RCL-SA4L

ROBO Cylinder, Slider Type, Mini Long Stroke Type, Actuator Width 40mm, Linear Servo Motor

Model Specification Items

RCL	SA4L	I	2	N	□	□	□	□
Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
		I: Incremental specification	2: Linear servo motor 2W	N: No screw	30: 30mm ~ 180: 180mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom Length	Non-motor end

* See page Pre-47 for details on the model descriptions.

RoHS

Technical References Appendix P.5

POINT Notes on selection

(1) Please take care because this type has magnetic flux leakage. (If magnetism is a problem, use SA1L/SA2L/SA3L)
(2) The payload is determined by the acceleration and duty. Verify the payload in the payload (horizontal) and acceleration chart at right.
The duty is $\frac{\text{Operating time}}{\text{Operating time + stop time}}$ x 100 per cycle.
(3) The mounting position is horizontal-only. Please take care because the slider will drop down with power OFF when operating vertically.
(4) Simple absolute unit cannot be used with the RCL series.

■ Relation between payload (horizontal) and acceleration

Maximum Acceleration (G)	Load Capacity (kg)
	Continuous operation (Duty is 100%)
0.1	0.8
0.3	
0.5	0.5
1	0.25
1.5	0.18
2	0.14

Actuator Specifications

■ Lead and Payload

Model number	Motor output(W)	Maximum payload		Rated thrust (N)	Instantaneous maximum thrust (N)	Maximum acceleration (G)	Positioning repeatability (mm)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)					
RCL-SA4L-I-2-N-①-②-③-④	2	See chart above	—	2.5	10	2	±0.1	30~180 (Every 30mm)

■ Stroke and Maximum Speed

Stroke / Lead	30~180 (Every 30mm)
(no screw)	1200

(Unit: mm/s)

Code explanation ①Stroke ②Applicable Controller ③Cable length ④Options

①Stroke

①Stroke (mm)	Standard price
30	—
60	—
90	—
120	—
150	—
180	—

③Cable Length

Type	Cable symbol	Standard price
Standard (Robot Cables)	**P** (1m)	—
	S (3m)	—
	M (5m)	—
Special length	**X06** (6m) ~ **X10** (10m)	—
	X11 (11m) ~ **X15** (15m)	—
	X16 (16m) ~ **X20** (20m)	—

* The standard cable for the RCL is the robot cable.
* See page A-59 for cables for maintenance.

④Options

Title	Option code	See page	Standard Price
Non-motor end specification	**NM**	→ A-52	—

Actuator Specifications

Item	Description
Drive System	Linear servo motor
Encoder resolution	0.042mm
Base	Material: Aluminum, white alumite treated
Allowable dynamic moment (*)	Ma: 0.2 N·m, Mb: 0.17 N·m, Mc: 0.25 N·m
Overhung load length	Ma direction: 60mm or less Mb and Mc directions: 80mm or less
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life

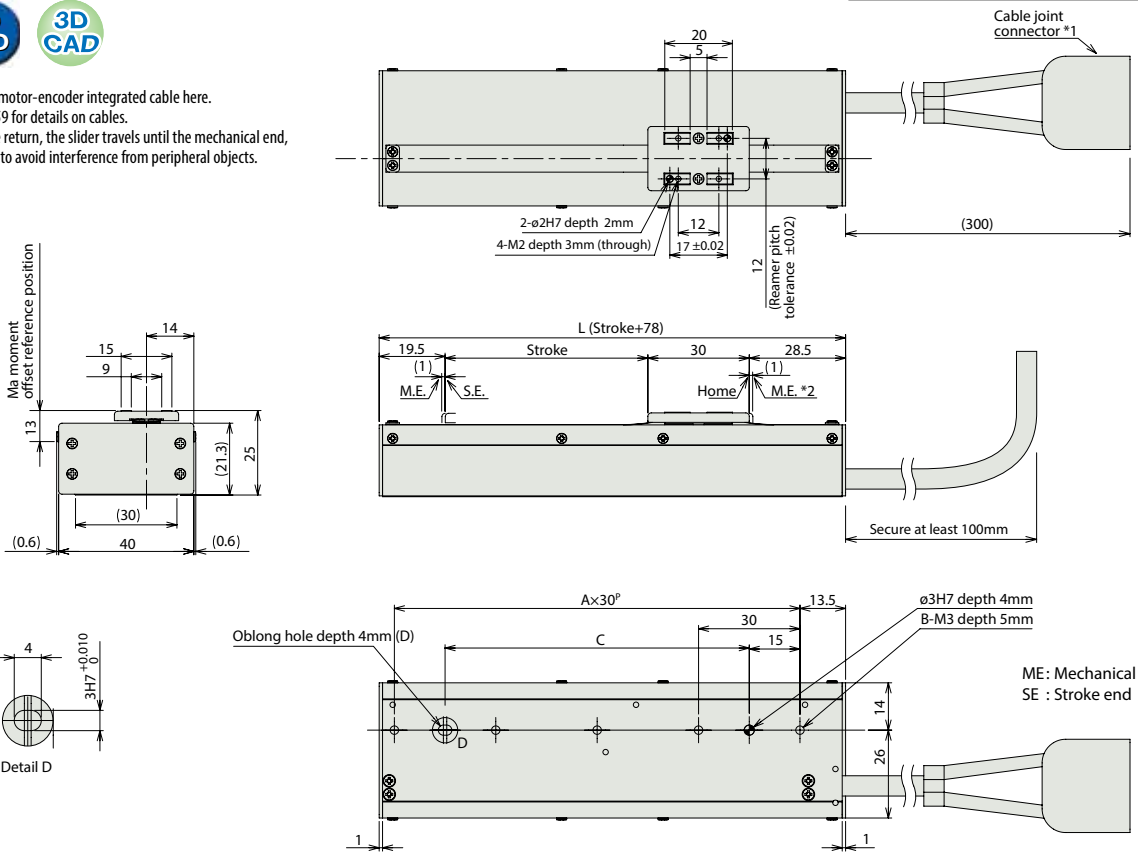
Dimensional Drawings

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

2D CAD 3D CAD

For Special Orders Appendix P.15

(*1) Connect the motor-encoder integrated cable here. See page A-59 for details on cables.
(*2) During home return, the slider travels until the mechanical end, so be careful to avoid interference from peripheral objects.



■ Dimensions and Weight by Stroke

Stroke	30	60	90	120	150	180
L	108	138	168	198	228	258
A	3	4	5	6	7	8
B	4	5	6	7	8	9
C	60	90	120	150	180	210
Weight (kg)	0.21	0.25	0.29	0.32	0.36	0.4

②Applicable Controllers

RCL series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-2I-①-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-2I-①-2-0	Simple controller operable with the same signal as a solenoid valve		DC24V	0.8A rated 4.6A max.	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-ⅱ-~~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected				—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-ⅱ-~~-ⅲ-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				
Positioner type		ACON-C-2I-①-2-0	Positioning is possible for up to 512 points	512 points			—	→ P631
Safety-Compliant Positioner Type		ACON-CG-2I-①-2-0					—	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-2I-①-2-0	Pulse train input type with differential line driver support	(—)			—	
Pulse Train Input Type (Open Collector)		ACON-PO-2I-①-2-0	Pulse train input type with open collector support				—	
Serial Communication Type		ACON-SE-2I-N-0-0	Dedicated Serial Communication	64 points			—	
Program Control Type		ASEL-CS-1-2I-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points			—	→ P675

* This is for the single-axis ASEL. * ① indicates I/O type (NP/PN). * ⅲ indicates number of axes (1 to 8). * ⅲ indicates field network specification symbol.