RCA-SA4C

ROBO Cylinder, Slider Type, Actuator Width 40mm, 24V Servo Motor, Coupled

Model Specification Items

RCA	—	SA4C	—	☐	—	20	—	☐	—	☐	—	☐	—	☐	—	☐
Series		Type		Encoder type		Motor type		Lead		Stroke		Applicable controller		Cable length		Options
				I: Incremental A: Absolute * Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.		20: 20W Servo motor		10: 10mm 5: 5mm 2.5: 2.5mm		50: 50mm 〜 400: 400mm (50mm pitch increments)		A1: ACON ASEL A3: AMEC ASEP MSEP		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

For High Acceleration/Deceleration **Power-saving**
(excluding the 2.5-mm lead model)

*This product is equipped with a position adjusting screw at the A area shown above. (See dimensional drawing on the page to the right.)

Technical References Appendix P.5

POINT Notes on selection

(1) When the stroke increases, the maximum 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 operating the standard and power-saving models at 0.3G (0.2G for 2.5mm-lead), and the high acceleration/deceleration model at 1G (excluding the 2.5mm-lead model). (Even when the acceleration/deceleration is dropped, the maximum load capacity values shown in the table below are the upper limits.)
(3) See page A-71 for details on push motion.

Actuator Specifications

Leads and Payloads

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity Horizontal (kg)	Max. Load Capacity Vertical (kg)	Rated thrust (N)	Stroke (mm)
RCA-SA4C-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50~400 (every 50mm)
RCA-SA4C-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA-SA4C-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Stroke and Maximum Speed

Lead \ Stroke	50~400 (every 50mm)
10	665
5	330
2.5	165

(Unit: mm/s)

Code explanation ① Encoder 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	—	—
350	—	—
400	—	—

④Cable 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)	—
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	See page	Standard price
Brake	**B**	→ A-42	—
Foot bracket	**FT**	→ A-47	—
For high acceleration/deceleration	**HA**	→ A-50	—
Home sensor	**HS**	→ A-50	—
Power-saving	**LA**	→ A-52	—
Non-motor end specification	**NM**	→ A-52	—
Slider roller specification	**SR**	→ A-55	—
Slider spacer	**SS**	→ A-55	—

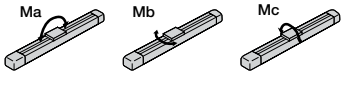
* The high-acceleration/deceleration option and the slider roller option cannot be used together.
* The high-acceleration/deceleration option cannot be used on the 2.5mm-lead model.
* The high-acceleration/deceleration option and the power saving option cannot be used together.

Actuator Specifications

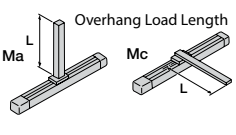
Item	Description
Drive System	Ball screw, ø8mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 6.9 N·m, Mb: 9.9 N·m, Mc: 17.0 N·m
Allowable dynamic moment (*)	Ma: 2.7 N·m, Mb: 3.9 N·m, Mc: 6.8 N·m
Allowable overhang	120mm or less in Ma, Mb and Mc directions
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

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

Directions of Allowable Load Moment



Overhang Load Length



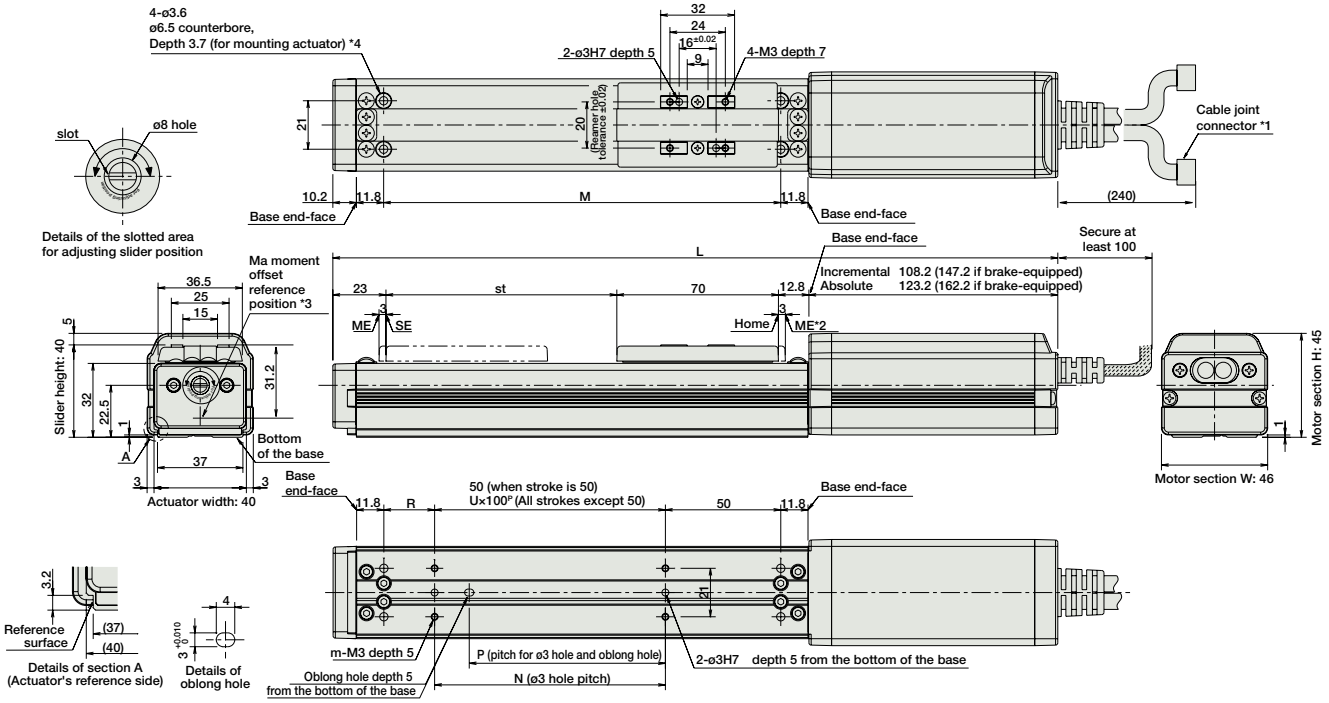
Dimensional Drawings

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

For Special Orders Appendix P.15

2D CAD 3D 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 and Mass by Stroke

* Brake-equipped models are heavier by 0.3kg.

Stroke			50	100	150	200	250	300	350	400
L	Incremental	Without brake	264	314	364	414	464	514	564	614
		With brake	303	353	403	453	503	553	603	653
	Absolute	Without brake	279	329	379	429	479	529	579	629
		With brake	318	368	418	468	518	568	618	668
M			122	172	222	272	322	372	422	472
N			50	100	100	200	200	300	300	400
P			35	85	85	185	185	285	285	385
R			22	22	72	22	72	22	72	22
U			—	1	1	2	2	3	3	4
m			4	4	4	6	6	8	8	10
Weight (kg)			0.7	0.8	0.9	1	1.1	1.2	1.3	1.4

③Applicable Controllers

RCA 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-20Ⅰ-Ⅲ-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-20Ⅰ-Ⅲ-2-0	Simple controller operable with the same signal as a solenoid valve		DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-Ⅳ-~-Ⅲ-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-Ⅳ-~-Ⅴ-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points				
Positioner type		ACON-C-20Ⅰ-Ⅲ-2-0	Positioning is possible for up to 512 points	512 points			—	→ P631
Safety-Compliant Positioner Type		ACON-CG-20Ⅰ-Ⅲ-2-0					—	
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20Ⅰ-Ⅲ-2-0	Pulse train input type with differential line driver support	(—)			—	
Pulse Train Input Type (Open Collector)		ACON-PO-20Ⅰ-Ⅲ-2-0	Pulse train input type with open collector support				—	
Serial Communication Type		ACON-SE-20Ⅰ-N-0-0	Dedicated Serial Communication	64 points			—	
Program Control Type		ASEL-CS-1-20Ⅰ-Ⅱ-Ⅲ-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points			—	→ P675

* This is for the single-axis ASEL. * Ⅰ indicates encoder type (I: incremental, A: absolute) * Enter the code "HA" or "LA" in Ⅲ when the high-acceleration/deceleration option or the power-saving option is specified. * Ⅲ indicates I/O type (NP/PN). * Ⅳ indicates number of axes (1 to 8). * Ⅴ indicates field network specification symbol.