A	1,8	1,15	3,5	2,15	4,9	3,1
Peak current	I_{pk}	A	7,2	4,6	14	8,6	19,6	12,4
Max mechanical revs	N_{mec}	min^{-1}	7000		7000		7000	
Max revs @ 230Vac	N_{max}	min^{-1}	3500	2000	3500	2000	3500	2000
Max revs @ 400Vac	N_{max}	min^{-1}	6000	3500	6000	3500	6000	3500
Voltage constant	K_E	V/krpm	49	80	48	79	48	80
Torque constant	K_T	Nm/A	0,81	1,323	0,794	1,307	0,794	1,323
Rotor inertia	J_R	$kg\ cm^2$	0,77		1,42		2,1	
Resistance @ 20°C	R_{U-V}	Ohm	9,6	24,2	3,4	9,2	2,0	5,3
Inductance @ 1 kHz	L_{U-V}	mH	14,8	36,9	6,8	18,0	4,3	11,4
Mass (without brake)	m	kg	1,9		2,7		3,5	
Electric time constant	τ_e	msec	1,54		2,0		2,15	



Dimension in mm

Tab. 2

FEEDBACK DEVICE	ABS, M29, TTL, RESOLVER				AD36 - SKM36					
DIMENSION	LB		L01		L03	LB		L01		L03
SHAFT - ØD	14	16/19	14	16/19		14	16/19	14	16/19	
DSM7.31	94,5	104,5	80,5	90,5	28	112,5	122,5	87,5	97,5	46
DSM7.32	119,5	129,5	105,5	115,5		137,5	147,5	112,5	122,5	
DSM7.33	144,5	154,5	130,5	140,5		162,5	172,5	137,5	147,5	
DSM7.31 BRAKE	146,1	146,1	132,1	132,1		164,1	164,1	139,1	139,1	
DSM7.32 BRAKE	171,1	171,1	157,1	157,1		189,1	189,1	164,1	164,1	
DSM7.33 BRAKE	196,1	196,1	182,1	182,1		214,1	214,1	189,1	189,1	

Dimension in mm

Tab. 3

TG3	Shaft		
D	14j6		19j6
E	30		40
GL	20		32
GA	16		21,5
F	5		6
R	M5x15	M5x15	M6x16

Information Bold data refers to standard version dimensions.

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 fitted
- Motor Installation B5 – V5
- Cooling IC410
- Typical tolerance value ±10%
- Continuous ratings apply with a rise of Δ 100K on the windings when fitted on an aluminium plate with dimensions 305mm x 305mm x 15mm

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	7	3	2	2	0	4	8	2	6

POS. DESCRIPTION

- 1-3 **Product**
DSM= PM synchronous motor, self-cooled
- 4 **Motor type**
Series 7
- 5 **Motor size**
Size Three
- 6 **Motor length**
1= Mo 1,4Nm
2= Mo 2,8Nm
3= Mo 3,9Nm
- 7 **Voltage**
1= Winding code 1
2= Winding code 2
- 8 **Holding brake**
0= Without brake
1= Brake 24V_{DC}±6% (M_{br} = 9Nm; P_{br}=18W; m = 1,0kg; J_{br}=0,6kg cm²)
- 9 **Feedback**
0 = Sensorless
3 = Heidenhain Encoder EQI1130 Endat Multi Turn 2.2
4 = Incremental Encoder 2048 PPR + hall
9 = Resolver size 15 2p 7V 10KHz
A = Hengstler absolute Encoder AD36 Biss-B 31 bit Multi turn
C = Encoder Sangalli Servomotori ME29 Biss-C MT at battery cell
Z = Sick encoder SKM36 Hiperface 128i PPT Multi turn

Available on request SIL option on some types of encoders
- 10 **Connection type**
8= M17 7 poles power connector / M17 90° feedback
- 11-12 **Special versions** *(Below some examples, for further details please contact our technical support.)*
26= Smooth Shaft
66= IP65 Shaft Protection
90= Thermal protection PT1000
xx= special version on request

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MOTORS & MOTION CONTROL

- **DSM5 BRUSHLESS SERVOMOTORS**
- **DSG SYNCHRONOUS PM GENERATORS**
- **RARE EARTH SC DC SERVOMOTORS**
- **DSW LIQUID-COOLED**
- **LOW-COST SOLUTIONS**
- **PLANETARY GEAR REDUCERS**
- **CUSTOMISED SOLUTIONS**
- **TORQUE MOTORS**
- **FRAMELESS SPINDLE MOTORS**



ISD : E220486