



SUPER SAX®



BRUSHLESS SERVOMOTOR

SUPER SAX® (SSax)

Complete line of Sinusoidal Brushless Servomotors (6 poles) for use with sinusoidal and trapezoidal AXOR's Drives (Mcb, Mcb Plus, McbNet, MiniMAGNUM and MAGNUM 400). Torque range from 0.35 to 30 Nm.

STANDARD FEATURES

- ✓ Sinusoidal B.E.M.F.
- ✓ Excellent torque/inertia ratio
- ✓ Permanent rare earth magnets (NdFeB)
- ✓ Very low fluctuations of torque at minimum speed
- ✓ High overload capacity (4 x stall torque)
- ✓ Protection class IP54
- ✓ Five different Nominal Voltages (44, 95, 145, 220 and 380 VAC)
- ✓ Two different feedback systems: Encoder 2048P/Rev, 5V LD or 2 poles resolver
- ✓ All motors with flying screw connectors
- ✓ Operating temperature 0 ÷ 40°C

OPTIONS

- ✓ Holding brakes
- ✓ Protection class: IP65, IP65S (with shaft sealing)
- ✓ Special flanges and shafts available upon request
- ✓ Flying leads instead of screw connectors
- ✓ Custom mountings available

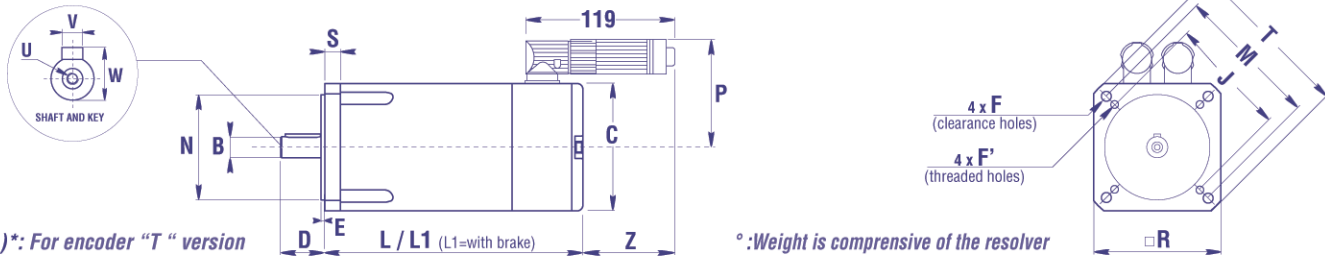


Typical applications are: Axis Controlled by CNC, Strongly Intermittent Motor Duties, Machine Tools, Textile and Graphic Machines, Robots, Transfer Lines, Manufacturing, Packaging and Wood Working Machines.

TORQUE RANGE

SERIES			SSAX 55				SSAX 75				SSAX 100					SSAX 140				
SIZE			S	M	L	XS	S	M	L	S	M	L	XL	XXL	S	M	L	XL	XXL	
Mo	stall Torque ($\Delta t=100^\circ\text{C}$)	(Nm)	0.35	0.8	1.2	1.1	1.6	2.7	3.8	3.2	5.2	7.5	8.5	10.6	13.5	17.8	22	26	30	
Mpk	Peak Stall Torque	(Nm)	1.4	3.2	4.8	4.5	6.4	10.8	15.2	12.8	21	30	34	42	55	72	90	105	120	
380 VAC <i>Drive's main voltage</i>	Stall Ac Current	Io (Arms)	0.7	1.4	1.5	1.1	1.5	2.4	3.5	2.2	3.4	4.8	5.5	6.8	8.7	11.5	14	16.5	19	
	Rated speed	N_n (Rpm)	6000	6000	5000	4000	4000	4000	4000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	
	Stall DC Current	Io^{DC} (A _{DC})	0.9	1.8	1.9	1.3	1.9	3.1	4.4	6.2	2.8	4.4	6	7	8.7	11	14.6	—	—	—
220 VAC <i>Drive's main voltage</i>	Stall Ac Current	Io (Arms)	0.7	1.4	2.1	1.8	2.6	4.3	6	3.7	5.9	8	9.3	11.7	15	19.8	16	—	—	
	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	4000	4000	3000	3000	3000	3000	3000	3000	3000	2000	—	—	
	Stall DC Current	Io^{DC} (A _{DC})	0.9	1.8	2.7	2.3	3.4	5.5	7.7	11.1	4.7	7.5	10	12	15	19	—	—	—	
145 VAC <i>Drive's main voltage</i>	Stall Ac Current	Io (Arms)	1.1	2.1	3.2	2.8	4	6	9.1	5.6	9.4	12.4	14	18	15	19.8	—	—	—	
	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	4000	4000	3000	3000	3000	3000	3000	2000	2000	—	—	—	
	Stall DC Current	Io^{DC} (A _{DC})	1.4	2.7	4	3.5	5	7.7	11.7	17.2	7.2	11.5	15.9	18	—	19	—	—	—	
95 VAC <i>Drive's main voltage</i>	Stall Ac Current	Io (Arms)	1.6	3.2	4.9	4	6.2	8	10	8.6	13.7	15.4	14	18	—	—	—	—	—	
	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	3500	3000	3000	3000	2500	2000	2000	—	—	—	—	—	
	Stall DC Current	Io^{DC} (A _{DC})	2	4	6.2	5	8	10	13.3	19.1	11	17.5	19.7	18	—	—	—	—	—	
44 VAC <i>Drive's main voltage</i>	Stall Ac Current	Io (Arms)	3.5	5.2	7.9	8	10	15	15	18.5	19.7	—	—	—	—	—	—	—	—	
	Rated speed	N_n (Rpm)	4000	3000	3000	3000	3000	3000	2000	3000	2000	—	—	—	—	—	—	—	—	
	Stall DC Current	Io^{DC} (A _{DC})	4.4	6.6	10	10	13	19	19	—	—	—	—	—	—	—	—	—	—	
J	Rotor Inertia	(Kg ^m ²)·10 ⁻⁴	0.08	0.16	0.24	0.4	0.6	1	1.4	1.8	2.8	3.8	4.2	5.2	13.5	18	22	27	31	
Jb	Brake Inertia	(Kg ^m ²)·10 ⁻⁴	0.045			0.122				0.37					1.15		4.0			
BRAKE stall torque ($\Delta t=100^\circ\text{C}$) (24 Vdc +6% -10%)			1.8 Nm (0.46 A _{DC})			4 Nm (0.5 A _{DC})				8 Nm (0.8 A _{DC})					18 Nm (1 A _{DC})		32 Nm (1.1 A _{DC})			
MODULE			2	4	6	2	3	5	7	3	5	7	8	10	3	4	5	6	7	

MECHANICAL DIMENSIONS All dimensions refer to both resolver and encoder versions



()*: For encoder "T" version

°: Weight is comprehensive of the resolver

REFERENCES	L	L1	Bj6	D	Vh9	W	U	Nj6	M	F	J	F'	E	S	R	T	C	P	Z	WEIGHT°	WEIGHT° with BRAKE	
SERIES - Mo (Nm)	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	
55 S	0.35	117 (127)*	158 (168)*	9	20	3	M3	40	63	5.5	—	—	2.5	7	□ 55	74	55	65	89 (83)*	1.1	1.4	
55 M	0.8	142 (152)*	183 (193)*			x 14	x 8													1.4	1.7	
55 L	1.2	167 (177)*	208 (218)*																	1.7	2.0	
75 XS	1.1	141	190																	2.05	2.65	
75 S	1.6	156	205	11	23	4x18	12.5	M4	60	90	5.5	75	M5	2.5	10	□ 75	100	75	71	79 (64)*	2.5	3.1
75 M	2.7	186	235					x 10					x 8							3.4	3.9	
75 L	3.8	216	265	14	30	5x25	16													4.2	4.7	
100 S	3.2	183	232																	4.8	5.5	
100 M	5.2	218	266			6		M6								□				6	6.7	
100 L	7.5	253	301	19	40	x 32	21.5	x 16	95	115	9	—	—	3	12	100	135	95	81	7.2	7.9	
100 XL	8.5	271	319																	7.8	8.5	
100 XXL	10.6	306	354																	9.0	9.7	
140 S	13.5	210	270																	9.8	12.2	
140 M	17.8	235	295			8		M8								□				12.6	15	
140 L	22	260	320	24	50	x 40	27	x 19	130	165	11	—	—	3.5	13	140	188	135	101	15.4	18.5	
140 XL	26	285	345																	18.2	21.3	
140 XXL	30	310	370																	21	24.1	

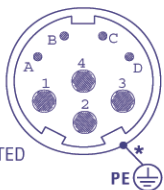
CONNECTION DATA

Flying connector (solder side view)

*: External shield tied to connector housing. All internal shields must be isolated.

POWER CONNECTOR

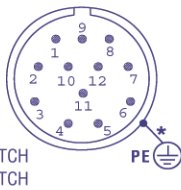
- 1 = U MOTOR
- 4 = V MOTOR
- 3 = W MOTOR
- 2 = GND ⊕ PE
- C = BRAKE (+)
- D = BRAKE (-)
- A - B = UNCONNECTED



(for both Encoder/Resolver versions)

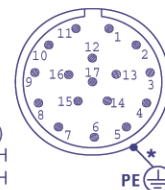
SIGNAL CONNECTOR "RESOLVER"

- 4 = COS (+)
- 8 = COS (-)
- 3 = SEN (+)
- 7 = SEN (-)
- 5 = EXC (+)
- 9 = EXC (-)
- 2 = THERMAL SWITCH
- 6 = THERMAL SWITCH
- 1 - 10 - 11 - 12 = UNCONNECTED



SIGNAL CONNECTOR "ENCODER"

- 1 = UNCONNECTED
- 3 = + 5V SUPPLY
- 4 = 0V SUPPLY
- 5 = CHA
- 6 = CHA (-)
- 7 = CHB
- 8 = CHB (-)
- 9 = CHZ
- 10 = CHZ (-)
- 11 = HALL A = U
- 12 = HALL A(-) = U(-)
- 13 = HALL B(-) = V(-)
- 14 = HALL B = V
- 15 = HALL C = W
- 16 = HALL C(-) = W(-)
- 17 = THERMAL SWITCH
- 2 = THERMAL SWITCH



ORDERING CODE Ex: **SSAX 55 M 40 / 220 - 000D00X S 0 T05 3 - SC00 R 1 XX**

NAME: Line of Brushless Servomotors

SERIES: 55, 75, 100 and 140

SIZE: XS, S, M, L, XL, XXL

NOMINAL SPEED Ex: 40=4000 Rpm (see table on reverse)

NOMINAL SUPPLY DRIVE VOLTAGE:

044, 095, 145, 220 and 380 Vac

THERMAL PROTECTION:

- S=Thermal Switch N.C. (std)
- P=PTC (optional)
- N=w/out protection (opt)
- Standard for 55 all sizes
- all feedback with flying leads

HOLDING BRAKE:

- 0 = Without brake (std)
- 1 = With brake (opt)

CONNECTIONS ORIENTATION:

- R= Rear exit
- F= Front exit
- T= Top exit

PROTECTION CLASS:

- 1=IP54 (std)
- 2=IP65 (opt)
- 3=IP65S w.shaft oil seal (opt)

AXOR INTERNAL USE:

- XX = (std)
- +R = reducer presence

FLANGE & SHAFT

MOUNTING FLANGE:

- 000= standard (see above)
- 001÷499= IEC metric dimension
- 501÷999= Axor's internal code

MOUNTING HOLES:

- D= B5 flange with thru holes (standard)
- C= B14 flange with threaded holes (optional)

000 D 00X = standard for all motors (see above)

SHAFT KEY:

- x= with key (standard)
- w= without key (optional)

SHAFT DIAMETER:

- 00= standard (see above)
- 01 ÷ 49= IEC metric diameter
- 51 ÷ 99= Axor's internal code

FEEDBACK:

- T05 = Encoder OIH4808-2048 p/r (std)
- T01 = Encoder OIH4808-2000 p/r (opt)
- T04 = Encoder OIH4808-1024 p/r (opt)
- T06 = Encoder OIH4808-4096 p/r (opt)
- D05 = Encoder F1006 - 2048 p/r (opt)
- D04 = Encoder F1006 - 1024 p/r (opt)
- R02 = Resolver 2p (std)
- R06 = Resolver 6p (opt)

FEEDBACK PHASING:

- 3 = 30° (std)
- 0 = 0° (opt)

MOTOR SIDE
P = Cable glands

LENGTH

- .5-04 = length (m)
- Ex: .5 = 0.5 m std
- (and only) length available for SSAX55
- 50-99 = Axor's internal use

ASSEMBLY CODE

- 3=No connectors, static cables
- 4=SubD signal connector, static cables

} 12 Arms max

SPECIAL FLANGES & SHAFTS OPTIONAL	Bj6	D	Vh9	W	U	Nj6	M	F	J	F'	E	S	R	T
065D09X (for SSAX55 all sizes)	9	20	3x14	10.2	M3x8	50	65	5.5	—	—	2.5	7	55	74
085C14X (for SSAX75 all sizes)	14	30	5X25	16	M4X10	70	—	—	85	M6X8	2.5	10	75	100
100D11X (for SSAX75 XS,S,M)	11	23	4x18	12.5	M4x10	80	100	6.6	—	—	3	10	90	115
100D14X (for SSAX75 all sizes)	14	30	5x25	16	M4x10	80	100	6.6	—	—	3	10	90	115
130D14X (for 75 all/100 S,M,L)	14	30	5x25	16	M4x10	110	130	9	—	—	3.5	10	115	150
100C19X (for SSAX100 all sizes)	19	40	6x32	21.5	M6x16	80	—	—	100	M6x10	3	12	95	120
115D14X (for SSAX100 S, M)	14	30	5x25	16	M4x10	95	115	9	—	—	3	12	100	135
115D24X (for SSAX100 all sizes)	24	50	8X40	27	M8x19	95	115	9	—	—	3	12	100	135
130D19X (for SSAX100 all sizes)	19	40	6x32	21.5	M6x16	110	130	9	—	—	3.5	12	115	150
130D24X (for SSAX100 all sizes)	24	50	8x40	27	M8x19	110	130	9	—	—	3.5	12	115	150
145D19X (for SSAX100 all sizes)	19	40	6x32	21.5	M6x16	110	145	9	—	—	3.5	12	130	165

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