RCS2-SA4D

ROBO Cylinder, Slider Type, Actuator Width 40mm, 200-V Servo Motor, Motor Built-In (Direct Coupled)

Model Specification Items: RCS2 — SA4D — □ — 20 — □ — □ — □ — □ — □ — □ — □

Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
RCS2	SA4D	I: Incremental A: Absolute	20: Servo motor, 20W	10: 10mm 5: 5mm 2.5: 2.5mm	50: 50mm ~ 300: 300mm (50mm pitch increments)	T1: XSEL-J/K T2: SCON MSCON SSEL XSEL-P/Q XSEL-R/S	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable	See Options below.

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

CE RoHS

*CE compliance is optional.

Technical References → Appendix P.5

POINT Notes on selection

(1) When the stroke increases, the maximum speed will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
(2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for 2.5mm-lead model). These values are the upper limits for the acceleration.
(3) See page A-71 for details on push motion.

Actuator Specifications

Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Maximum payload Horizontal (kg)	Maximum payload Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCS2-SA4D-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 to 300 (every 50mm)
RCS2-SA4D-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCS2-SA4D-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Stroke and Maximum Speed

Lead \ Stroke	50~300 (every 50mm)
10	665
5	330
2.5	165

(Unit: mm/s)

Code explanation ① Encoder type ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options *See page A-71 for details on push motion.

①Encoder Type / ②Stroke

②Stroke (mm)	Standard price ①Encoder type Incremental I	Standard price ①Encoder type Absolute A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

④Cable Length

Type	Cable symbol	Standard price
Standard type	**P** (1m)	—
	S (3m)	—
	M (5m)	—
Special length	**X06** (6m) ~ **X10** (10m)	—
	X11 (11m) ~ **X15** (15m)	—
	X16 (16m) ~ **X20** (20m)	—
Robot cable	**R01** (1m) ~ **R03** (3m)	—
	R04 (4m) ~ **R05** (5m)	—
	R06 (6m) ~ **R10** (10m)	—
	R11 (11m) ~ **R15** (15m)	—
	R16 (16m) ~ **R20** (20m)	—

* See page A-59 for cables for maintenance.

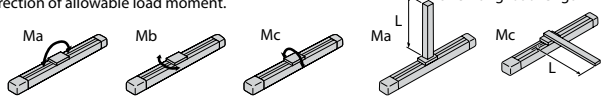
⑤Options

Name	Option code	Page	Standard Price
Brake (Cable exiting end)	**BE**	→ A-42	—
Brake (Cable exiting left)	**BL**	→ A-42	—
Brake (Cable exiting right)	**BR**	→ A-42	—
CE compliance	**CE**	→ A-42	—
Non-motor end specification	**NM**	→ A-52	—

Actuator Specifications

Item	Description
Drive method	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost motion	0.1mm or less
Base	Material: Aluminum, white alumite treatment
Allowable static moment	Ma: 6.9 N•m, Mb: 9.9 N•m, Mc: 17.0 N•m
Allowable dynamic moment (*)	Ma: 2.7 N•m, Mb: 3.9 N•m, Mc: 6.8 N•m
Overhang load length	Ma direction: 120mm or less Mb/Mc directions: 120mm or less
Ambient operating temperature/humidity	0 to 40°C, 85% RH max. (Non-condensing)

(*) When the traveling life is assumed as 5,000km.
Direction of allowable load moment.



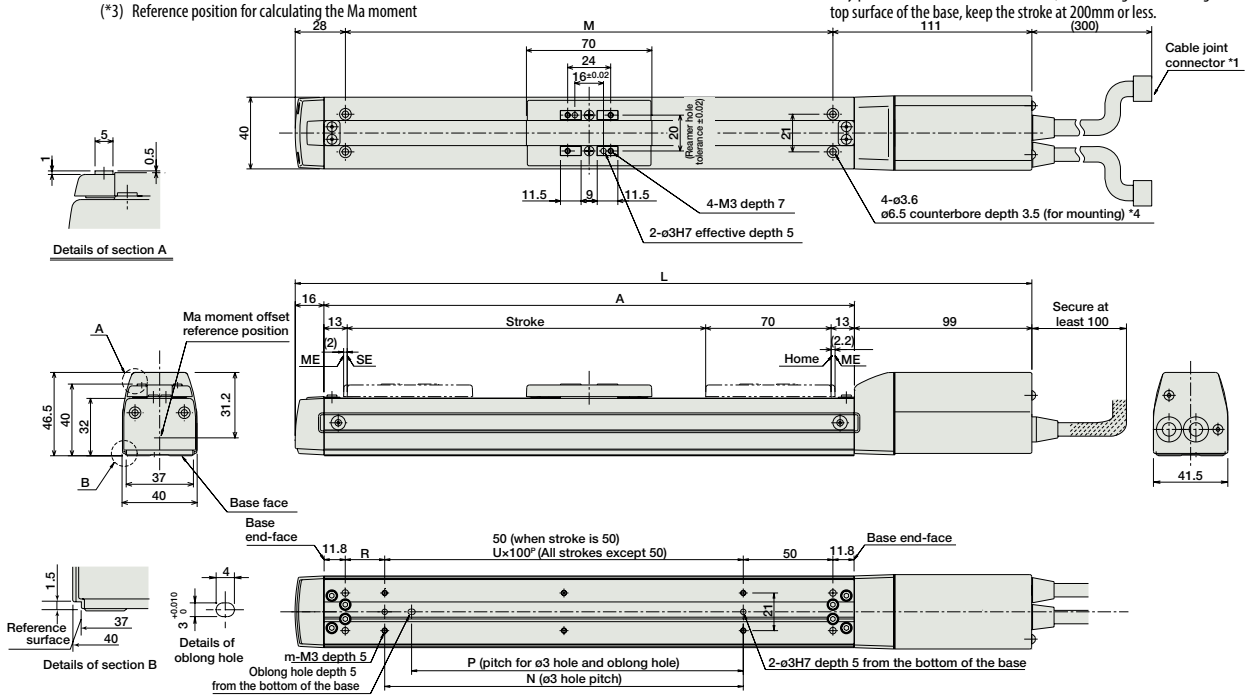
Dimensional Drawings

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

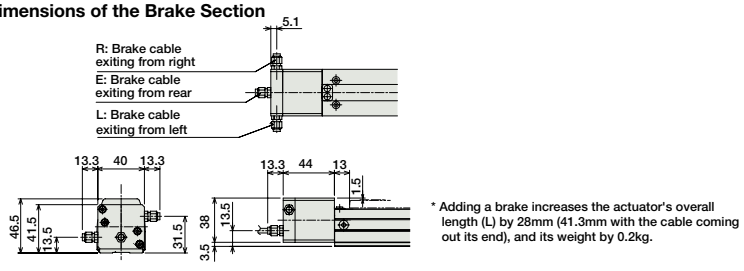
For Special Orders Appendix P.15

2D CAD

(*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
(*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME : Mechanical end
SE : Stroke end
(*3) Reference position for calculating the Ma moment
(*4) If the actuator is secured using only the mounting holes provided on the top surface of the base, the base may twist to cause abnormal sliding of the slider, or may produce abnormal noise. Therefore, when using the mounting holes on the top surface of the base, keep the stroke at 200mm or less.



Dimensions of the Brake Section



* Adding a brake increases the actuator's overall length (L) by 28mm (41.3mm with the cable coming out its end), and its weight by 0.2kg.

Dimensions and Weights by Stroke

Stroke	50	100	150	200	250	300
L	261	311	361	411	461	511
A	146	196	246	296	346	396
M	122	172	222	272	322	372
N	50	100	150	200	250	300
P	35	85	85	185	185	285
R	22	22	72	22	72	22
U	—	1	1	2	2	3
m	4	4	4	6	6	8
Weight (kg)	0.8	0.9	1	1.1	1.2	1.3

③Applicable Controllers

RCS2-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20Ⓘ-NP-2-Ⅱ	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC Single-phase 200VAC 3-phase 200VAC (XSEL-P/Q/R/S ONLY)	106 VA max. *Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points			—	
Pulse-train input control type			Dedicated pulse-train input type	(—)			—	
Positioner multi-axis, network type		MSCON-C-1-20Ⓘ-Ⓥ-0-Ⅱ	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points			—	→ P655
Program control type, 1 to 2 axes		SSEL-CS-1-20Ⓘ-NP-2-Ⅱ	Program operation is supported. Up to 2 axes can be operated.	20,000 points			—	→ P685
Program control type, 1 to 8 axes		XSEL-Ⅲ-1-20Ⓘ-N1-EEE-2-Ⅳ	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected			—	→ P695

* This is for the single-axis MSCON, SSEL, and XSEL.
* Ⅱ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
* Ⅳ indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).
* Ⓘ indicates the encoder type (I: Incremental / A: Absolute).
* Ⅲ indicates the XSEL type (J / K / P / Q / R / S).
* Ⓥ indicates field network specification symbol.