

# RCA-A4R

ROBO Cylinder Arm Type Side-Mounted Motor 40mm Width 24V Servo Motor Ball Screw

■ Configuration: **RCA** — **A4R** —  — **20** —  —  —  —  —

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

I : Incremental  
A : Absolute

20 : 20W servo motor  
10 : 10mm  
5 : 5mm

50 : 50mm  
200 : 200mm (50mm pitch increments)

A1: ACON  
RACON  
ASEL  
A3: AMEC  
ASEP

N : None  
P : 1m  
S : 3m  
M : 5m  
X  : Custom  
R  : Robot cable

See Options below  
\* Be sure to specify which side the motor is to be mounted (ML/MR).

\* See page Pre-35 for an explanation of the naming convention.

Power-saving



Technical References P. A-5

- POINT**  
Notes on Selection
- 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.
  - The load capacity is based on operation at an acceleration of 0.2G. This is the upper limit of the acceleration.

## Actuator Specifications

### Lead and Load Capacity

Model	Motor Output (W)	Lead (mm)	Max. Load Capacity		Rated Thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCA-A4R-①-20-10-②-③-④-B-⑤	20	10	-	2.5	39.2	50~200 (50mm increments)
RCA-A4R-①-20-5-②-③-④-B-⑤		5	-	4.5	78.4	

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

### Stroke and Maximum Speed

Stroke Lead	50 ~ 200 (50mm increments)	
	10	330
5	165	

(Unit: mm/s)

## Encoder & Stroke List

② Stroke (mm)	Standard Price	
	① Encoder	
	Incremental	Absolute
50	-	-
100	-	-
150	-	-
200	-	-

## ④ Cable List

Type	Cable Symbol	Standard Price
Standard Type	P (1m)	-
	S (3m)	-
	M (5m)	-
Special Lengths	X06 (6m) ~ X10 (10m)	-
	X11 (11m) ~ X15 (15m)	-
	X16 (16m) ~ X20 (20m)	-
	R01 (1m) ~ R03 (3m)	-
Robot Cable	R04 (4m) ~ R05 (5m)	-
	R06 (6m) ~ R10 (10m)	-
	R11 (11m) ~ R15 (15m)	-
	R16 (16m) ~ R20 (20m)	-

\* See page A-39 for cables for maintenance.

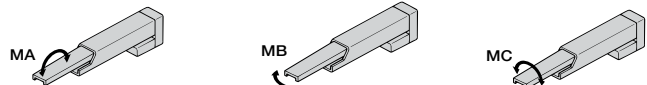
## ⑤ Option List

Name	Option Code	See Page	Standard Price
Brake (standard)	B	→ A-25	-
Power-saving	LA	→ A-32	
Bottom-mounted motor	MB	→ A-33	
Right-mounted motor	MR	→ A-33	
Left-mounted motor	ML	→ A-33	
Reversed-home	NM	→ A-33	

## Actuator Specifications

Item	Description
Drive System	Ball screw ø6mm C10 grade (ball screw speed reduced by 1/2 by timing belt)
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum (white alumite treated)
Allowable Load Moment	Ma: 2.7 N·m Mb: 3.1 N·m Mc: 2.9 N·m
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Directions of Allowable Load Moments



5,000 km service life

Dimensions

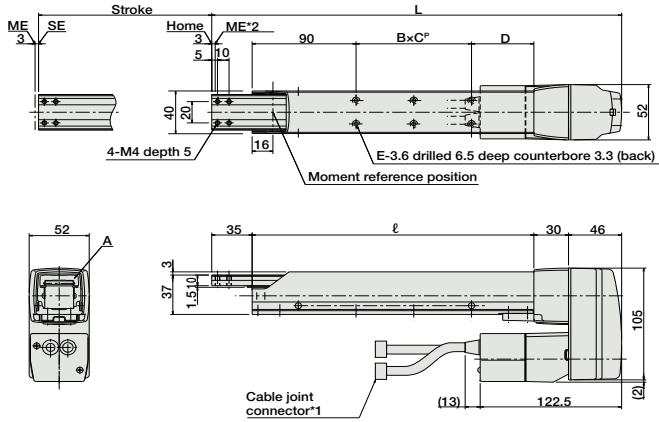
CAD drawings can be downloaded from IAI website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

For Special Orders P. A-9

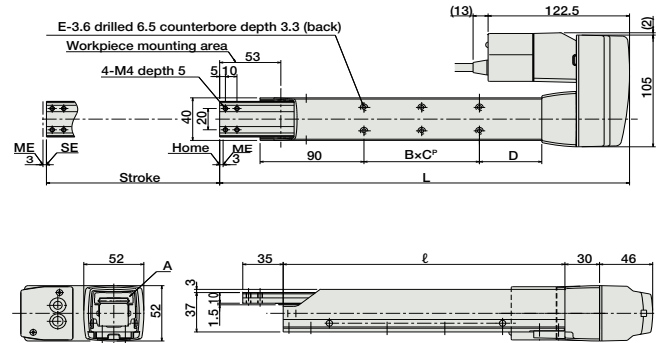


- \*1 The motor-encoder cable is connected here. See page A-39 for details on cables.
- \*2 When homing, the rod moves to the ME; therefore, please watch for any interference with the surrounding objects.  
ME: Mechanical end SE: Stroke end

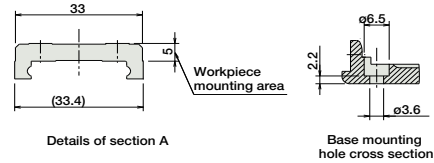
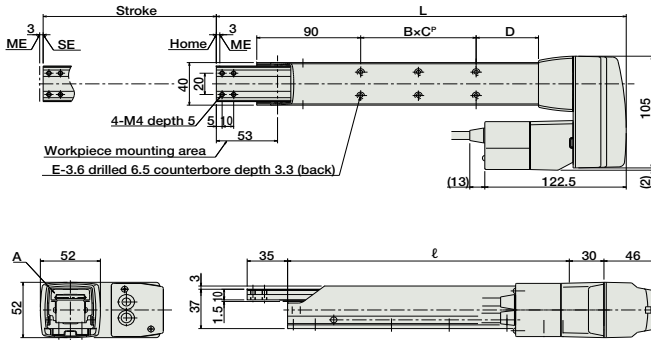
Bottom-mounted motor (option code: MB)



Right-mounted motor (option code: MR)



Left-mounted motor (option code: ML)



■ Dimensions and Weight by Stroke

Stroke	50	100	150	200
L	255	305	355	405
l	144	194	244	294
BxC*	1x19	1x50	2x50	2x50
D	35	54	54	104
E	4	4	6	6
Weight (kg)	1.7	1.8	2.0	2.1

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
Splash-Proof Solenoid Valve Type		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.					
Positioner Type		ACON-C-20I②-NP-2-0	Positioning is possible for up to 512 points	512 points	DC24V	1.3A rated 4.4A peak	-	→ P535
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	(-)	DC24V	1.3A rated 4.4A peak	-	→ 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	DC24V	1.3A rated 4.4A peak	-	→ P535
Field Network Type		RACON-20②	Dedicated to field network	768 points				
Program Control Type		ASEL-C-1-20①②-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points	DC24V	1.3A rated 4.4A peak	-	→ 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", if the power-saving option is specified.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm/Flat Type
- Mini
- Standard
- Gripper/Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash Proof
- Controllers
- PMEC/AMEC
- PSEP/ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SCON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor