

RCA-SA4D

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

■ Configuration: **RCA** — **SA4D** — ☐ — **20** — ☐ — ☐ — ☐ — ☐ — ☐

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

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
300: 300mm (50mm pitch increments)

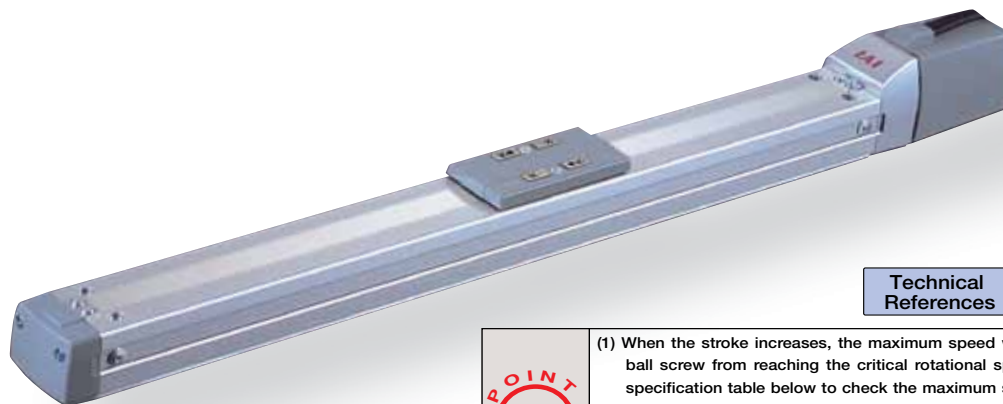
A1: ACON
RACON
ASEL
A3: AMEC
ASEP

N: None
P: 1m
S: 3m
M: 5m
X ☐: Custom Length
R ☐: Robot Cable

See Options below

* See page Pre-35 for explanation of each code that makes up the configuration name.

Power-saving



Technical References P. A-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 the 2.5mm-lead model, or when used vertically). These values are the upper limits for the acceleration.

Actuator Specifications

Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity Horizontal (kg)	Max. Load Capacity Vertical (kg)	Rated Thrust (N)	Stroke (mm)
RCA-SA4D-①-20-10-②-③-④-⑤	20	10	4	1	19.6	50 ~ 300 (50mm increments)
RCA-SA4D-①-20-5-②-③-④-⑤		5	6	2.5	39.2	
RCA-SA4D-①-20-2.5-②-③-④-⑤		2.5	8	4.5	78.4	

Legend ① Encoder ② Stroke ③ Compatible controller ④ Cable length ⑤ Option

Stroke and Maximum Speed

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

(Unit: mm/s)

Encoder & Stroke List

② Stroke (mm)	Standard Price	
	① Encoder Type	
	Incremental	Absolute
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

④ Cable List

Type	Cable Symbol	Standard Price
Standard	P (1m)	—
	S (3m)	—
	M (5m)	—
Special Lengths	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-39 for cables for maintenance.

⑤ Option List

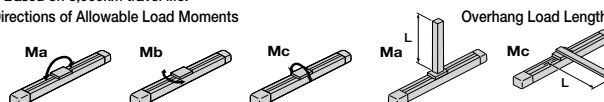
Name	Option Code	See Page	Standard Price
Brake (Cable exiting end)	BE	→ A-25	—
Brake (Cable exiting left)	BL	→ A-25	—
Brake (Cable exiting right)	BR	→ A-25	—
Foot bracket	FT	→ A-29	—
Power-saving	LA	→ A-32	—
Reversed-home	NM	→ A-33	—

Actuator Specifications

Item	Description
Drive System	Ball screw Ø8mm C10 grade
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
Overhang Load Length	Ma direction: 120mm or less Mb-Mc direction: 120mm or less
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

(*) Based on 5,000km travel life.

Directions of Allowable Load Moments



Dimensions

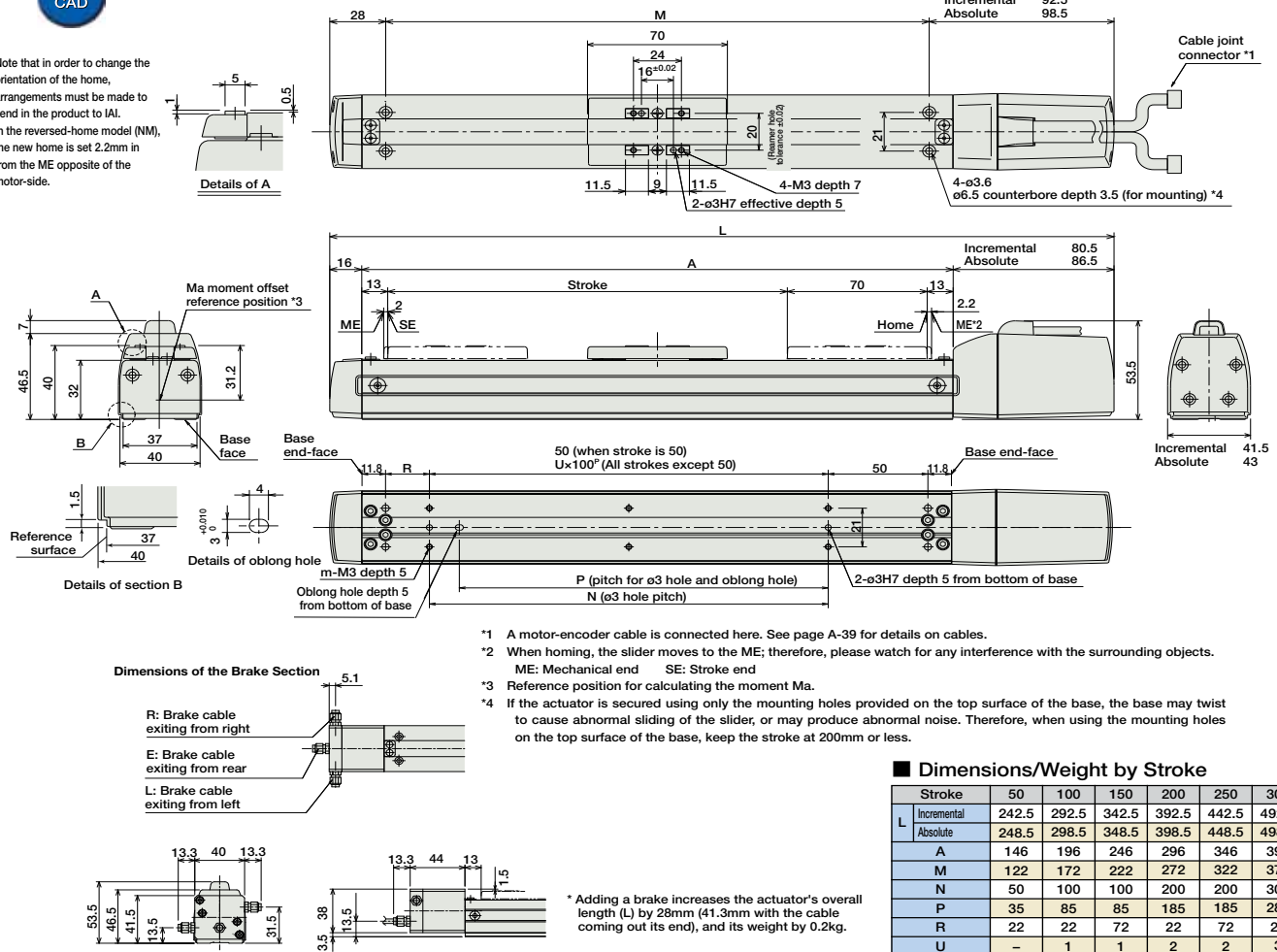
CAD drawings can be downloaded from IAI website. www.intelligentactuator.com

For Special Orders

P. A-9

2D
CAD

* Note that in order to change the orientation of the home, arrangements must be made to send in the product to IAI.
* In the reversed-home model (NM), the new home is set 2.2mm in from the ME opposite of the motor-side.











- *1 A motor-encoder cable is connected here. See page A-39 for details on cables.
- *2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end SE: Stroke end
- *3 Reference position for calculating the moment Ma.
- *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/Weight by Stroke

Stroke	50	100	150	200	250	300	
L	Incremental	242.5	292.5	342.5	392.5	442.5	492.5
	Absolute	248.5	298.5	348.5	398.5	448.5	498.5
A	146	196	246	296	346	396	
M	122	172	222	272	322	372	
N	50	100	100	200	200	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)	0.6	0.7	0.8	0.9	1.0	1.1	

③ Compatible Controllers

The RCA series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity	Standard Price	See Page	
Solenoid Valve Type		AMEC-C-20I②-NP-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P477	
		ASEP-C-20I②-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.				—	→ P487	
Splash-Proof Solenoid Valve Type		ASEP-CW-20I②-NP-2-0						—	
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.5A max.	—		
Safety-Compliant Positioner Type		ACON-CG-20I②-NP-2-0					—		
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20I②-NP-2-0	Pulse train input type with differential line driver support	(—)			—		→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20I②-NP-2-0	Pulse train input type with open collector support				—		
Serial Communication Type		ACON-SE-20I②-N-0-0	Dedicated to serial communication	64 points			—		
Field Network Type		RACON-20②	Dedicated to field network	768 points			—	→ P503	
Program Control Type		ASEL-C-1-20①②-NP-2-0	Programmed operation is possible Can operate up to 2 axes	1500 points			—	→ P567	

* This is for the single-axis ASEL.

* ① is a placeholder for the encoder type (I: incremental, A: absolute).

* ② is a placeholder for the code "LA" when the power-saving option is specified.