



# SUPER SAX 2000 SC

## BRUSHLESS SERVOMOTOR

Screw Connectors



### SUPERSAX 2000 SC (SSax2000sc)

Complete line of Sinusoidal Brushless Servomotors (6 poles) for use with AXOR's Drives (MCB, MCB Plus, B17, MCB Net, and Magnum 400). Torque range from 0.35 to 17 Nm.

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.

#### STANDARD FEATURES

- ✓ Sinusoidal B.E.M.F.
- ✓ Very low moment of inertia resulting in high acceleration and deceleration
- ✓ Permanent rare earth magnets (NdFeB)
- ✓ Very low fluctuations of torque at minimum speed
- ✓ High overload capacity (4 x stall torque)
- ✓ Protection class IP54
- ✓ Four different Nominal Voltages (44, 95, 145 and 220 VAC)
- ✓ Two different feedback systems  
Encoder 2048P/Rev, 5V LD or resolver
- ✓ All motors with flying screw connectors (both power and signal)

#### OPTIONS

- ✓ Brake
- ✓ Protection class:  
IP65  
IP65S (with shaft sealing, motor length increases 10 mm)

#### TORQUE RANGE



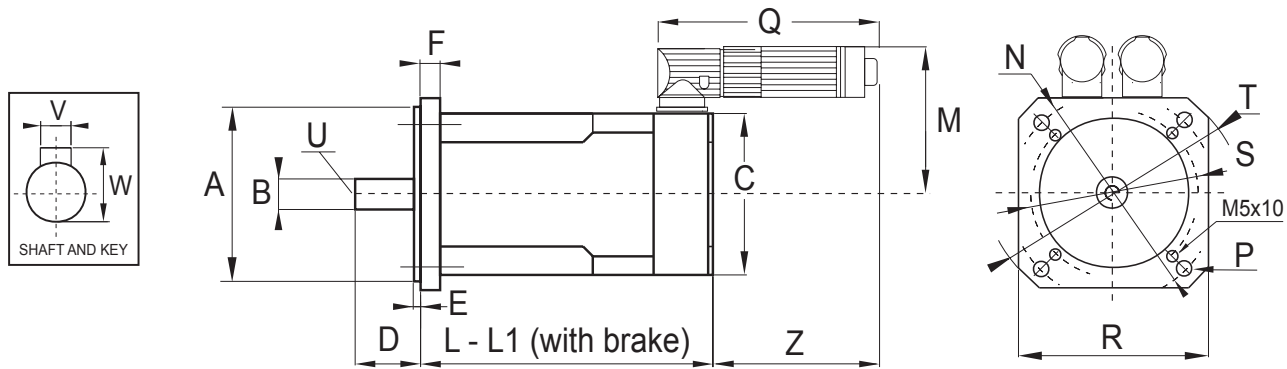
#### DESCRIPTION

The **SSAX 2000 Series Brushless Servomotors** with permanent magnets are designed to meet the most demanding needs of industrial automation with very high performance levels and are extremely reliable, requiring little maintenance.

The servomotors range from 0.35 to 17 Nm (50 to 2428.5 oz.-in.). High motor torque and low inertia give an excellent torque/inertia ratio. The maximum environmental temperature to which the Nominal performance refers is +40°C.

SERIES			SSAX 2055			SSAX 2075 (2088)			SSAX 2115			SSAX 2142		
SIZE			S	M	L	S	M	L	S	M	L	S	M	L
<b>Mo</b>	Stall Torque ( $\Delta t=100^\circ\text{C}$ )	(Nm)	0.35	0.6	0.8	0.6	1.3	2.5	2.5	5.2	7.5	10.5	13.5	17
<b>Mo max</b>	Peak Stall Torque	(Nm)	1.6	2.4	3.2	2.6	5.2	10	10	21	30	45	54	68
<b>220 VAC</b>	<b>Stall Ac Current</b>	<b>Io</b> (Arms)	0.9	1.2	1.7	1.25	2.4	4.3	2.9	6.2	8.6	12	15.3	20.0
Drive's main voltage	Rated speed	<b>N<sub>n</sub></b> (Rpm)	4000	4000	4000	4000	4000	4000	3000	3000	3000	3000	3000	3000
	Stall DC Current	<b>Io<sup>DC</sup></b> (A <sub>dc</sub> )	1.1	1.5	2.2	1.6	3	5.5	3.8	8	11	15.3	19.5	-
<b>145 VAC</b>	<b>Stall Ac Current</b>	<b>Io</b> (Arms)	1.3	1.5	1.95	2	3.6	5.7	4	9.8	12.5	16.9	16.2	-
Drive's main voltage	Rated speed	<b>N<sub>n</sub></b> (Rpm)	4000	4000	4000	4000	4000	3500	3000	3000	3000	2500	2000	-
	Stall DC Current	<b>Io<sup>DC</sup></b> (A <sub>dc</sub> )	1.7	1.9	2.5	2.5	4.6	7.2	5	12.5	16	21.5	-	-
<b>95 VAC</b>	<b>Stall Ac Current</b>	<b>Io</b> (Arms)	1.94	2.9	3.8	2.7	5.2	7.8	7.4	14.9	-	-	-	-
Drive's main voltage	Rated speed	<b>N<sub>n</sub></b> (Rpm)	4000	4000	4000	4000	4000	3500	3000	3000	-	-	-	-
	Stall DC Current	<b>Io<sup>DC</sup></b> (A <sub>dc</sub> )	2.5	3.6	4.8	3.5	6.6	9.9	9.4	19	-	-	-	-
<b>44 VAC</b>	<b>Stall Ac Current</b>	<b>Io</b> (Arms)	2.9	6.3	8.9	6.7	10	14.7	13.9	-	-	-	-	-
Drive's main voltage	Rated speed	<b>N<sub>n</sub></b> (Rpm)	4000	4000	4000	4000	3000	3000	2500	-	-	-	-	-
	Stall DC Current	<b>Io<sup>DC</sup></b> (A <sub>dc</sub> )	3.7	8	11.3	8.5	12.7	19	17.6	-	-	-	-	-
<b>J</b>	<b>Rotor Inertia</b>	(Kg <sup>m</sup> <sup>2</sup> )·10 <sup>-4</sup>	0.08	0.11	0.15	0.44	0.7	1.2	1.62	3.13	4.5	12	13.5	17
<b>J<sub>B</sub></b>	<b>Brake Inertia</b>	(Kg <sup>m</sup> <sup>2</sup> )·10 <sup>-4</sup>	0.07			0.38			1.06			3.6		
<b>BRAKE=24 Vdc (+15/-0%) OPTIONAL</b>			1.2 Nm (0.4 A <sub>dc</sub> )			2.5 Nm (0.5 A <sub>dc</sub> )			5 Nm (0.7 A <sub>dc</sub> )			12 Nm (0.8 A <sub>dc</sub> )		

## MECHANICAL DIMENSIONS



All dimensions refer to both resolver and encoder versions

To obtain the dimensions in INCHES, divide mm by 25.4 Ex: 40 mm=1.57 Inches / 25.4

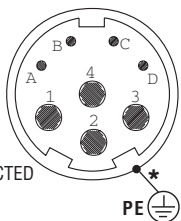
REFERENCES	Aj6	Bk6	C	D	E	F	L	L1	M	N	P	Q	R	S	T	U	V	W	Z	Weight	Weight with brake
VERSION Nm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg
2055 S 0.35	40	9	50 (74)*	24	2.5	7	121 (145)*	155 (179)*	60 (78)*	63	5.8	116	55	-	74	-	3x 18	11	87	1.1	1.36
2055 M 0.6							136 (160)*	170 (194)*												1.25	1.51
2055 L 0.8							151 (175)*	185 (209)*												1.45	1.71
2075 S 0.6	60	11	74	23	2.5	10	116 (134)*	149 (167)*	78	90	5.8	116	75	75	100	M4x 12	4x 16	12.5	87	1.9	2.3
2075 M 1.3							134 (152)*	167 (185)*												2.3	2.7
2075 L 2.5							170 (188)*	203 (221)*												3.3	3.7
2088 S 0.6	80	14	74	30	3	9	116 (134)*	149 (167)*	78	100	7	116	88	-	115	M4x 16	5x 22	16	87	1.9	2.3
2088 M 1.3							134 (152)*	167 (185)*												2.3	2.7
2088 L 2.5							170 (188)*	203 (221)*												3.3	3.7
2115 S 2.5	95	19	97	40	3	10	155 (172)*	187 (206)*	81.5	115	9	116	102	-	134	M5x 17	6x 32	22	85	4.5	5.3
2115 M 5.2							185 (202)*	218 (237)*												5.7	6.5
2115 L 7.5							230 (247)*	263 (282)*												7.6	8.4
2142 S 10.5	130	24	97	50	3.5	11	220	263	81.5	165	11	116	142	-	188	M8x 25	8x 40	27	85	9.8	11.3
2142 M 13.5							237	280												11.2	12.7
2142 L 17							276	319												14	15.5

\*: For encoder version (where not specified same dimensions for encoder and resolver)

## CONNECTION DATA Flying connector (solder side view)

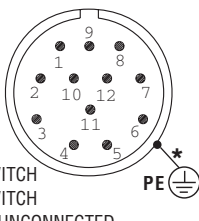
### POWER CONNECTOR (for both Encoder/Resolver versions)

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



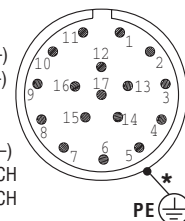
### SIGNAL CONNECTOR "RESOLVER"

- 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



\*: all shields (internal and external) tied to connector housing

### ORDERING CODE

Example:

**SSAX - 2055 - M - 40 / 220 - XX - 0 E - SC - 05 - 54**

**NAME:** Line of Brushless Servomotors

**SERIES:** 2055, 2075, 2088, 2115 and 2142

**SIZE:** S, M, L

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

**NOMINAL SUPPLY INPUT DRIVE VOLTAGE:** 044, 095, 145 and 220 Vac

### FLANGES & SHAFTS:

XX = Standard (see above)  
XW = Without keyway

**HOLDING BRAKE:**  
0 = W/out  
1 = With

**ELECTRICAL CONNECTIONS:**  
SC = Screw Connector

**FEEDBACK:**  
E = Encoder CDD 50 K  
R = Resolver  
T = Encoder 01H 48 ø 8

### PROTECTION CLASS:

54 = IP 54 (Standard)  
65 = IP 65  
65S = IP 65 S with shaft oil seal

### CUSTOM MADE:

01 = Encoder 2000 p / rev  
02 = Encoder 1000 p / rev  
03 = Encoder 2500 p / rev  
04 = Encoder 1024 p / rev  
05 = Encoder 2048 p / rev (std)  
06 = Encoder 4096 p / rev  
R1 = Resolver type 1  
00 = Transductor predisposition only