EC-S6□R

Simple dust-proof | Side-mounted Motor | Body width 63 mm | 24v Stepper motor

■ Model Specification Items

EC — S6 — [ ] — R — [ ] — [ ] — [ ]

Series	Type	Lead		Specification		Stroke		Cable Length		Options
EC	S6	S	20mm	R	Side-mounted motor	50	50mm	0	Terminal type with connector	Refer to the price list below
		H	12mm			~	~	1	1m	
		M	6mm			400	400mm (per 50mm)	~	~	
		L	3mm					10	10m	

CE RoHS

Horizontal | Vertical | Side | Ceiling

(Note) The above photo shows motor side-mounted to the left (ML).

POINT Selection Notes

(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.
(2) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P109 for cautions.
(3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P115 for cautions.
(4) Special attention needs to be paid to the mounting orientation. Please refer to P33 for details.
(5) Reference value of the overhang load length is under 220mm in the Ma, Mb and Mc directions. Please refer to the illustration on P35 for the overhang load length.
(6) The center of gravity of the attached object should be less than 1/2 of the overhang distance. Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Options

Name	Option code	Reference page
Brake	**B**	See P.101
Foot bracket	**FT**	See P.103
Motor side-mounted to the left (Note 1)	**ML**	See P.105
Motor side-mounted to the right (Note 1)	**MR**	See P.105
Non-motor end specification	**NM**	See P.108
PNP specification	**PN**	See P.108
Split motor and controller power supply specification	**TMD2**	See P.109
Battery-less absolute encoder	**WA**	See P.109
Wireless communication specification	**WL**	See P.109
Wireless axis-operation specification	**WL2**	See P.109

(Note 1) Make sure to enter a code in the option column of the model spec item.

Stroke

Stroke (mm)	EC-S6□R	Stroke (mm)	EC-S6□R
50	○	**250**	○
100	○	**300**	○
150	○	**350**	○
200	○	**400**	○

Cable length price list (standard price)

Cable code	Cable length
0	No cable (connecter supplied)
1 ~ 3	1 ~ 3m
4 ~ 5	4 ~ 5m
6 ~ 10	6 ~ 10m

(Note) Robot cables.

Main specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
		Max. payload (kg) (energy-saving enabled)	8	14	20	25
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1	2.5	6	12.5
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	400	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Max. thrust force when pushing (N)*	67	112	224	449
		Max. speed when pushing (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	12.5
Stroke		Min. stroke (mm)	50	50	50	50
		Max. stroke (mm)	400	400	400	400
		Stroke pitch (mm)	50	50	50	50

* Speed limitation applies to push motion. See the manual or contact IAI.

Item	Description
Driving system	Ball screw φ10mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Base	Dedicated aluminum extruded material(A6063SS-T5 or equivalent) Black alumite treatment
Linear guide	Linear motion infinite circulating type
Static allowable moment	Ma: 48N・m
	Mb: 69N・m
	Mc: 97N・m
Dynamic allowable moment (Note 2)	Ma: 11N・m
	Mb: 16N・m
	Mc: 23N・m
Ambient operation temperature/humidity	0~40°C, RH 85% or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s² 100Hz or less
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)
Motor type	Stepper motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 2) Based on the standard rated operation life of 5,000 km. Operation life varies depending on operating and mounting conditions. Confirm the operation life on P36.

Table of Payload by Speed and Acceleration

■ **Energy-saving disabled** The unit for payload is kg. Operations in the blank locations are not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	15	10	8	7	1	1
160	15	10	8	7	1	1
320	12	10	8	6	1	1
480	12	9	8	6	1	1
640	12	6.5	6	5	1	1
800	9	5	4	3	1	1

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	26	18	16	14	2.5	2.5
80	26	18	16	14	2.5	2.5
200	26	18	16	14	2.5	2.5
320	26	18	14	12	2.5	2.5
440	26	18	12	9	2.5	2.5
560	26	12	7	5	2.5	2.5
700	18	5	3	4	1.5	1

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	32	26	24	20	6	6
40	32	26	24	20	6	6
100	32	26	24	20	6	6
160	32	26	24	20	6	6
220	32	26	24	20	6	6
280	32	26	18	15	6	5.5
340	25	14	12	9	4	3.5
400	15	8	8	5	2.5	2
450	10	5				

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	40	35	35	35	12.5	12.5
50	40	35	35	35	12.5	12.5
80	40	35	35	30	12.5	12.5
110	40	35	35	30	12.5	12.5
140	40	35	35	28	12.5	12.5
170	40	32	32	24	9	8
200	35	20	15	12	6	4
225	18	10			3	

■ Energy-saving enabled The unit for payload is kg. Operations in the blank locations are not possible.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	8	5	0.75
160	8	5	0.75
320	8	5	0.75
480	8	4	0.75
640	6	3	0.75
800	4	1.5	0.5

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	14	10	2
80	14	10	2
200	14	10	2
320	14	10	2
440	11	7	1.5
560	7	2.5	1
680	2		

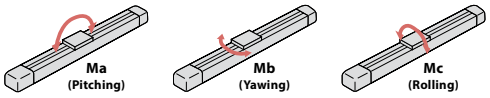
Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	20	14	5
40	20	14	5
100	20	14	5
160	20	14	5
220	16	14	4
280	13	7	2.5
340	8	1	1

Lead 3

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	25	22	10
20	25	22	10
50	25	22	10
80	25	22	10
110	20	14	8
140	15	11	5
170	11	5	2

■ Direction of slider type moment

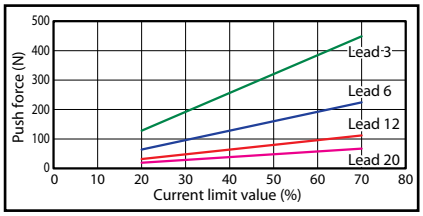


Stroke and maximum speed

Lead (mm)	Energy-saving mode	50-200 (per 50mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)
20	Disabled	800			727	566
	Enabled	800			727	566
12	Disabled	700		521	392	305
	Enabled	680 <560>		521	392	305
6	Disabled	450 <400>	371	265	199	155
	Enabled	340		265	199	155
3	Disabled	225	188	134	100	78
	Enabled	170		134	100	78

(Note) Figures in < > represent vertical operations. (Unit is mm/s)

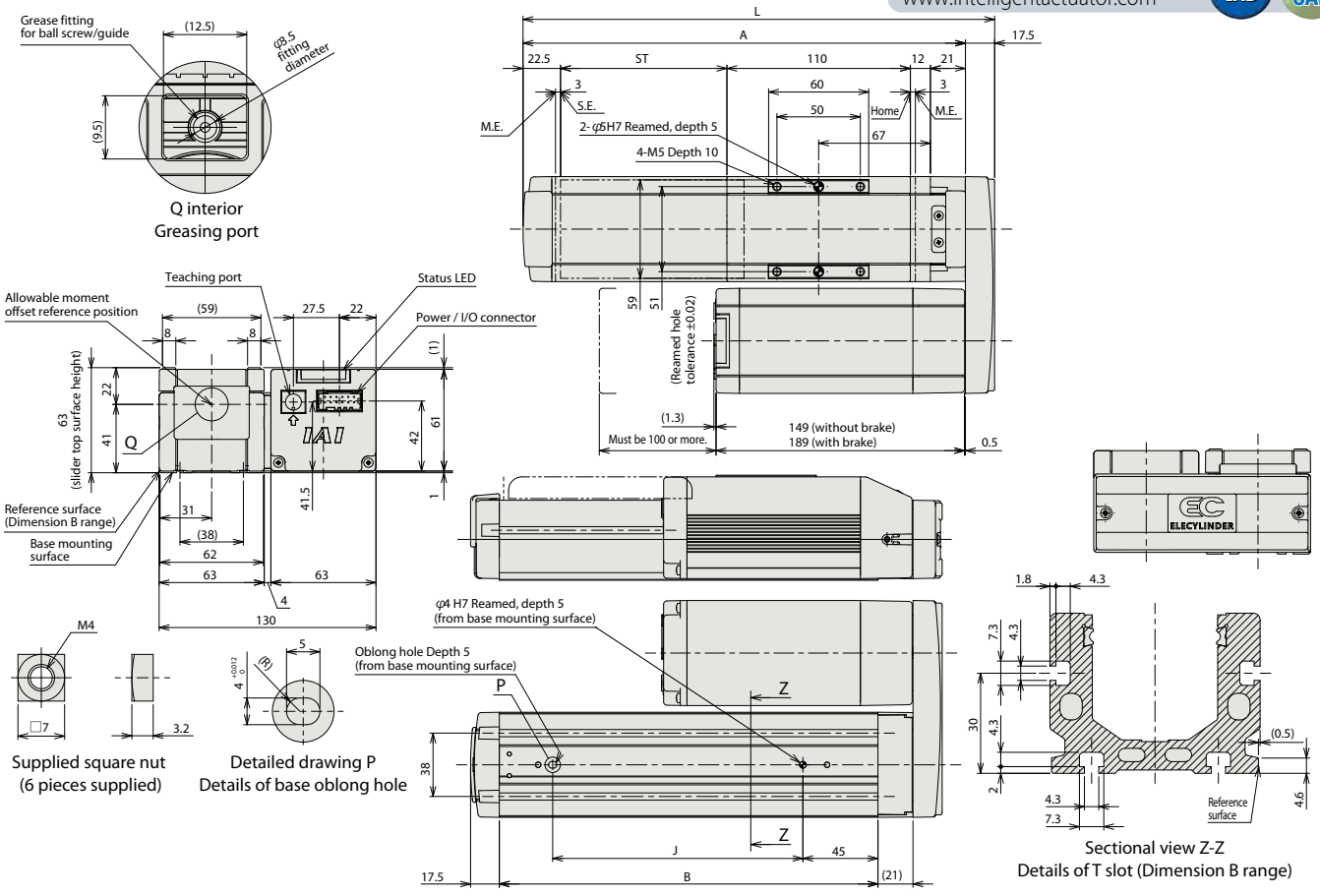
Correlation between push force and current limit value



Dimensions

(Note) When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) The drawing below represents motor side-mounted to the left (ML).

CAD drawings can be downloaded from our website.
www.intelligentactuator.com
2D CAD 3D CAD



■ Dimensions by stroke

Stroke	50	100	150	200	250	300	350	400
L	233	283	333	383	433	483	533	583
A	215.5	265.5	315.5	365.5	415.5	165.5	515.5	565.5
B	177	227	277	327	377	427	477	527
J	100	150	200	250	300	350	400	450

■ Mass by stroke

Stroke		50	100	150	200	250	300	350	400
Weight (kg)	without brake	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6
	with brake	2.4	2.6	2.8	3	3.2	3.4	3.6	3.8

Applicable controller

(Note) The EC series is equipped with a built-in controller. Please refer to P116 for details.