

EC-S3

Simple dust-proof

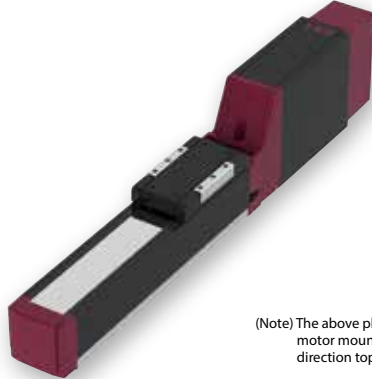
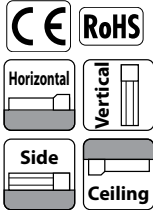
Coupled Motor

Body width 35 mm

24v Stepper motor

Model Specification Items

EC	S3				
Series	Type	Lead	Stroke	Cable Length	Options
		H 6mm M 4mm L 2mm	50 300	50mm 300mm (per 50mm)	0 Terminal type with connector 1 1m 2 2m 10 10m
					Refer to the option price list below



(Note) The above photo shows motor mounting direction top (MOT).

- 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 P115 for cautions.
 - (3) Special attention needs to be paid to the mounting orientation. Please refer to P33 for details.
 - (4) Reference value of the overhang load length is under 100mm in the Ma, Mb and Mc directions. Please refer to the illustration on P35 for the overhang load length.
 - (5) 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.

Stroke			
Stroke (mm)	EC-S3	Stroke (mm)	EC-S3
50	○	200	○
100	○	250	○
150	○	300	○

Stroke and maximum speed					
Lead (mm)	50-150 (per 50mm)	200 (mm)	250 (mm)	300 (mm)	
6	420	300	210	150	
4	280	200	140	100	
2	140	100	70	50	(unit is mm/s)

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

(Note) Robot cables.

Options		
Name	Option code	Reference page
Brake	B	See P.101
Foot bracket	FT	See P.103
Motor mounting direction change (bottom) (Note 1)	MOB	See P.105
Motor mounting direction change (left) (Note 1)	MOL	See P.105
Motor mounting direction change (right) (Note 1)	MOR	See P.105
Motor mounting direction change (top) (Note 1)	MOT	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) Please make sure to enter a code in the option column of the model spec item.

Main specifications

Item		Description			
Lead	Ball screw lead (mm)	6	4	2	
	Max. payload (kg)	3.5	6	9	
Horizontal	Max. speed (mm/s)	420	280	140	
	Min. speed (mm/s)	8	5	3	
	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
	Max. acceleration/deceleration (G)	0.5	0.3	0.3	
Vertical	Max. payload (kg)	1.5	2.5	3.5	
	Max. speed (mm/s)	420	280	140	
	Min. speed (mm/s)	8	5	3	
	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
Push force	Max. acceleration/deceleration (G)	0.3	0.3	0.3	
	Max. thrust force when pushing (N)*	45	68	136	
Brake	Max. speed when pushing (mm/s)	20	20	20	
	Brake specification	Non-excitation actuating solenoid brake			
Stroke	Brake holding force (kgf)	1.5	2.5	3.5	
	Min. stroke (mm)	50	50	50	
	Max. stroke (mm)	300	300	300	
	Stroke pitch (mm)	50	50	50	

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

Item	Description
Driving system	Ball screw ϕ 6mm, Rolling C10
Positioning repeatability	\pm 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: 9N·m
	Mb: 13N·m
	Mc: 15N·m
Dynamic allowable moment (Note 2)	Ma: 3N·m
	Mb: 5N·m
	Mc: 6N·m
Ambient operation temperature/humidity	0 to 40°C, RH 85% 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.

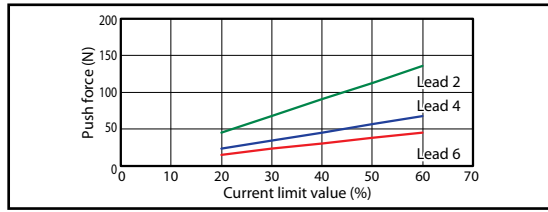
(Note 2) Based on the standard rated operation life of 5,000 km. Operation life varies depending on operating and mounting conditions. Confirm the operation life on P36.

Table of Payload by Speed and Acceleration/Deceleration

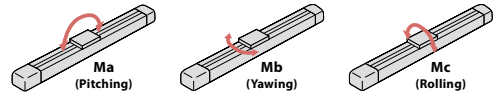
The unit for payload is kg.

Lead 6				Lead 4				Lead 2				
Speed (mm/s)	Acceleration (G)			Speed (mm/s)	Acceleration (G)			Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3		0.3	0.3	0.3		0.3	0.3	0.3	
0	3.5	3	1.5	0	6	2.5	0	9	3.5	0	9	3.5
120	3.5	3	1.5	80	6	2.5	40	9	3.5	40	9	3.5
210	3.5	3	1.5	140	6	2.5	70	9	3.5	70	9	3.5
255	3.5	3	1.5	170	6	2.5	85	9	3.5	85	9	3.5
315	3.5	3	1.5	210	6	2.5	105	9	3.5	105	9	3.5
360	3.5	3	1.5	240	5.5	2.5	120	9	3	120	9	3
420	3	2.5	1	280	4.5	2	140	8	2.5	140	8	2.5

Correlation between push force and current limit value



Direction of slider type moment



■ Dimensions by Stroke

Stroke		50	100	150	200	250	300	
L	Incremental	without brake	268	318	368	418	468	518
		with brake	293	343	393	443	493	543
	Battery-less absolute	without brake	293	343	393	443	493	543
		with brake	313	363	413	463	513	563

■ Mass by Stroke

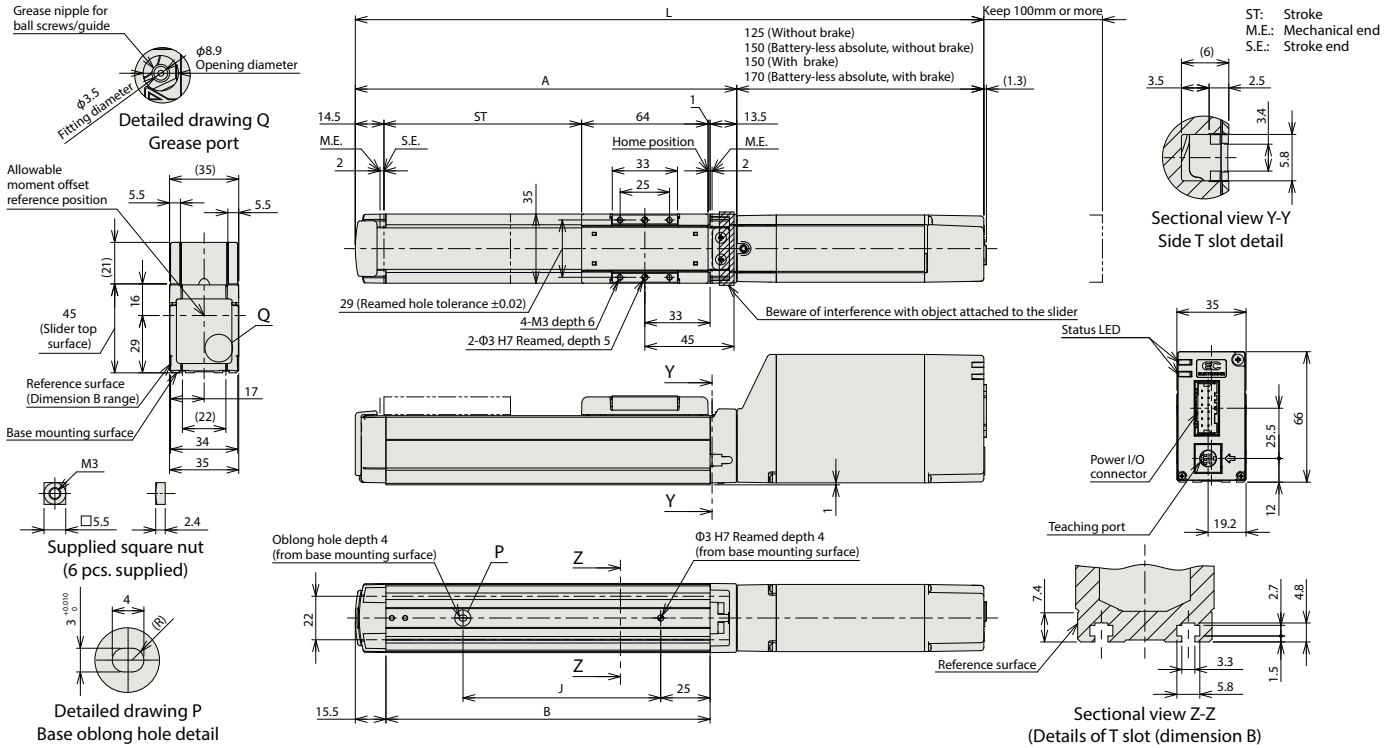
Stroke		50	100	150	200	250	300
Weight (kg)	without brake	0.7	0.8	0.9	1.0	1.1	1.2
	with brake	0.8	0.9	1.0	1.1	1.2	1.3

Dimensions

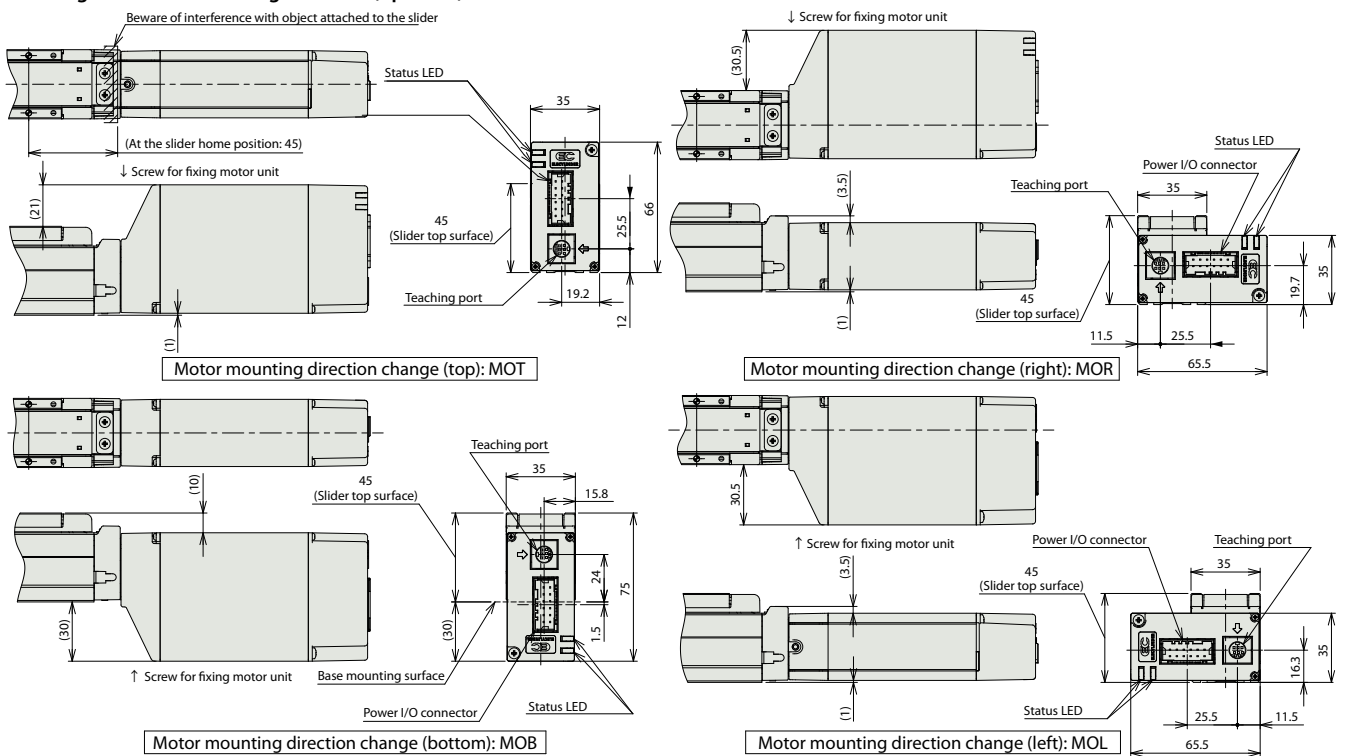
(Note) When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.

(Note) The drawing below represents motor mounting direction top (MOT).

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



■ Change of motor mounting direction (optional)



Applicable controller

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