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Simple-to-use ELECYLINDER with Built-in Controller
Long Stroke Slider Standard Type

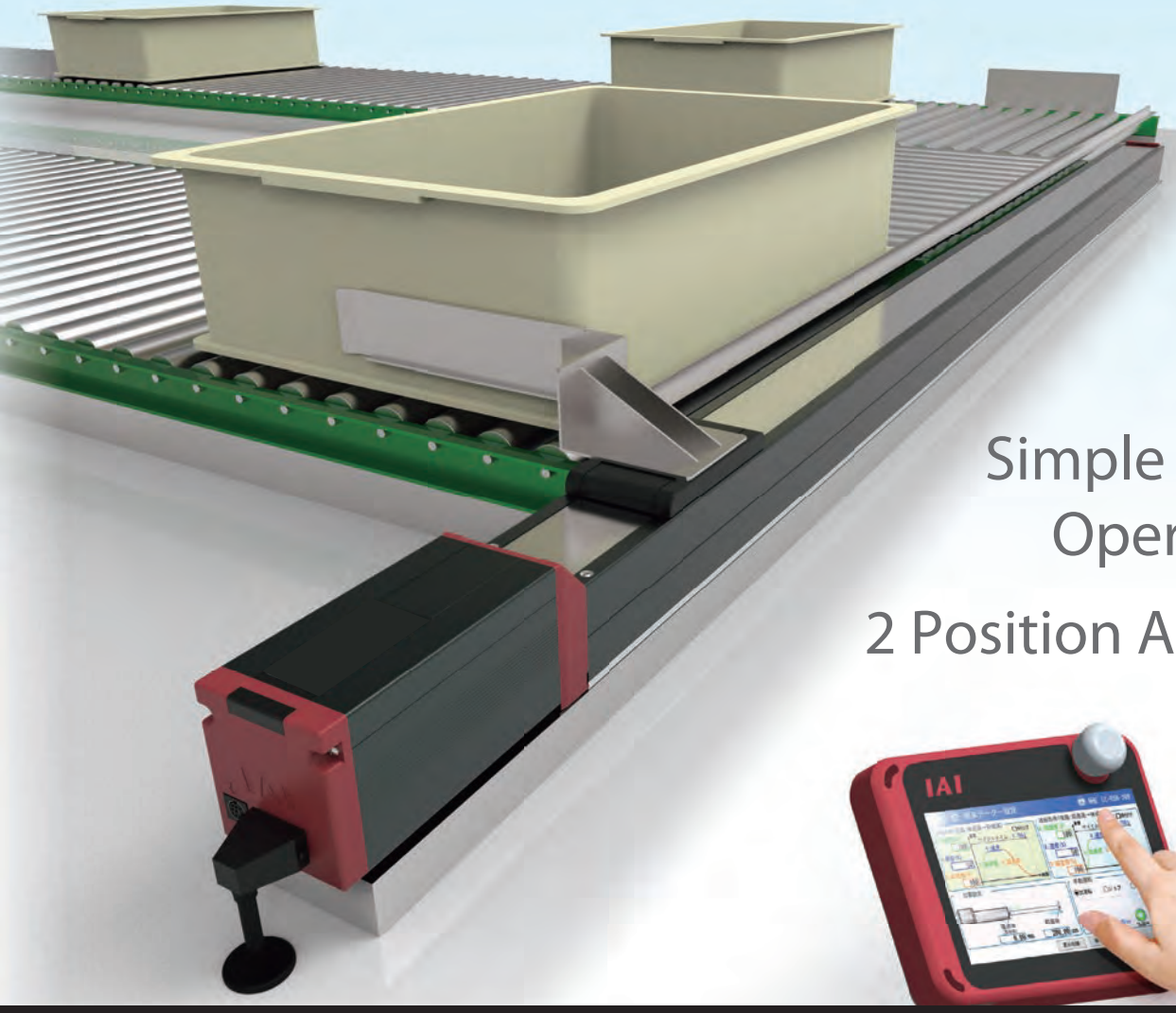
EC S3/4/6/7A

Simple-to-use ELECYLINDER with Built-in Controller
Long Stroke High Rigidity Slider Support Type

EC S6/7XAH

EC ELECYLINDER

Battery-less Absolute Encoder
No Battery,
No Maintenance, No Homing,
No Going Back to Incremental.



Simple & Wireless Operation

2 Position Actuator

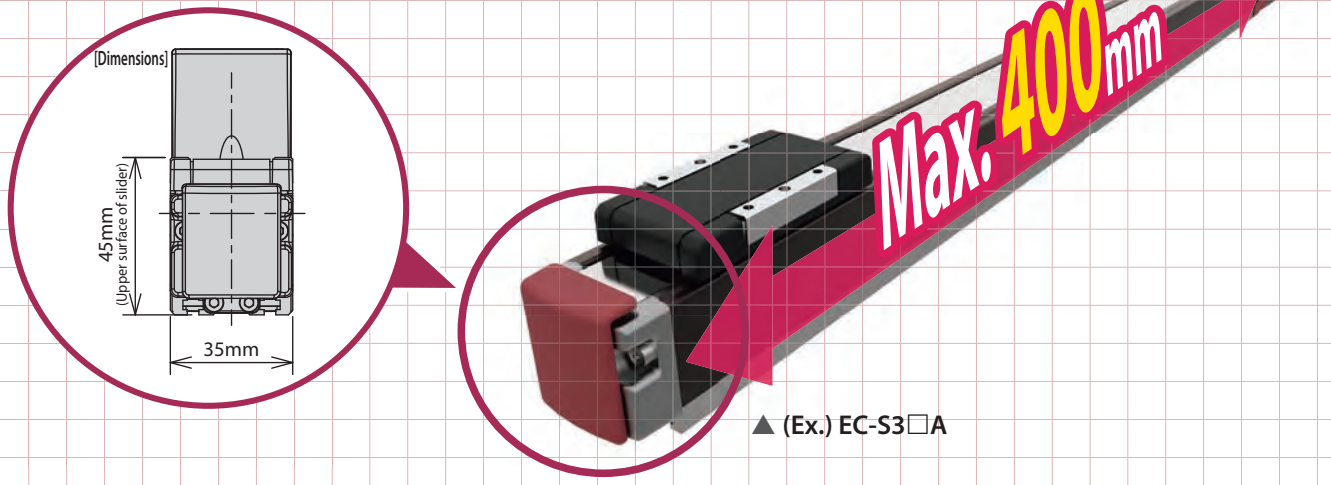
www.iai-automation.com

ELECYLINDER

Slider type
Long stroke supported

Feature 1 Compact with long stroke

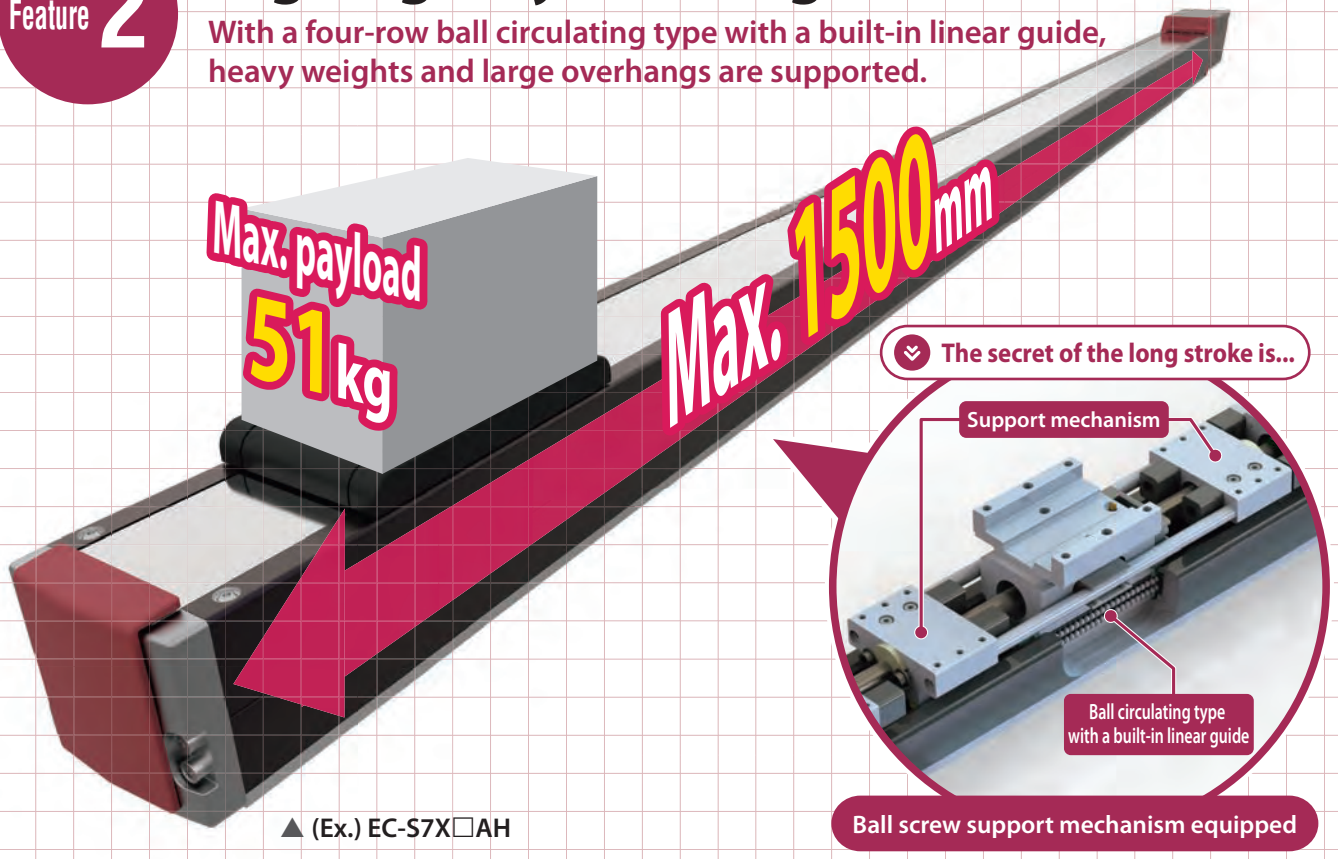
**Longer stroke has been achieved while keeping the housing compact.
Usable even in locations with limited installation space.**



▲ (Ex.) EC-S3□A

Feature 2 High rigidity and long stroke

**With a four-row ball circulating type with a built-in linear guide,
heavy weights and large overhangs are supported.**

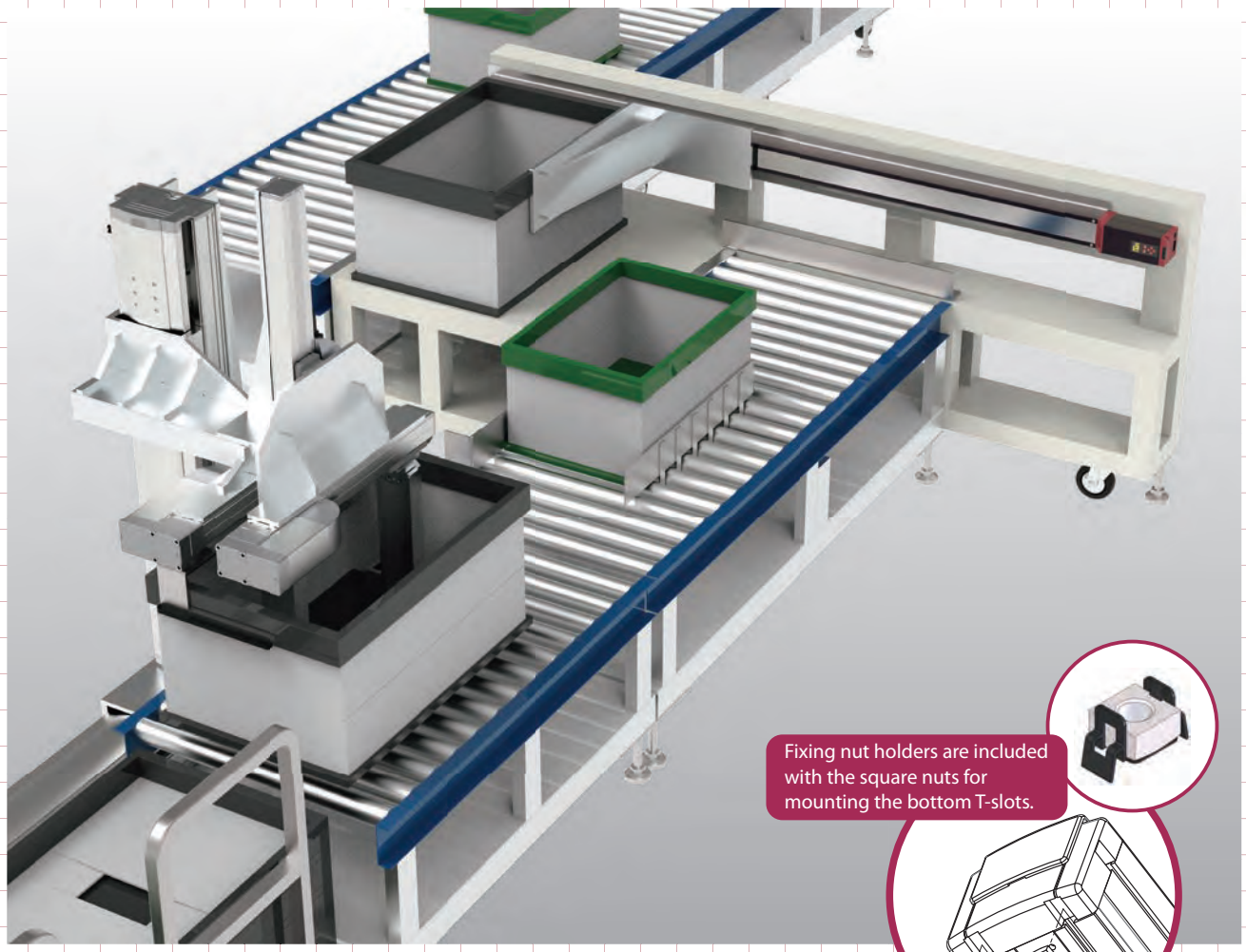


▲ (Ex.) EC-S7X□AH

Feature 3

Unlimited installation orientation

The long-stroke model remains available for vertical, horizontal, and ceiling mounting.



▲ Side mounting example (container assembly/transfer equipment)

Video here

Long stroke slider type EleCylinder product page of IAI America to view the demo video

Model Specification Items

EleCylinder Slider Type

EC – [ ] [ ] A – [ ] – [ ] – [ ]

Series / Type / Lead / Specifications / Stroke / Power I/O cable length / Options

Type	
S3	Slider 35mm width
S4	Slider 44mm width
S6	Slider 63mm width
S7	Slider 73mm width

Specifications	
A	Long stroke supported

<S3□A>

Lead	
L	Lead 2mm
M	Lead 4mm
H	Lead 6mm

<S4□A>

Lead	
L	Lead 2.5mm
M	Lead 5mm
H	Lead 10mm
S	Lead 16mm

<S6□A>

Lead	
L	Lead 3mm
M	Lead 6mm
H	Lead 12mm
S	Lead 20mm

<S7□A>

Lead	
L	Lead 4mm
M	Lead 8mm
H	Lead 16mm
S	Lead 24mm

Stroke	
0	Without cable Power I/O connector included (Note)
(S)1	1 m
〃	〃
(S)10	10 m

(every 1m)

(S): 4-way connector cable
(Note): A power I/O connector is not included if RCON-EC connection specification (ACR) is selected

<S3□A>

200	200mm
〃	〃
400	400mm

<S4□A>

250	250mm
〃	〃
500	500mm

<S6□A>

250	250mm
〃	〃
800	800mm

<S7□A>

350	350mm
〃	〃
800	800mm

(every 50mm)

Options	
Blank	Incremental encoder specification NPN specification, no options
ACR	RCON-EC connection specification*1
B	With brake
FT	Foot bracket
G1/G5	Designated grease specification*2
MOB	Motor mounting direction change (bottom)*3
MOL	Motor mounting direction change (left)*3
MOR	Motor mounting direction change (right)*3
MOT	Motor mounting direction change (top)*3
NM	Non-motor end specification
PN	PNP specification*1
SR	Slider part roller specification
TMD2	Split motor and controller power supply specification*1
W	Double slider specification*2*4
WA	Battery-less absolute encoder specification
WL	Wireless communication specification
WL2	Wireless axis operation specification

*1 "PN" and "TMD2" cannot be selected if "ACR" is selected.
*2 "G1/G5" and "W" cannot be used together.
*3 Available only for S3/S4 types. Be sure to select one of the codes.
*4 Available only for S6/S7 types.

EleCylinder High Rigidity Slider Type

EC – [ ] [ ] AH – [ ] – [ ] – [ ]

Series / Type / Lead / Specifications / Stroke / Power I/O cable length / Options

Type	
S6X	Slider 63mm width (with support mechanism)
S7X	Slider 75mm width (with support mechanism)

Specifications	
AH	High rigidity

<S6X□AH>

Lead	
L	Lead 3mm
M	Lead 6mm
H	Lead 12mm
S	Lead 20mm

<S7X□AH>

Lead	
L	Lead 4mm
M	Lead 8mm
H	Lead 16mm
S	Lead 24mm

Stroke	
0	Without cable Power I/O connector included (Note)
(S)1	1 m
〃	〃
(S)10	10 m

(every 1m)

(S): 4-way connector cable
(Note): A power I/O connector is not included if RCON-EC connection specification (ACR) is selected

<S6X□AH> Lead L

450	450mm
〃	〃
1000	1000mm

<S7X□AH> Lead L

550	550mm
〃	〃
1100	1100mm

Lead M

450	450mm
〃	〃
1400	1400mm

Lead M/H/S

550	550mm
〃	〃
1500	1500mm

(every 50mm)

Lead H/S

450	450mm
〃	〃
1500	1500mm

Options	
Blank	Incremental encoder specification NPN specification, no options
ACR	RCON-EC connection specification*1
B	With brake
G5	Designated grease specification
NM	Non-motor end specification
PN	PNP specification*1
SR	Slider part roller specification
TMD2	Split motor and controller power supply specification*1
WA	Battery-less absolute encoder specification
WL	Wireless communication specification
WL2	Wireless axis operation specification

*1 "PN" and "TMD2" cannot be selected if "ACR" is selected.

Specification Tables

Type	Lead		Stroke (mm) and max speed (mm/s) *Length of band = Stroke, * Numbers in band = Maximum speed by stroke, Numbers in < > are for vertical specification	Max. payload (kg)		Reference page
	Model	mm	200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500	Horizontal	Vertical	
S3□A	H	6	420	3.5	1.5	P7
	M	4	280	6	2.5	
	L	2	140	9	3.5	
S4□A	S	16	800	7	1.5	P11
	H	10	700 600	12	2.5	
	M	5	350 300	15	5	
	L	2.5	175 <150> 150	18	6.5	
S6□A	S	20	800 700 620	15	1	P15
	H	12	700 560 500 430 380 330	26	2.5	
	M	6	450 410 340 290 250 210 180 160	32	6	
	L	3	225 200 170 140 120 105 90 80	40	12.5	
S7□A	S	24	860	37	3	P20
	H	16	700 620 550	46	8	
	M	8	420 410 350 305 275	51	16	
	L	4	210 <175> 190 <175> 170 145 125	51	19	
S6X□AH	S	20	1280 <1120> 1120 970 940 860 790 730 640 610 580 540 470 450 430 400	15	1	P25
	H	12	900 <800> 860 <800> 770 680 620 560 510 460 425 380 360 330 315 285 270 250 235 220	26	2.5	
	M	6	450 430 380 340 310 280 255 230 210 185 175 165 140 135 125 115	32	6	
	L	3	225 210 190 165 145 135 125 115	40	16	
S7X□AH	S	24	1230 <1080> 1160 <1080> 1080 990 920 850 770 735 680 635 565 550	37	3	P28
	H	16	980 <840> 920 <840> 835 760 700 645 590 555 510 470 440 420 375 355	46	8	
	M	8	420 375 345 310 285 255 245 230 215 190 180 170	51	16	
	L	4	195 <175> 175 165 150	51	25	

⊗ **For 200mm stroke and lower slider types, refer to the EleCylinder catalogue V10.**

Energy-Saving Setting

For EleCylinder, parameter No. 8 enables selecting enabled/disabled for the energy-saving setting.

When enabled, the power capacity can be reduced by up to 40% compared to when the setting is disabled.
Elsewhere, the maximum speed, acceleration/deceleration, and payload will be lower than with the setting disabled.
When disabled, the maximum speed, acceleration/deceleration, and payload will be higher than with the setting enabled.
Refer to the "Table of Payload by Speed/Acceleration" and "Stroke and Maximum Speed" on each product specification page for more details.

The energy-saving setting is disabled at shipping.

Setting at shipping

Mode	Parameter name/notation	Features
Power mode	Energy-saving setting disabled	High specs
Energy-saving mode	Energy-saving setting enabled	High energy-saving effect

Mounting Orientation

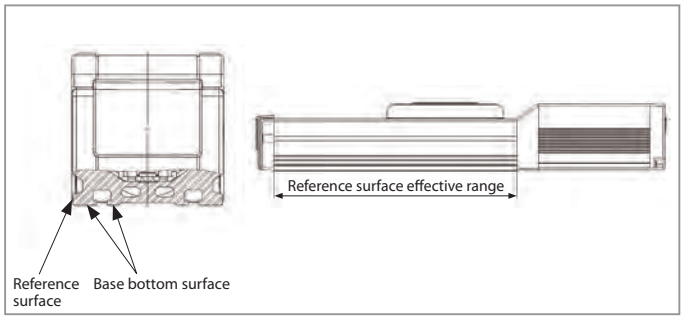
○: Can be mounted

Type		Mounting orientation: Horizontal mounting on flat surface	Vertical mounting	Horizontal mounting to side	Horizontal mounting suspended
Slider	S3□A	○	(*1) ○ (*2) (*3)	○ (*4)	○ (*4)
	S4□A				
	S6□A				
	S7□A				
High rigidity slider	S6X□AH	○	○ (*1) (*2)	○ (*4)	○ (*4)
	S7X□AH				

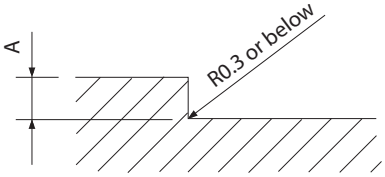
(*1) When mounting vertically, make sure to install the motor on the top.
Installing with the motor on the bottom could cause grease to separate and base oil to leak into the motor, which could cause controller or motor encoder failure.
It is therefore not recommended to install the motor on the bottom side.
(*2) With the motor on top, attach a cap to the teaching port. It could cause failure if foreign matter becomes clogged.
(*3) When selecting the double slider specification (W) option, leads S and H are not supported.
(*4) Installing the product horizontal to side or horizontal suspended may cause slack or misalignment in the stainless steel sheet.
Continuing to use it this way could cause the stainless steel sheet to break. Please inspect it daily and adjust the sheet if any slack or misalignment is found.

Precautions for Installation

- **Keep the body installation surface and workpiece mounting surface flatness within 0.05mm/m. Uneven flatness will increase the sliding resistance of the slider and may cause a malfunction.**
- **The body bottom base seating surface and left side (viewed from the motor opposite side) are the reference surfaces for slider running accuracy. When running accuracy is required, mount with these surfaces as reference.**



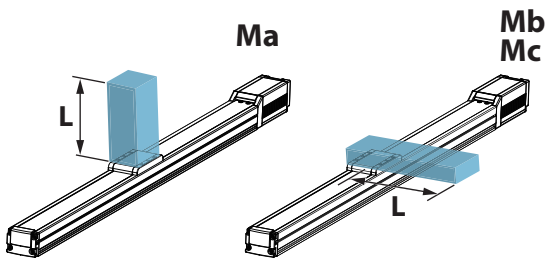
When mounting using the side reference surface, modify the installation surface as in the figure below.



Dimension A (mm)
2 ~ 4

Overhang Load Length

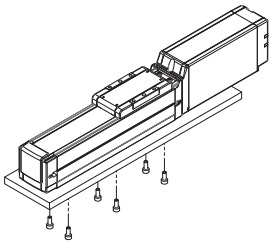
This is the approximate offset at which the actuator can operate smoothly even when the workpiece or bracket is offset from the slider. Vibration or other factors could cause failure if the approximate length is greatly exceeded.
The product should therefore be used within the approximate length.



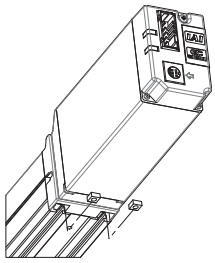
Mounting Methods

Slider types: S3□A / S4□A

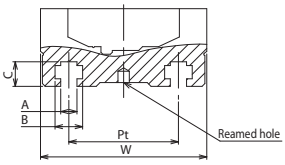
■ When using the base bottom surface T-slots



<Body base bottom surface T-slot dimensions>



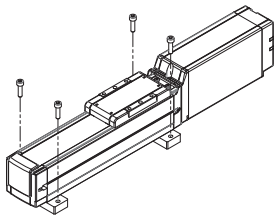
Insert square nut (included) into T-slot



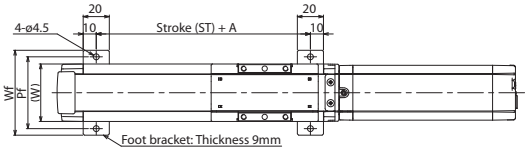
[Accessories]
Square nuts: 6 pcs
Square nut holders: 6 pcs
(for fixing square nuts)

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S3□A	M3	35	22	3.3	5.8	4.8	ø3H7 depth 4 (from base seating surface)
S4□A	M4	44	29	4.3	7.3	6.5	ø3H7 depth 4 (from base seating surface)

■ When using foot brackets (option model name: FT)



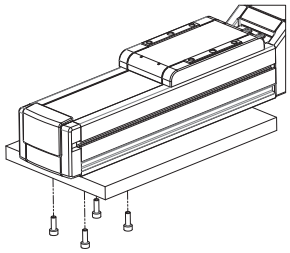
<Foot bracket mounting dimensions>

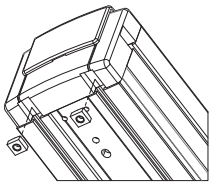


Type	Wf (mm)	Pf (mm)	W (mm)	A (mm)	Added mass (g)
S3□A	50	42	35	44	51
S4□A	65	55	44	64	68

Slider types: S6□A / S7□A

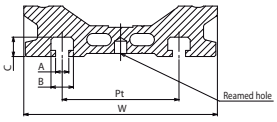
■ When using the base bottom surface T-slots





Insert square nut (included) into T-slot

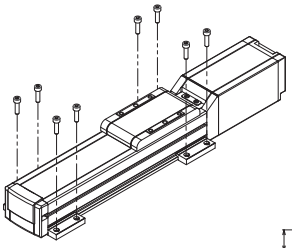
<Body base bottom surface T-slot dimensions>



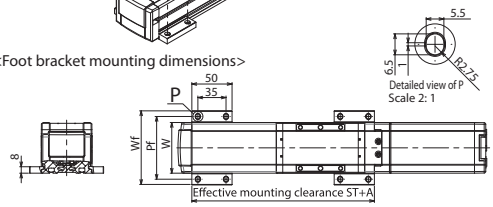
[Accessories]
Square nuts
Stroke (ST) = 250 ~ 500: 6 pcs,
Stroke (ST) = 550 ~ 800: 12 pcs
Square nut holders (for fixing square nuts)
Stroke (ST) = 250 ~ 500: 6 pcs,
Stroke (ST) = 550 ~ 800: 12 pcs

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S6□A	M4	63	38	4.3	7.3	6.3	ø4H7 depth 5 (from base seating surface)
S7□A	M5	73	46	5.3	8.5	8.5	ø4H7 depth 5 (from base seating surface)

■ When using foot brackets (option model name: FT)



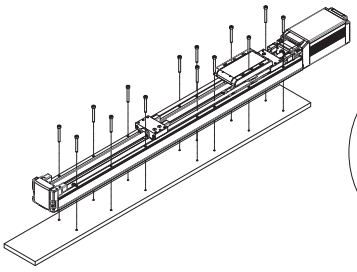
<Foot bracket mounting dimensions>

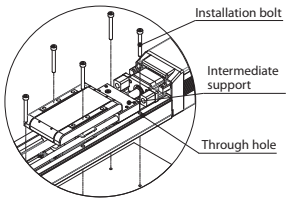


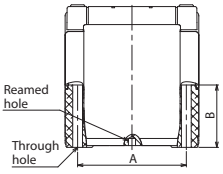
Type	Wf (mm)	Pf (mm)	W (mm)	A (mm)	Added mass (g)
S6□A	92	78	63	127	190
S7□A	102	88	73	145	190

High rigidity slider types: S6X□AH / S7X□AH

■ When using base through holes



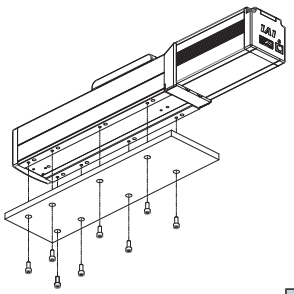


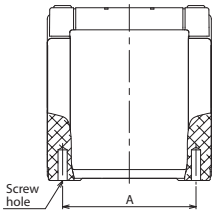


Type	Through hole diameter (mm)	A (mm)	B (mm)	Reamed hole
S6X□AH	ø4.5	51	30	ø4H7 depth 5 (from base seating surface)
S7X□AH	ø5.5	61	35	ø4H7 depth 5 (from base seating surface)

*The side cover and stainless steel sheet must be removed.
*Because the mounting hole position is on the intermediate support bottom, move the slider back and forth to shift the intermediate support and mount with all through holes in use. For the through hole positions, see each product specification page.

■ When using base bottom surface screw holes





Type	Screw hole	A (mm)
S6X□AH	M4 depth 8	51
S7X□AH	M5 depth 10	61

EC-S3□A

Simple Dust-proof | Coupled Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - | | | A - | | - | | - | |

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S3	Standard	H	6mm	A	Long stroke supported	200 ~ 400	200mm ~ 400mm (every 50mm)	See power I/O cable length table below	See options below
			M	4mm						
			L	2mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(2) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.

(3) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(4) Reference value of the overhang load length is under 100mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	31
Brake	**B**	31
Foot bracket	**FT**	31
Designated grease specification	**G1/G5**	31
Motor mounting direction change (bottom) (Note 2)	**MOB**	31
Motor mounting direction change (left) (Note 2)	**MOL**	31
Motor mounting direction change (right) (Note 2)	**MOR**	31
Motor mounting direction change (up) (Note 2)	**MOT**	31
Non-motor end specification	**NM**	32
PNP specification	**PN**	32
Slider part roller specification	**SR**	32
Split motor and controller power supply specification	**TMD2**	32
Battery-less absolute encoder specification	**WA**	32
Wireless communication specification	**WL**	32
Wireless axis operation specification	**WL2**	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description		
Lead		Ball screw lead (mm)	6	4	2
Horizontal	Payload	Max. payload (kg)	3.5	6	9
	Speed / acceleration/ deceleration	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	Payload	Max. payload (kg)	1.5	2.5	3.5
	Speed / acceleration/ deceleration	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)	0.3	0.3	0.3
Push		Max. push force (N)	45	68	136
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	1.5	2.5	3.5
Stroke		Min. stroke (mm)	200	200	200
		Max. stroke (mm)	400	400	400
		Stroke pitch (mm)	50	50	50

Item	Description
Drive system	Ball screw ø6mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 9.5N·m
	Mb: 13.5N·m
	Mc: 15.1N·m
Allowable dynamic moment (Note 1)	Ma: 3.8N·m
	Mb: 5.4N·m
	Mc: 6.1N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□28)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

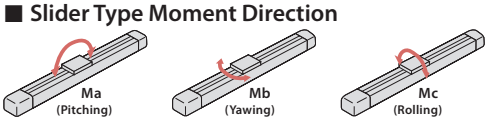


Table of Payload by Speed/Acceleration

The unit for payload is kg.

Lead 6

Orientation	Horizontal		Vertical
Speed	Acceleration (G)		
(mm/s)	0.3	0.5	0.3
0	3.5	3	1.5
120	3.5	3	1.5
210	3.5	3	1.5
255	3.5	3	1.5
315	3.5	3	1.5
360	3.5	3	1.5
420	3	2.5	1

Lead 4

Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	6	2.5
80	6	2.5
140	6	2.5
170	6	2.5
210	6	2.5
240	5.5	2.5
280	4.5	2

Lead 2

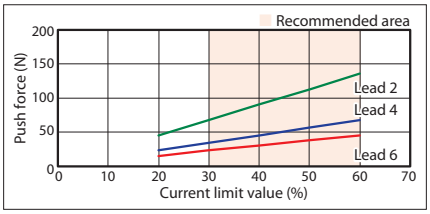
Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	9	3.5
40	9	3.5
70	9	3.5
85	9	3.5
105	9	3.5
120	9	3
140	8	2.5

Stroke and Maximum Speed

Lead (mm)	200 ~ 400 (every 50mm)
6	420
4	280
2	140

(Unit: mm/s)

Correlation between Push Force and Current Limit



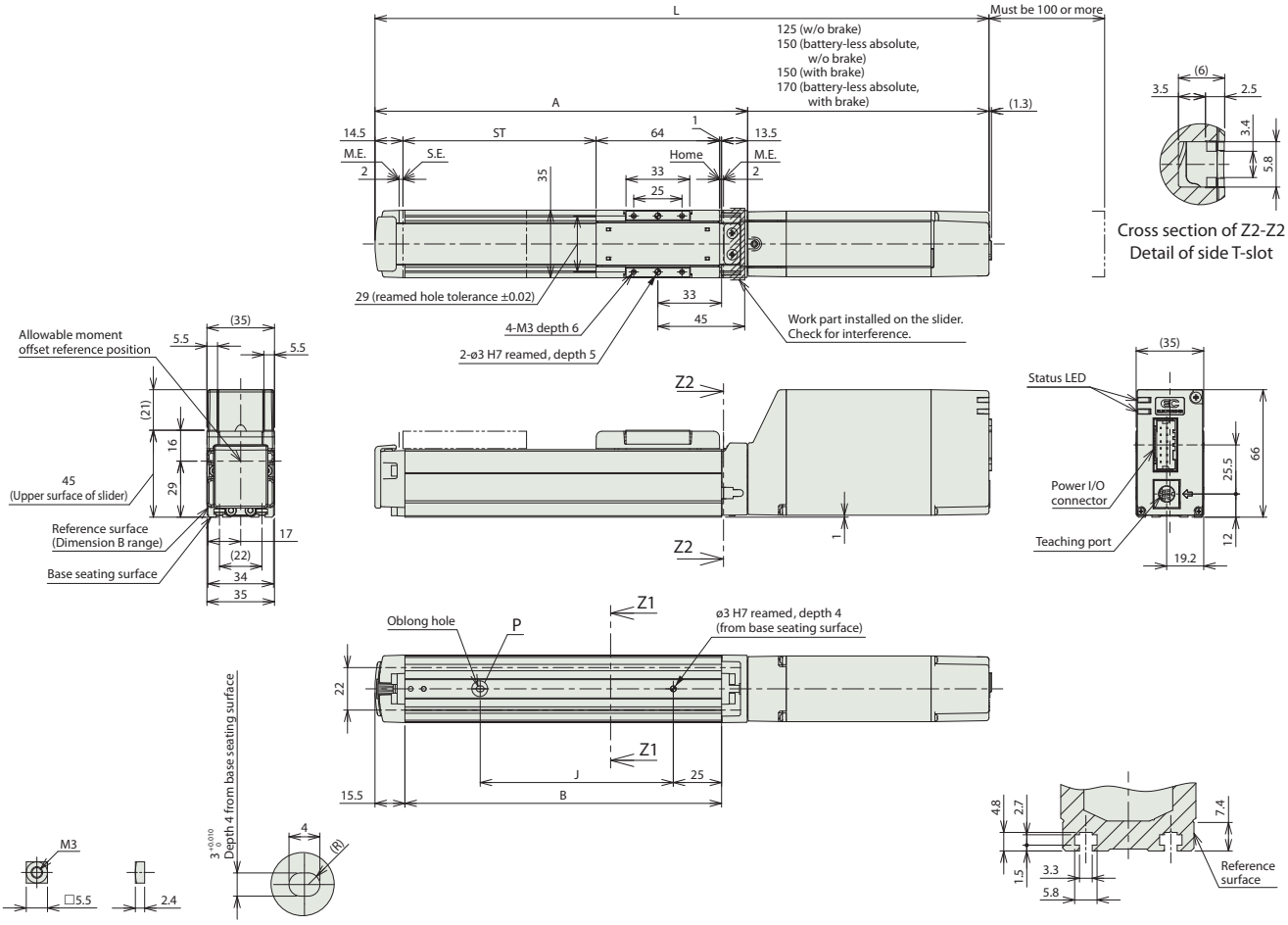
Dimensions

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S3□A

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) The figures below are for motor installed on top (MOT).

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



Cross section of Z2-Z2
Detail of side T-slot

Supplied square nut
(6 pieces attached)

Detailed view of P
Details of base oblong hole

Cross section of Z1-Z1
Details of T-slot (dimension B range)

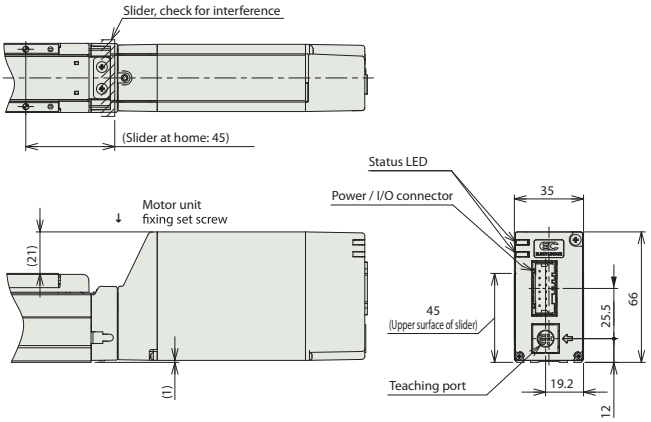
■ Dimensions by Stroke

Stroke			200	250	300	350	400
L	Incremental	Without brake	418	468	518	568	618
		With brake	443	493	543	593	643
	Battery-less absolute	Without brake	443	493	543	593	643
		With brake	463	513	563	613	663
A			293	343	393	443	493
B			264	314	364	414	464
J			200	250	300	350	400

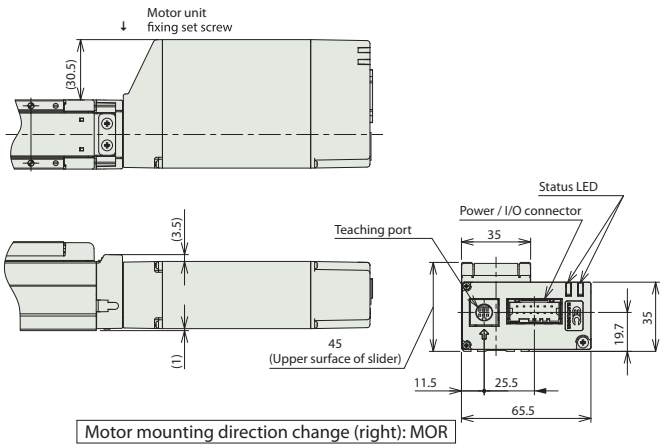
■ Mass by Stroke

Stroke		200	250	300	350	400
Mass (kg)	Without brake	1.0	1.1	1.2	1.3	1.4
	With brake	1.1	1.2	1.3	1.4	1.5

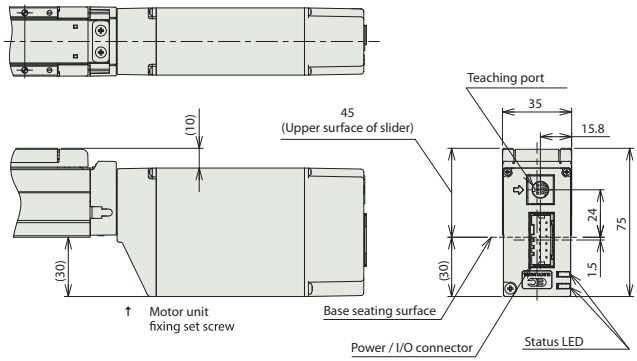
■ Motor mounting direction change (option)



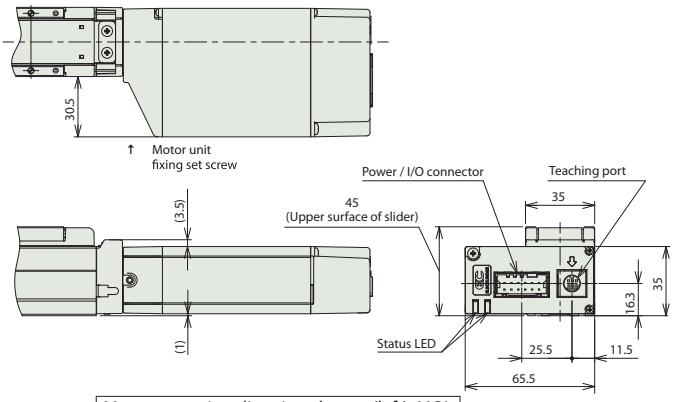
Motor mounting direction change (top): MOT



Motor mounting direction change (right): MOR



Motor mounting direction change (bottom): MOB



Motor mounting direction change (left): MOL

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

EC-S4□A

Simple Dust-proof | Coupled Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S4	Standard	S	16mm	A	Long stroke supported	250	250mm	See power I/O cable length table below	See options below
			H	10mm			≀	≀		
			M	5mm			500	500mm (every 50mm)		
			L	2.5mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.

(4) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(5) Reference value of the overhang load length is under 150mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	31
Brake	**B**	31
Foot bracket	**FT**	31
Designated grease specification	**G1/G5**	31
Motor mounting direction change (bottom) (Note 2)	**MOB**	31
Motor mounting direction change (left) (Note 2)	**MOL**	31
Motor mounting direction change (right) (Note 2)	**MOR**	31
Motor mounting direction change (up) (Note 2)	**MOT**	31
Non-motor end specification	**NM**	32
PNP specification	**PN**	32
Slider part roller specification	**SR**	32
Split motor and controller power supply specification	**TMD2**	32
Battery-less absolute encoder specification	**WA**	32
Wireless communication specification	**WL**	32
Wireless axis operation specification	**WL2**	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	16	10	5	2.5
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	7	12	15	18
		Max. payload (kg) (energy-saving enabled)	4	10	12	14
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	700	350	175
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1.5	2.5	5	6.5
		Max. payload (kg) (energy-saving enabled)	1	2	4.5	6.5
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	700	350	150
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	41	66	132	263
		Max. push speed (mm/s)	40	30	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	2.5	5	6.5
Stroke		Min. stroke (mm)	250	250	250	250
		Max. stroke (mm)	500	500	500	500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø8mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 13.0N·m
	Mb: 18.6N·m
	Mc: 25.3N·m
Allowable dynamic moment (Note 1)	Ma: 5.0N·m
	Mb: 7.1N·m
	Mc: 9.7N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□35)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

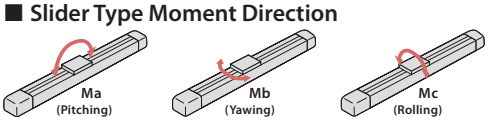


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	7	6	6	5	1.5	1.25
140	7	6	6	5	1.5	1.25
280	7	6	6	5	1.5	1.25
420	7	6	6	5	1.5	1.25
560	7	6	5.5	5	1.5	1.25
700	6	5	4.5	4	1.5	1.25
800		4	3.5	3		1

Lead 10

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	12	11	10	10	2.5	2
175	12	11	10	10	2.5	2
350	12	11	10	9	2.5	2
435	12	11	9	8	2.5	2
525	11	9	7	6	2	2
600	10	7	5	4.5	2	1.5
700		4	2.5	2.5		1

Lead 5

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	15	14	5	4.5
85	15	14	5	4.5
130	15	14	5	4.5
215	15	14	5	4.5
260	15	14	5	4.5
300	15	14	4.5	4
350	13	12	4	3.5

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	18	6.5
40	18	6.5
85	18	6.5
105	18	6.5
135	18	6.5
150	18	6
175	18	

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	4	3.5	1
140	4	3.5	1
280	4	3.5	1
420	4	3.5	1
560	4	3	1
700	3	2	
800		1	

Lead 10

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	10	8	2
175	10	8	2
350	9	6	2
435	7	5	1.5
525	5	2.5	1

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	12	4.5
85	12	4.5
130	12	4
215	10	4
260	9	2.5

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	14	6.5
40	14	6.5
85	14	6.5
105	14	6.5
135	14	5

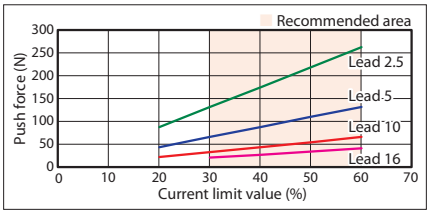
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 ~ 450 (every 50mm)	500 (mm)
16	Disabled	800	
	Enabled	800 <560>	
10	Disabled	700	600
	Enabled	525	
5	Disabled	350	300
	Enabled	260	
2.5	Disabled	175 <150>	150
	Enabled	135	

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



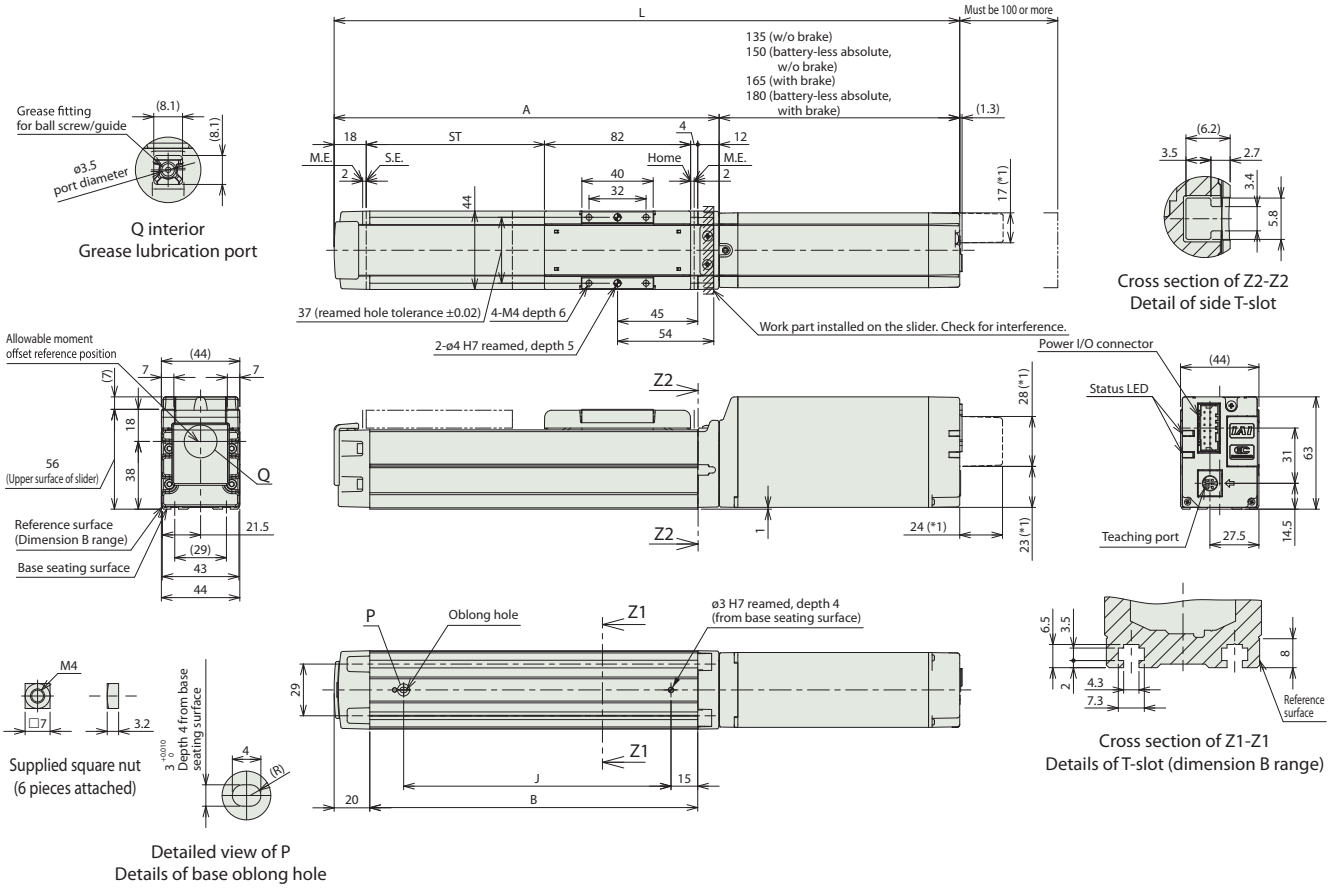
Dimensions

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S4□A

*1 The dimensions when wireless communication specification (option) or wireless axis operation specification (option) is selected.
(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) The figures below are for motor installed on top (MOT).

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



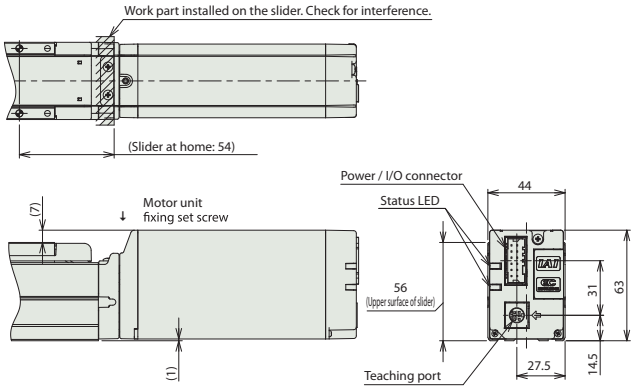
■ Dimensions by Stroke

Stroke			250	300	350	400	450	500
L	Incremental	Without brake	501	551	601	651	701	751
		With brake	531	581	631	681	731	781
	Battery-less absolute	Without brake	516	566	616	666	716	766
		With brake	546	596	646	696	746	796
A			366	416	466	516	566	616
B			334	384	434	484	534	584
J			300	350	400	450	500	550

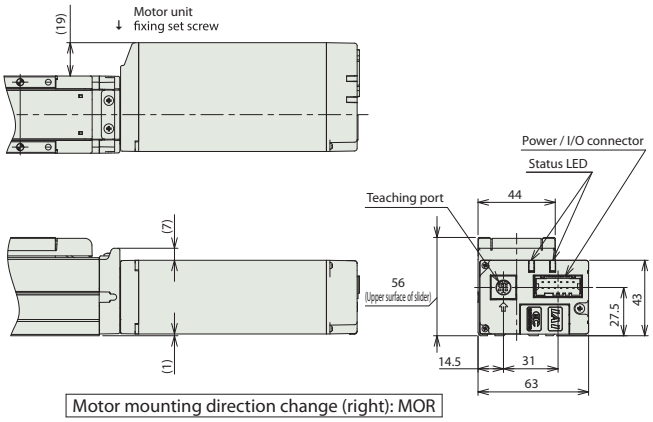
■ Mass by Stroke

Stroke		250	300	350	400	450	500
Mass (kg)	Without brake	1.8	1.9	2.1	2.2	2.4	2.5
	With brake	2.0	2.1	2.2	2.4	2.5	2.7

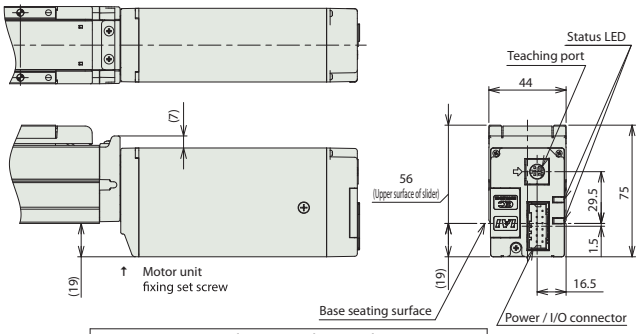
■ Motor mounting direction change (option)



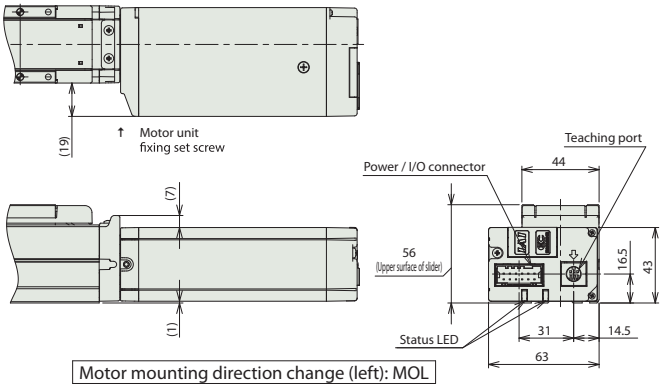
Motor mounting direction change (top): MOT



Motor mounting direction change (right): MOR



Motor mounting direction change (bottom): MOB



Motor mounting direction change (left): MOL

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

EC-S6□A

Simple Dust-proof | Coupled Motor | Body Width 60 mm | 24v Pulse Motor

■ Model Specification Items

EC - [Series] - [Type] [Lead] A - [Specifications] - [Stroke] - [Power I/O cable length] - [Options]

Series	Type		Lead		Specifications	Stroke	Power I/O cable length	Options
	S6	Standard	S 20mm H 12mm M 6mm L 3mm	A	Long stroke supported	250 ~ 800: 250mm ~ 800mm (every 50mm)	See power I/O cable length table below	See options below

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.
(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.
(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.
(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 34 for details.
(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.
(6) Reference value of the overhang load length is 220mm or below in the Ma, Mb, and Mc directions (for double slider specification, 440mm or below). Please refer to the explanation on P. 5 for the overhang load length.
(7) 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.
(8) When selecting the double slider specification, refer to P. 33 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	31
Brake	B	31
Foot bracket	FT	31
Designated grease specification (Note 2)	G1/G5	31
Non-motor end specification	NM	32
PNP specification	PN	32
Slider part roller specification (Note 3)	SR	32
Split motor and controller power supply specification	TMD2	32
Double slider specification (Note 2) (Note 3) (Note 4)	W	18
Battery-less absolute encoder specification	WA	32
Wireless communication specification	WL	32
Wireless axis operation specification	WL2	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G1/G5) cannot be used together.
(Note 3) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 4) Some leads cannot be selected. Please refer to P. 18 for details.

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	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)	0.5	0.5	0.5	0.5
Push		Max. push force (N)	67	112	224	449
		Max. push speed (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)	250	250	250	250
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 97.1 N·m
Allowable dynamic moment (Note 1)	Ma: 11.6 N·m
	Mb: 16.6 N·m
	Mc: 23.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

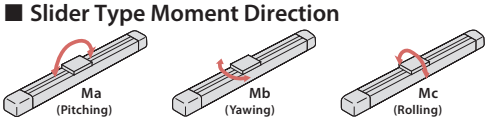


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is 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	8	6	5	1	1
800	10	6.5	4.5	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	10	2.5	2.5
560	20	12	8	7	2.5	2.5
700	15	9	5	4	2	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	24	15	6	5.5
340	32	20	18	12	5	4.5
400	22	12	11	8	3.5	3.5
450	15	8	6	4	2	2

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	12.5	12
200	35	28	23	20	10	9
225	28	20	16	12	6	

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

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	0.75

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	4	1	0.5

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	10	1	1

Lead 3

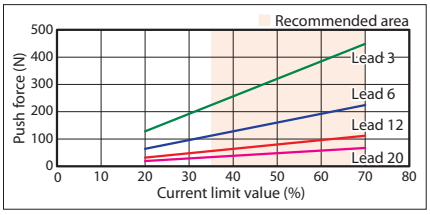
Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	25	22	10
20	25	22	10
50	25	22	10
80	25	22	10
110	20	14	8
140	15	11	5
170	11	9	2

Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 ~ 450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	Disabled	800						700	620
	Enabled	800						700	620
12	Disabled	700			560	500	430	380	330
	Enabled	680			560	500	430	380	330
6	Disabled	450	410	340	290	250	210	180	160
	Enabled	340			290	250	210	180	160
3	Disabled	225	200	170	140	120	105	90	80
	Enabled	170			140	120	105	90	80

(Unit: mm/s)

Correlation between Push Force and Current Limit



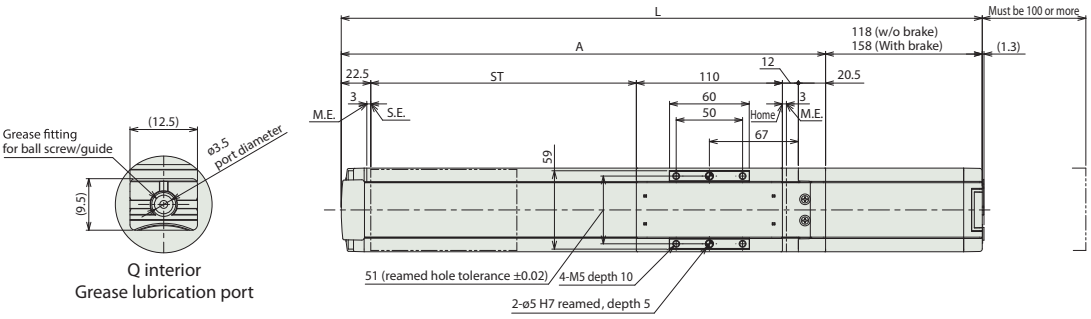
Dimensions

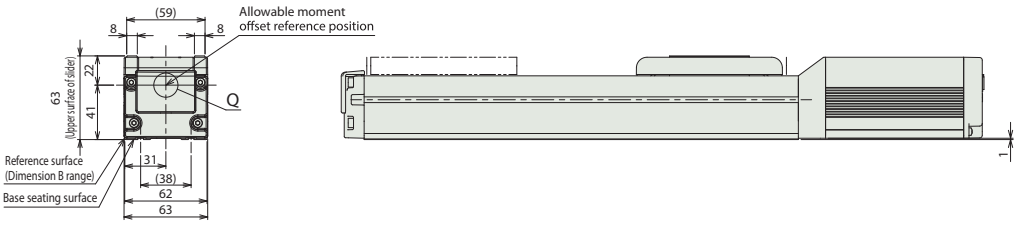
CAD drawings can be downloaded from our website.
www.elecylinder.de

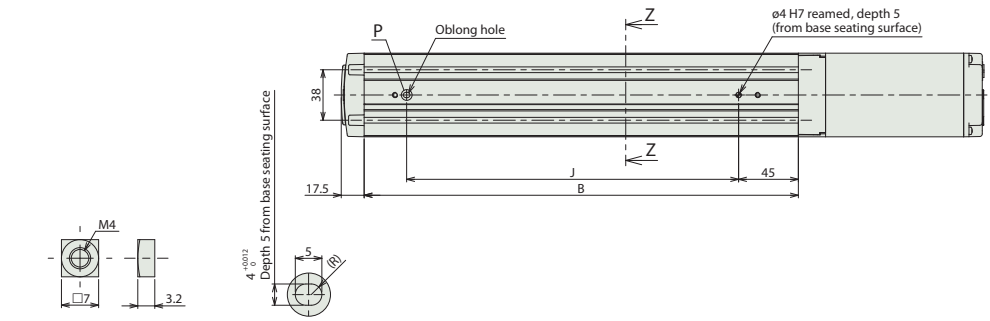
■ EC-S6□A

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (stroke = 250 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end







■ Dimensions by Stroke

Stroke		250	300	350	400	450	500	550	600	650	700	750	800
L	Without brake	533	583	633	683	733	783	833	883	933	983	1033	1083
	With brake	573	623	673	723	773	823	873	923	973	1023	1073	1123
A		415	465	515	565	615	665	715	765	815	865	915	965
B		377	427	477	527	577	627	677	727	777	827	877	927
J		300	350	400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		250	300	350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9
	With brake	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	24	30	38
		Max. payload (kg) (energy-saving enabled)	12	18	23
	Speed / acceleration/ deceleration	Max. speed (mm/s)	700	450	225
		Min. speed (mm/s)	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	4	10
		Max. payload (kg) (energy-saving enabled)	-	3	8
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	340	200
		Min. speed (mm/s)	-	8	4
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	112	224	449
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	2.5	6	12.5
Stroke		Min. nominal stroke (mm)	250	250	250
		Min. effective stroke (mm)	100	100	100
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 12 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 364 N·m
	Mb: 520 N·m
	Mc: 129 N·m
Allowable dynamic moment (Note 1)	Ma: 106 N·m
	Mb: 152 N·m
	Mc: 37.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

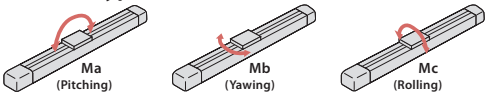


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	24	16	14	12		
80	24	16	14	12		
200	24	16	14	12		
320	24	16	10	8		
440	20	12	8	6		
560	12	6	4	2		
700	5	1				

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	30	24	22	18	4	4
40	30	24	22	18	4	4
100	30	24	22	18	4	4
160	30	24	22	18	4	4
220	30	24	20	16	4	4
280	28	22	18	10	3	3
340	20	12	10	6	1	1
400	6	4	1			
450	1					

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	38	33	33	33	10	10
50	38	33	33	33	10	10
80	38	33	33	28	10	10
110	38	33	33	28	10	10
140	38	33	30	26	10	10
170	36	28	26	20	8	8
200	30	22	14	9	3	2
225	15	4	1			

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	12	8	
80	12	8	
200	12	8	
320	12	8	
440	9	3	
560	2		

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	12	3
40	18	12	3
100	18	12	3
160	18	12	3
220	14	12	2
280	8	4	
340	1		

Lead 3

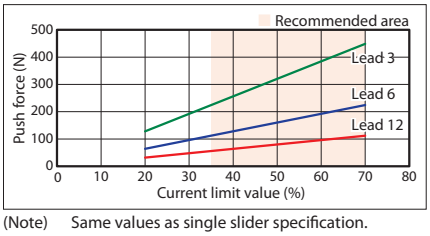
Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	23	20	8
20	23	20	8
50	23	20	8
80	23	20	8
110	18	12	6
140	12	8	3
170	8	4	1

Stroke and Maximum Speed (double slider specification)

Lead (mm)	Nominal stroke	250 ~ 450	500	550	600	650	700	750	800
	Effective stroke	100 ~ 300	350	400	450	500	550	600	650
	Energy-saving setting	(every 50mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
12	Disabled	700			560	500	430	380	330
	Enabled	560				500	430	380	330
6	Disabled	450 <340>	410 <340>	340	290	250	210	180	160
	Enabled	340 <220>			290 <220>	250 <220>	210	180	160
3	Disabled	225 <200>	200	170	140	120	105	90	80
	Enabled	170			140	120	105	90	80

(Note) Values in brackets < > are for vertical use. (Unit: mm/s)
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

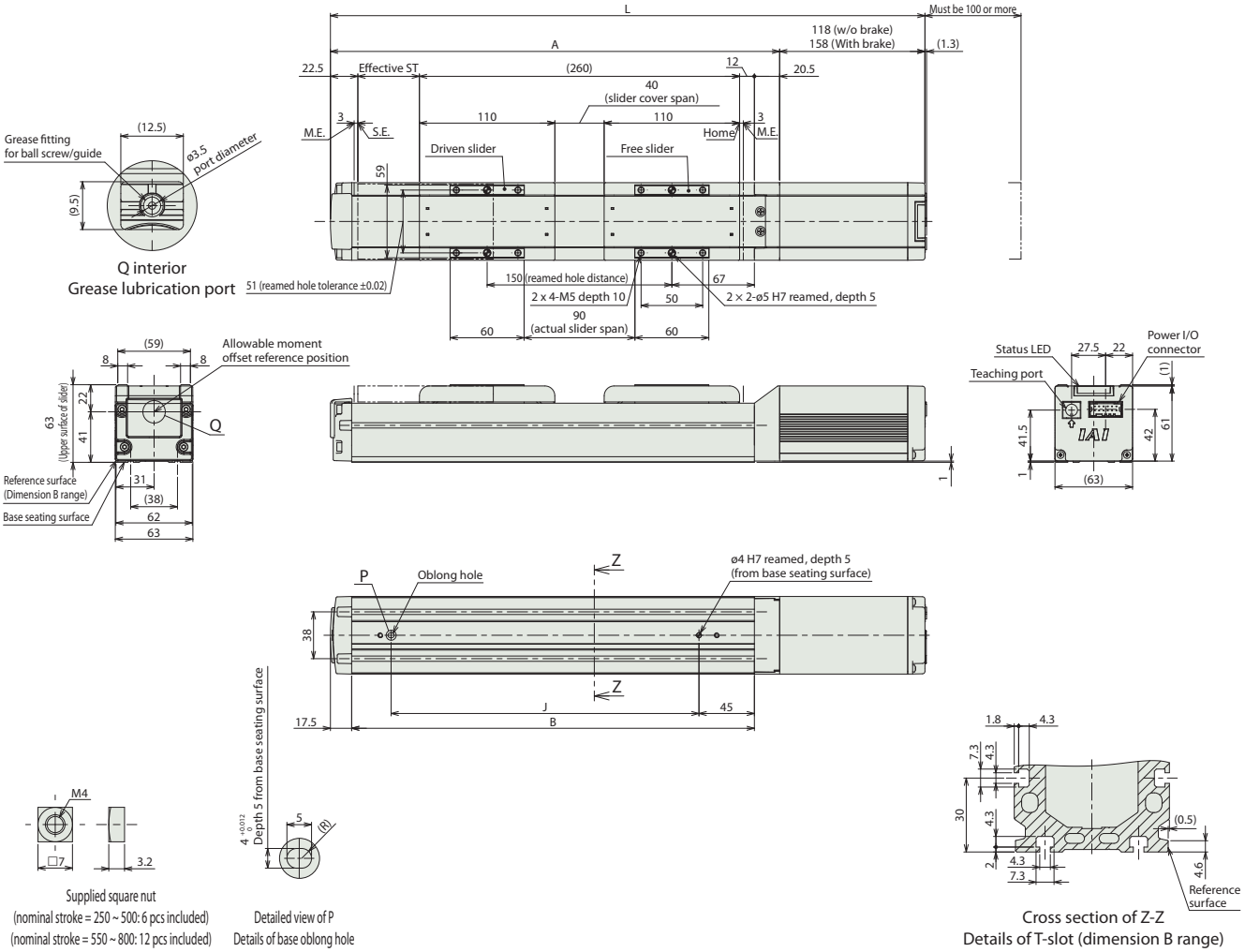
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S6□A (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 250 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) With digital speed controller, the motor part external view differs. Please refer to the external views of single slider with digital speed controller for more information.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



■ Dimensions by Stroke

Nominal stroke		250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650
L	Without brake	533	583	633	683	733	783	833	883	933	983	1033	1083
	With brake	573	623	673	723	773	823	873	923	973	1023	1073	1123
A		415	465	515	565	615	665	715	765	815	865	915	965
B		377	427	477	527	577	627	677	727	777	827	877	927
J		300	350	400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	2.97	3.17	3.37	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17
	With brake	3.17	3.37	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17	5.37

(Note) It is the sum of single slider specification's mass and free slider's mass (0.27kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

EC-S7□A

Simple Dust-proof | Coupled Motor | Body Width 70 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] - A - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S7	Standard	S	24mm	A	Long stroke supported	350 ~ 800	350mm ~ 800mm (every 50mm)	See power I/O cable length table below	See options below
			H	16mm						
			M	8mm						
			L	4mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 34 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is 280mm or below in the Ma, Mb, and Mc directions (for double slider specification, 560mm or below). Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

(8) When selecting the double slider specification, refer to P. 33 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	31
Brake	**B**	31
Foot bracket	**FT**	31
Designated grease specification (Note 2)	**G1/G5**	31
Non-motor end specification	**NM**	32
PNP specification	**PN**	32
Slider part roller specification (Note 3)	**SR**	32
Split motor and controller power supply specification	**TMD2**	32
Double slider specification (Note 2) (Note 3) (Note 4)	**W**	23
Battery-less absolute encoder specification	**WA**	32
Wireless communication specification	**WL**	32
Wireless axis operation specification	**WL2**	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G1/G5) cannot be used together.
(Note 3) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 4) Some leads cannot be selected. Please refer to P. 23 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	Max. speed (mm/s)	860	700	420	210
		Min. speed (mm/s)	30	20	10	5
		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)	3	8	16	19
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	Max. speed (mm/s)	860	700	420	175
		Min. speed (mm/s)	30	20	10	5
		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		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	19
Stroke		Min. stroke (mm)	350	350	350	350
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 79.7 N·m
	Mb: 114 N·m
	Mc: 157 N·m
Allowable dynamic moment (Note 1)	Ma: 17.7 N·m
	Mb: 25.3 N·m
	Mc: 34.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (☐56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

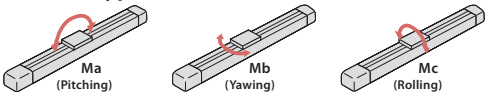


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	37	22	16	14	3	3
200	37	22	16	14	3	3
420	34	20	16	14	3	3
640	20	15	10	9	3	3
860	12	10	7	4	3	2.5

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	46	35	28	27	8	8
140	46	35	28	27	8	8
280	46	35	25	24	8	8
420	34	25	15	10	5	4.5
560	20	15	10	6	4	3
700	15	10	5	3	3	2

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	16	16
70	51	45	40	40	16	16
140	51	40	38	35	16	16
210	51	35	30	24	10	9.5
280	40	28	20	15	8	7
350	30	9	4		5	4
420	7				2	

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	19	19
35	51	45	40	40	19	19
70	51	45	40	40	19	19
105	51	45	40	35	19	19
140	45	35	30	25	14	12
175	30	18			9	7.5
210	6					

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	10	2	1
800	5	0.5	0.5

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	35	20	5
140	35	20	5
280	25	12	3
420	15	6	1.5
560	7	0.5	0.5

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	25	10
70	40	25	10
140	40	25	7
210	25	14	4
280	10	1	1.5

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	30	15
35	40	30	15
70	40	30	15
105	40	30	8
140	15	6	2

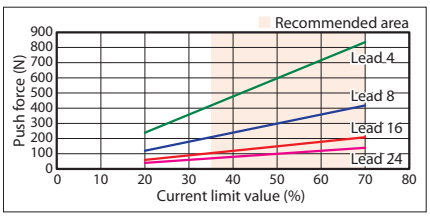
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	350 ~ 600 (every 50mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	Disabled	860				
	Enabled	800				
16	Disabled	700			620	550
	Enabled	560				550
8	Disabled	420	410	350	305	275
	Enabled	280				275
4	Disabled	210 <175>	190 <175>	170	145	125
	Enabled	140				125

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



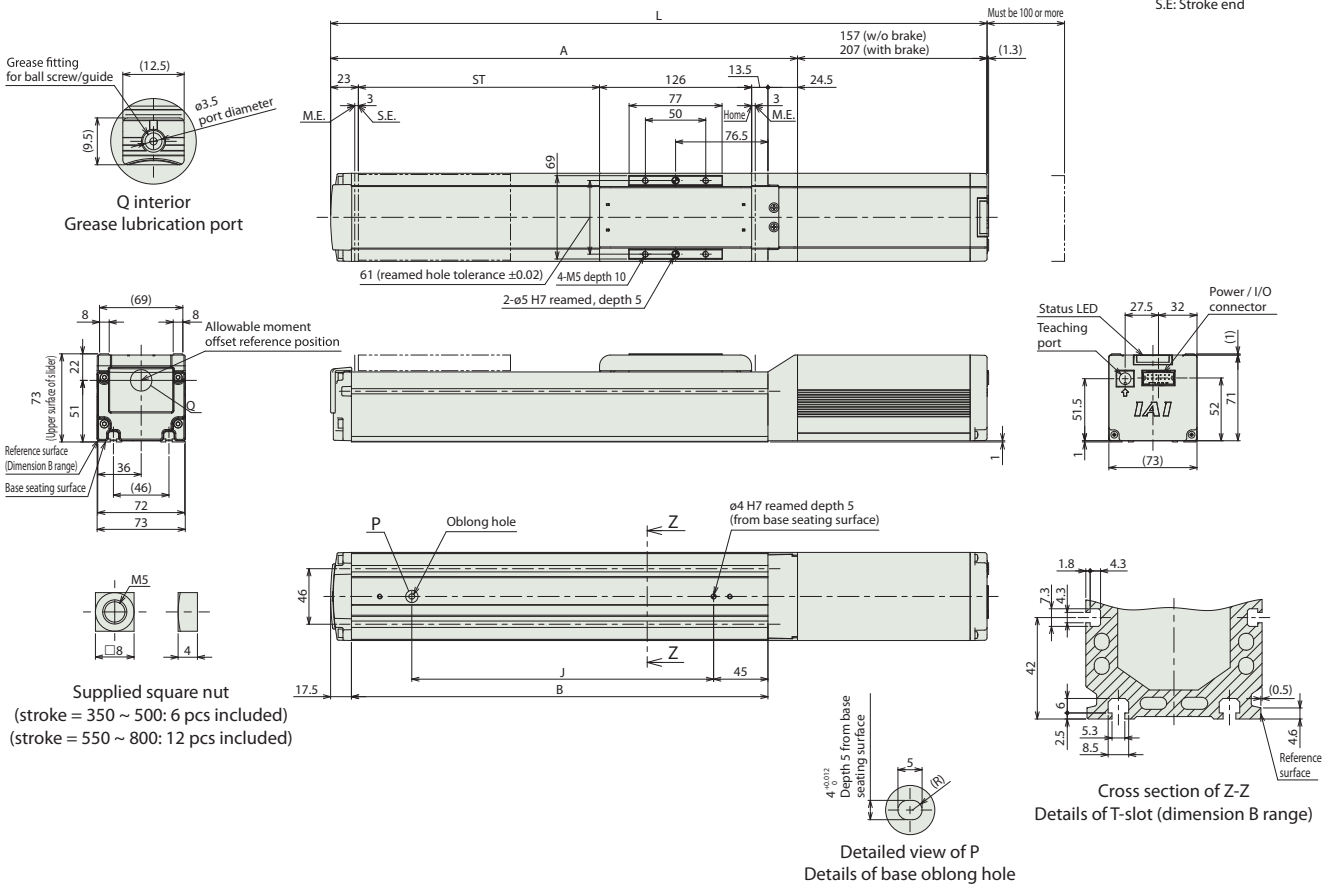
Dimensions

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S7□A

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (stroke = 350 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



■ Dimensions by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800
L	Without brake	694	744	794	844	894	944	994	1044	1094	1144
	With brake	744	794	844	894	944	994	1044	1094	1144	1194
A		537	587	637	687	737	787	837	887	937	987
B		495	545	595	645	695	745	795	845	895	945
J		400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	5.1	5.4	5.6	5.9	6.2	6.5	6.7	7.0	7.3	7.6
	With brake	5.6	5.9	6.2	6.4	6.7	7.0	7.3	7.6	7.8	8.1

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	44	49	49
		Max. payload (kg) (energy-saving enabled)	33	38	38
	Speed / acceleration/ deceleration	Max. speed (mm/s)	560	420	175
		Min. speed (mm/s)	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	14	17
		Max. payload (kg) (energy-saving enabled)	-	8	13
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	350	175
		Min. speed (mm/s)	-	10	5
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	209	418	836
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	8	16	19
Stroke		Min. nominal stroke (mm)	350	350	350
		Min. effective stroke (mm)	200	200	200
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 16 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 441 N·m
	Mb: 630 N·m
	Mc: 209 N·m
Allowable dynamic moment (Note 1)	Ma: 119 N·m
	Mb: 171 N·m
	Mc: 56.7 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

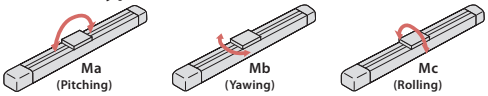


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	44	33	26	25		
140	44	33	26	25		
280	44	32	22	20		
420	30	20	10	6		
560	10	6	4	2		

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	14	14
70	49	43	38	38	14	14
140	49	38	36	33	14	14
210	49	33	28	20	8	7
280	36	24	16	10	5	4
350	14	4	1		1	
420	3					

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	17	17
35	49	43	38	38	17	17
70	49	43	38	38	17	17
105	49	43	38	33	17	17
140	40	30	25	20	9	7
175	25	8			4	1

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	33	18	
140	33	18	
280	23	10	
420	10	3	

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	23	8
70	38	23	8
140	38	23	5
210	20	10	2
280	5		

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	28	13
35	38	28	13
70	38	28	13
105	36	26	4
140	6		

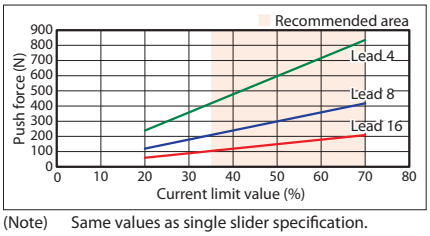
Stroke and Maximum Speed (double slider specification)

Lead (mm)	Nominal stroke	350 ~ 600	650	700	750	800
	Effective stroke	200 ~ 450	500	550	600	650
	Energy-saving setting	(Every 50mm)	(mm)	(mm)	(mm)	(mm)
16	Disabled	560				550
	Enabled	420				
8	Disabled	420 <350>	410 <350>	350	305	275
	Enabled	280 <210>				275 <210>
4	Disabled	175		170	145	125
	Enabled	140 <105>				125 <105>

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

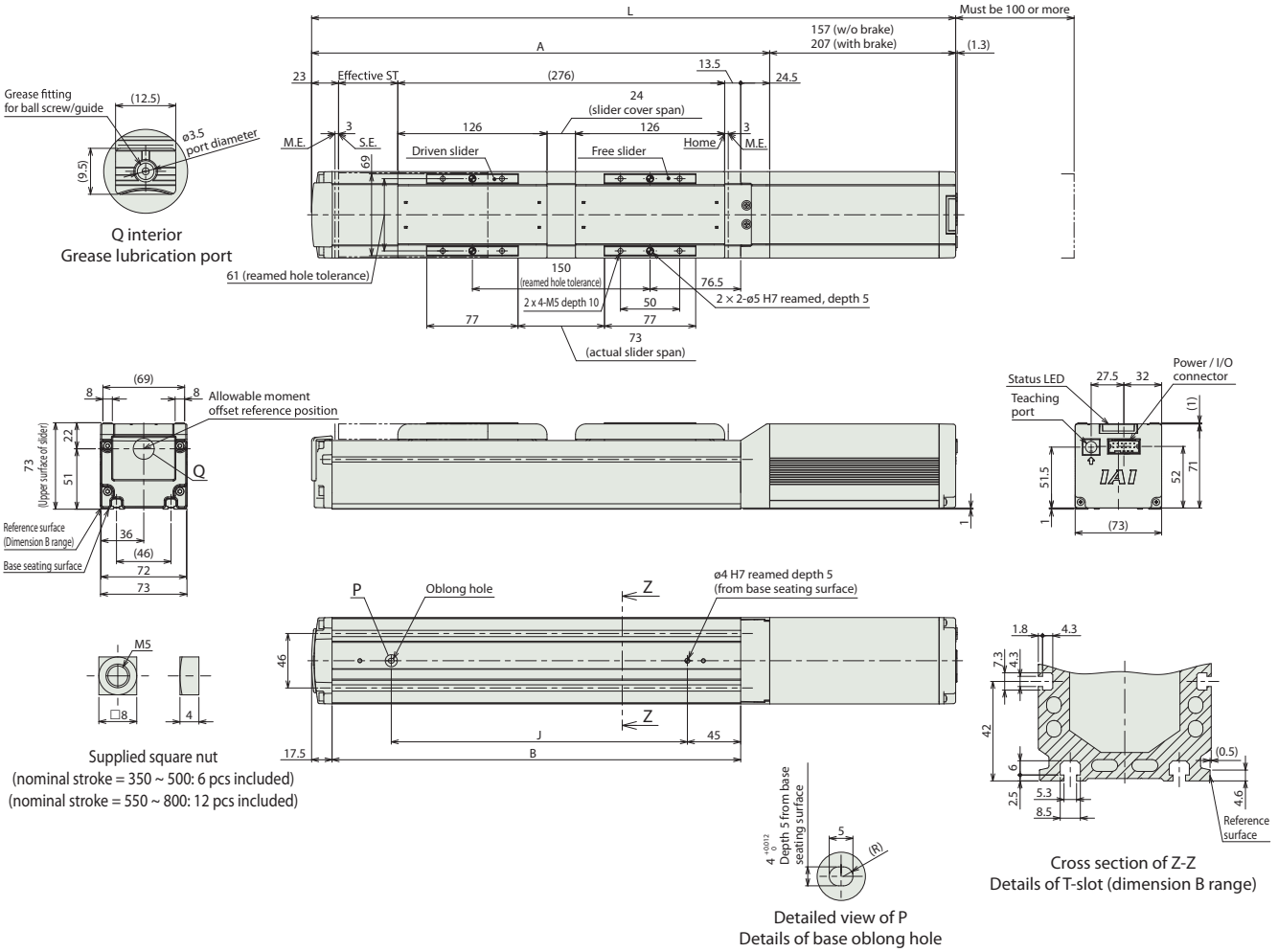
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S7□A (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 350 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) With digital speed controller, the motor part external view differs. Please refer to the external views of single slider with digital speed controller for more information.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



■ Dimensions by Stroke

	Nominal stroke	350	400	450	500	550	600	650	700	750	800
	Effective stroke	200	250	300	350	400	450	500	550	600	650
L	Without brake	694	744	794	844	894	944	994	1044	1094	1144
	With brake	744	794	844	894	944	994	1044	1094	1144	1194
A		537	587	637	687	737	787	837	887	937	987
B		495	545	595	645	695	745	795	845	895	945
J		400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800
Effective stroke		200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	5.55	5.85	6.05	6.35	6.65	6.95	7.15	7.45	7.75	8.05
	With brake	6.05	6.35	6.65	6.85	7.15	7.45	7.75	8.05	8.25	8.55

(Note) It is the sum of single slider specification's mass and free slider's mass (0.45kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

EC-S6X□AH

Simple Dust-proof | Support Mechanism | Coupled Motor | Body Width 60 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] AH - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S6X	Standard	S	20mm	AH	High rigidity	450 ~ 1500	450mm ~ 1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.	See power I/O cable length table below	See options below
			H	12mm						
			M	6mm						
			L	3mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 34 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	31
Brake	**B**	31
Designated grease specification	**G5**	31
Non-motor end specification	**NM**	32
PNP specification	**PN**	32
Slider part roller specification	**SR**	32
Split motor and controller power supply specification	**TMD2**	32
Battery-less absolute encoder specification	**WA**	32
Wireless communication specification	**WL**	32
Wireless axis operation specification	**WL2**	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.

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)	1280	900	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	16
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1120	800	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)	0.5	0.5	0.5	0.5
Push		Max. push force (N)	67	112	224	449
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	16
Stroke		Min. stroke (mm)	450	450	450	450
		Max. stroke (mm)	1500	1500	1400	1000
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 103 N·m
Allowable dynamic moment (Note 1)	Ma: 33.7 N·m
	Mb: 40.2 N·m
	Mc: 55.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

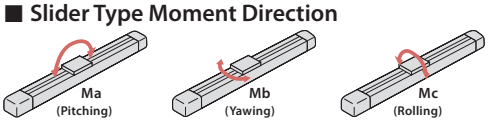


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is 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	8	6	4	1	1
800	10	6.5	4.5	3	1	1
960	8	5	3.5	1.5	1	1
1120	5	3	1		0.5	0.5
1280		0.5				

(Note) Refer to precautions when selecting "G5" option

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	24	18	14	12	2.5	2.5
440	21	13	11	7	2.5	2.5
560	15	11	4	3	2.5	2.5
700	8	7	3	2	1	1
800	4	1.5	1		0.5	
900	1					

(Note) Refer to precautions when selecting "G5" option

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	24	15	6	5.5
340	32	20	18	12	5	4.5
400	21	12	9	6	3.5	3
450	14	7	4		2	1

(Note) Refer to precautions when selecting "G5" option

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	16	16
50	40	35	35	35	16	16
80	40	35	35	30	16	16
110	40	35	35	30	16	16
140	40	35	35	28	15	15
170	40	32	30	22	12.5	12
200	27	26	21	14	7	6
225	17	11	5		2	

(Note) Refer to precautions when selecting "G5" option

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

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	0.75

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	4	1	0.5

(Note) Refer to precautions when selecting "G5" option

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	10	1	1

(Note) Refer to precautions when selecting "G5" option

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	9	2

(Note) Refer to precautions when selecting "G5" option

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

· Lead 20: 800mm/s or lower · Lead 12: 440mm/s or lower · Lead 6: 220mm/s or lower · Lead 3: 110mm/s or lower

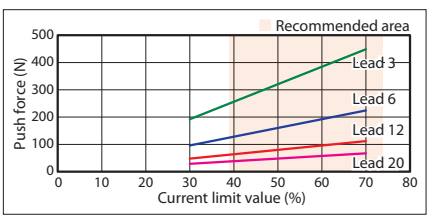
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	450 ~ 650 (every 50mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
20	Disabled	1280 <1120>				1120	970	940	860	790	730	640	610	580	540	470	450	430	400
	Enabled	800								790	730	640	610	580	540	470	450	430	400
12	Disabled	900 <800>	860 <800>	770	680	620	560	510	460	425	380	360	330	315	285	270	250	235	220
	Enabled	680				620	560	510	460	425	380	360	330	315	285	270	250	235	220
6	Disabled	450	430	380	340	310	280	255	230	210	185	175	165	140	135	125	115		
	Enabled	340				310	280	255	230	210	185	175	165	140	135	125	115		
3	Disabled	225	210	190	165	145	135	125	115										
	Enabled	170			165	145	135	125	115										

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



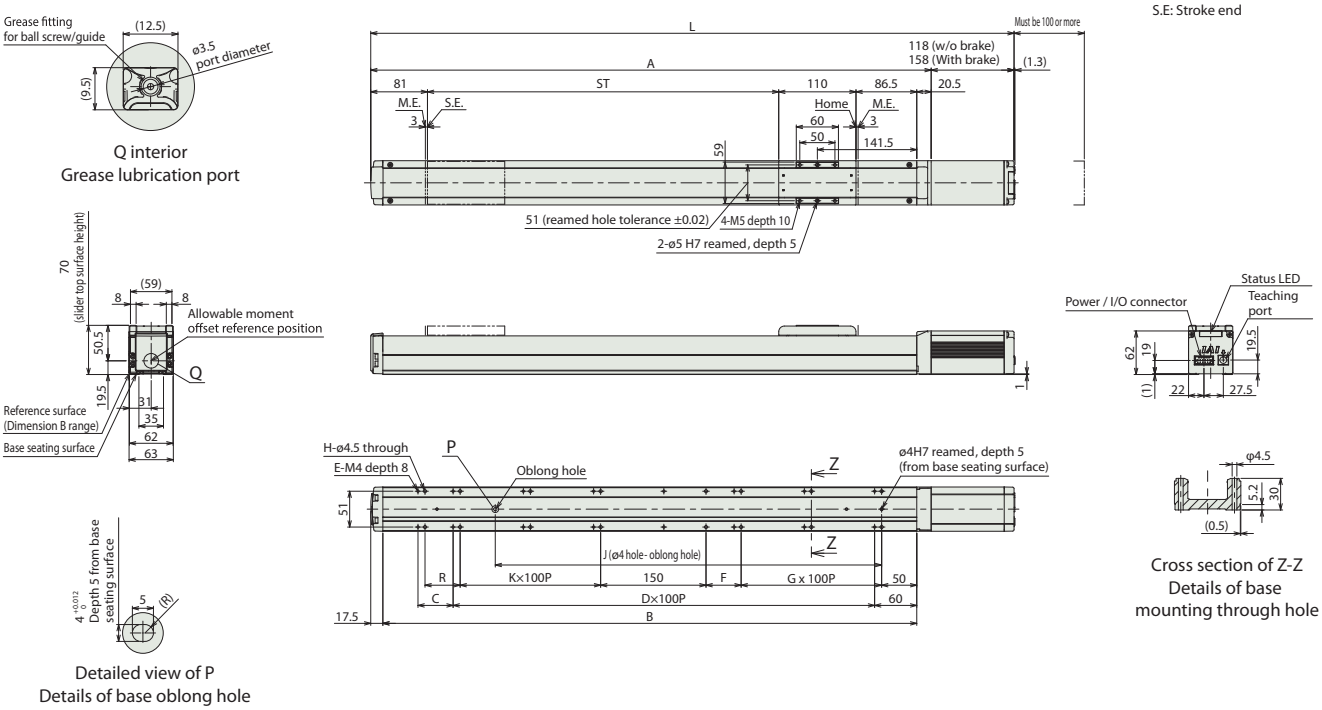
Dimensions

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S6X□AH

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



■ Dimensions by Stroke

Stroke		450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	Without brake	866	916	966	1016	1066	1116	1166	1216	1266	1316	1366	1416	1466	1516	1566	1616	1666	1716	1766	1816	1866	1916
	With brake	906	956	1006	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756	1806	1856	1906	1956
A		748	798	848	898	948	998	1048	1098	1148	1198	1248	1298	1348	1398	1448	1498	1548	1598	1648	1698	1748	1798
B		710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660	1710	1760
C		0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D		6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E		14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F		50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G		2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H		14	16	16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J		500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550
K		2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R		0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	4.5	4.7	5.0	5.2	5.4	5.6	5.8	6.1	6.3	6.5	6.7	7.0	7.2	7.4	7.6	7.8	8.1	8.3	8.5	8.7	8.9	9.2
	With brake	4.7	4.9	5.2	5.4	5.6	5.8	6.0	6.3	6.5	6.7	6.9	7.2	7.4	7.6	7.8	8.0	8.3	8.5	8.7	8.9	9.1	9.4

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

EC-S7X□AH

Simple Dust-proof | Support Mechanism | Coupled Motor | Body Width 80 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] AH - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S7X	Standard	S	24mm	AH	High rigidity	550 ~ 1500	550mm ~ 1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.	See power I/O cable length table below	See options below
			H	16mm						
			M	8mm						
			L	4mm						

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 34 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 34 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	31
Brake	**B**	31
Designated grease specification	**G5**	31
Non-motor end specification	**NM**	32
PNP specification	**PN**	32
Slider part roller specification	**SR**	32
Split motor and controller power supply specification	**TMD2**	32
Battery-less absolute encoder specification	**WA**	32
Wireless communication specification	**WL**	32
Wireless axis operation specification	**WL2**	32

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1230	980	420	195
		Min. speed (mm/s)	30	20	10	5
		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)	3	8	16	25
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1080	840	420	175
		Min. speed (mm/s)	30	20	10	5
		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		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	25
Stroke		Min. stroke (mm)	550	550	550	550
		Max. stroke (mm)	1500	1500	1500	1100
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 115 N·m
	Mb: 115 N·m
	Mc: 229 N·m
Allowable dynamic moment (Note 1)	Ma: 75.5 N·m
	Mb: 90.0 N·m
	Mc: 134 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

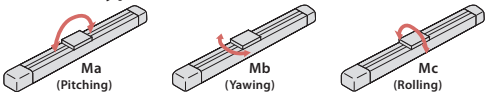


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	37	22	16	14	3	3
200	37	22	16	14	3	3
420	34	20	16	14	3	3
640	20	15	10	9	3	3
860	12	10	5	4	2	2
1080	8	4	2	1	1	
1230	3	1				

(Note) Refer to precautions when selecting "G5" option

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	46	35	28	27	8	8
140	46	35	28	27	8	8
280	46	35	25	24	8	8
420	34	25	15	10	5	4.5
560	20	15	10	6	4	3
700	15	8	5	3	2	2
840	7	2			0.5	
980	0.5					

(Note) Refer to precautions when selecting "G5" option

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	16	16
70	51	45	40	40	16	16
140	51	40	38	35	16	16
210	51	35	30	24	10	9.5
280	40	28	20	15	8	7
350	28	9	4		5	3
420	7				2	

(Note) Refer to precautions when selecting "G5" option

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	25	25
35	51	45	40	40	25	25
70	51	45	40	40	25	25
105	51	45	40	35	20	19
140	45	35	30	25	14	12
175	30	18			9	4
210	4					

(Note) Refer to precautions when selecting "G5" option

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	10	2	1
800	5	0.5	0.5

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	35	20	5
140	35	20	5
280	25	12	3
420	15	6	1.5
560	7	0.5	0.5

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	25	10
70	40	25	10
140	40	25	7
210	25	14	4
280	10	1	1.5

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	30	15
35	40	30	15
70	40	30	15
105	40	30	8
140	15	6	2

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

· Lead 24: 860mm/s or lower · Lead 16: 560mm/s or lower · Lead 8: 280mm/s or lower · Lead 4: 140mm/s or lower

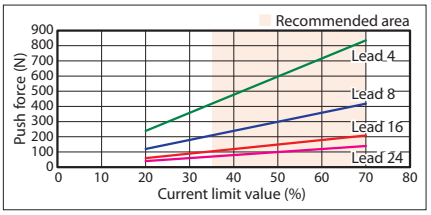
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	550 ~ 850 (every 50mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
24	Disabled	1230 <1080>			1160 <1080>	1080	990	920	850	770	735	680	635	565	550
	Enabled	800								770	735	680	635	565	550
16	Disabled	980 <840>	920 <840>	835	760	700	645	590	555	510	470	440	420	375	355
	Enabled	560							555	510	470	440	420	375	355
8	Disabled	420			375	345	310	285	255	245	230	215	190	180	170
	Enabled	280							255	245	230	215	190	180	170
4	Disabled	195 <175>			175	165	150								
	Enabled	140													

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



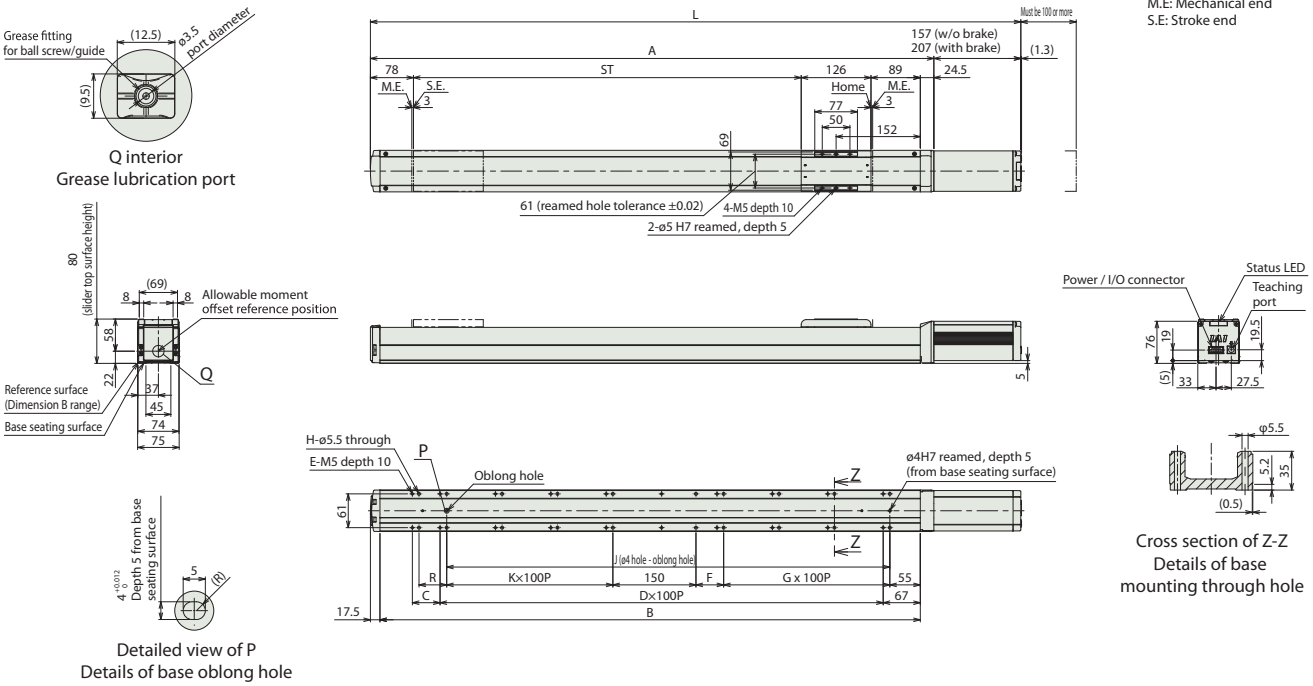
Dimensions

CAD drawings can be downloaded from our website.
www.elecylinder.de

■ EC-S7X□AH

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.

ST: Stroke
M.E: Mechanical end
S.E: Stroke end



Detailed view of P
Details of base oblong hole

Cross section of Z-Z
Details of base mounting through hole

■ Dimensions by Stroke

Stroke		550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	Without brake	1024.5	1074.5	1124.5	1174.5	1224.5	1274.5	1324.5	1374.5	1424.5	1474.5	1524.5	1574.5	1624.5	1674.5	1724.5	1774.5	1824.5	1874.5	1924.5	1974.5
	With brake	1074.5	1124.5	1174.5	1224.5	1274.5	1324.5	1374.5	1424.5	1474.5	1524.5	1574.5	1624.5	1674.5	1724.5	1774.5	1824.5	1874.5	1924.5	1974.5	2024.5
A		867.5	917.5	967.5	1017.5	1067.5	1117.5	1167.5	1217.5	1267.5	1317.5	1367.5	1417.5	1467.5	1517.5	1567.5	1617.5	1667.5	1717.5	1767.5	1817.5
B		825.5	875.5	925.5	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5	1325.5	1375.5	1425.5	1475.5	1525.5	1575.5	1625.5	1675.5	1725.5	1775.5
C		0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D		7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E		16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F		0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G		3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H		16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J		650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
K		2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R		50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	7.7	8.0	8.2	8.5	8.8	9.1	9.4	9.6	9.9	10.2	10.5	10.7	11.0	11.3	11.6	11.9	12.1	12.4	12.7	13.0
	With brake	8.2	8.5	8.7	9.0	9.3	9.6	9.9	10.1	10.4	10.7	11.0	11.2	11.5	11.8	12.1	12.4	12.6	12.9	13.2	13.5

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 38 for details on built-in controllers.

Options

RCON-EC connection specification

*Cannot be selected with the TMD2 and PN options (the ACR option includes the split motor and controller power supply specification)

Model **ACR** Applicable models **All models**

Description Select this option when connecting to a field network via RCON-EC. *If this option is selected, the power supply must be a twin power supply and the input/output specification must be NPN. Therefore, it cannot be selected with the TMD2 or PN options.

Brake

Model **B** Applicable models **All models**

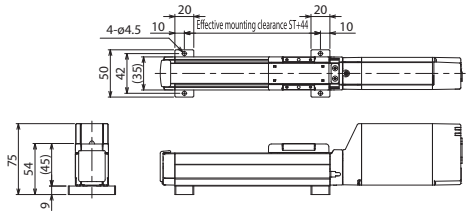
Description This mechanism stops the slider from moving when the power or servo is turned off. When using the actuator vertically, this option is required.

Foot bracket

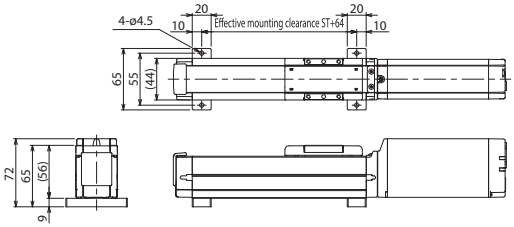
Model **FT** Applicable models **EC-S3☐A / S4☐A / S6☐A / S7☐A**

Description This bracket is used for mounting the actuator body from the top with bolts.
*Not assembled before shipment. Refer to the drawings for mounting instructions.

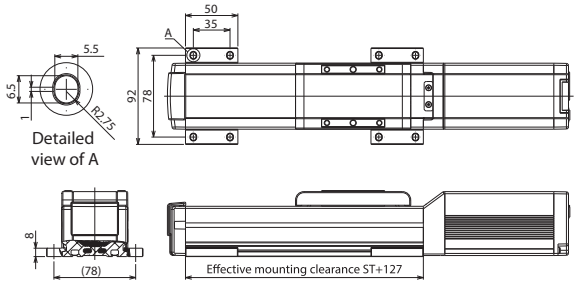
EC-S3☐A Individual model number: EC-FT-SRR3 (2-piece set)
(Material: Aluminum)



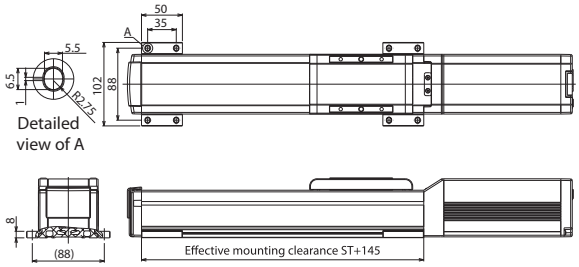
EC-S4☐A Individual model number: EC-FT-SRR4 (2-piece set)
(Material: Aluminum)



EC-S6☐A Individual model number: EC-FTSB (4-piece set)
(Material: Steel [steam treatment])



EC-S7☐A Individual model number: EC-FTSB (4-piece set)
(Material: Steel [steam treatment])



Designated grease specification

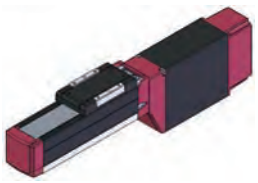
Model **G1/G5** Applicable models **G1: EC-S3☐A / S4☐A / S6☐A / S7☐A**
G5: All models

Description The grease applied to the actuator ball screw and linear guide is changed to environmental low-dust grease (KURODA C-Grease) for G1 and food processing machine grease (White Alcom grease) for G5.

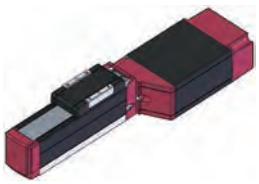
Motor mounting direction change

Model **MOB / MOL / MOR / MOT** Applicable models **EC-S3☐A / S4☐A**

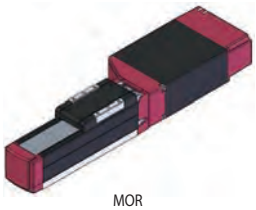
Description One of four motor mounting directions can be selected: bottom, left, right, or top.* Be sure to enter a code in the model number.



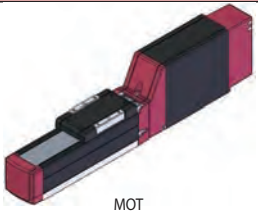
MOB
Motor mounting direction change (bottom)



MOL
Motor mounting direction change (left)



MOR
Motor mounting direction change (right)



MOT
Motor mounting direction change (top)

Non-motor end specification

Model **NM** Applicable models **All models**

Description The home position is normally set to the motor side. This option is for setting the home position on the other side in order to accommodate variations in equipment layout, etc.

PNP specification *Cannot be ordered simultaneously with the ACR option, which is NPN specification.

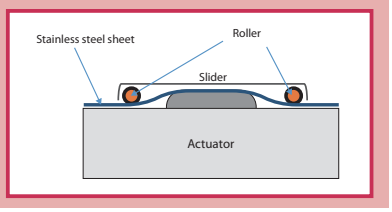
Model **PN** Applicable models **All models**

Description EC Series products provide NPN specification input/output for connecting external devices as standard.
Specifying this option changes input/output to the PNP specification.

Slider part roller specification

Model **SR** Applicable models **All models**

Description The slider structure of the standard slider type is changed to a roller structure similar to that of the cleanroom-compliant specification.
By using the slider part roller specification, the slider cover external view is rendered the same as that of the cleanroom type.



Twin power supply specification

* Cannot be selected with the ACR option (the RCON-EC connection specification is a split motor and controller power supply specification)

Model **TMD2** Applicable models **All models**

Description This option includes an actuator operation stop input.
Select this option to allow shutting down the actuator drive power only.
Please refer to P. 39 for more information on wiring.

Double slider

Model **W** Applicable models **EC-S6□A / S7□A**

Description This option adds a free slider on the ball screw motor side.
Doubling the slider enables increased allowable moment and overhang load length.
At shipping, the driven slider and free slider are not coupled. They are to be coupled by the customer for use.

Battery-less absolute encoder specification

Model **WA** Applicable models **All models**

Description The EC series offers incremental encoder specification as standard.
Specifying this option installs a built-in battery-less absolute encoder.

Wireless communication specification

Model **WL** Applicable models **All models**

Description This option enables support for wireless communication. Specifying this option enables wireless communication with the TB-03 teaching pendant.
The start point, end point, and AVD can be adjusted via wireless communication.

Wireless axis operation specification

Model **WL2** Applicable models **All models**

Description Specifying WL2 allows the product to operate wirelessly as with WL (start point, end point, and AVD adjustment), and also to perform axis travel operation tests (forward end/backward end movement, jog, and inching). However, this function is not meant to perform automatic operation. Refer to P. 118 of the EC main catalogue V10 for precautions on axis operation using wireless connection.
(Note) Customers cannot change WL to WL2, or WL2 to WL. Please contact IAI for this.

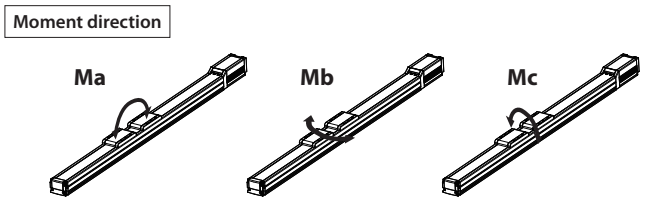
Double Slider Specification

■ Precautions for Double Slider Specification

(1) The allowable dynamic moment and overhang load length change depending on the span between the two sliders.

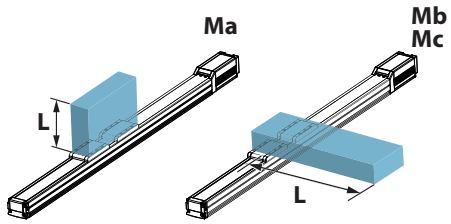
Allowable dynamic moment direction figure

These values for the allowable dynamic moment are based on the standard rated operation life. Note that use exceeding the moment specification value will shorten the guide life.

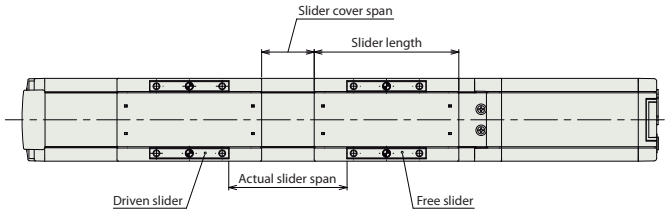


Overhang load length figure

Use exceeding the overhang allowable value may lead to vibration, so be sure to use within the allowable values.

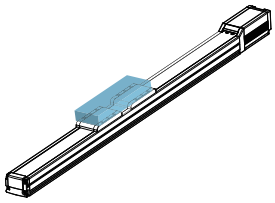


Double slider specification figure



Slider coupling part (image)

At shipping, the driven slider and free slider are not coupled. They are to be coupled by the customer for use.
(Note) Be sure to couple the sliders at the slider span specified as of ordering.



(2) Be sure to specify the effective stroke upon ordering.

Ex. EC-S6MA-750-3-W (effective stroke 600mm)

(3) When specifying the double slider specification option, the effective stroke (actually operable stroke) is the length of the nominal stroke (stroke as in the model name) minus Ⓐ (slider length + slider cover span). When ordering, select a stroke length including the length plus Ⓐ or more as the required stroke. As well, make sure the effective stroke is at least the minimum effective stroke with double slider specification.

Nominal stroke ≥ Effective stroke + Ⓐ
(stroke as in model name) (actually operable stroke)

Ex. EC-S6□A
Effective stroke: 600mm Ⓐ : 150mm
600mm + 150mm = 750mm -> Order at 750mm or above in the model name

For double slider specification Available effective strokes (mm)	Ⓐ Slider length + Slider cover span (mm)
100 ~ 650 (nominal stroke 250 ~ 800)	150
200 ~ 650 (nominal stroke 350 ~ 800)	150

(4) Be sure to confirm the payload with double slider specification in the Table of Payload by Speed/Acceleration (double slider specification) on the product specification pages.

(5) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Confirm with the table "Stroke and Maximum Speed (double slider specification)" on the product specification pages.

■ Double Slider Specification Table

Model	Allowable dynamic moment						Overhang load length (mm)	Slider mass (kg)	Slider length (mm)	Effective stroke available with double slider specification (mm)	Ⓐ Slider length + Slider cover span (mm)
	Standard rated operation life (km)	Slider span (mm)		Ma direction (N·m)	Mb direction (N·m)	Mc direction (N·m)	Ma/ Mb/ Mc direction				
		Actual slider span	Slider cover span								
EC-S6□A	5000	90	40	106	152	37.9	440	0.27	110	100 ~ 650 (nominal stroke 250 ~ 800)	150
EC-S7□A	5000	73	24	119	171	56.7	560	0.45	126	200 ~ 650 (nominal stroke 350 ~ 800)	150

■ Double Slider Specification Availability Table

Model	Lead	Double slider specification availability	
		Horizontal mounting	Vertical mounting
EC-S6□A	S	—	—
	H	○	—
	M	○	○
	L	○	○
EC-S7□A	S	—	—
	H	○	—
	M	○	○
	L	○	○

Duty Ratio

The duty ratio is the operating rate shown as the actuator's operating time during one cycle in, expressed as a percentage.

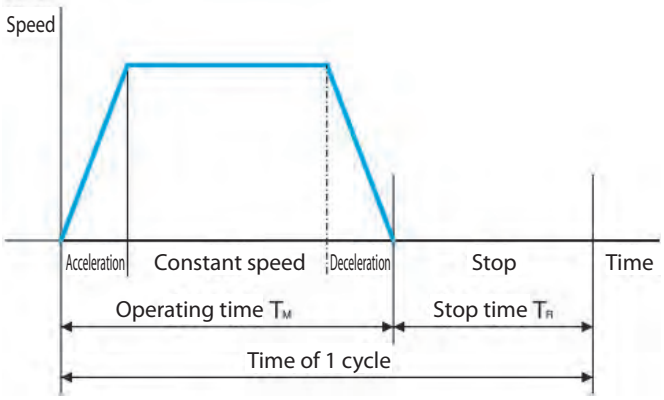
The duty ratio for each EleCylinder type is limited to the values below.
The data below is applicable even during operation at maximum speed and maximum acceleration/deceleration.

[Duty ratio]

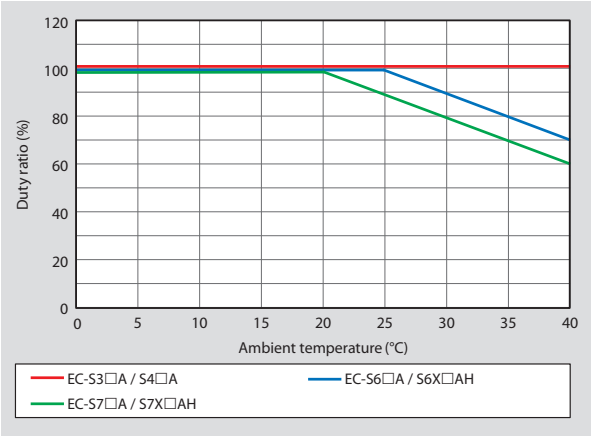
The duty ratio is the operating rate shown as the operating time of EleCylinder during one cycle, expressed as a percentage (%).

$$D = \frac{TM}{TM + TR} \times 100\ (\%)$$

D: Duty ratio
TM: Operating time (including push-motion operation)
TR: Stop time



■ Ambient Temperature and Duty Ratio



Push-Motion Operation

Push-motion operation is a function that keeps the slider pushed up against a workpiece, as with an air cylinder.
Please check the usage instructions and precautions below prior to use.

[Push force adjustment]

- The push force during push-motion operation can be adjusted by changing the "Push force (%)" on EleCylinder.
- Check the push force for the applicable model in the "Correlation Diagrams between Push Force and Current Limit" on the product specification page, and select a model that matches your conditions.

[Lead selection method]

Select a lead with the desired push force within the recommended current limit value range (colored area of the graph).

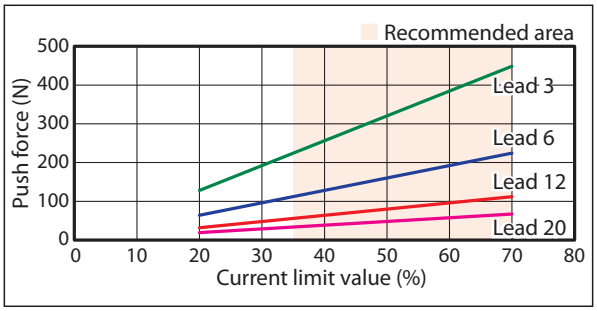
Lead 6 would be appropriate for the EC-S6□A type shown in the figure to the right if a push force of 150N is desired. Selecting lead 3 would limit the adjustment range.

[Precautions]

If pushing with a slider type, the allowable dynamic moment of the guide will need to be taken into consideration. Be sure to limit the push current so that the reactive moment caused by the push force does not exceed the allowable dynamic moment (Ma, Mb) listed in the catalog.

(Example)

EC-S6□A



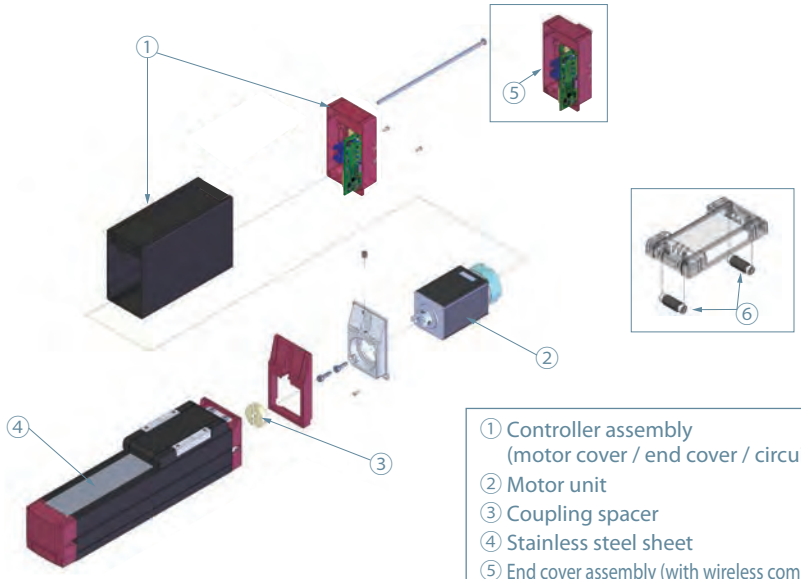
<Correlation Diagrams between Push Force and Current Limit>

Caution

- **The "Correlation Diagrams between Push Force and Current Limit" show lower guidelines for push force for each current limit value.**
- **Individual differences in the motor and variations in machine efficiency may cause the push force lower limit to be exceeded by around 40%, even if the current limit value is the same. This is especially true when the current limit value is 30% or lower, and the push force lower limit could be exceeded by 40% or more.**

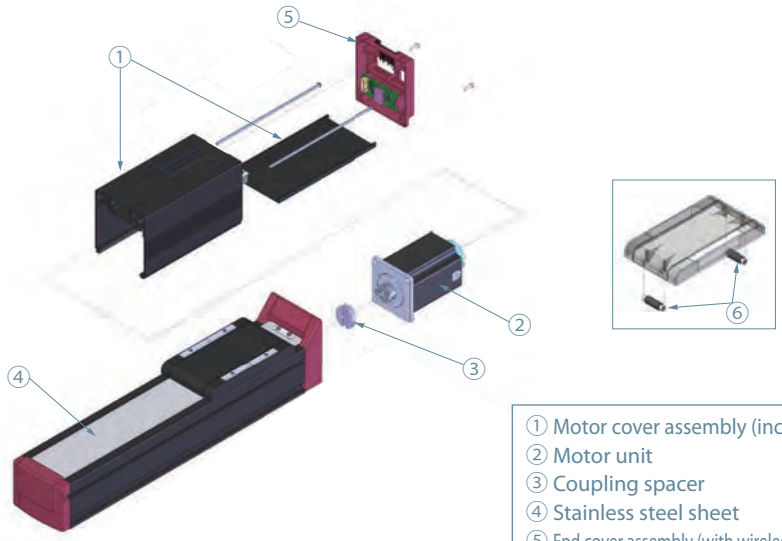
Maintenance Parts (Actuator)

EC-S3□A
EC-S4□A



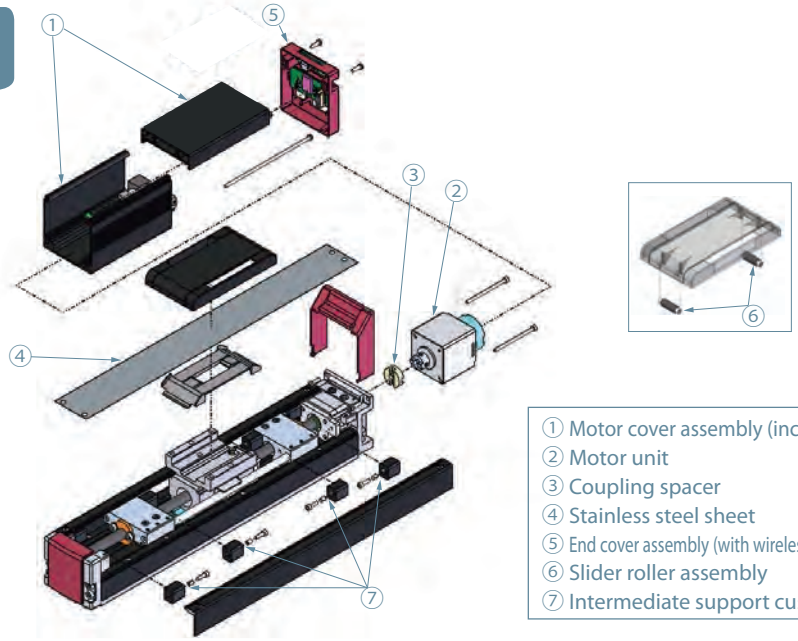
① Controller assembly
(motor cover / end cover / circuit board cable)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly

EC-S6□A
EC-S7□A



① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly

EC-S6X□AH
EC-S7X□AH



① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly
⑦ Intermediate support cushion

The numbers in the table correspond to the numbers in the schematics.
(Note) Mounting screws are not included with maintenance parts. Please contact our sales department for modification purposes.

① Controller assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Encoder	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S3□A	Incremental	No	NPN	MWB-EC-SRR3	ACR (I/O for NPN only)	TMD2	WL2
			PNP	MWB-EC-SRR3-P			
		Yes	NPN	MWB-EC-SRR3-B			
			PNP	MWB-EC-SRR3-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR3-WA			
			PNP	MWB-EC-SRR3-WA-P			
		Yes	NPN	MWB-EC-SRR3-WA-B			
			PNP	MWB-EC-SRR3-WA-B-P			
S4□A	Incremental	No	NPN	MWB-EC-SRR4			
			PNP	MWB-EC-SRR4-P			
		Yes	NPN	MWB-EC-SRR4-B			
			PNP	MWB-EC-SRR4-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR4-WA			
			PNP	MWB-EC-SRR4-WA-P			
		Yes	NPN	MWB-EC-SRR4-WA-B			
			PNP	MWB-EC-SRR4-WA-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S3□A	Incremental	No	EC-MUSRR3
		Yes	EC-MUSRR3-B
	Battery-less absolute	No	EC-MUSRR3-WA
		Yes	EC-MUSRR3-WA-B
S4□A	Incremental	No	EC-MUSRR4
		Yes	EC-MUSRR4-B
	Battery-less absolute	No	EC-MUSRR4-WA
		Yes	EC-MUSRR4-WA-B

③ Coupling spacer

Type	Model
S3□A	CPG-EC-SRR3
S4□A	CPG-EC-SRR4

④ Stainless steel sheet

Type	Model
S3□A	ST-EC-S3-○○○
S4□A	ST-EC-S4-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S3□A	EWB-EC-(D)SRR3
S4□A	EWB-EC-(D)SRR4

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S3□A	EC-SR-S3
S4□A	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

---

① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6□A	No	NPN	MWB-EC-SR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-EC-SR6-P			
	Yes	NPN	MWB-EC-SR6-B			
		PNP	MWB-EC-SR6-B-P			
S7□A	No	NPN	MWB-EC-SR7			
		PNP	MWB-EC-SR7-P			
	Yes	NPN	MWB-EC-SR7-B			
		PNP	MWB-EC-SR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6□A	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7□A	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6□A	CPG-EC-SR6
S7□A	CPG-EC-SR7

④ Stainless steel sheet

Type	Model	
	Single slider	Double-slider
S6□A	ST-EC-S6-○○○	ST-EC-S6D-○○○
S7□A	ST-EC-S7-○○○	ST-EC-S7D-○○○

*○○○ indicates the stroke in the model name

⑤ End cover assembly

Type	Model
S6□A	EWB-EC-(D)SR6
S7□A	EWB-EC-(D)SR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S6□A S7□A	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

---

① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6X□AH	No	NPN	MWB-ECH-(D)SRR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-ECH-(D)SRR6-P			
	Yes	NPN	MWB-ECH-(D)SRR6-B			
		PNP	MWB-ECH-(D)SRR6-B-P			
S7X□AH	No	NPN	MWB-ECH-(D)SRR7			
		PNP	MWB-ECH-(D)SRR7-P			
	Yes	NPN	MWB-ECH-(D)SRR7-B			
		PNP	MWB-ECH-(D)SRR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6X□AH	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7X□AH	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6X□AH	CPG-EC-SR6
S7X□AH	CPG-EC-SR7

④ Stainless steel sheet

Type	Model
S6X□AH	ST-ECXH-S6-○○○
S7X□AH	ST-ECXH-S7-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S6X□AH	EWB-ECH-(D)SRR6
S7X□AH	EWB-ECH-(D)SRR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S6X□AH S7X□AH	EC-SR-S467

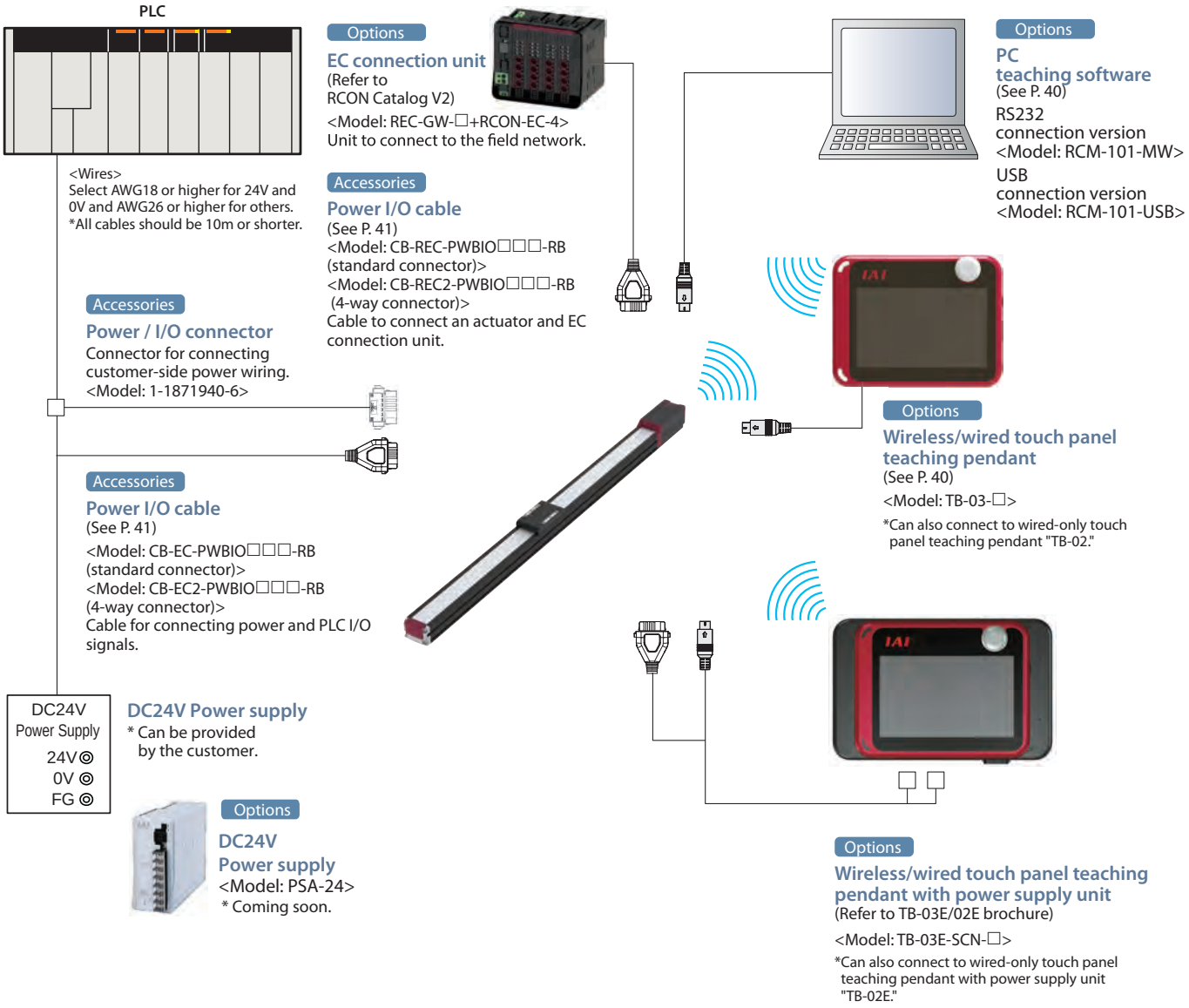
*The model above is one item worth. When 1 axis worth is required, prepare two items.

⑦ Intermediate support cushion

Type	Model
S6X□AH S7X□AH	IMSC-EC-S6S7

*The model above is one item worth. When 1 axis worth is required, prepare eight items. One rolled bushing is included per model.

System Configuration



List of Accessories

■ Power I/O Cables, Connectors

[Standard connector]

Product category		Accessories
Power I/O cable length (selected with actuator model)	RCON-EC connection specification (ACR) selection	
0	No	Power / I/O connector (1-1871940-6)
	Yes	—
1 ~ 10	No	Power I/O cable (CB-EC-PWBIO□□□-RB)
	Yes	Power I/O cable (CB-REC-PWBIO□□□-RB)

[Four-way connector]

Product category		Accessories
Power I/O cable length (selected with actuator model)	RCON-EC connection specification (ACR) selection	
S1 ~ S10	No	Power I/O cable (CB-EC2-PWBIO□□□-RB)
	Yes	Power I/O cable (CB-REC2-PWBIO□□□-RB)

Basic Controller Specifications

Specification item			Specification content
Number of controlled axes			1 axis
Power supply voltage			24VDC ±10%
Power capacity (includes control power 0.3A) (Note 1)		S3☐A	Max. 2.2A (with energy-saving setting enabled only)
		S4☐A, S6☐A, S7☐A, S6X☐AH, S7X☐AH	With energy-saving setting disabled: Rated 3.5A, max. 4.2A With energy-saving setting enabled: Max. 2.2A
Brake release power supply			24VDC ±10%, 200mA (only for external brake release)
Generated heat (at duty ratio 100%)		S3☐A	5W
		S4☐A, S6☐A, S7☐A, S6X☐AH, S7X☐AH	8W
Inrush current (Note 2)		S3☐A	2A
		S4☐A, S6☐A, S7☐A, S6X☐AH, S7X☐AH	8.3A (with inrush current limit circuit)
Momentary power failure resistance			Max 500µs
Motor size			☐28, ☐35, ☐42, ☐56
Motor rated current			1.2A
Motor control system			Weak field-magnet vector control
Supported encoders			Incremental (800 pulse/rev), battery-less absolute encoder (800 pulse/rev)
SIO			RS-485 1ch (Modbus protocol compliant)
PIO	Input specification	No. of inputs	3 points (forward, backward, alarm clear)
		Input voltage	24VDC ±10%
		Input current	5mA per circuit
		Leakage current	Max. 1mA/1 point
		Isolation method	Non-isolated
	Output specification	No. of outputs	3 points (forward complete, backward complete, alarm)
		Output voltage	24VDC ±10%
		Output current	50mA/1 point
		Residual voltage	2V or less
		Isolation method	Non-isolated
Data setting, input method			PC teaching software, touch panel teaching pendant, digital speed controller
Data retention memory			Position and parameters are saved in non-volatile memory (no limit to number of rewrites)
LED display	Controller status display		Servo ON (green light ON) / Alarm (red light ON) / Initializing when power comes ON (orange light ON) / Minor failure alarm (green/red alternately blinking) / Operation from teaching: Stop from teaching (red light ON) / Servo OFF (light OFF)
	Wireless status display		Initializing wireless hardware, without wireless connection, or connecting from TP board (light OFF) Connecting through wireless (green blinking) / Wireless hardware error (red blinking) / Initializing when power comes ON (orange light ON)
Predictive maintenance/preventative maintenance			When the number of movements or operation distance has exceeded the set value and when the LED (right side) blinks alternately green and red at overload warning *Only when configured in advance
Ambient operating temperature			0 ~ 40°C
Ambient operating humidity			5%RH ~ 85%RH or less (no condensation or freezing)
Operating ambience			No corrosive gas or excessive dust
Insulation resistance			500VDC 10MΩ
Electric shock protection mechanism			Class 1 basic insulation
Cooling method			Natural air cooling

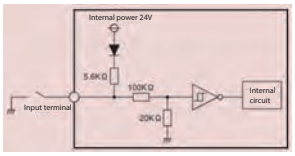
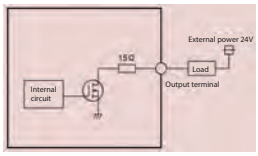
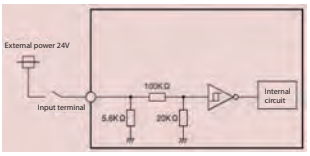
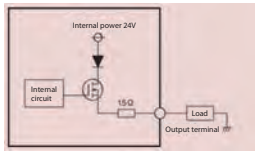
(Note 1) When connecting to RCON-EC, control power 0.3A is subtracted from the value.
(Note 2) Inrush current flows for approximately 5ms after the power is input. (At 40°C) Inrush current value differs depending on the impedance on the power line.

Solenoid Valve Method

EleCylinder products normally use a double solenoid method.
Change parameter No. 9 ("solenoid valve type selection") to use the single solenoid method.

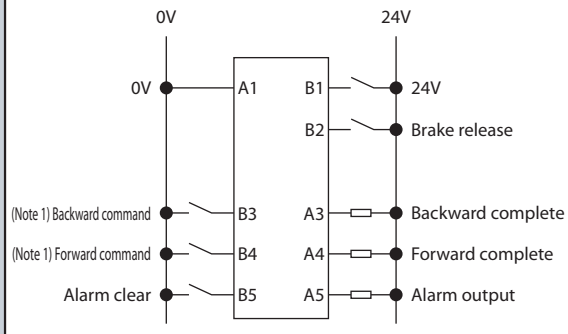
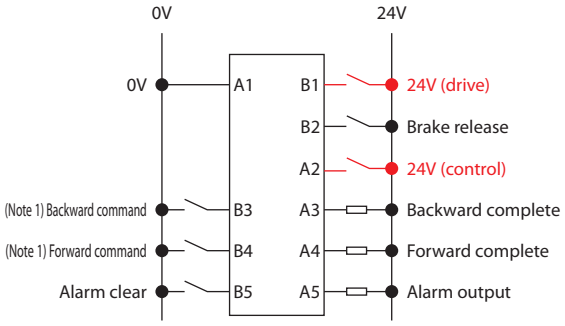
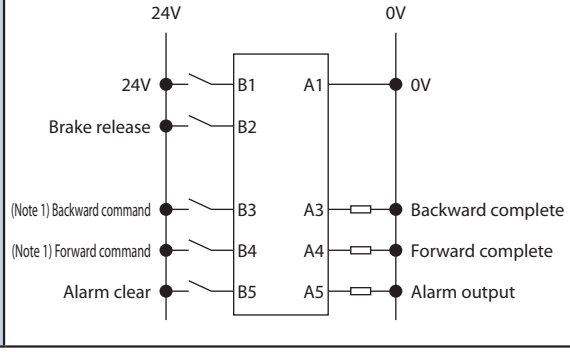
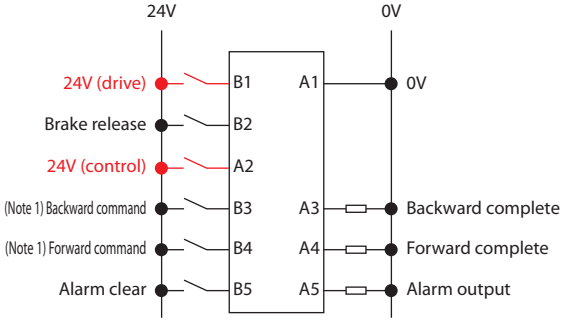
<Caution>
Operation cannot be performed using the single solenoid method when operating connected to RCON-EC.

I/O (Input/Output) Specifications

I/O		Input		Output	
Specifications		Input voltage	24VDC ±10%	Load voltage	24VDC ±10%
		Input current	5mA per circuit	Maximum load current	50mA/1 point
		ON/OFF voltage	ON voltage: MIN. 18VDC OFF voltage: MAX. 6VDC	Residual voltage	2V or less
		Leakage current	Max. 1mA/1 point	Leakage current	Max. 0.1mA/1 point
Isolation method		Non-isolated from external circuit		Non-isolated from external circuit	
I/O logic	NPN				
	PNP				

(Note) Non-Isolated is the only isolation wiring method available. When grounding an external device (such as a PLC) connected to EleCylinder, use the same ground as EleCylinder.

I/O Signal Wiring Diagram

I/O		Standard specification	Split motor and controller power supply specification (option model: TMD2)
Power / I/O connector		0V A1 (Reserved) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Reserved) A6  B1 24V B3 Backward command (Note 1) B4 Forward command (Note 1) B5 Alarm clear B6 (reserved)	Drive power and control power are separate for the TMD2 specification. 0V A1 24V (control) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Reserved) A6  B1 24V (drive) B2 Brake release B3 Backward command (Note 1) B4 Forward command (Note 1) B5 Alarm clear B6 (reserved)
I/O logic	NPN		
	PNP		

(Note 1) Switching to the single solenoid method will change B3 to "Forward/Backward command" and B4 to "Unused."

I/O Signal Table

Power / I/O connector pin assignment			
Pin No.	Connector nameplate name	Signal abbreviation	Function overview
B3 (Note 1)	Backward	ST0	Backward command
B4 (Note 1)	Forward	ST1	Forward command
B5	Alarm clear	RES	Alarm clear
A3	Backward complete	LS0/PE0	Backward complete/push complete
A4	Forward complete	LS1/PE1	Forward complete/push complete
A5	Alarm	*ALM	Alarm detection (b-contact)
B2	Brake release	BKRLS	Brake forced release (for brake equipped specification)
B1 (Note 2)	24V	24V	24V input
A1	0V	0V	0V input
A2 (Note 2)	(24V)	(24V)	24V input

(Note 1) Switching to the single solenoid method will change B3 to "Forward/Backward" and B4 to "Unused." However, the power / I/O connector display will still read "B3: Backward" and "B4: Forward."
(Note 2) B1 is 24V (drive) and A2 is 24V (control) for the split motor and controller power supply specification (TMD2).

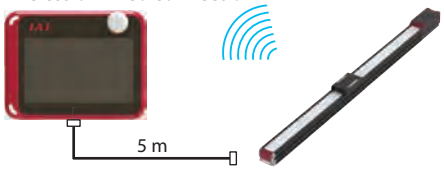
Options

Wireless/wired touch panel teaching pendant

Features This teaching device supports wireless connections.
Start point/end point/AVD (acceleration/velocity/deceleration) input and axis operation can be performed wirelessly.

Model **TB-03-□** (Please contact IAI for the current supported versions.)

Configuration Wireless or wired connection



Specifications

Rated voltage	24VDC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 ~ 40°C
Ambient operating humidity	5 ~ 85%RH (no condensation)
Environmental resistance	IPX0
Mass	Approx. 485g (body) + approx. 175g (battery)
Charging method	Wired connection with dedicated adapter/controller
Wireless connection	Bluetooth 4.2 class2

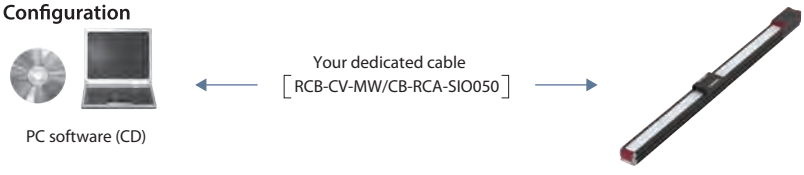
Teaching software for PC (Windows only)

Features This start-up support software provides functions such as position teaching, trial operation, and monitoring.
It provides a complete range of functions required to make adjustments, to help reduce start-up time.

Model **RCM-101-MW** (with an external device communication cable + RS232 conversion unit)

Please contact IAI for the current supported versions.

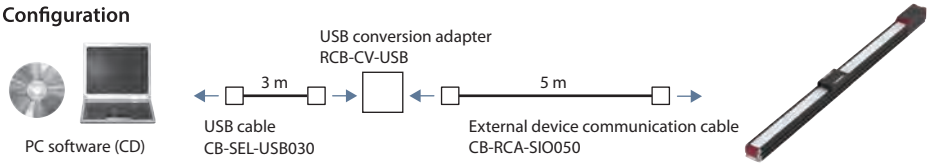
Configuration



Model **RCM-101-USB** (with an external device communication cable + USB conversion adapter + USB cable)

Please contact IAI for the current supported versions.

Configuration



Maintenance Parts (Cables)

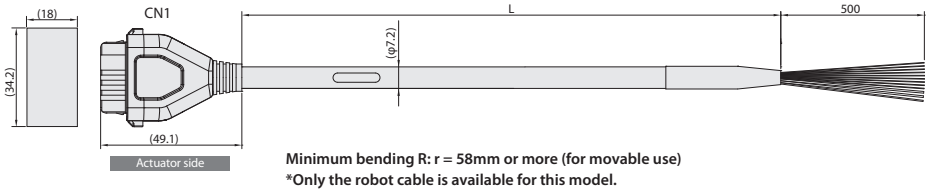
When placing an order for a replacement cable after purchasing a product, please use the model name shown below.

■ **Table of Compatible Cables**

Cable type	Cable model
Power I/O cable (user-wired specification)	CB-EC-PWBIO□□□-RB
Power I/O cable (user-wired specification, four-way connector)	CB-EC2-PWBIO□□□-RB
Power I/O cable (RCON-EC connection specification)	CB-REC-PWBIO□□□-RB
Power I/O cable (RCON-EC connection specification, four-way connector)	CB-REC2-PWBIO□□□-RB

Model CB-EC-PWBIO□□□-RB

*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



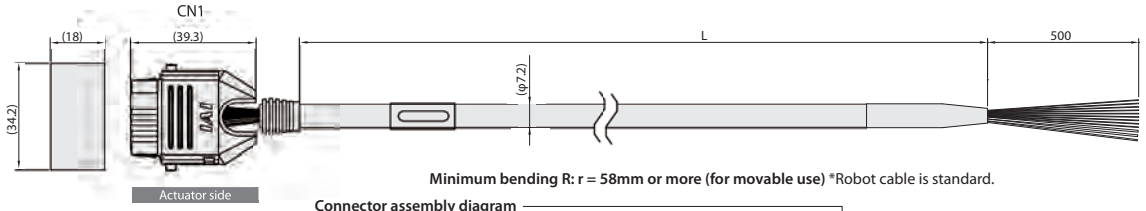
Minimum bending R: r = 58mm or more (for movable use)
***Only the robot cable is available for this model.**

Color	Signal name	Pin No.
Black (AWG18)	0V	A1
Red (AWG18)	24V	B1
Light blue (AWG22)	(Reserved) (Note 1)	A2
Orange (AWG26)	IN0	B3
Yellow (AWG26)	IN1	B4
Green (AWG26)	IN2	B5
Pink (AWG26)	(Reserved)	B6
Blue (AWG26)	OUT0	A3
Purple (AWG26)	OUT1	A4
Gray (AWG26)	OUT2	A5
White (AWG26)	(Reserved)	A6
Brown (AWG26)	BKRLS	B2

(Note 1) 24V (control) when split motor and controller power supply specification (TMD2) is selected.

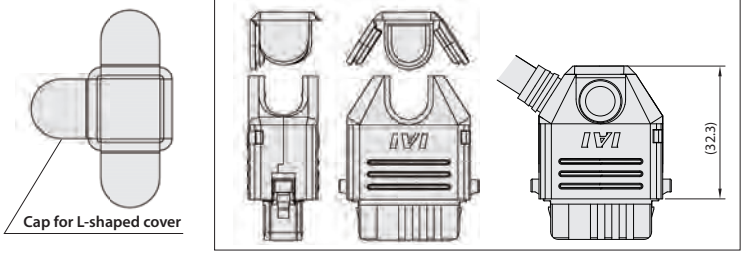
Model CB-EC2-PWBIO□□□-RB

*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



Minimum bending R: r = 58mm or more (for movable use) *Robot cable is standard.

Connector assembly diagram

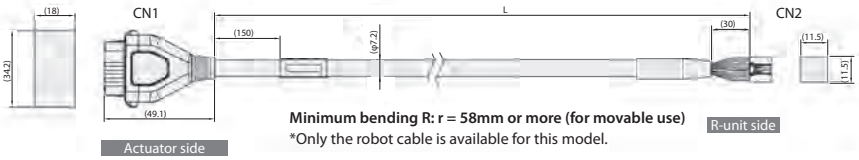


Color	Signal name	Pin No.
Black (AWG18)	0V	A1
Red (AWG18)	24V	B1
Light blue (AWG22)	(Reserved) (Note 1)	A2
Orange (AWG26)	IN0	B3
Yellow (AWG26)	IN1	B4
Green (AWG26)	IN2	B5
Pink (AWG26)	(Reserved)	B6
Blue (AWG26)	OUT0	A3
Purple (AWG26)	OUT1	A4
Gray (AWG26)	OUT2	A5
White (AWG26)	(Reserved)	A6
Brown (AWG26)	BKRLS	B2

(Note 1) 24V (control) when split motor and controller power supply specification (TMD2) is selected.

Model CB-REC-PWBIO□□□-RB

*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



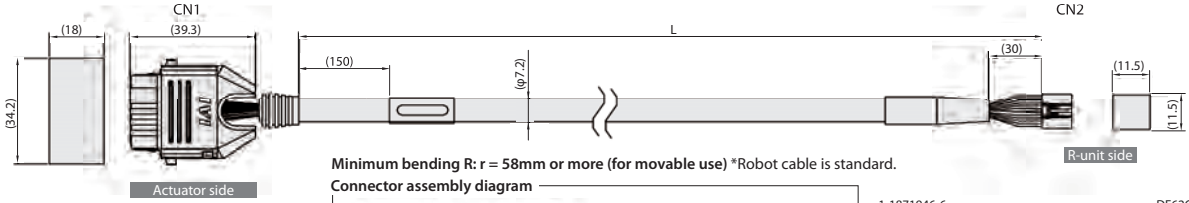
Minimum bending R: r = 58mm or more (for movable use)
***Only the robot cable is available for this model.**

Color	Signal name	Pin No.
Black (AWG18)	0V	A1
Red (AWG18)	24V (MP)	B1
Light blue (AWG22)	24V (CP)	A2
Orange (AWG26)	IN0	B3
Yellow (AWG26)	IN1	B4
Green (AWG26)	IN2	B5
Yellow (AWG26)	SD+	B6
Light gray (AWG26)	SD-	A6
Blue (AWG26)	OUT0	A3
Purple (AWG26)	OUT1	A4
Gray (AWG26)	OUT2	A5
Brown (AWG26)	BKRLS	B2

Pin No.	Signal name	Color
1	24V (MP)	Red (AWG18)
12	24V (CP)	Light blue (AWG22)
7	OUT0	Orange (AWG26)
8	OUT1	Yellow (AWG26)
9	OUT2	Green (AWG26)
6	SD+	Yellow (AWG26)
10	SD-	Light gray (AWG26)
3	INO	Blue (AWG26)
4	IN1	Purple (AWG26)
5	IN2	Gray (AWG26)
11	BKRLS	Brown (AWG26)
13	FG	Green (AWG26)

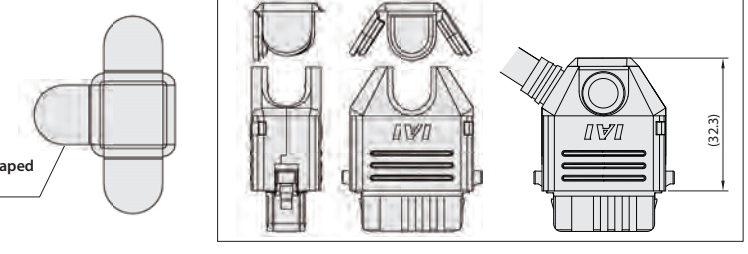
Model CB-REC2-PWBIO□□□-RB

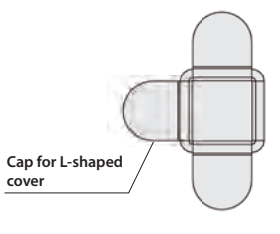
*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



Minimum bending R: r = 58mm or more (for movable use) *Robot cable is standard.

Connector assembly diagram





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Color	Signal name	Pin No.
Black (AWG18)	0V	A1
Red (AWG18)	24V (MP)	B1
Light blue (AWG22)	24V (CP)	A2
Orange (AWG26)	IN0	B3
Yellow (AWG26)	IN1	B4
Green (AWG26)	IN2	B5
Yellow (AWG26)	SD+	B6
Light gray (AWG26)	SD-	A6
Blue (AWG26)	OUT0	A3
Purple (AWG26)	OUT1	A4
Gray (AWG26)	OUT2	A5
Brown (AWG26)	BKRLS	B2

DF62C-13S-2C(18)

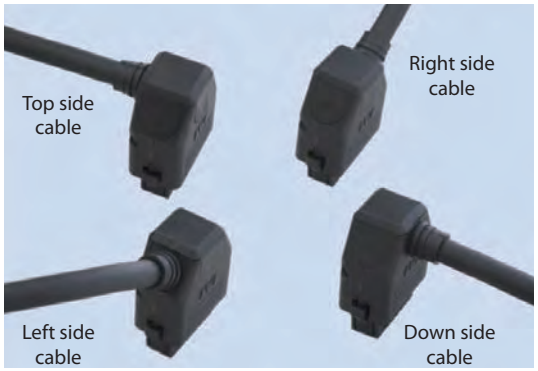
Pin No.	Signal name	Color
2	0V	Black (AWG22)
1	24V (MP)	Red (AWG22)
12	24V (CP)	Light blue (AWG22)
7	OUT0	Orange (AWG26)
8	OUT1	Yellow (AWG26)
9	OUT2	Green (AWG26)
6	SD+	Yellow (AWG26)
10	SD-	Light gray (AWG26)
3	INO	Blue (AWG26)
4	IN1	Purple (AWG26)
5	IN2	Gray (AWG26)
11	BKRLS	Brown (AWG26)
13	FG	Green (AWG26)

Maintenance Parts (Cables)

■ Four-way Connector Cable

This cable allows the connector direction to be changed to any of 4 directions.
The cable management for the connector is the same as that of power I/O cable CB-EC-PWBIO□□□-RB / CB-REC-PWBIO□□□-RB.

Model: CB-EC2-PWBIO□□□-RB (user wiring specification)
CB-REC2-PWBIO□□□-RB (RCON-EC connection specification)



Cable direction can be set to any of 4 directions

- The wiring on the side opposite the connector is left unprepared.
- The cable length may be from 1m to 10m long.
  The length can be specified in 1m units.
- Example models are listed below.

  Cable length **1**m → CB-EC2-PWBIO**010**-RB
  Cable length **3**m → CB-EC2-PWBIO**030**-RB
  Cable length **10**m → CB-EC2-PWBIO**100**-RB

Follow the procedure below to assemble the connector in the desired direction.

① Insert while sliding along the groove in the desired direction from the semi-cylindrical curved portion.

② Confirm that the cable has been firmly inserted, and then insert the 2 sides of the lid along the groove.

③ Finally, press the remaining side of the lid.

EC EleCylinder Series
Long Stroke Slider Type
Catalogue No. 1022-E

The information contained in this catalog is subject to change without notice for the purpose of product improvement

EC ELECYLINDER

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