

EC-S6

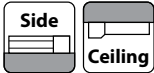
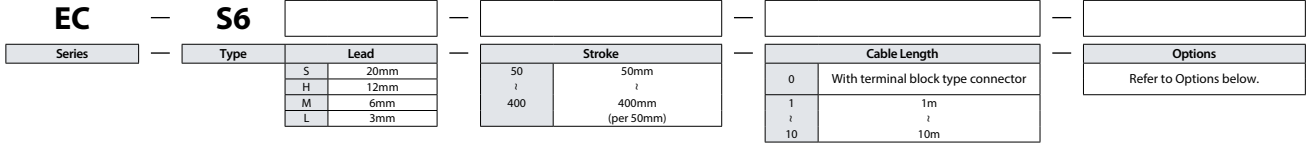
Simple dust-proof

Coupled Motor

Body width 63 mm

24v Stepper motor

Model Specification Items



- (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 P115 for cautions.
- (3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P109 for details.
- (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.

Options

Type	Option code	Reference page
Brake	B	See P.101
Foot bracket	FT	See P.103
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 specification	WA	See P.109
Wireless communication specification	WL	See P.109
Wireless axis-operation specification	WL2	See P.109

Cable Length

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

(Note) Robot cables.

Stroke

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

Main specifications

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

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

Item	Description
Driving system	Ball screw ϕ 10mm, Rolling C10
Positioning repeatability	\pm 0.05mm
Lost motion	-
Base	Dedicated aluminum extruded material (A6063SS-T5 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 1)	Ma: 11N·m
	Mb: 16N·m
	Mc: 23N·m
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 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 1) Based on the standard rated operation life of 5,000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P36.

Table of Payload by Speed/Acceleration

■ Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20

Orientation	Horizontal						Vertical					
	Acceleration (G)						Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	0.3	0.5	0.7	1	0.3	0.5
0	15	10	8	7	1	1	1	1	1	1	1	1
160	15	10	8	7	1	1	1	1	1	1	1	1
320	12	10	8	6	1	1	1	1	1	1	1	1
480	12	9	8	6	1	1	1	1	1	1	1	1
640	12	8	6	5	1	1	1	1	1	1	1	1
800	10	6.5	4.5	3	1	1	1	1	1	1	1	1

Lead 12

Orientation	Horizontal						Vertical					
	Acceleration (G)						Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	0.3	0.5	0.7	1	0.3	0.5
0	26	18	16	14	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
80	26	18	16	14	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
200	26	18	16	14	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
320	26	18	14	12	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
440	26	18	12	10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
560	20	12	8	7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
700	15	9	5	4	2	1	1	1	1	1	1	1

Lead 6

Orientation	Horizontal						Vertical					
	Acceleration (G)						Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	0.3	0.5	0.7	1	0.3	0.5
0	32	26	24	20	6	6	6	6	6	6	6	6
40	32	26	24	20	6	6	6	6	6	6	6	6
100	32	26	24	20	6	6	6	6	6	6	6	6
160	32	26	24	20	6	6	6	6	6	6	6	6
220	32	26	24	20	6	6	6	6	6	6	6	6
280	32	26	24	15	6	5.5	6	5.5	6	5.5	6	5.5
340	32	20	18	12	5	4.5	5	4.5	5	4.5	5	4.5
400	22	12	11	8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
450	15	8	6	4	2	2	2	2	2	2	2	2

Lead 3

Orientation	Horizontal						Vertical					
	Acceleration (G)						Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	0.3	0.5	0.7	1	0.3	0.5
0	40	35	35	35	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
50	40	35	35	35	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
80	40	35	35	30	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
110	40	35	35	30	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
140	40	35	35	28	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
170	40	32	32	24	12.5	12	12.5	12	12.5	12	12.5	12
200	35	28	23	20	10	9	10	9	10	9	10	9
225	28	20	16	12	6	6	6	6	6	6	6	6

■ Setting for energy-saving enabled Operations on the blank locations not available

Lead 20

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
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	0.75

Lead 12

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
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	4	1	0.5

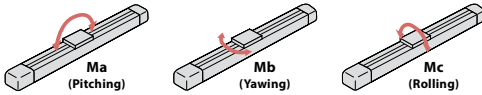
Lead 6

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
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	10	1	1

Lead 3

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
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	9	2

■ Direction of slider type moment

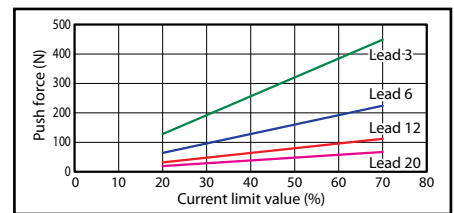


■ Stroke and maximum speed

Lead (mm)	Energy-saving mode	50-200 (mm) (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	521	392	305	
6	Disabled	450	371	265	199	155
	Enabled	340	265	199	155	
3	Disabled	225	188	134	100	78
	Enabled	170	134	100	78	

(Unit is mm/s)

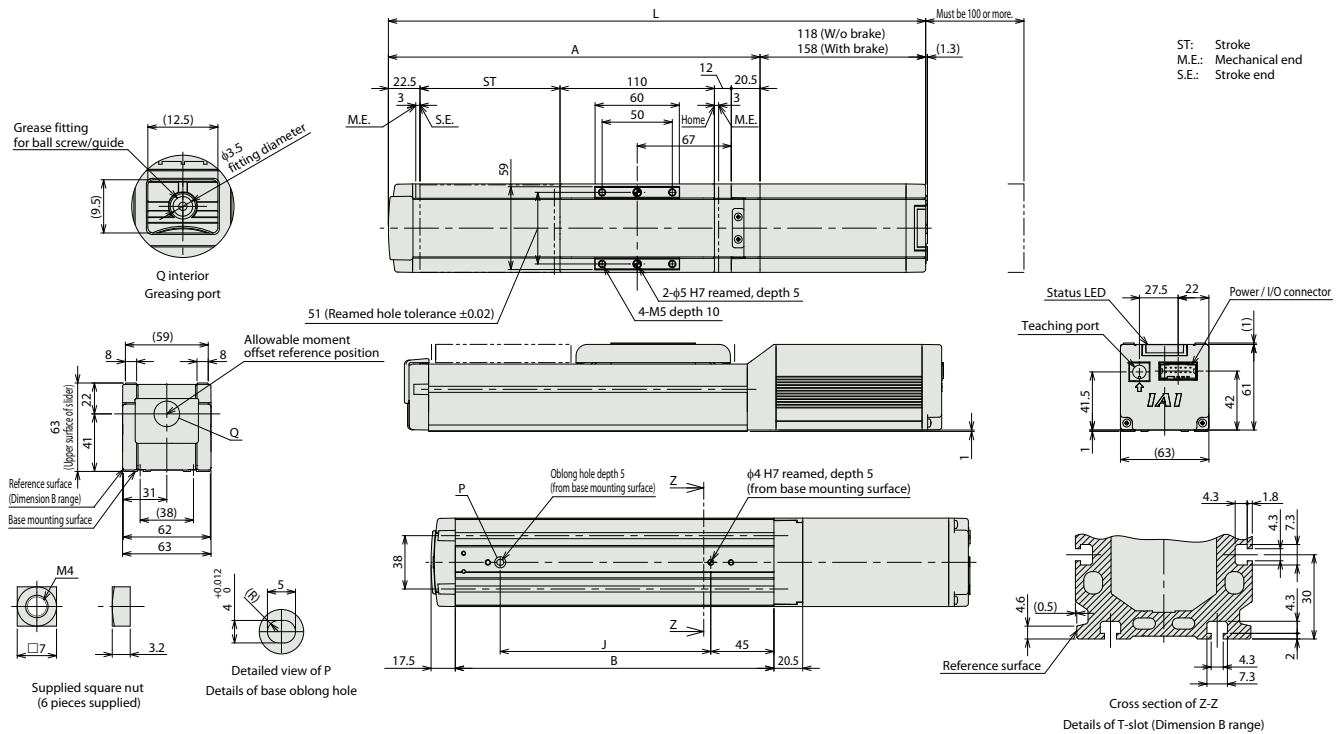
■ Correlation between push force and current limit value



■ 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.

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



■ Dimensions by stroke

Stroke	50	100	150	200	250	300	350	400
L	W/o Brake	333	383	433	483	533	583	633
	With Brake	373	423	473	523	573	623	673
A	215	265	315	365	415	465	515	565
B	177	227	277	327	377	427	477	527
J	100	150	200	250	300	350	400	450

■ Mass by stroke

Weight (kg)	Stroke								
	50	100	150	200	250	300	350	400	
W/o Brake	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	
With Brake	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	

■ Applicable controller

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