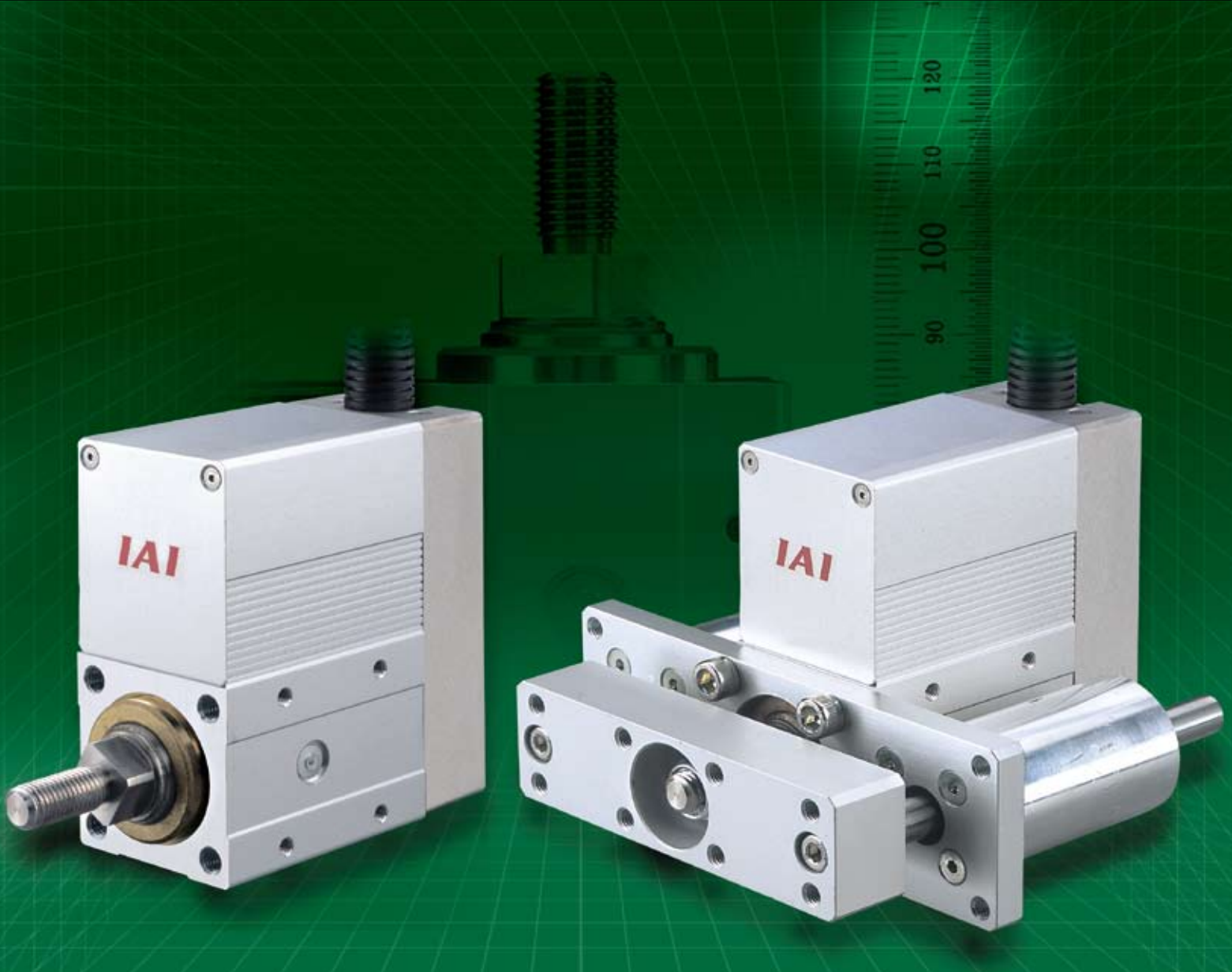


ROBO Cylinder
Short Length Type

RCP2/RCA-SRA

*Please contact IAI for latest controllers/information.



*Please contact IAI for latest controllers/information.

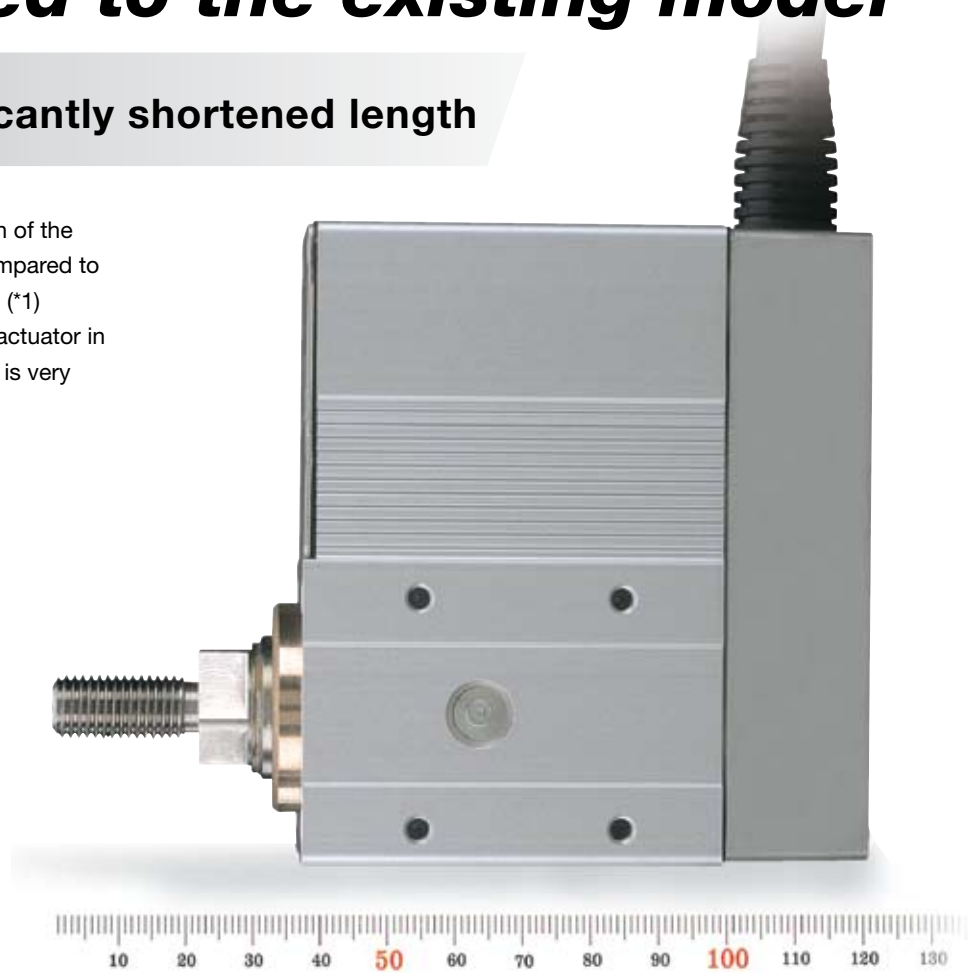
www.intelligentactuator.com

We have reduced the length by a maximum of 45% compared to the existing model

1 Significantly shortened length

We have shortened the length of the actuator by up to 129mm compared to the current equivalent model. (*1)
Customers can now use the actuator in narrow locations where there is very little space.

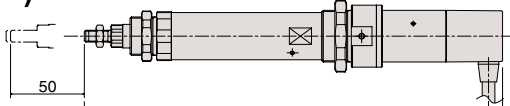
(*1) Compared to RCA-RA3C



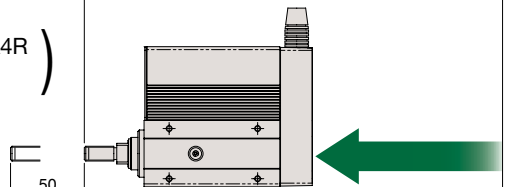
■ Length Comparison with Existing Model

Compared to RCA-RA3C

(RCA-RA3C)
50 stroke



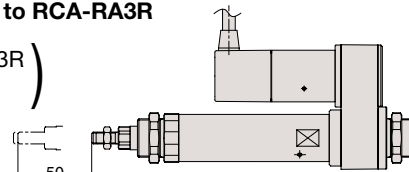
(RCA-SRA4R)
50 stroke



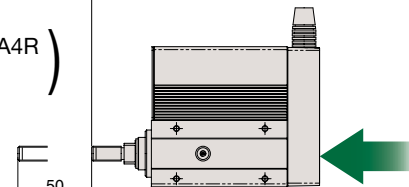
Shortened by 129mm

Compared to RCA-RA3R

(RCA-RA3R)
50 stroke



(RCA-SRA4R)
50 stroke



Shortened by 63.5mm

2

Choose between a pulse motor or servo motor

Select between 2 types of motors: a pulse motor type suitable for push force and low-speed raising and lowering operations, or a servo motor type effective for stable transportation during high-speed operations

Pulse motor: RCP2 Series

Usage Low-speed raising and lowering operations, such as clamping and press fitting

Servo Motor: RCA Series

Usage Positioning during high-speed transfer

3

A guide type can be selected

A guide type can be selected if a load is applied to the end of a rod, or if a straight motion is required. A single guide or a double guide can be selected, and for the single guide, there are 3 directions that it can be installed.



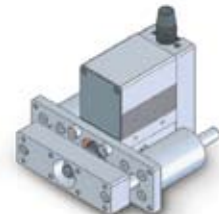
Single guide
Installed on left



Single guide
Installed on bottom



Single guide
Installed on right



Double-guide

4

Flexible Installation method

There are 5 installation surfaces on the actuator. We have also prepared optional front and rear flanges and foot brackets (bottom, side).



Flange
(Installed on front)



Flange
(Installed on rear)

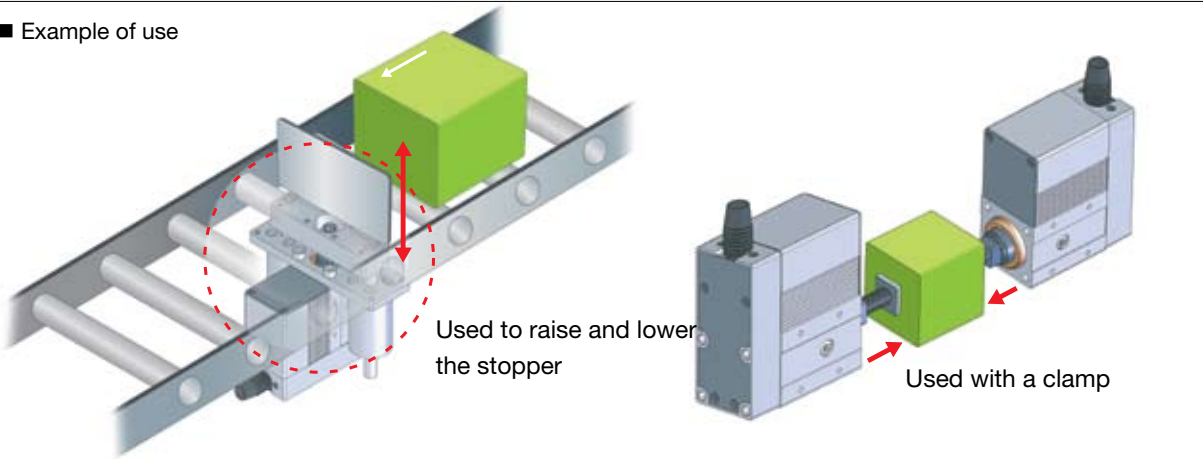


Foot bracket
(Installed on bottom)



Foot bracket
(Installed on side)

Example of use



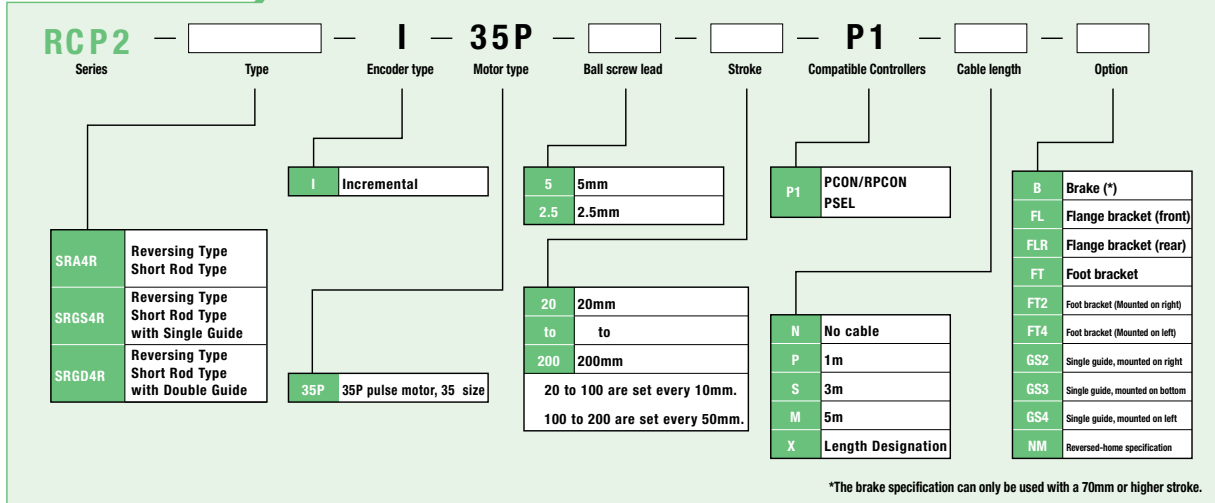
Product & Specification List

Series Name	Motor type	Type	Stroke	Ball screw lead	Maximum speed	Rated thrust	Maximum load capacity (*)		Maximum pushing force (N)
							Horizontal	Vertical	
RCP2	Pulse motor 35□	Standard (no guide)	20 to 200mm (20 to 100 are set every 10mm. 100 to 200 are set every 50mm.)	5	250	—	10 to 25	2 to 9	112
		With single guide		2.5	125	—	30 to 35	3 to 15	224
		With double guide		5	250	—	9 to 24	1 to 8	112
				2.5	125	—	30 to 35	3 to 15	224
				5	250	—	9 to 24	1 to 8	112
				2.5	125	—	30 to 35	3 to 15	224
RCA	Servo Motor 20W	Standard (no guide)	20 to 200mm (20 to 100 are set every 10mm. 100 to 200 are set every 50mm.)	5	250	41	9	3	—
		With single guide		2.5	125	81	18	6.5	—
		With double guide		5	250	41	9	2	—
				2.5	125	81	18	5.5	—
				5	250	41	9	2	—
				2.5	125	81	18	5.5	—

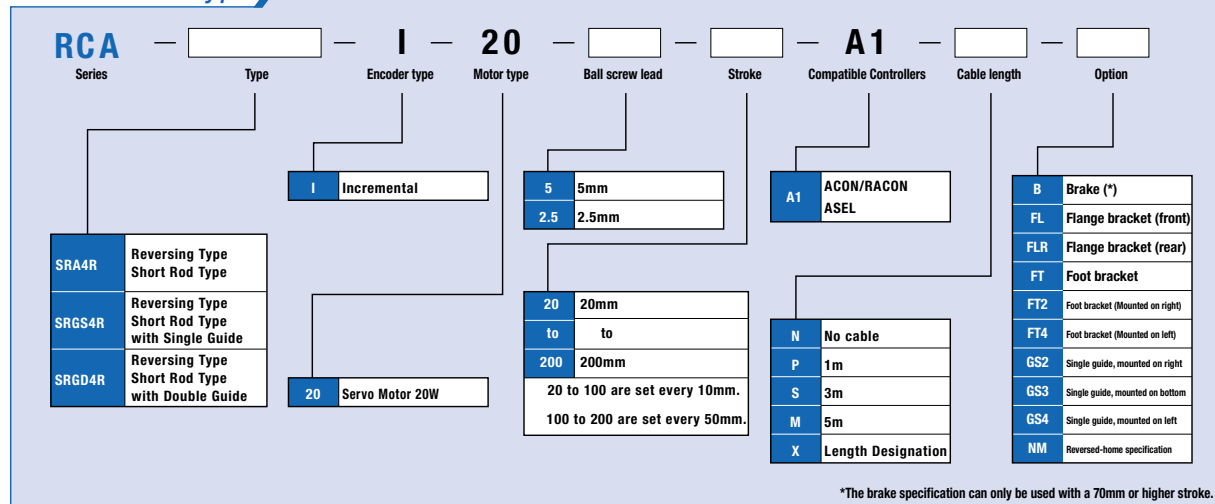
Model description

*Please contact IAI for latest controllers/information.

Pulse motor type

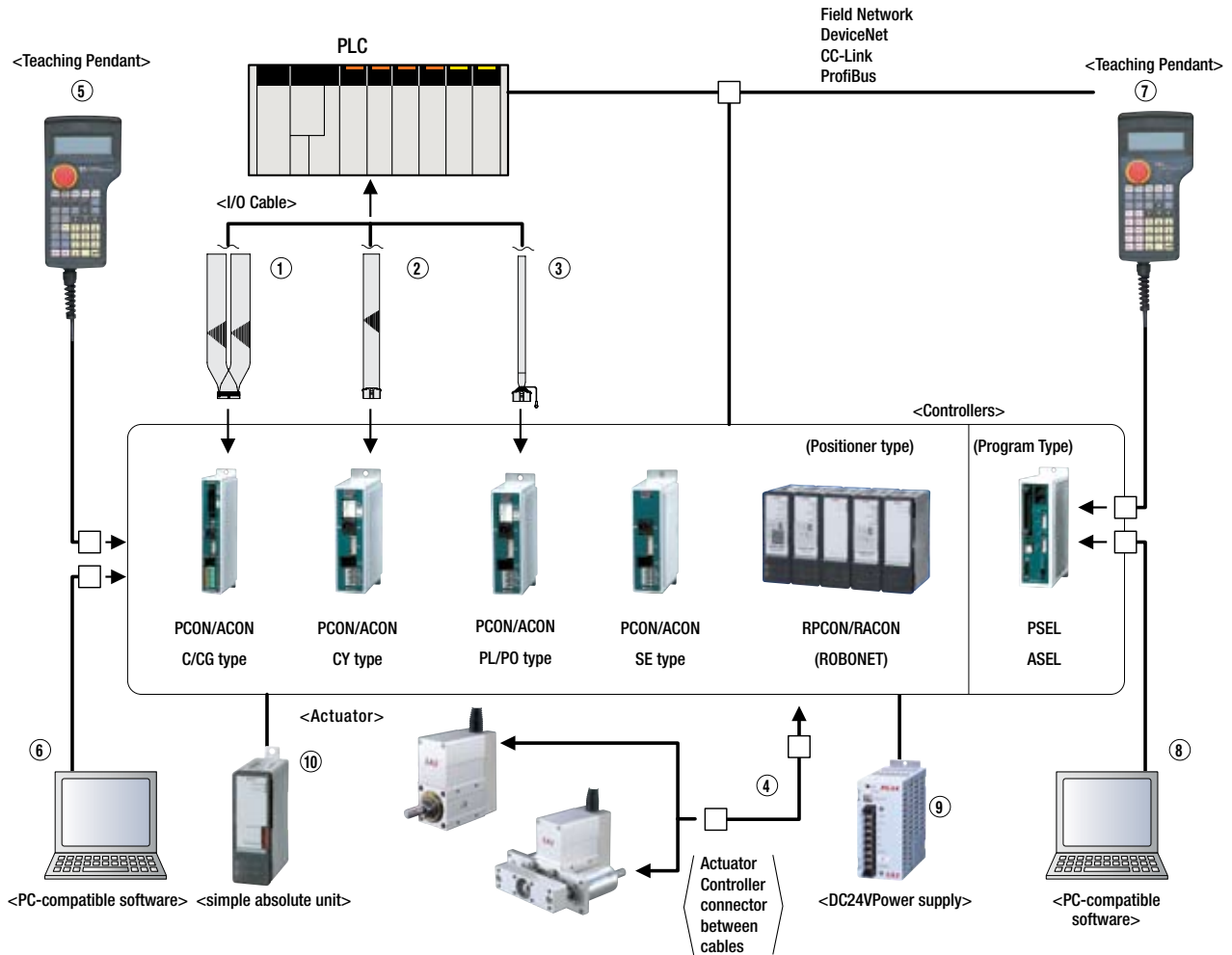


Servo Motor Type



*Please contact IAI for latest controllers/information.

■ System Configuration



No.	Title	Type	Model	Remarks	See page
①	I/O Cable	for use with C/CG Type	CB-PAC-PI0020	Cable length 2m (fitting for controller) for both PCON/ACON	(*)
②		for use with CY Type	CB-PACY-PI0020		(*)
③		for use with PL/PO type (pulse train)	CB-PACPU-PI0020		(*)
④	Actuator Controller connector between cables	A motor/encoder integrated cable for use with RCP2 (PCON/RPCON/PSEL)	CB-PCS-MPA	Cable lengths 1m/3m/5m (required option for actuator)	P19
		A motor/encoder integrated cable for use with RCA (ACON/RACON/ASEL)	CB-ACS-MPA		P19
⑤	Positioner Type Teaching Pendant	Standard Teaching Pendant	CON-T	Cable length 5m for PCON/ACON/ROBONET	P22
		Simple Teaching Pendant	RCM-E		P22
		Data Setting Unit	RCM-P		P22
⑥	Positioner Type PC software	RS232 Connection Type	RCM-101-MW	Auxillary cable for PC connection (5m) for PCON/ACON/ROBONET	P22
		USB Connection Type	RCM-101-USB		P22
⑦	Program Type Teaching Pendant	Standard specification	SEL-T-J	Cable length 5m for both PSEL/ASEL	P22
		ANSI compatible specification	SEL-TD-J	3 position enable switch for both PSEL/ASEL	P22
⑧	Program Type PC Software	RS232 Connection Type	IA-101-X-MW-J	Auxillary cable for PC connection (5m) for both PSEL/ASEL	P22
		USB Connection Type	IA-101-X-USB		P22
⑨	DC24V Power supply	100-V input	PS-241		(*)
		200-V input	PS-242		(*)
⑩	simple absolute unit	for PCON	PCON-ABU		(*)
		for ACON	ACON-ABU		(*)

(*)Refer to ROBO Cylinder General Catalog 2008.

RCP2-SRA4R

ROBO Cylinder, Short Rod-Type, Actuator Diameter 45mm, Pulse Motor, Motor Reversing Specification

Model Description	RCP2	—	SRA4R	—	I	—	35P	—		—		—	P1	—		—	
	Series		Type		Encoder type		Motor type		Lead		Stroke		Compatible Controllers		Cable length		Option
					I: Incremental specification		35P: Pulse motor 35□Size		5: 5mm 2.5: 2.5mm		20:20mm to 200:200mm (10mm pitch setting) *Every 50mm for strokes over 100mm.		P1: PCON RPCON PSEL		N: None P: 1m S: 3m M: 5m X□□: Length designation		Options below See Pricing Table

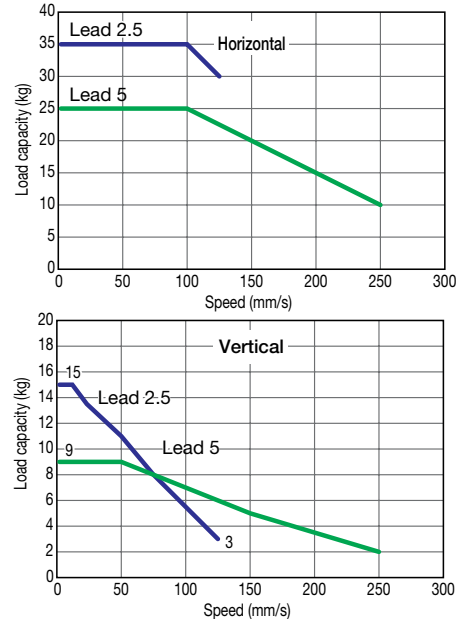
* See P3 for model descriptions.



- (1) The RCP2 series uses a pulse motor so the load capacity decreases at high speeds. Confirm the payload at the desired speed in the Speed vs. Payload graph at right.
- (2) The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above values are maximum acceleration.
- (3) The horizontal load capacity assumes use of an external guide. Take note that the interlock may get damaged if external force is applied from any direction other than the moving direction of the rod.

Speed vs. Payload Graph

Since the RCP2 Series uses a pulse motor, the payload decreases as speed increases. Use the table below to confirm that there is sufficient payload at the desired speed.



Actuator Specification Table

Leads and Payloads

(Note 1) Note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Maximum payload (Note 1)		Maximum pushing force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-SRA4R-I-35P-5--P1-- ③②①	5	25	9	112	20 to 200 (every 10mm) (Note 3)
RCP2-SRA4R-I-35P-2.5--P1-- ③②①	2.5	35	15	224	

Stroke and Maximum Speed

Lead	Stroke	20 to 200 (every 10mm)
	5	250
2.5	125	

Legend Stroke Cable Length Option ③②①

(Note 2) Refer to the push force graph on P17.
(Note 3) Every 50mm stroke at over 100mm.

(Unit = mm/s)

① Price List by Stroke

① Stroke (mm)	Type code
	Encoder type
	Incremental
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

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

*A built-in motor-encoder cable is standard, and meets the robot cable specification.

*See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Flange bracket (front)	FL	→P19
Flange bracket (rear)	FLR	→P19
Foot bracket 1 (mounted on bottom)	FT	→P19
Foot brackets 2 (Mounted on right or left side)	FT2/FT4	→P19

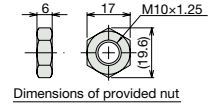
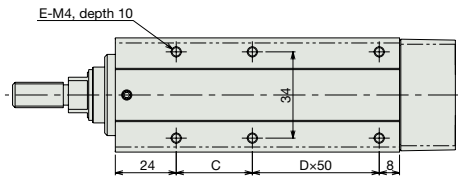
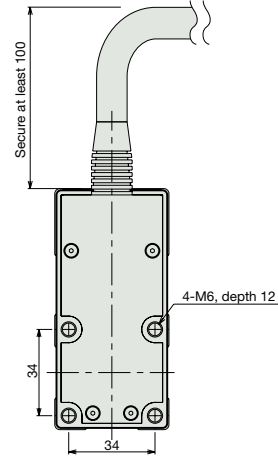
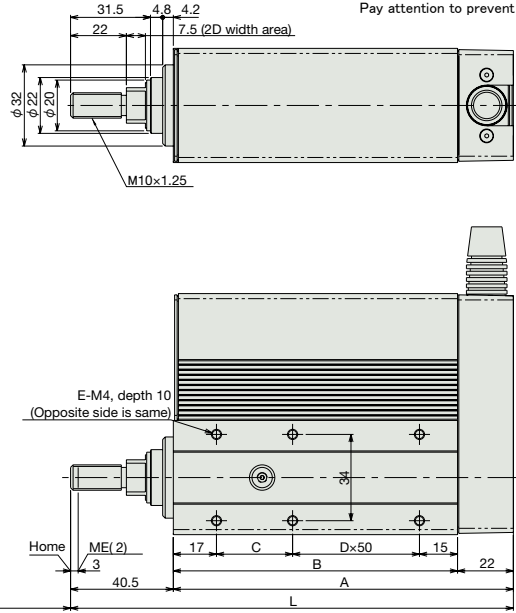
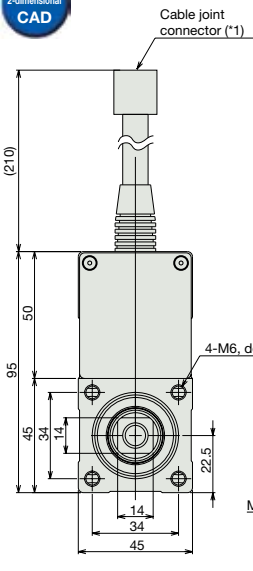
*The brake can be used at 70 stroke or above.

Actuator Specification

Item	Description
Drive System	Ball screw ϕ 8mm rolled C10
Positioning Repeatability	\pm 0.05mm
Backlash	0.1mm or less
Rod diameter	ϕ 22mm
Non-rotary Rod Precision	—
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



ST: stroke
SE: stroke end
ME: mechanical end

* The brake specification does not effect the external dimensions. However, 70 is the minimum stroke for the brake specification. (The brake is not compatible at 60 strokes and under.)

■ Dimensions and Weight by Stroke (If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	124.5	134.5	144.5	154.5	164.5	174.5	184.5	194.5	204.5	254.5	304.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	0.83	0.89	0.96	1.02	1.08	1.14	1.21	1.27	1.33	1.64	1.95

*Please contact IAI for latest controllers/information.

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		PCON-C-35PI-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	Maximum 2A	→P20
Safety category compatible Positioner type		PCON-CG-35PI-NP-2-0					
Solenoid valve type		PCON-CY-35PI-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		PCON-PL-35PI-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		PCON-PO-35PI-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		PCON-SE-35PI-N-0-0	Serial communications Special Type	64 points			
Field network type(*1)		RPCON-35P	Field Network Dedicated type	768 points			
Program control type		PSEL-C-1-35PI-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately).

*Please contact IAI for latest controllers/information.



RCP2-SRGS4R

ROBO Cylinder, Rod-Type with Short Single Guide, Actuator Diameter 45mm, Servo Motor, Motor Reversing Specification

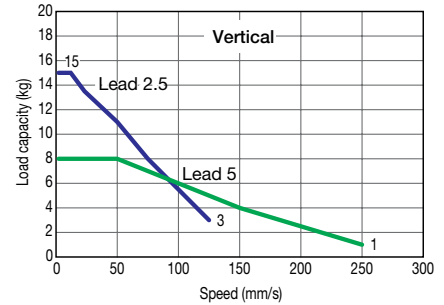
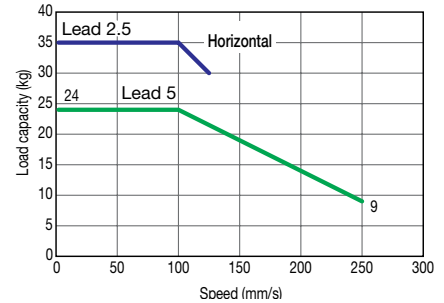
Model Description	RCP2	—	SRGS4R	—	I	—	35P	—		—		—	P1	—		—	
	Series		Type		Encoder type		Motor type		Lead		Stroke		Compatible Controllers		Cable length		Option
					I: Incremental specification		35P: Pulse motor 35□Size		5: 5mm 2.5: 2.5mm		20:20mm to 200:200mm (10mm pitch setting)		P1: PCON RPCON PSEL		N: None P: 1m S: 3m M: 5m X□□: Length designation		Options below See Pricing Table

* See P3 for model descriptions. *Every 50mm for strokes over 100mm.



Speed vs. Payload Graph

Since the RCP2 Series uses a pulse motor, the payload decreases as speed increases. Use the table below to confirm that there is sufficient payload at the desired speed.



- The RCP2 series uses a pulse motor so the load capacity decreases at high speeds. Confirm the payload at the desired speed in the Speed vs. Payload graph at right.
- The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above values are maximum acceleration.
- The horizontal load capacity assumes use of an external guide. See P.18 of the Technical Reference for the load capacities that can be used with the single guide that is provided.

Actuator Specification Table

Leads and Payloads

(Note 1) Note that the maximum load capacity decreases as the speed increases.

Model	Lead (mm)	Maximum payload (Note 1)		Maximum pushing force (N) (Note 2)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP2-SRGS4R-I-35P-5--P1-- ③②①	5	24	8	112	20 to 200 (every 10mm)
RCP2-SRGS4R-I-35P-2.5--P1-- ③②①	2.5	35	15	224	(Note 3)

Legend Stroke Cable Length Option ③②①

(Note 2) Refer to the push force graph on P17.
(Note 3) Every 50mm stroke at over 100mm.

(Unit = mm/s)

Stroke and Maximum Speed

Lead	Stroke	
	20 to 200 (every 10mm)	20 to 200 (every 10mm)
5		250
2.5		125

① Price List by Stroke

① Stroke (mm)	Type code
	SRGS4
Encoder type	
Incremental	
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

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

*A built-in motor-encoder cable is standard, and meets the robot cable specification.

*See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Flange bracket (rear)	FLR	→P19
Foot bracket 1 (mounted on bottom)	FT	→P19
Foot brackets 2 (Mounted on right and left sides)	FT2/FT4	→P19
Guide installation direction change	GS2 to GS4	→P8

*The brake can be used at 70 stroke or above.

*Always input the direction the guide should be mounted on the model.

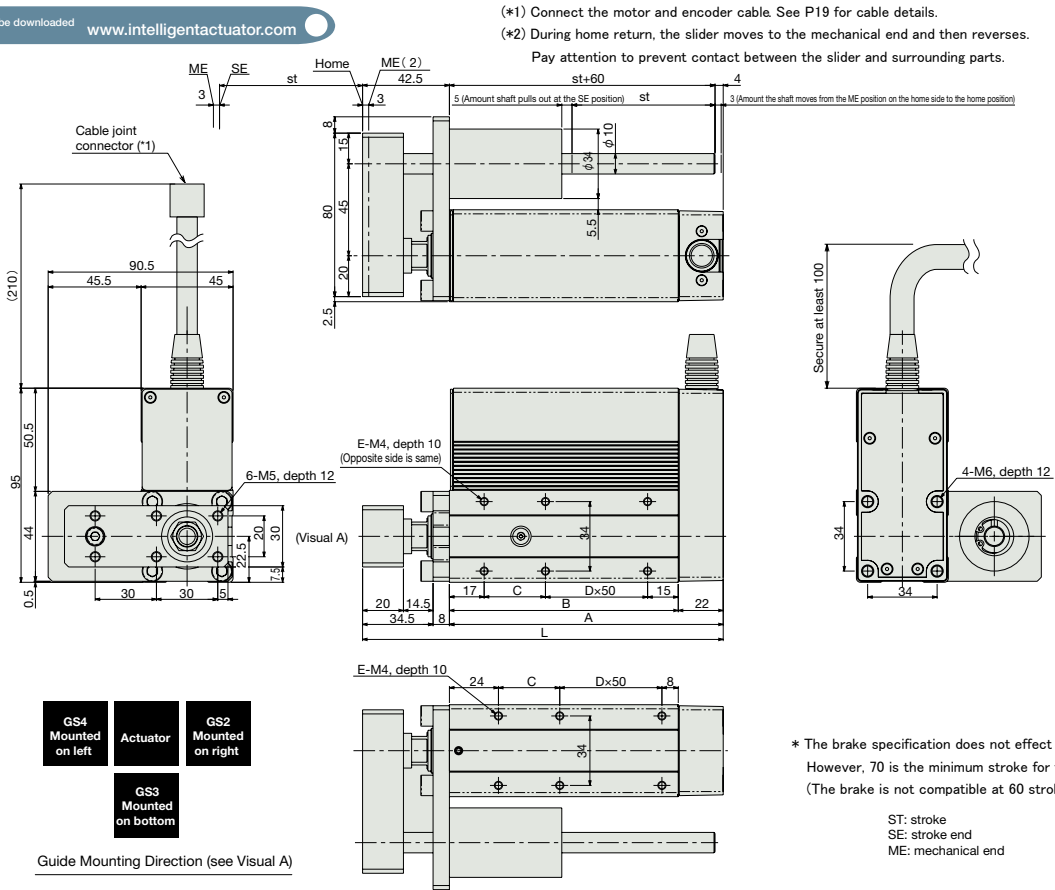
*The guide and foot bracket cannot be used in the same direction.

Actuator Specification

Item	Description
Drive System	Ball screw ϕ 8mm rolled C10
Positioning Repeatability	\pm 0.05mm
Backlash	0.1mm or less
Rod diameter	ϕ 22mm
Non-rotary Rod Precision	\pm 0.05 degrees
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



■ Dimensions and Weight by Stroke (If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.2	1.27	1.34	1.41	1.48	1.54	1.61	1.68	1.75	2.09	2.43

*Please contact IAI for latest controllers/information.

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		PCON-C-35PI-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	Maximum 2A	→P20
Safety category compatible Positioner type		PCON-CG-35PI-NP-2-0					
Solenoid valve type		PCON-CY-35PI-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		PCON-PL-35PI-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		PCON-PO-35PI-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		PCON-SE-35PI-N-0-0	Serial communications Special Type	64 points			
Field network type(*1)		RPCON-35P	Field Network Dedicated type	768 points			
Program control type		PSEL-C-1-35PI-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately).

*Please contact IAI for latest controllers/information.

RCP2-SRGD4R

ROBO Cylinder, Rod-Type with Short Guide, Actuator Diameter 45mm, Servo Motor, Motor Reversing Specification

Model Description **RCP2** — **SRGD4R** — **I** — **35P** — — — **P1** — —

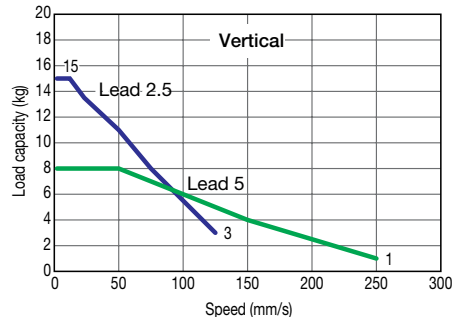
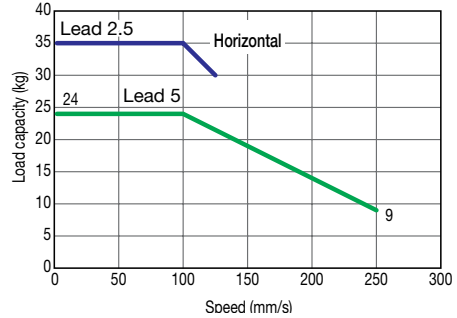
Series — Type — Encoder type — Motor type — Lead — Stroke — Compatible Controllers — Cable length — Option

I: Incremental specification 35P: Pulse motor 35□Size 5: 5mm 2.5: 2.5mm 20:20mm to 200:200mm (10mm pitch setting) P1: PCON, RPCON, PSEL N: None, P: 1m, S: 3m, M: 5m, X□□: Length designation Options below See Pricing Table

* See P3 for model descriptions. *Every 50mm for strokes over 100mm.



Speed vs. Payload Graph
 Since the RCP2 Series uses a pulse motor, the payload decreases as speed increases. Use the table below to confirm that there is sufficient payload at the desired speed.



- POINT** Notes for selection
- The RCP2 series uses a pulse motor so the load capacity decreases at high speeds. Confirm the payload at the desired speed in the Speed vs. Payload graph at right.
 - The payload is the value when operated at 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above values are maximum acceleration.
 - The horizontal load capacity assumes use of an external guide. See P.18 of the Technical Reference for the load capacities that can be used with the double guide that is provided.

Actuator Specification Table

Model	Lead (mm)	Maximum payload (Note 1)		Maximum pushing force (N) (Note 2)	Stroke (mm)	Stroke and Maximum Speed	
		Horizontal (kg)	Vertical (kg)			Stroke	20 to 200 (every 10mm)
RCP2-SRGD4R-I-35P-5--P1-- ③②①	5	24	8	112	20 to 200 (every 10mm)	5	250
RCP2-SRGD4R-I-35P-2.5--P1-- ③②①	2.5	35	15	224	(Note 3)	2.5	125

Legend Stroke Cable Length Option ③②① (Note 2) Refer to the push force graph on P17. (Note 3) Every 50mm stroke at over 100mm. (Unit = mm/s)

① Price List by Stroke

① Stroke (mm)	Type code
	Encoder type
	Incremental
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

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

*A built-in motor-encoder cable is standard, and meets the robot cable specification.
 *See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Foot bracket 1 (mounted on bottom)	FT	→P19

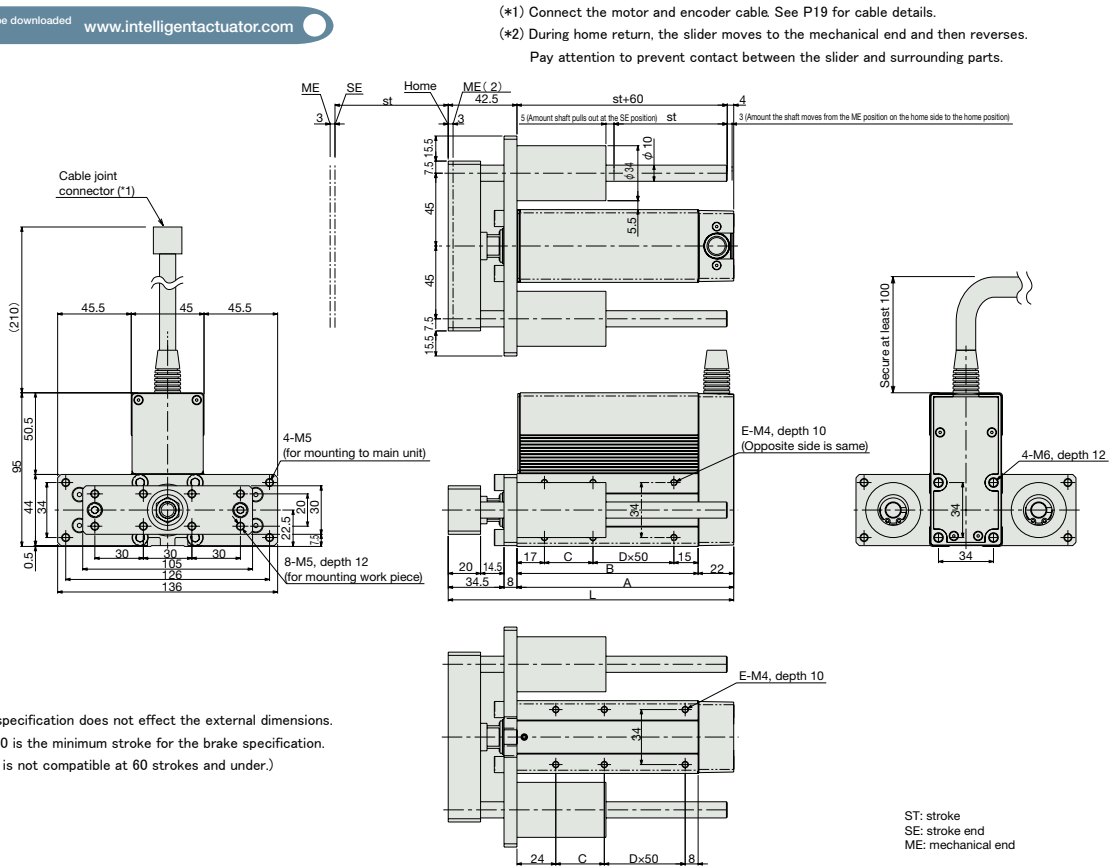
*The brake can be used at 70 stroke or above.
 *The foot bracket cannot be mounted on the side.

Actuator Specification

Item	Description
Drive System	Ball screw φ8mm rolled C10
Positioning Repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	φ22mm
Non-rotary Rod Precision	±0.05 degrees
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



* The brake specification does not effect the external dimensions. However, 70 is the minimum stroke for the brake specification. (The brake is not compatible at 60 strokes and under.)

■ Dimensions and Weight by Stroke (If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	80	90	100	110	160	210
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.47	1.55	1.62	1.7	1.77	1.84	1.92	1.99	2.07	2.44	2.81

*Please contact IAI for latest controllers/information.

Compatible Controllers

The RCP2 Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		PCON-C-35PI-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	Maximum 2A	→P20
Safety category compatible Positioner type		PCON-CG-35PI-NP-2-0					
Solenoid valve type		PCON-CY-35PI-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		PCON-PL-35PI-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		PCON-PO-35PI-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		PCON-SE-35PI-N-0-0	Serial communications Special Type	64 points			
Field network type(*1)		RPCON-35P	Field Network Dedicated type	768 points			
Program control type		PSEL-C-1-35PI-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately).

*Please contact IAI for latest controllers/information.

RCA-SRA4R

ROBO Cylinder, Short Rod-Type, Actuator Diameter 45mm, Servo Motor, Motor Reversing Specification

Model Description	RCA	—	SRA4R	—	I	—	20	—		—		—	A1	—		—	
	Series		Type		Encoder type		Motor type		Lead		Stroke		Compatible Controllers		Cable length		Option
					I: Incremental specification		20: Servo motor 20W		5: 5mm 2.5: 2.5mm		20:20mm to 200:200mm (10mm pitch setting)		A1: ACON RACON ASEL		N: None P: 1m S: 3m M: 5m X□□: Length designation		Options below See Pricing Table

* See P3 for model descriptions. *Every 50mm for strokes over 100mm.

For low-power applications



- POINT**
Notes for selection
- (1) The payload capacity acceleration is 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above value is the maximum acceleration.
 - (2) There is horizontal load capacity when external guides are used. Take note that if external force is applied in any direction other than moving direction the rod, the interlock may get damaged.

Actuator Specification Table

Leads and Payloads (Motor power: 20 W)

Model	Lead (mm)	Maximum payload (Note 1)		Rated thrust (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCA-SRA4R-I-20-5--A1-- ③ ② ①	5	9	3	41	20 to 200 (every 10mm)
RCA-SRA4R-I-20-2.5--A1-- ③ ② ①	2.5	18	6.5	81	(Note 1)

Stroke and Maximum Speed

Lead	Stroke	20 to 200 (every 10mm)
	5	250
2.5	125	125

Legend Stroke Cable Length Option ③ ② ①

(Note 1) Every 50mm for strokes over 100mm.

(Unit = mm/s)

① Price List by Stroke

① Stroke (mm)	Type code
	Encoder type
	Incremental
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

Type	Cable symbol
Standard type	P (1m)
	S (3m)
	M (5m)
Special length	X06 (6m) – X10 (10m)
	X11 (11m) – X15 (15m)
	X16 (16m) – X20 (20m)

*A built-in motor-encoder cable is standard, and meets the robot cable specification.

*See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Flange bracket (front)	FL	→P19
Flange bracket (rear)	FLR	→P19
Foot bracket 1 (mounted on bottom)	FT	→P19
Foot brackets 2 (Mounted on right or left sides) for energy saving	FT2/FT4	→P19
	LA	—

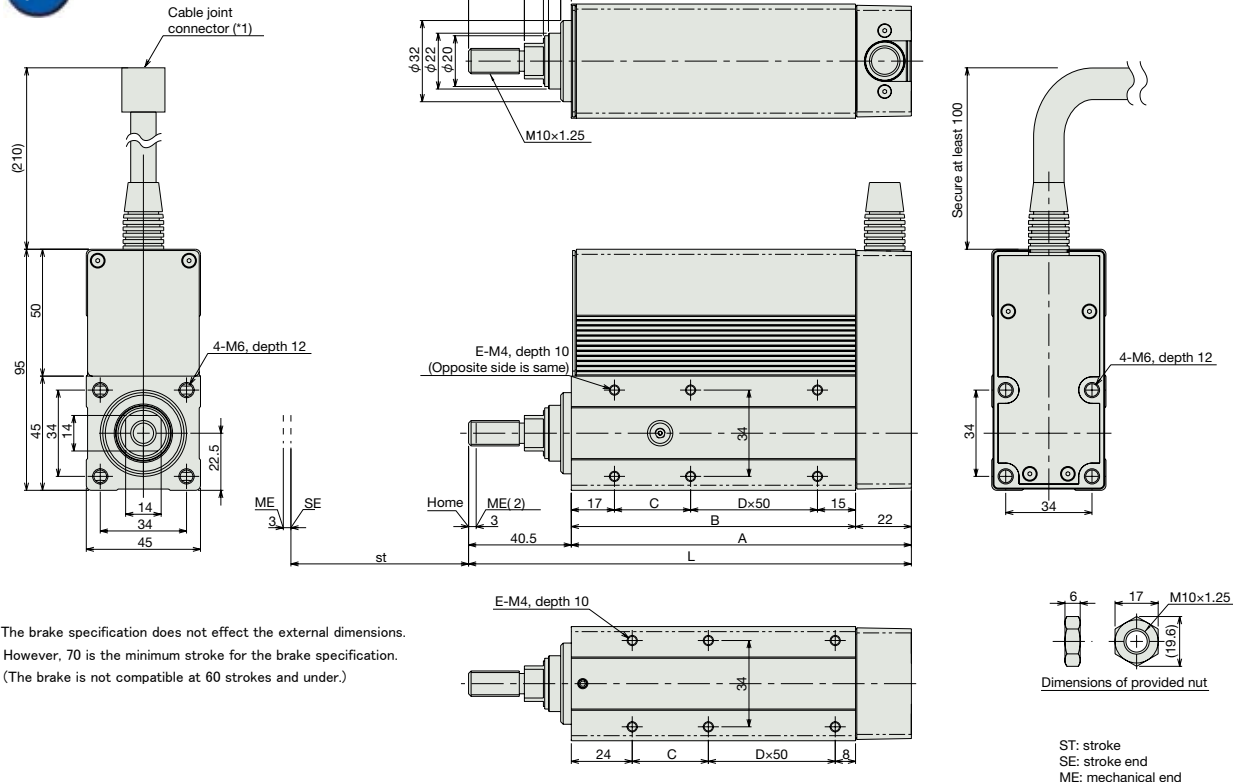
*The brake can be used at 70 stroke or above.

Actuator Specification

Item	Description
Drive System	Ball screw φ8mm rolled C10
Positioning Repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	φ22mm
Non-rotary Rod Precision	—
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



* The brake specification does not effect the external dimensions. However, 70 is the minimum stroke for the brake specification. (The brake is not compatible at 60 strokes and under.)

■ Dimensions and Weight by Stroke (If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	124.5	134.5	144.5	154.5	164.5	174.5	184.5	194.5	204.5	254.5	304.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	80	90	100	110	160	210
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	0.78	0.84	0.9	0.96	1.03	1.09	1.15	1.21	1.27	1.59	1.9

*Please contact IAI for latest controllers/information.

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		ACON-C-20I①-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	(Standard) Rated 1.3A Peak 4.4A (energy-saving) Rated 1.3A Peak 2.5A (*2)	→P20
Safety category compatible Positioner type		ACON-CG-20I①-NP-2-0					
Solenoid valve type		ACON-CY-20I①-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		ACON-PL-20I①-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		ACON-PO-20I①-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		ACON-SE-20I①-N-0-0	Serial communications Special Type	64 points			
Field network type (*1)		RACON-20①	Field Network Dedicated type	768 points			
Program control type		ASEL-C-1-20I①-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately). *ASEL is for uniaxial specification. (*2) is entered as the code (LA) when designating for low-power applications.

*Please contact IAI for latest controllers/information.



RCA-SRGS4R

ROBO Cylinder, Rod-Type with Short Single Guide, Actuator Diameter 45mm, Servo Motor, Motor Reversing Specification

Model Description	RCA	SRGS4R	I	20			A1		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
			I: Incremental specification	20: Servo motor 20W	5: 5mm 2.5:2.5mm	20:20mm to 200:200mm (10mm pitch setting)	A1: ACON RACON ASEL	N: None P: 1m S: 3m M: 5m X□□: Length designation	Options below See Pricing Table

* See P3 for model descriptions. *Every 50mm for strokes over 100mm.

For low-power applications



POINT

Notes for selection

- (1) The payload capacity acceleration is 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above value is the maximum acceleration.
- (2) There is horizontal load capacity when external guides are used. See P.18 of the Technical Reference for the load capacities that can be used with the single guide that is provided.

Actuator Specification Table					
Leads and Payloads (Motor power: 20 W)					
Model	Lead (mm)	Maximum payload (Note 1)		Rated thrust (N)	Stroke (mm)
RCA-SRGS4R-I-20-5--A1-- ③ ② ①	5	Horizontal (kg)	Vertical (kg)	41	20 to 200 (every 10mm)
RCA-SRGS4R-I-20-2.5--A1-- ③ ② ①	2.5	18	5.5	81	(Note 1)
Legend Stroke Cable Length Option ③ ② ①					

Stroke and Maximum Speed		
Lead	Stroke	20 to 200 (every 10mm)
5		250
2.5		125

(Note 1) Every 50mm for strokes over 100mm. (Unit = mm/s)

① Price List by Stroke

① Stroke (mm)	Type code
	SRGS4R
	Encoder type
	Incremental
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

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

*A built-in motor-encoder cable is standard, and meets the robot cable specification.
*See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Flange bracket (rear)	FLR	→P19
Foot bracket 1 (mounted on bottom)	FT	→P19
Foot brackets 2 (Mounted on right and left sides)	FT2/FT4	→P19
Guide mounting direction	GS2 to GS4	→P14
For low-power applications	LA	—

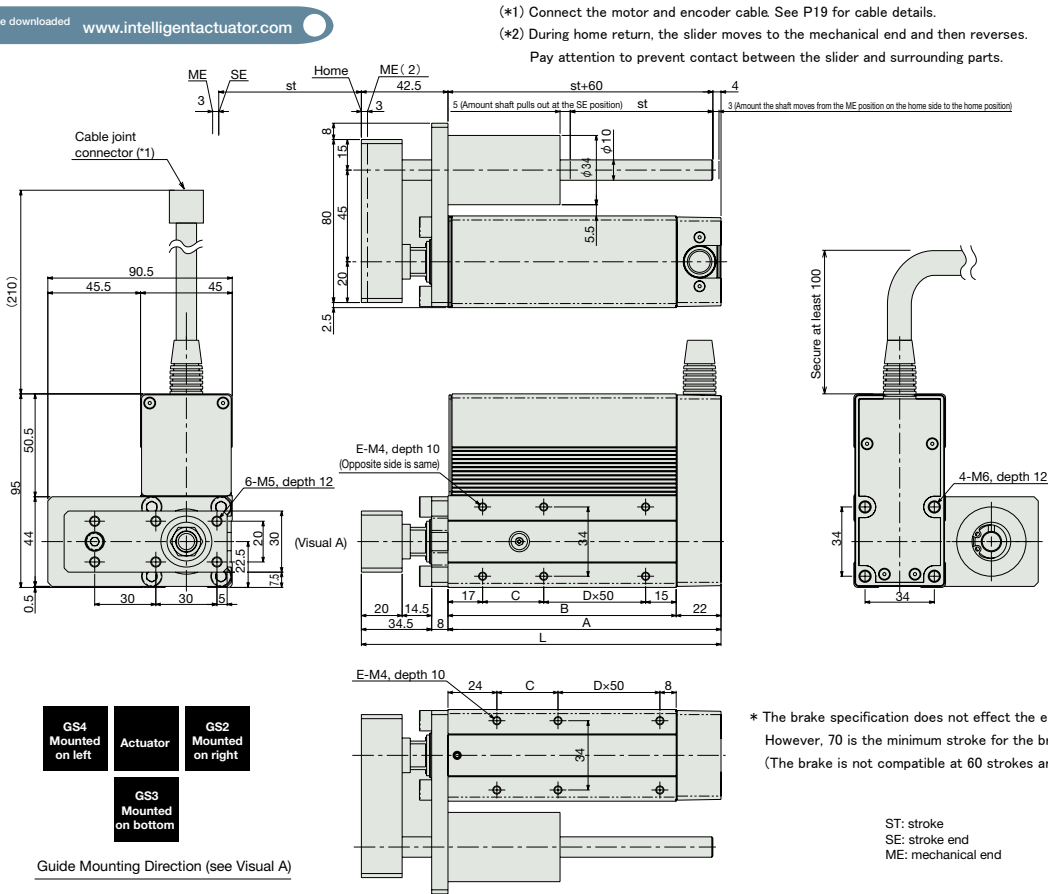
*The brake can be used at 70 stroke or above.
*Always input the direction the guide should be mounted on the model.
*The guide and foot bracket cannot be used in the same direction.

Actuator Specification

Item	Description
Drive System	Ball screw φ8mm rolled C10
Positioning Repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	φ22mm
Non-rotary Rod Precision	±0.05 degrees
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



Dimensions and Weight by Stroke

(If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	30	40	50	60	60	60
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	6	6	6	6	8	10
Weight (kg)	1.15	1.21	1.28	1.35	1.42	1.49	1.56	1.62	1.69	2.03	2.38

*Please contact IAI for latest controllers/information.

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		ACON-C-20I①-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	(Standard) Rated 1.3A Peak 4.4A (energy-saving) Rated 1.3A Peak 2.5A (*2)	→P20
Safety category compatible Positioner type		ACON-CG-20I①-NP-2-0					
Solenoid valve type		ACON-CY-20I①-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		ACON-PL-20I①-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		ACON-PO-20I①-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		ACON-SE-20I①-N-0-0	Serial communications Special Type	64 points			
Field network type (*1)		RACON-20①	Field Network Dedicated type	768 points			
Program control type		ASEL-C-1-20I①-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately).

*ASEL is for uniaxial specification.

(*2) is entered as the code (LA) when designating for low-power applications.

*Please contact IAI for latest controllers/information.



RCA-SRGD4R

ROBO Cylinder, Rod-Type with Short Double Guide, Actuator Diameter 45mm, Servo Motor, Motor Reversing Specification

Model Description	RCA	SRGD4R	I	20			A1		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
			I: Incremental specification	20: Servo motor 20W	5: 5mm 2.5:2.5mm	20:20mm to 200:200mm (10mm pitch setting)	A1: ACON RACON ASEL	N: None P: 1m S: 3m M: 5m X□□ : Length designation	Options below See Pricing Table

* See P3 for model descriptions. *Every 50mm for strokes over 100mm.

For low-power applications



- POINT**
Notes for selection
- (1) The payload capacity acceleration is 0.3G acceleration (0.2G acceleration in vertical operation with lead 2.5). The above value is the maximum acceleration.
 - (2) There is horizontal load capacity when external guides are used. See P.18 of the Technical Reference for the load capacities that can be used with the double guide that is provided.

Actuator Specification Table

Leads and Payloads (Motor power: 20 W)

Model	Lead (mm)	Maximum payload (Note 1)		Rated thrust (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCA-SRGD4R-I-20-5--A1-- ③②①	5	9	2	41	20 to 200 (every 10mm)
RCA-SRGD4R-I-20-2.5--A1-- ③②①	2.5	18	5.5	81	(Note 1)

Legend Stroke Cable Length Option ③②①

(Note 1) Every 50mm for strokes over 100mm.

(Unit = mm/s)

Stroke and Maximum Speed

Lead	Stroke	20 to 200 (every 10mm)
	5	250
2.5	125	125

① Price List by Stroke

① Stroke (mm)	Type code
	SRGD4
	Encoder type Incremental
20 to 50	—
60 to 100	—
150	—
200	—

② Cable Length Price List

Type	Cable symbol
Standard type	P (1m)
	S (3m)
	M (5m)
Special length	X06 (6m) – X10 (10m)
	X11 (11m) – X15 (15m)
	X16 (16m) – X20 (20m)

*A built-in motor-encoder cable is standard, and meets the robot cable specification.

*See P19 for maintenance cables.

③ Option Price List

Title	Option code	See page
Brake	B	—
Foot bracket1(mounted on bottom)	FT	→P19

*The brake can be used at 70 stroke or above.

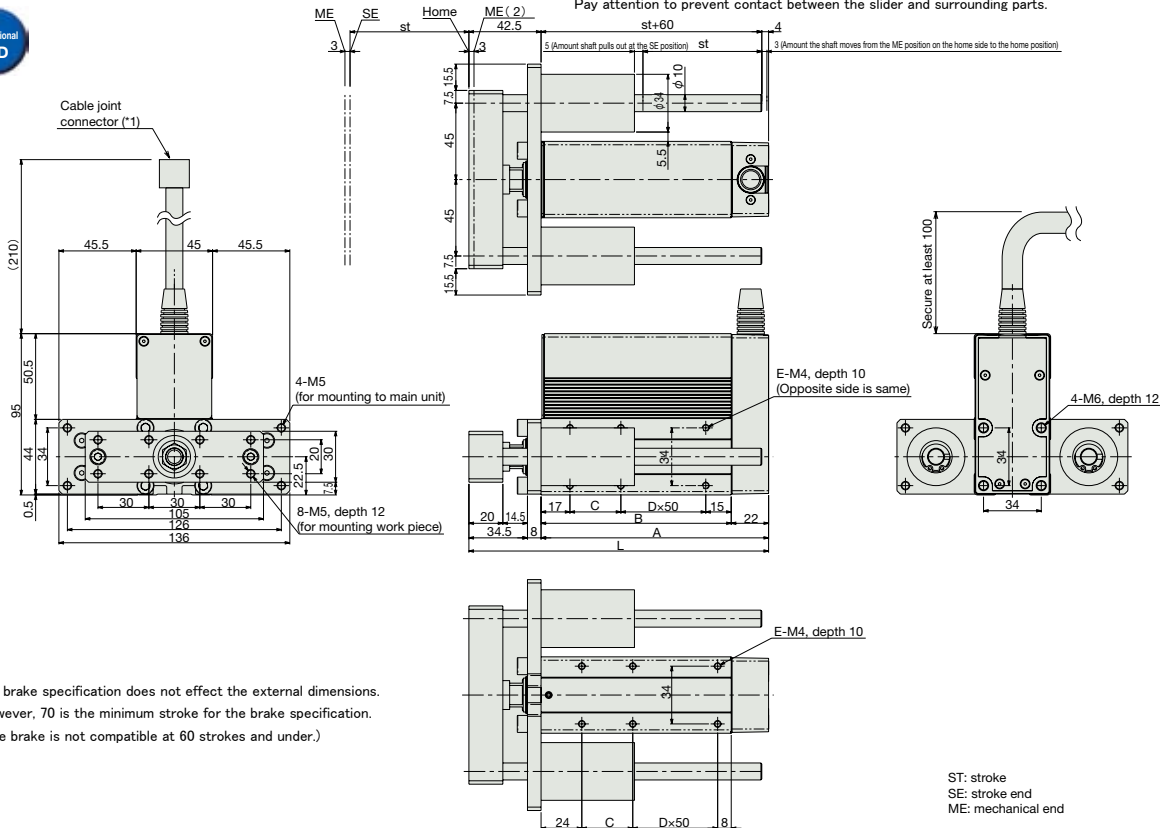
*The foot bracket cannot be mounted on the side.

Actuator Specification

Item	Description
Drive System	Ball screw φ8mm rolled C10
Positioning Repeatability	±0.05mm
Backlash	0.1mm or less
Rod diameter	φ22mm
Non-rotary Rod Precision	±0.05 degrees
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (without condensation)
Service life	5000km

Dimensions Drawing

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



* The brake specification does not effect the external dimensions. However, 70 is the minimum stroke for the brake specification. (The brake is not compatible at 60 strokes and under.)

■ Dimensions and Weight by Stroke (If the unit has a brake, add 0.2kg)

Stroke	20	30	40	50	60	70	80	90	100	150	200
L	126.5	136.5	146.5	156.5	166.5	176.5	186.5	196.5	206.5	256.5	306.5
A	84	94	104	114	124	134	144	154	164	214	264
B	62	72	82	92	102	112	122	132	142	192	242
C	30	40	50	60	70	80	90	100	110	160	210
D	0	0	0	0	0	1	1	1	1	2	3
E	4	4	4	4	4	4	6	6	6	8	10
Weight (kg)	1.42	1.49	1.56	1.64	1.71	1.79	1.86	1.94	2.01	2.38	2.75

*Please contact IAI for latest controllers/information.

Compatible Controllers

RCA Series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Maximum number of positioning points	Input power	Power-supply capacity	See page
Positioner Type		ACON-C-20①-NP-2-0	Up to 512-point positioning possible	512 points	DC24V	(Standard) Rated 1.3A Peak 4.4A (energy-saving) Rated 1.3A Peak 2.5A (*2)	→P20
Safety category compatible Positioner type		ACON-CG-20①-NP-2-0					
Solenoid valve type		ACON-CY-20①-NP-2-0	Same as solenoid valve Controlled operation enabled	3 points			
Pulse series input type (Differential line driver specification)		ACON-PL-20①-NP-2-0	Differential line driver compatible Pulse series input type	(-)			
Pulse series input type (Open collector specification)		ACON-PO-20①-NP-2-0	Open collector compatible Pulse series input type				
Serial communication type		ACON-SE-20①-N-0-0	Serial communications Special Type	64 points			
Field network type (*1)		RACON-20①	Field Network Dedicated type	768 points			
Program control type		ASEL-C-1-20①-NP-2-0	Programmed operation enabled Maximum biaxial operation enabled	1500 points			

(*1) In addition to the controller, the field network type also requires a Gateway unit (sold separately). *ASEL is for uniaxial specification. (*2) is entered as the code (LA) when designating for low-power applications.

*Please contact IAI for latest controllers/information.



Diagram Showing Relationship Between Push Force & Current-Limiting

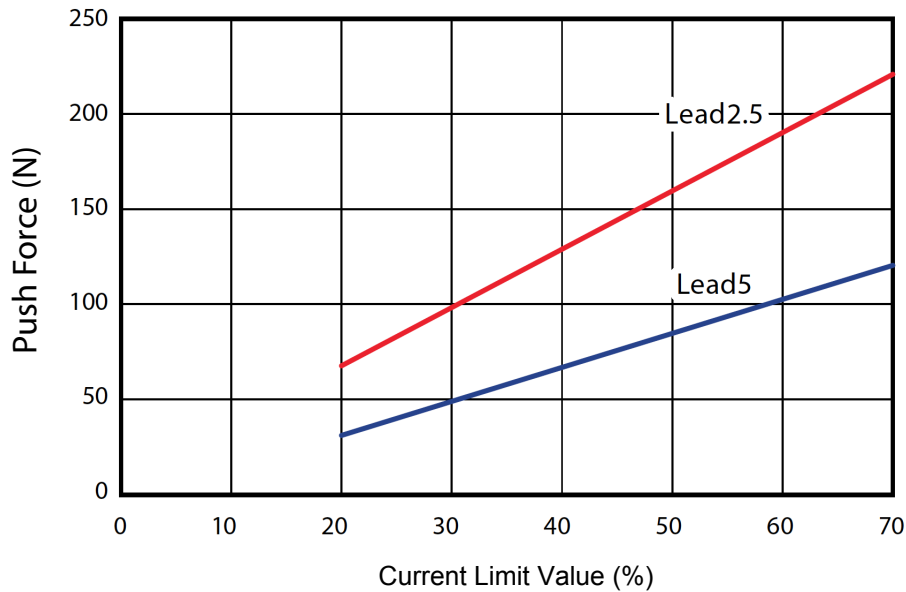
The push force applied in push-motion operation can be changed freely by changing the current-limiting value in the controller.

Use the graph below to check the required push force.

Caution for Use

- The relationships of push force the and current-limiting value represent reference values and may differ slightly from actual values.
- If the current-limiting value is less than 20%, the push force may fluctuate. Keep the current-limiting value to 20% or above.
- The travel speed is fixed to 20 mm/s during push-motion operation.
- For applications requiring the use of push operation, please use the RCP2. (Pulse Motor)

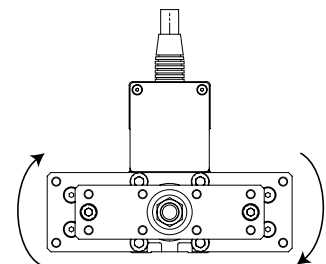
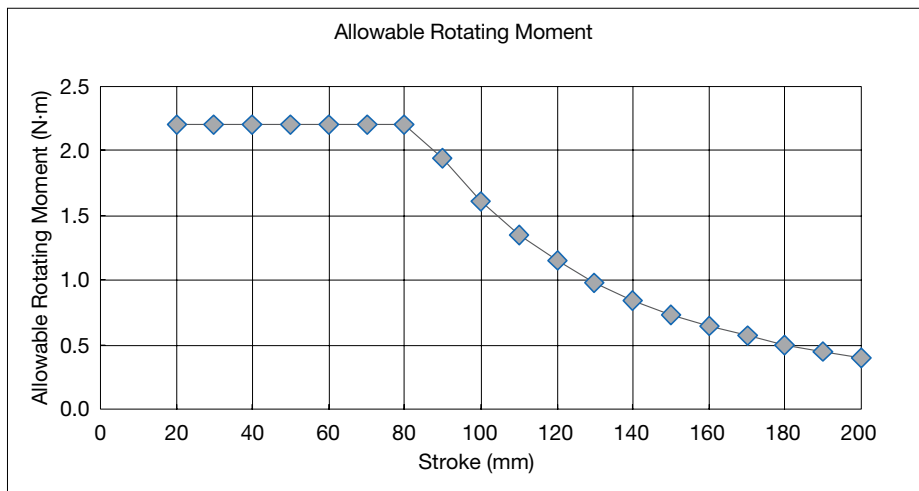
**RCP2-SRA4R/SRGS4R/SRGD4R
Drawing Showing Correlation Between
Push Force & Current Limitations**



Allowable Rotating Torque

If rotating torque is to be applied, keep the torque within the range specified below.

Take note that standard and single-guide types cannot receive rotating torque.

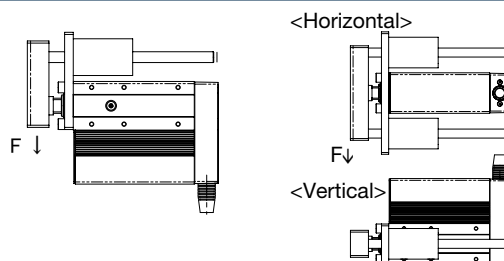


*Please contact IAI for latest controllers/information.

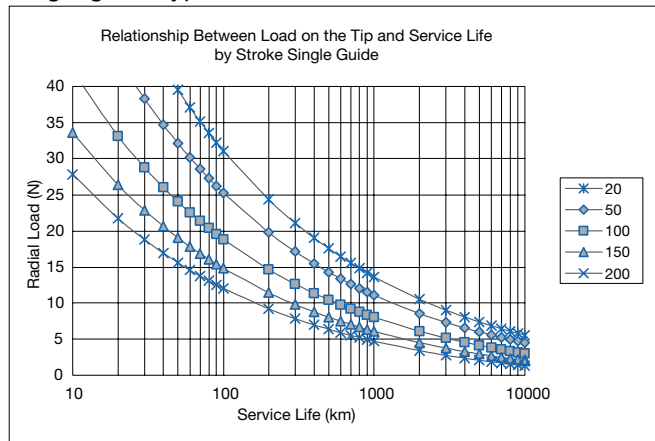
Relationship Between Allowable Load at Tip & Traveling Life

The greater the load at the guide tip, the shorter the traveling life becomes.

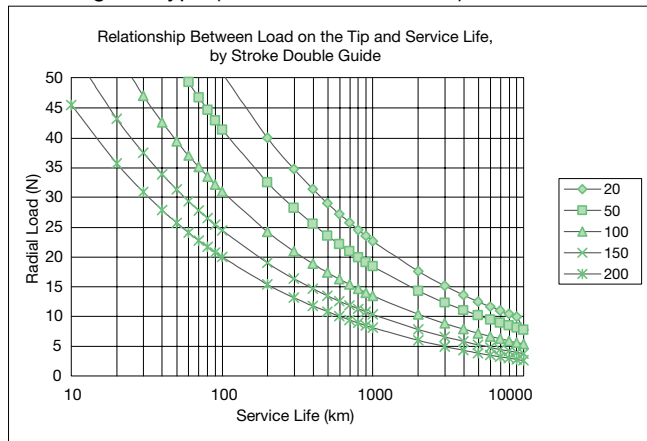
Select an appropriate model by considering an optimal balance between load and life.



Single guide type



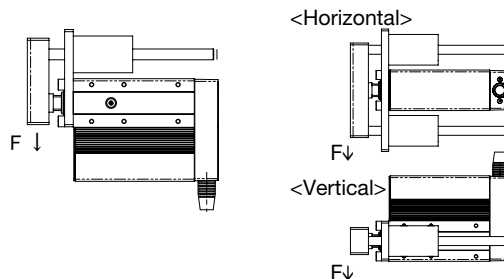
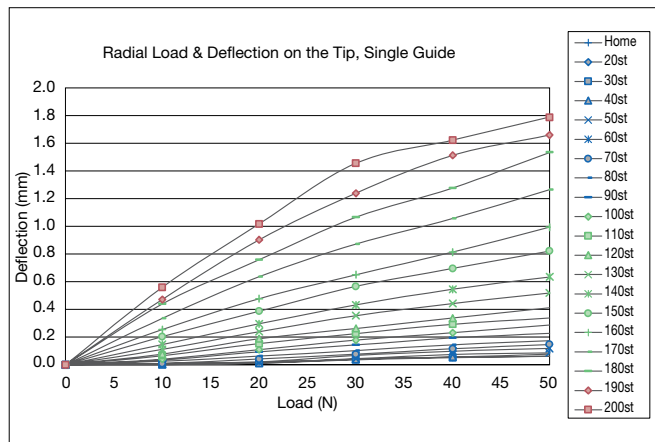
Double guide type (vertical and horizontal) F↓



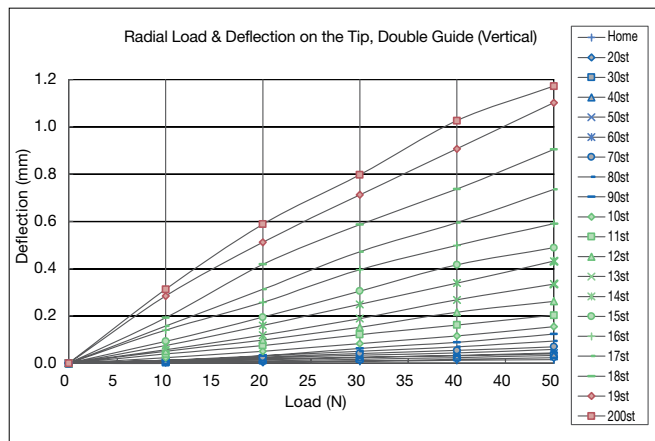
Radial Load & Deflection at Tip

The diagrams below show how the load applied at the tip of the guide correlates with the deflection that results.

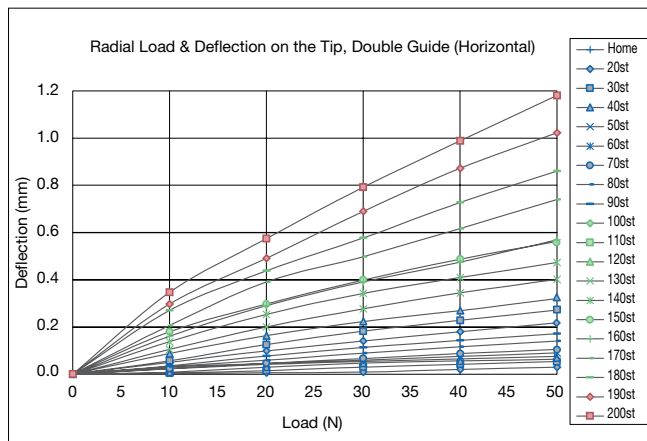
Single guide type



Double guide type (vertical)

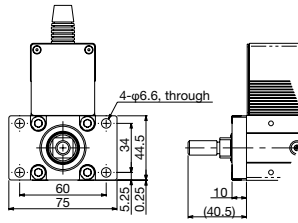


Double guide type (horizontal)



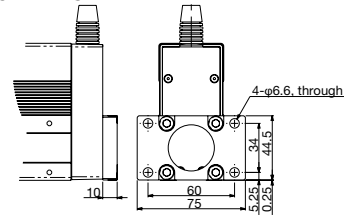
Actuator options (flange/foot brackets)

Model Options [FL]
Single Model, RCP2-FL-SRA4



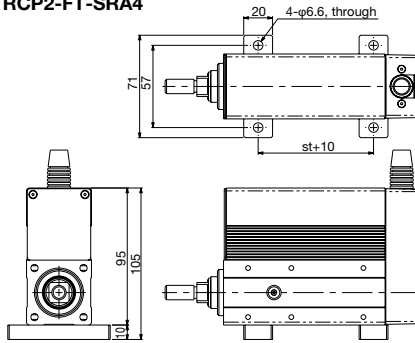
When flange bracket (front) is mounted

Model Options [FLR]
Single Model, RCP2-FL-SRA4



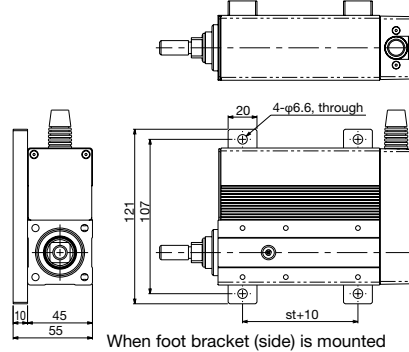
When flange bracket (rear) is mounted

Model Options [FT]
Single Model, RCP2-FT-SRA4



When foot bracket (bottom) is mounted

Model Options [FT2 (mounted on right side)/FT4 (mounted on left side)]
Single Model, RCP2-FTS-SRA4



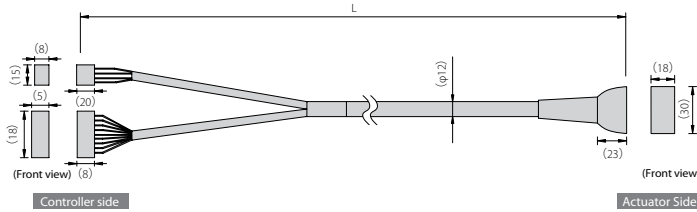
When foot bracket (side) is mounted

Maintenance parts (motor-encoder cable)

Motor-encoder cable for RCP2

Model **CB-PCS-MPA** □ □ □

*Enter the cable length (L) for □□□, up to a maximum compatible length of 20m. Example: 080=8m

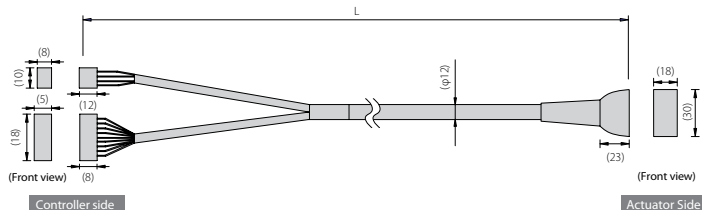


Signal	Pin No.	Wire color	Signal	Pin No.
A	B1	Black	A1	A
VMM	A2	White	B1	VMM
/A	A1	Red	A2	/A
B	B3	Green	B2	B
VMM	B2	Yellow	A3	VMM
/B	A3	Brown	B3	/B
			A4	NC
			B4	NC
BK+	14	Pink (Red*)	A5	BK+
BK-	13	Pink (Blue*)	B5	BK-
LS+	16	White (Red*)	A6	LS+
LS-	15	White (Blue*)	B6	LS-
A+	12	Orange (Red*)	A7	A+
A-	11	Orange (Blue*)	B7	A-
B+	10	Gray (Red*)	A8	B+
B-	9	Gray (Blue*)	B8	B-
NC	8		A9	NC
VPS	7	Orange (Blue* consecutive)	B9	VPS
VCC	6	Gray (Red* consecutive)	A10	VCC
GND	5	Gray (Blue* consecutive)	B10	GND
NC	4		A11	NC
FG	1	Shield	B11	FG

Motor-encoder cable for RCA

Model **CB-ACS-MPA** □ □ □

*Enter the cable length (L) for □□□, up to a maximum compatible length of 20m. Example: 080=8m



Signal	Pin No.	Wire color	Pin No.	Signal
U	1	Red	A1	U
V	2	Yellow	B1	V
W	3	Black	A2	W
			B2	NC
			A3	NC
			B3	NC
BK+	16	Yellow (Red*)	A4	BK+
BK-	15	Yellow (Blue*)	B4	BK-
LS+	18	Pink (Red*)	A5	LS+
LS-	17	Pink (Blue*)	B5	LS-
A+	14	White (Red*)	A6	A+
A-	13	White (Blue*)	B6	A-
B+	12	Orange (Red*)	A7	B+
B-	11	Orange (Blue*)	B7	B-
Z+	10	Gray (Red*)	A8	Z+
Z-	9	Gray (Blue*)	B8	Z-
-	8		A9	-
/PS	7	Orange (Red* consecutive)	B9	/PS
VCC	6	Gray (Red* consecutive)	A10	VCC
GND	5	Gray (Blue* consecutive)	B10	GND
NC	4		A11	NC
FG	1	Shield	B11	FG

Controllers for RCP2/RCA

*Please contact IAI for latest controllers/information.

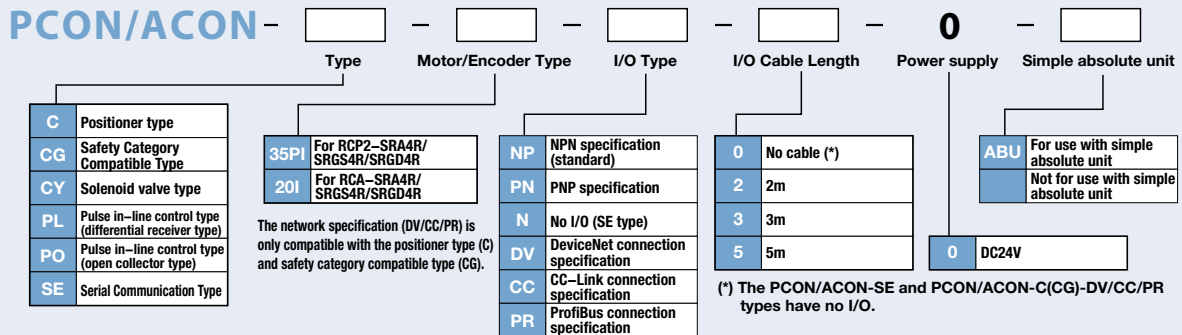
Model List

Model	PCON/ACON					RPCON RACON (ROBONET)	PSEL/ASEL
	C	CG	CY	PL/PO	SE		
Name	Positioner type	Safety category compatible type	Solenoid valve type	Pulse in-line control type	Serial Communication Type	Field Network type	Program Type
Appearance							
Features	Positioner can be positioned for up to 512 points.	Safety category compatible specification	Can be operated using the same control as an air cylinder.	An in-line pulse can be used to control as desired	Serial Communication Dedicated Controller (*1)	Can be operated through DeviceNet CC-Link ProfiBus	Programmable, Built-in Sequence Function

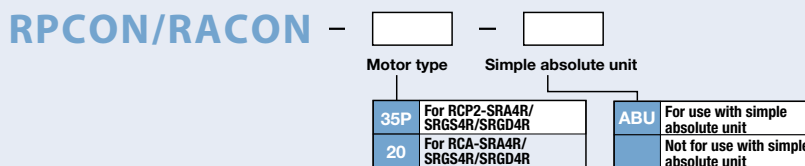
(*1) A Gateway unit (sold separately) is required to use RPCON/RACON.

Model *Please contact IAI for latest controllers/information.

PCON/ACON Controller

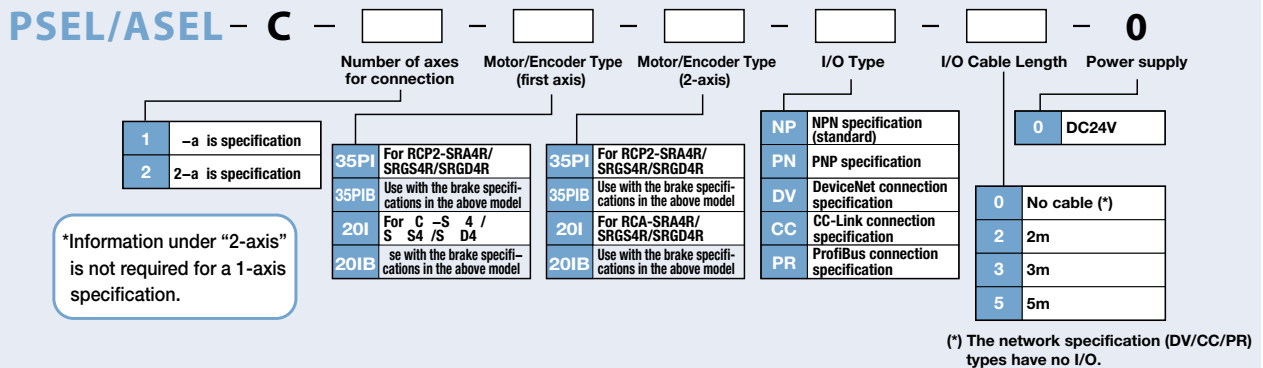


ROBONET Controller



* A Gateway unit is required to connect a network when using the RPCON/RACON types. See the ROBONET catalog for details.

PSEL/ASEL Controller



*Please contact IAI for latest controllers/information.

Specification Table

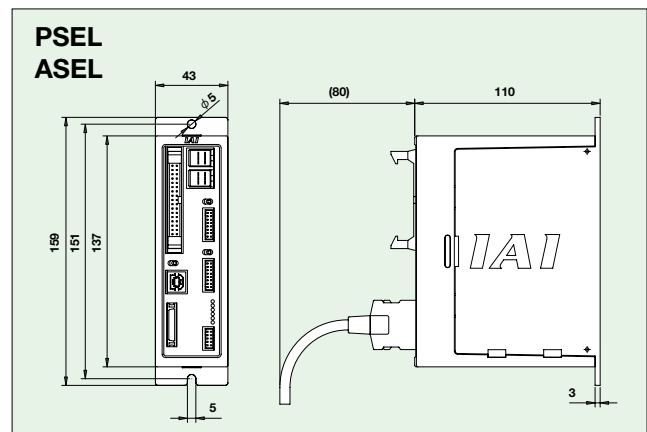
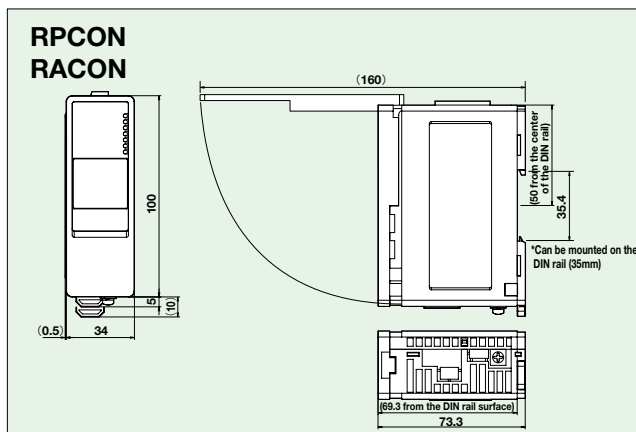
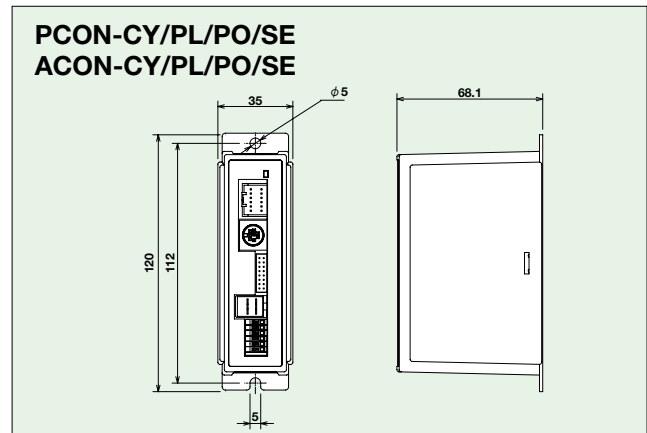
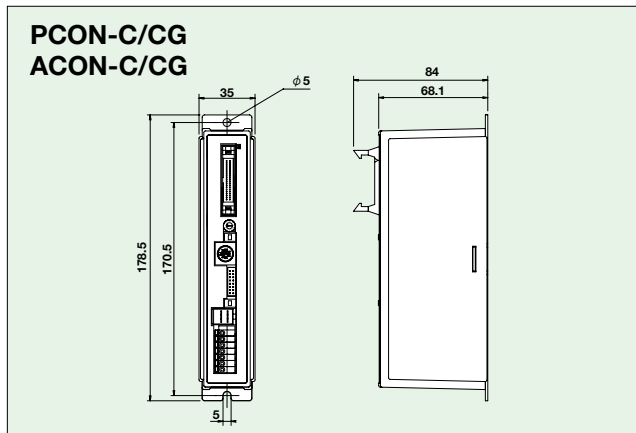
Item	Specification							
	PCON/ACON						RPCON/RACON (ROBONET)	PSEL/ASEL
Controller type	C	CG	CY	PL	PO	SE		
Maximum number of control axes	1-axis						Up to 16-axis can be connected and operated.	2-axes
Operation method	Positioner type		Solenoid valve type	Pulse series input type		Serial Communication Type	Field Network	Program
Number of positions	512 points		3 points	-		64 points	768 points	1500 points
I/O connector	40-pin connector		12-pin connector	14-pin connector		-	-	34-pin connector
Number of I/O	16 input, 16 output		4 input 6 output	4 input, 4 output		-	-	24 input 8 output
Serial communications	RS485							RS232
Peripheral Device Cables for communicating	CB-PAC-PIO		CB-PACY-PIO	CB-PACPU-PIO		CB-RCB-CTL002	-	CB-DS-PIO
Command pulse input method	-			Differential line driver	Open collector		-	
Maximum input pulse frequency	-			200kpps	60kpps		-	
Position detection method	Incremental encoder							
Motor/Encoder cable	CB-PCS-MPA□□□□ (for PCON)/CB-ACS-MPA□□□□(for ACON)(Max. length 20m)							
Input power	DC24V±10%							
Power-supply capacity	RCP2 (all models)		Maximum 2A			Max. 2A (*1)	Max. 5.5A	
	RCA	SRA4R SRGS4R SRGD4R	Rated 1.3A, max. 4.4A (standard specification) Rated 1.3A, max. 2.5A (low-power specification)			(*2)	(*3)	
Dielectric strength voltage	DC500V 1MΩ							DC500V 10MΩ
Ambient operating temperature, Ambient operating humidity.	0 to 40°C 10 to 95% (free from condensation or corrosive gases)							
Ingress Protection	IP20							
Mass	Approx. 300g		Approx. 130g			Approx. 200g	Approx. 450g	

(*1) During use, the following amount of power is required: 2A x the number of units used, plus the power consumed by the Gateway unit (approx. 0.6A).

(*2) The following power capacity is required for RACON: ACON power capacity x number of units used, plus the power consumed by the Gateway unit (approx. 0.6A).

(*3) The following power capacity is required for ASEL: ACON power capacity x number of control axes, plus the power for the control unit (1.2A).

Dimensional Outline Drawing



*Please contact IAI for latest controllers/information.

Controller Options

Teaching Pendant

This is a teaching device that provides information on functions such as position input, running tests, and monitoring.

Item	RCM-E	RCM-P	CON-T	SEL-T-J	SEL-TD-J
Exterior dimensions					
Compatible controllers	PCON/ACON/RPCON/RACON			PSEL/ASEL	
Position input	○	○	○	○	○
Program input	×	×	×	○	○
Actuator operation		×	○	○	○
Display	16 characters x 2 lines, LCD display			20 characters x 4 lines, LCD display	
3 position enabling switch	×	×	×	×	○
Compatible with the ANSI standard	×	×	×	×	○
Compatible with the CE mark	×	×	○	○	○
Compatible with the UL standard	×	×	×	×	○
Cable length	5m				
Ambient operating temperature, humidity	0 to 40°C temperature, 85% RH or less				
Ingress Protection	-			IP54	
Mass	Approx. 400g	Approx. 360g	Approx. 400g	Approx. 400g	Approx. 400g

PC-compatible software (Windows only)

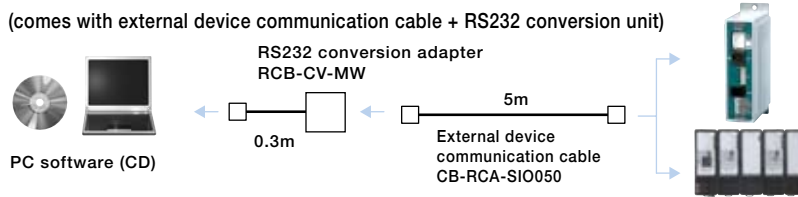
Feature

A startup support software program offering program/position input function, test operation function, monitoring function, and more. The functions needed for debugging have been enhanced to help reduce the startup time.

PC-compatible software for PCON/ACON/RPCON/RACON (for RS232 connection)

■ Model **RCM-101-MW** (comes with external device communication cable + RS232 conversion unit)

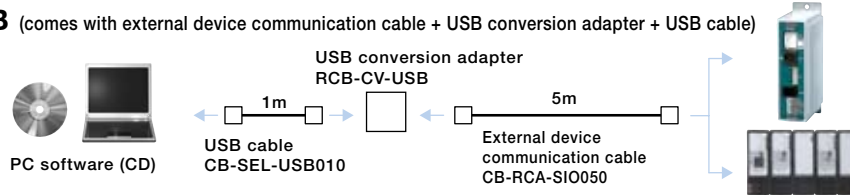
■ Configuration



PC-compatible software for PCON/ACON/RPCON/RACON (for USB connection)

■ Model **RCM-101-USB** (comes with external device communication cable + USB conversion adapter + USB cable)

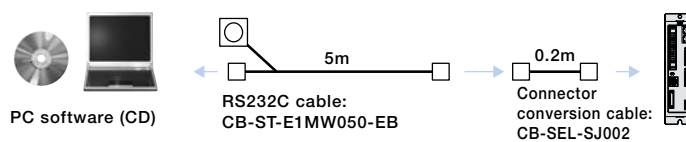
■ Configuration



PC-compatible software for PSEL/ASEL (for RS232 connection)

■ Model **IA-101-X-MW-J** (comes with RS232C cable + connector conversion cable)

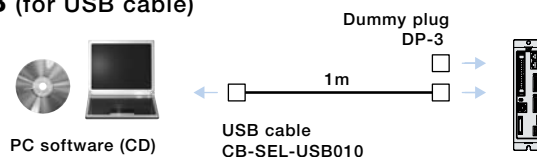
■ Configuration



PC-compatible software (for USB connection)

■ Model **IA-101-X-USB** (for USB cable)

■ Configuration



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*Please contact IAI for latest controllers/information.

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Due to product improvements, the information presented in this catalog is subject to change without notice

*Please contact IAI for latest controllers/information.

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