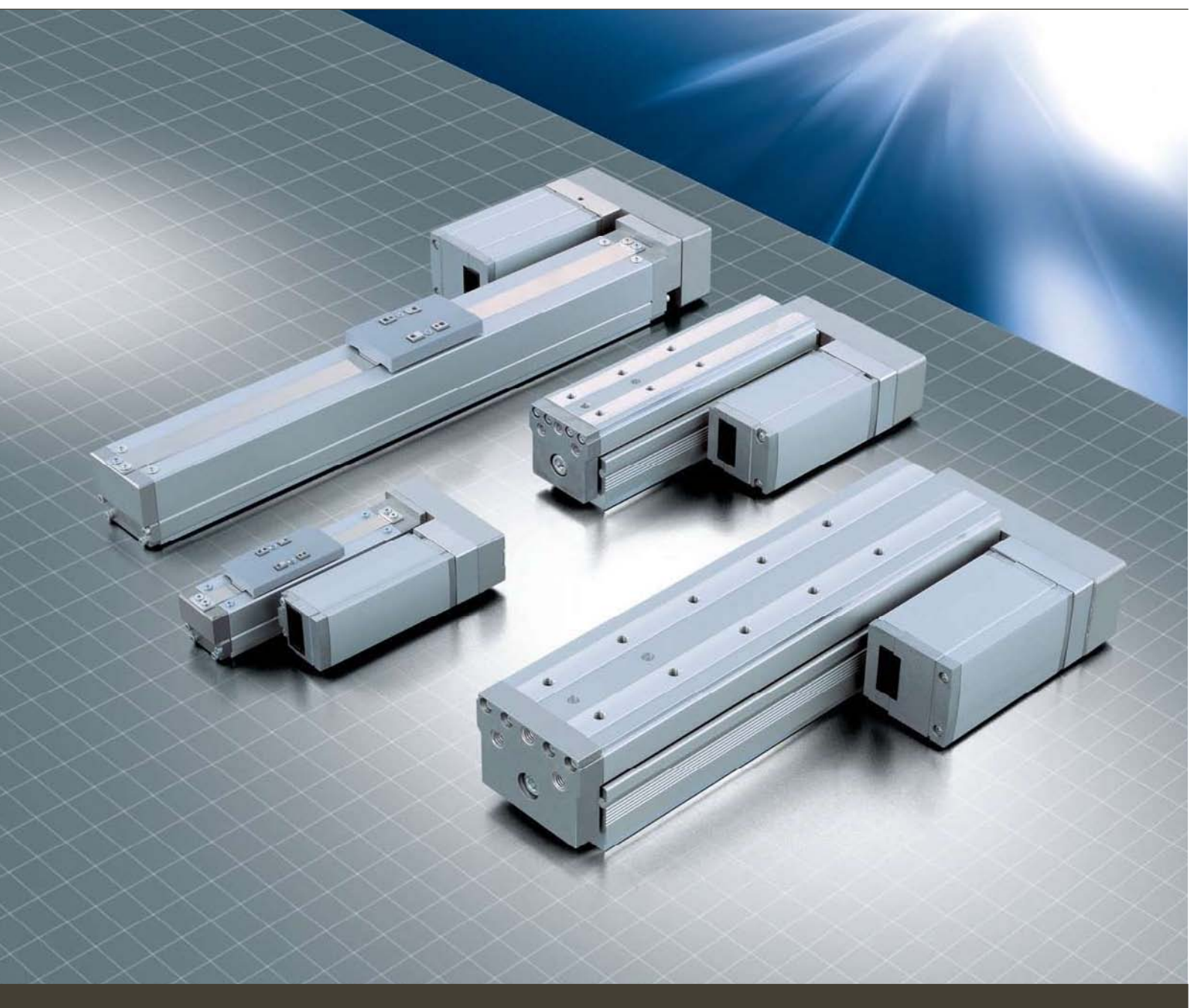
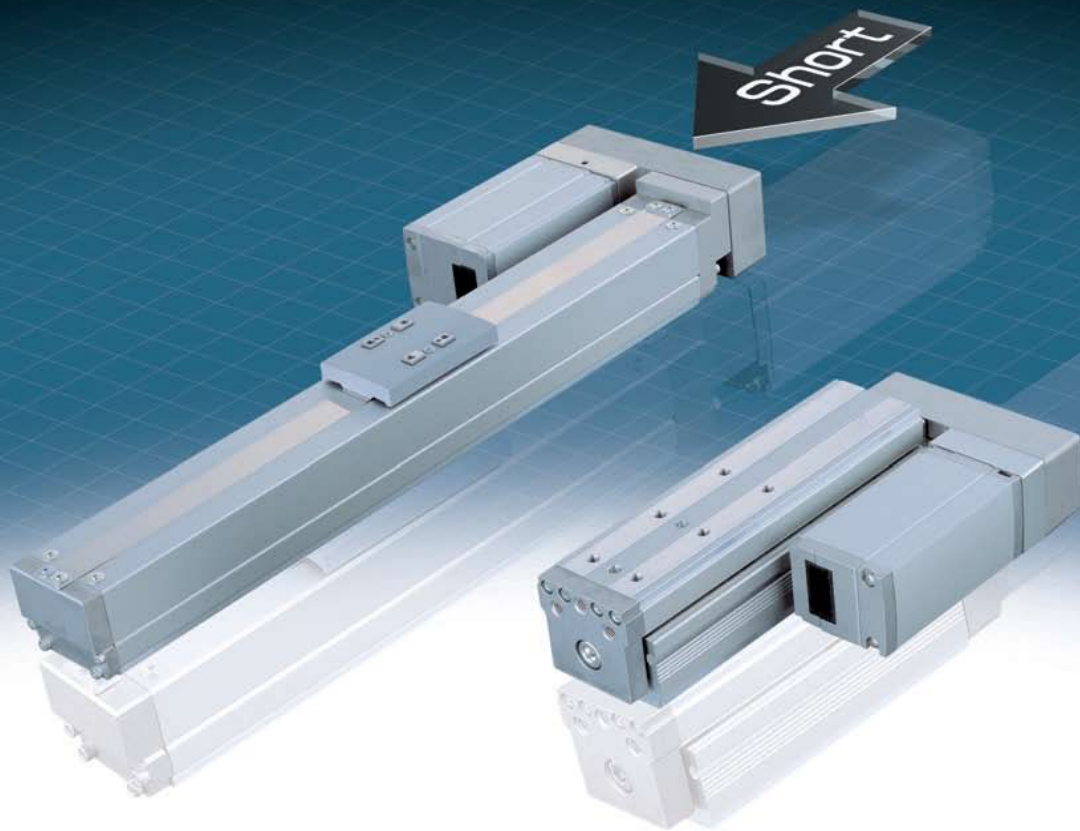


RoboCylinder
Motor-reversing Specification

RCP3/RCA2





Significantly Shorter Overall Length by Reversing the Motor Space-saving, Affordably Priced ROBO Cylinder RCP3/RCA2 Series

Space-saving The motor-reversing structure shortens the overall length by up to 85.5 mm.

1

The motor-reversing structure shortens the overall length by up to 85.5 mm and thereby reduces the actuator footprint. The motor-reversing direction can be selected from among the three options: right, left and downward*

*The downward-reversing specification is available as a customer order.

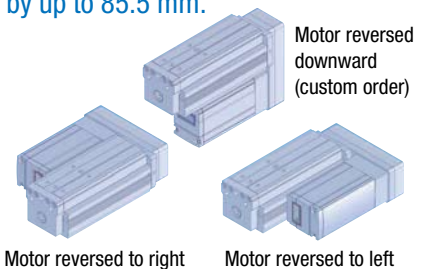
(RCP3-SA3C)



(RCP3-SA3R)



85.5 mm shorter



Motor reversed to right

Motor reversed to left

Affordably Priced The motor-reversing structure helps realize an affordable price.

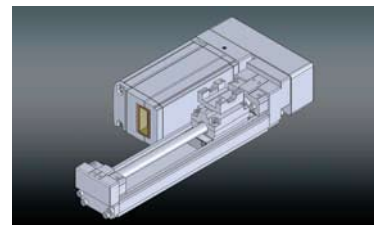
2

The RCP3/RCA2 series, complete with the guide, ball screw, servo motor, and motor-reversing structure, is available at an affordable price.

The slider type is also available without cover to further reduce the cost as an option.



Slider type/table type

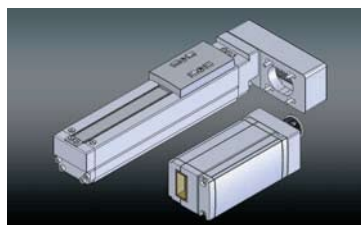


No cover type

Easy to Use The unitized motor design increases maintainability.

3

The unitized motor is easy to replace, which leads to significant improvement in maintainability.



Model Name Specifications

Slider Type

The model names of RCP3/RCA3 actuators consist of the items specified below.

For the details of each item, refer to the applicable explanation provided below. Although these items are common to all models, the selection ranges may vary depending on the model. For details, check the page explaining each actuator type.

Model Name Structure: **SA□R** — **I** — □ — □ — □ — □ — □ — □

① Series: RCP3 (Equipped with a pulse motor), RCA2 (Equipped with a servo motor)

② Type: SA (Actuator width 32 mm, motor-reversing specification), SA4R (Actuator width 40 mm, motor-reversing specification), SA5R (Actuator width 50 mm, motor-reversing specification), SA6R (Actuator width 60 mm, motor-reversing specification)

③ Encoder type: I (Incremental specification)

④ Motor type: 28P (28 motor), 35P (35 motor), 42P (42 motor), 10 (10-watt motor), 20 (20-watt motor), 30 (30-watt motor)

⑤ Lead: 2 (2 mm), 2.5 (2.5 mm), 3 (3 mm), 4 (4 mm), 5 (5 mm), 6 (6 mm), 8 (8 mm), 10 (10 mm), 12 (12 mm)

⑥ Stroke: 50 (50 mm), 600 (600 mm), Set in 50-mm pitch

⑦ Applicable controllers: P1 (PCON/RPCON/PSEL), A1 (ACON/RACON/ASEL)

⑧ Cable length: N (No cable), P (1 m), S (3 m), M (5 m), X□ (Specified length)

⑨ Options: B (Brake), LA (Power-saving feature (*1)), ML (Motor reversed to left (standard)), MR (Motor reversed to right), NCO (No cover), NM (Counter-home specification)

(*1) Available only with the RCA2 series.

Table Type

Model Name Structure: **TA□R** — **I** — □ — □ — □ — □ — □ — □

① Series: RCP3 (Equipped with a pulse motor), RCA2 (Equipped with a servo motor)

② Type: TA (Actuator width 55 mm, motor-reversing specification), TA6R (Actuator width 65 mm, motor-reversing specification), TA7R (Actuator width 75 mm, motor-reversing specification)

③ Encoder type: I (Incremental specification)

④ Motor type: 35P (35 motor), 42P (42 motor), 20 (20-watt motor), 30 (30-watt motor)

⑤ Lead: 2.5 (2.5 mm), 3 (3 mm), 5 (5 mm), 6 (6 mm), 10 (10 mm), 12 (12 mm)

⑥ Stroke: 25 (25 mm), 200 (200 mm), Set in 25-mm pitch

⑦ Applicable controllers: P1 (PCON/RPCON/PSEL), A1 (ACON/RACON/ASEL)

⑧ Cable length: N (No cable), P (1 m), S (3 m), M (5 m), X□ (Specified length)

⑨ Options: B (Brake), LA (Power-saving feature (*1)), ML (Motor reversed to left (standard)), MR (Motor reversed to right), NM (Counter-home specification)

(*1) Available only with the RCA2 series.

① Series

The name of each series is indicated.

② Type

The shape (slider, table, etc.), material (aluminum, steel, etc.), size (actuator width) and motor coupling method are indicated.

SA3R

S: Slider type / T: Table type

A: Made of aluminum

3: Actuator width 32 mm / 4: Actuator width 40 mm / 5: Actuator width 50 mm (slider type)/55 mm (table type) /

6: Actuator width 60 mm (slider type)/65 mm (table type) / 7: Actuator width 75 mm

C: Coupling specification / R: Motor-reversing specification

③ Encoder type

Whether the encoder installed in the actuator is of "A: Absolute specification" or "I: Incremental specification" is specified.

④ Motor type

The type of the motor installed in the actuator is indicated.

⑤ Lead

To be specific, the size of the pulse motor is indicated for the RCP3 series, while the motor wattage is indicated for the RCA2 series.

⑥ Stroke

The ball screw lead (distance traveled by the slider per each revolution of the ball screw) is indicated.

⑦ Applicable controllers

The operating range of the actuator is indicated.

⑧ Cable length

The settable controller type is indicated.

The length of the (integrated) motor/encoder cable connecting the actuator and controller is indicated.

⑨ Options

The standard motor/encoder cable for RCP2/RCA2 is a robot cable.

Each option to be installed in the actuator is indicated.

The energy-saving feature is available only with the RCA2 series.

The standard motor-reversing direction is left (ML), but the actuator can also be designed so that the motor reverses to right (MR). (Specify "ML" even when the standard reversing direction (left) need not be changed.)

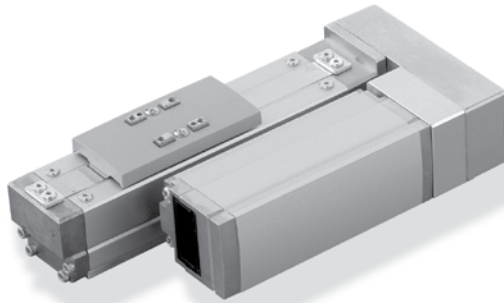
If you are selecting two or more options, specify them in an alphabetical order.

RCP3-SA3R

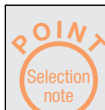
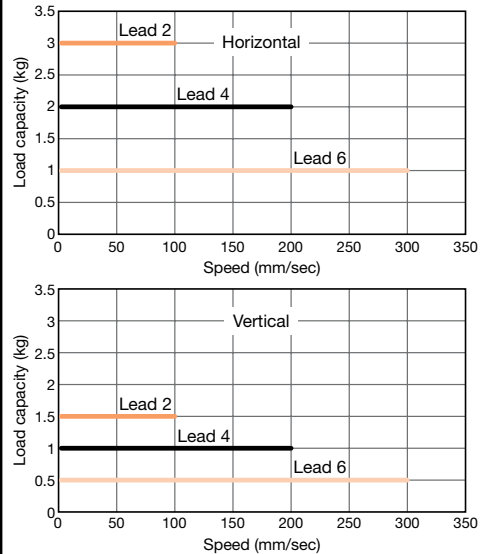
ROBO Cylinder, Slider Type, Actuator Width 32 mm, Pulse Motor, Motor-reversing Specification

Model Name	RCP3	SA3R	I	28P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	28P: Pulse motor □ 28 size	6: 6 mm 4: 4 mm 2: 2 mm	50: 50 mm 300: 300 mm (Set in 50-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m X□□: Specified length	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NCO: No cover NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



■ Correlation Diagrams of Speed and Load Capacity
Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- (1) Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- (2) The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 2 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-SA3R-I-28P-6-①-P1-②-③	6	1	0.5	15	50 ~ 300 (Set in 50-mm pitch)
RCP3-SA3R-I-28P-4-①-P1-②-③	4	2	1	22	
RCP3-SA3R-I-28P-2-①-P1-②-③	2	3	1.5	44	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm)	50 ~ 300 (Set in 50-mm pitch)
Lead (mm)	
6	300
4	200
2	100

(Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code	
	SA3R	
	Encoder type	
	Incremental	
	Actuator cover	
	With cover (standard)	No cover (optional)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
No cover	NCO	—	See above.
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—

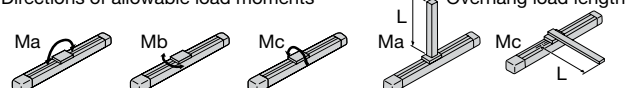
*The standard cable is an integrated motor/encoder cable, which is also a robot cable.
*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, φ6 mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 1.96N·m Mb: 2.84N·m Mc: 3.14N·m
Overhang load length	100 mm or less
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

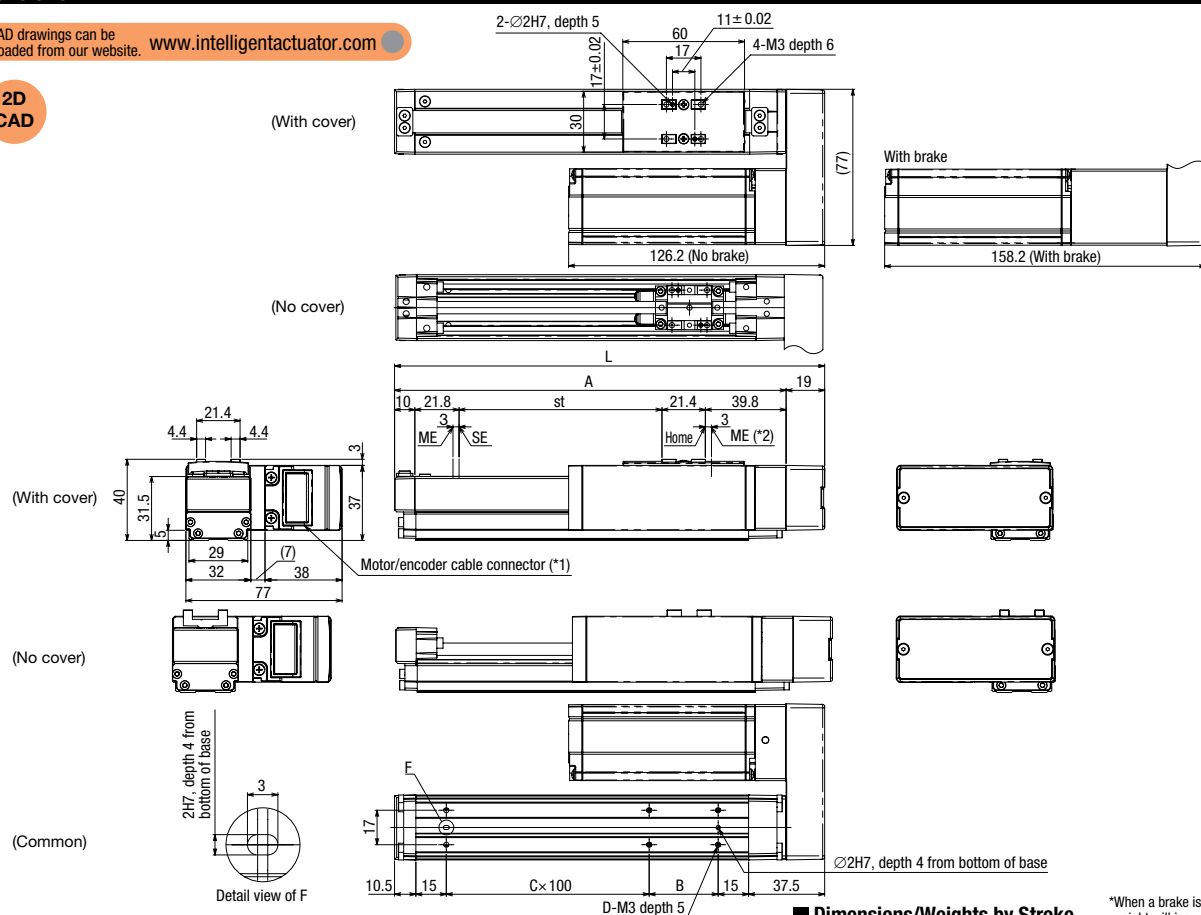
Directions of allowable load moments



Dimensions

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

2D
CAD



*When a brake is equipped, the weight will increase by 0.2 kg

■ Dimensions/Weights by Stroke

Stroke (mm)	50	100	150	200	250	300
L	162	212	262	312	362	412
A	143	193	243	293	343	393
B	84	34	84	34	84	34
C	0	1	1	2	2	3
D	4	6	6	8	8	10
Weight (kg)	With cover	0.8	0.8	0.9	1.0	1.0
	No cover	0.7	0.8	0.8	0.9	1.0

(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end
SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

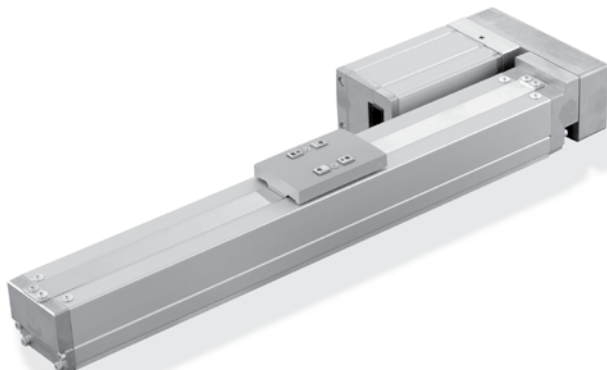
Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-28PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-28PI-NP-2-0					—	
Solenoid valve type		PCON-CY-28PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-28PI-NP-2-0	Pulse-train input type supporting differential line driver	(—)			—	
Pulse-train input type (open collector specification)		PCON-PO-28PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-28PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-28P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-28PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

*With PSEL controllers, the above information applies to the 1-axis specification.

RCP3-SA4R ROBO Cylinder, Slider Type, Actuator Width 40 mm, Pulse Motor, Motor-reversing Specification

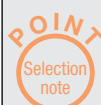
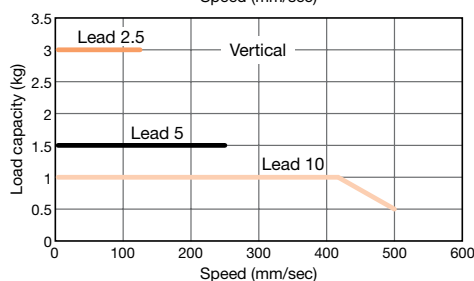
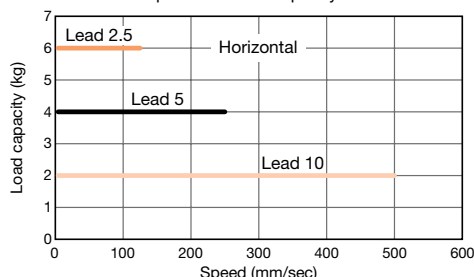
Model Name	RCP3	SA4R	I	35P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	35P: Pulse motor □ 35 size	10: 10 mm 5: 5 mm 2.5: 2.5 mm	50: 50 mm 400: 400 mm (Set in 50-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NCO: No cover NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



Correlation Diagrams of Speed and Load Capacity

Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 2.5 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity Horizontal (kg)	Maximum load capacity Vertical (kg)	Maximum push force (N)	Stroke (mm)
RCP3-SA4R-I-35P-10-①-P1-②-③	10	2	~1	34	50 ~ 400 (Set in 50-mm pitch)
RCP3-SA4R-I-35P-5-①-P1-②-③	5	4	1.5	68	
RCP3-SA4R-I-35P-2.5-①-P1-②-③	2.5	6	3	136	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm) Lead (mm)	50 ~ 400 (Set in 50-mm pitch)
10	500
5	250
2.5	125

(Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code	
	SA4R	
	Encoder type	
	Incremental	
	Actuator cover	
	With cover (standard)	No cover (optional)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
No cover	NCO	—	See above.
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

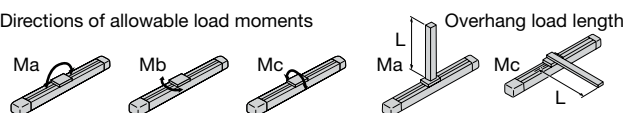
*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, φ8 mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 3.04N·m Mb: 4.31N·m Mc: 5.00N·m
Overhang load length	120 mm or less
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

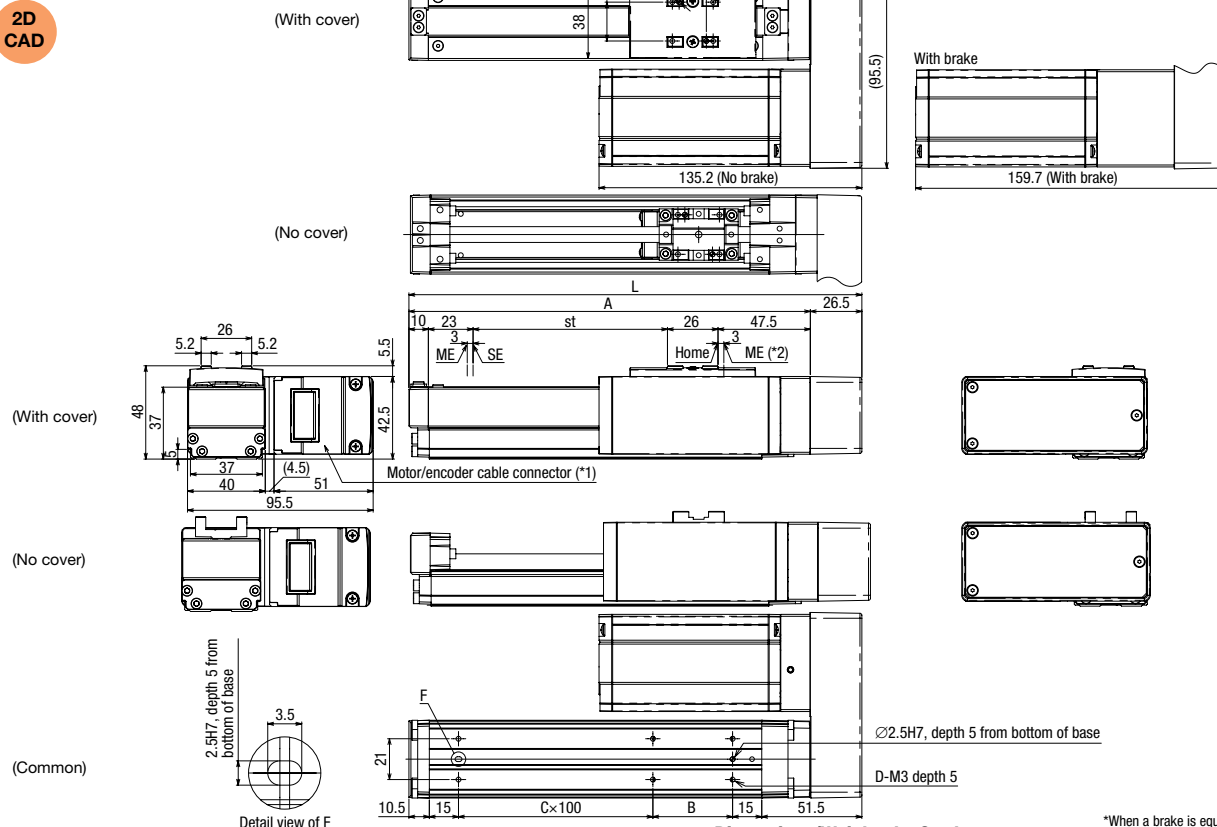
Directions of allowable load moments



Dimensions

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

2D
CAD



*When a brake is equipped, the weight will increase by 0.3 kg

Dimensions/Weights by Stroke

Stroke (mm)	50	100	150	200	250	300	350	400
L	183	233	283	333	383	433	483	533
A	156.5	206.5	256.5	306.5	356.5	406.5	456.5	506.5
B	91	41	91	41	91	41	91	41
C	0	1	1	2	2	3	3	4
D	4	6	6	8	8	10	10	12
Weight (kg)	With cover	1.1	1.2	1.3	1.4	1.5	1.6	1.7
	No cover	1.1	1.1	1.2	1.3	1.4	1.4	1.5

(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end
SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-35PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-35PI-NP-2-0					—	
Solenoid valve type		PCON-CY-35PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-35PI-NP-2-0	Pulse-train input type supporting differential line driver	(–)			—	
Pulse-train input type (open collector specification)		PCON-PO-35PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-35PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-35P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-35PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

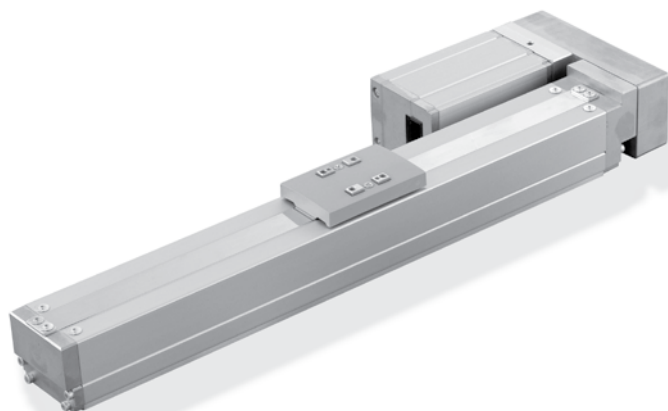
*With PSEL controllers, the above information applies to the 1-axis specification.

RCP3-SA5R

ROBO Cylinder, Slider Type, Actuator Width 50 mm, Pulse Motor, Motor-reversing Specification

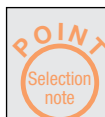
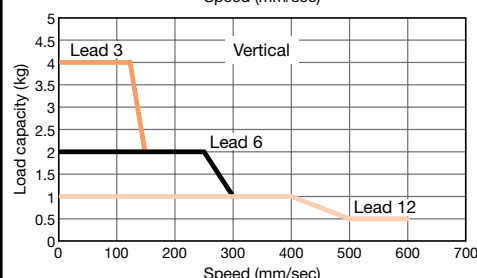
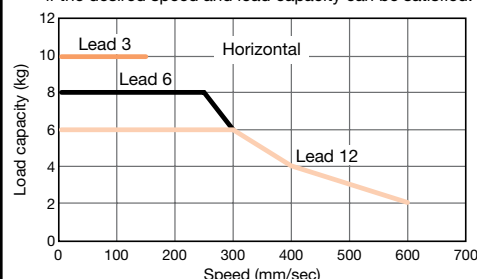
Model Name	RCP3	SA5R	I	42P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	42P: Pulse motor □ 42 size	12: 12 mm 6: 6 mm 3: 3 mm	50: 50 mm 500: 500 mm (Set in 50-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NCO: No cover NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



Correlation Diagrams of Speed and Load Capacity

Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- The load capacities are based on operation at an acceleration of 0.3 G (or 2 G when the lead is 3 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-SA5R-I-42P-12-①-P1-②-③	12	~6	~1	47	50 ~ 500 (Set in 50-mm pitch)
RCP3-SA5R-I-42P-6-①-P1-②-③	6	~8	~2	95	
RCP3-SA5R-I-42P-3-①-P1-②-③	3	10	~4	189	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm)	50 ~ 500 (Set in 50-mm pitch)
Lead (mm)	
12	600
6	300
3	150

(Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code	
	SA5R	
	Encoder type	
	Incremental	
	Actuator cover	
	With cover (standard)	No cover (optional)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
No cover	NCO	—	See above.
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
		—

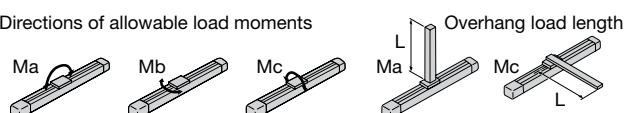
*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, $\phi 10$ mm, rolled C10
Positioning repeatability	± 0.05 mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 3.92N·m Mb: 5.58N·m Mc: 8.53N·m
Overhang load length	130 mm or less
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

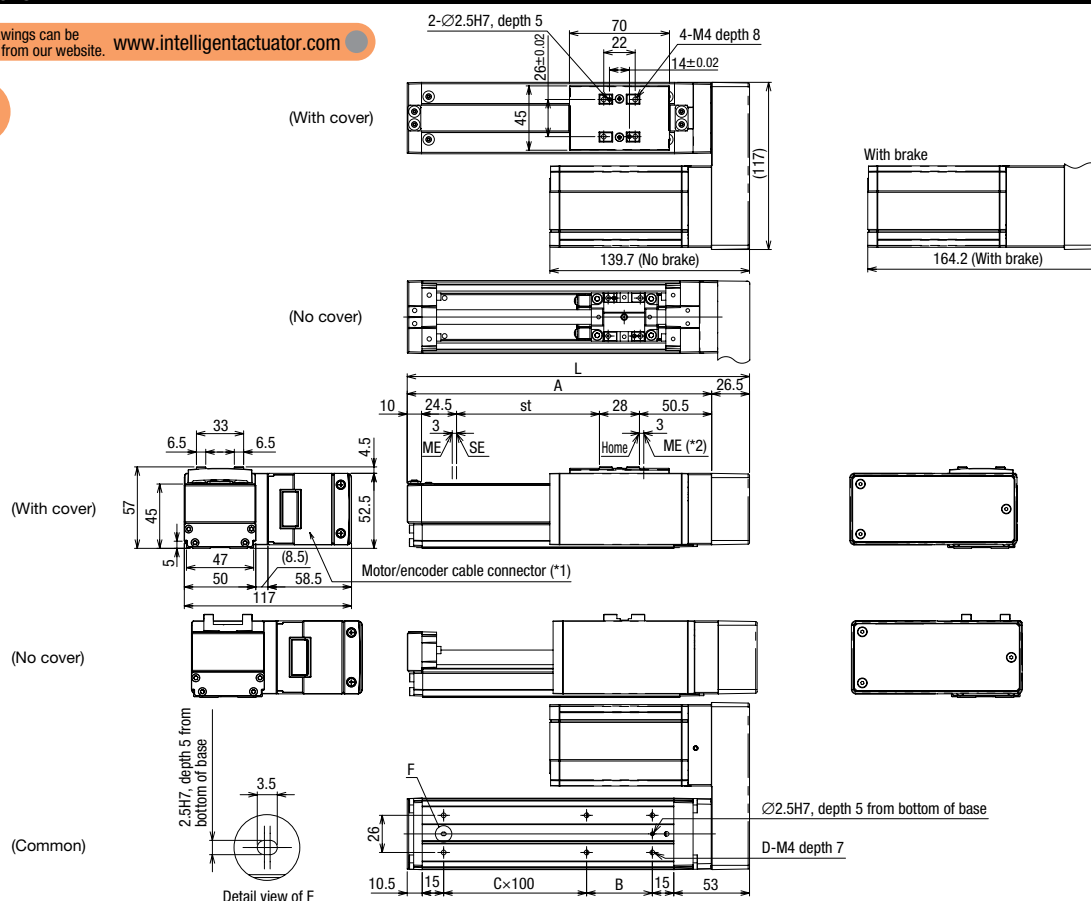
Directions of allowable load moments



Dimensions

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

2D
CAD



Dimensions/Weights by Stroke

*When a brake is equipped, the weight will increase by 0.4 kg

Stroke (mm)	50	100	150	200	250	300	350	400	450	500
L	189.5	239.5	289.5	339.5	389.5	439.5	489.5	539.5	589.5	639.5
A	163	213	263	313	363	413	463	513	563	613
B	96	46	96	46	96	46	96	46	96	46
C	0	1	1	2	2	3	3	4	4	5
D	4	6	6	8	8	10	10	12	12	14
Weight (kg)	With cover	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.9
	No cover	1.6	1.7	1.8	1.9	2.0	2.1	2.3	2.4	2.6

(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end

SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-42PI-NP-2-0					—	
Solenoid valve type		PCON-CY-42PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting differential line driver	(–)			—	
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-42PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-42P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-42PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

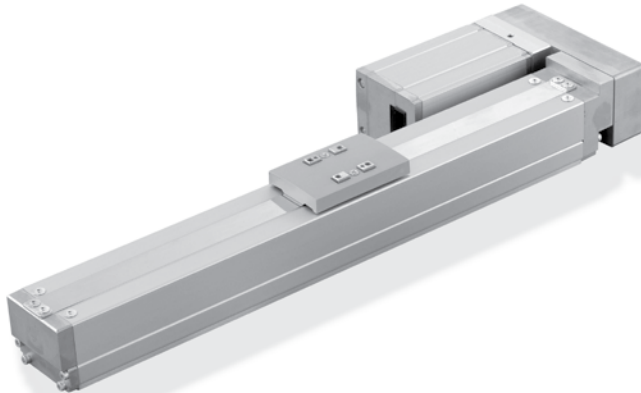
*With PSEL controllers, the above information applies to the 1-axis specification.

RCP3-SA6R

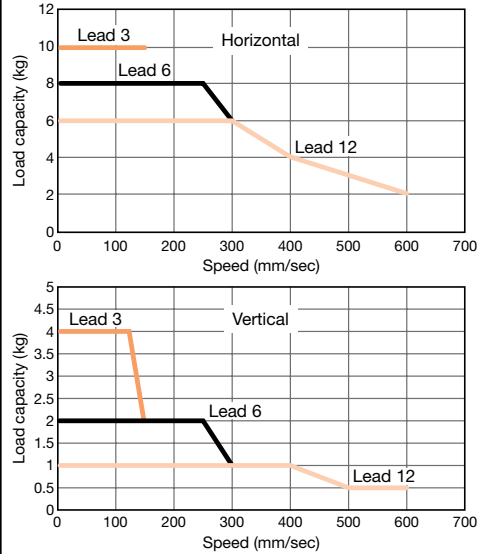
ROBO Cylinder, Slider Type, Actuator Width 60 mm, Pulse Motor, Motor-reversing Specification

Model Name	RCP3	SA6R	I	42P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	42P: Pulse motor □ 42 size	12: 12 mm 6: 6 mm 3: 3 mm	50: 50 mm 600: 600 mm (Set in 50-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NCO: No cover NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



■ **Correlation Diagrams of Speed and Load Capacity**
Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- (1) As the stroke increases, the maximum speed will drop to prevent the ball screw from reaching a dangerous speed. Use the actuator specification table below to check the maximum speed achieved at the desired stroke.
- (2) Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- (3) The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 3 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-SA6R-I-42P-12-①-P1-②-③	12	~6	~1	47	50 ~ 600 (Set in 50-mm pitch)
RCP3-SA6R-I-42P-6-①-P1-②-③	6	~8	~2	95	
RCP3-SA6R-I-42P-3-①-P1-②-③	3	10	~4	189	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm)	50 ~ 550 (Set in 50-mm pitch)	600
Lead (mm)		
12	600	540
6	300	270
3	150	135

(Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code	
	SA6R	
	Encoder type	
	Incremental	
	Actuator cover	
	With cover (standard)	No cover (optional)
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
No cover	NCO	—	See above.
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—

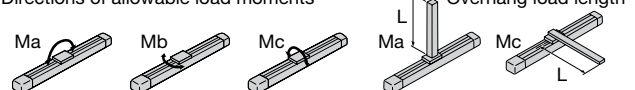
*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, $\phi 10$ mm, rolled C10
Positioning repeatability	± 0.05 mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 4.31N·m Mb: 6.17N·m Mc: 10.98N·m
Overhang load length	150 mm or less
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

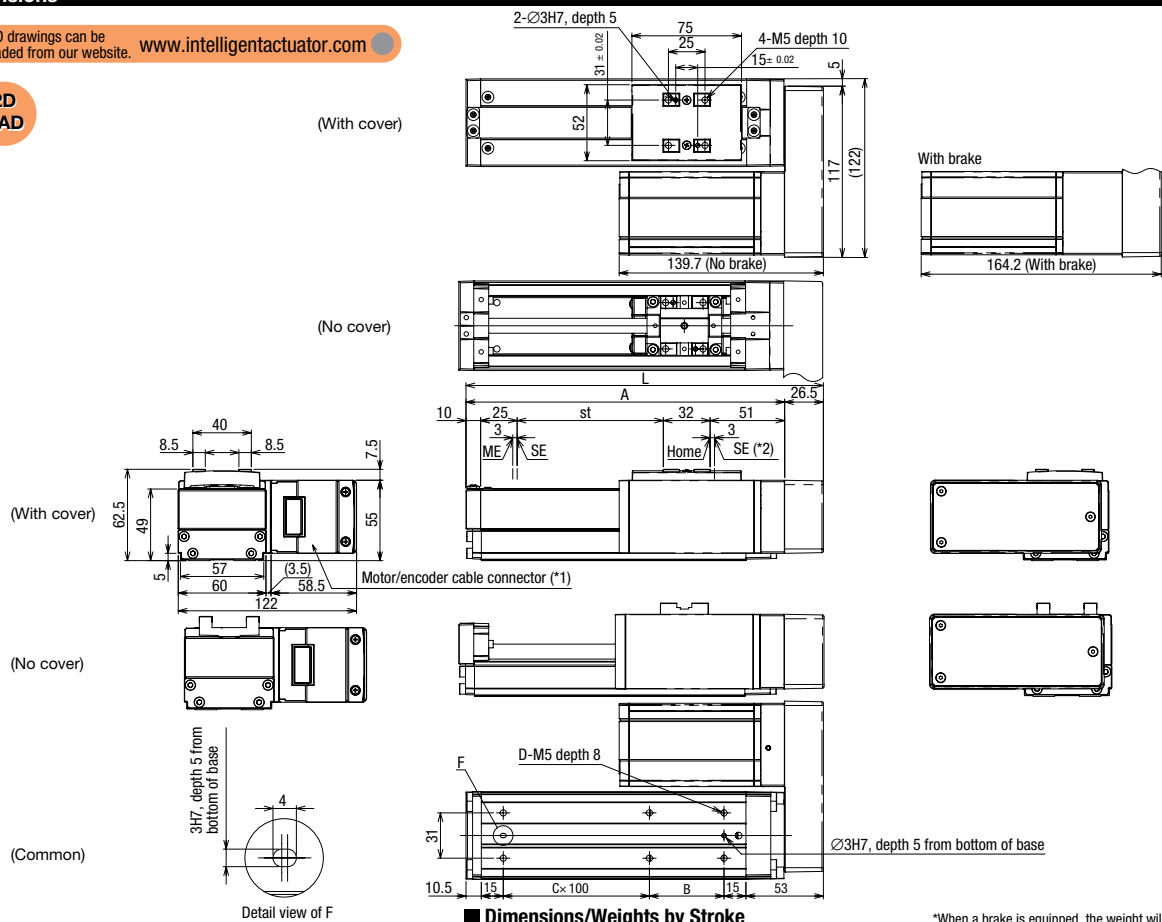
Directions of allowable load moments



Dimensions

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

2D
CAD



(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end

SE: Stroke end

■ Dimensions/Weights by Stroke

*When a brake is equipped, the weight will increase by 0.4 kg

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	
L	194.5	244.5	294.5	344.5	394.5	444.5	494.5	544.5	594.5	644.5	694.5	744.5	
A	168	218	268	318	368	418	468	518	568	618	668	718	
B	101	51	101	51	101	51	101	51	101	51	101	51	
C	0	1	1	2	2	3	3	4	4	5	5	6	
D	4	6	6	8	8	10	10	12	12	14	14	16	
Weight (kg)	With cover	1.9	2.1	2.3	2.4	2.6	2.8	3.0	3.1	3.3	3.5	3.6	3.8
	No cover	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.3	3.4

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-42PI-NP-2-0					—	
Solenoid valve type		PCON-CY-42PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting differential line driver	(—)			—	
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-42PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-42P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-42PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

*With PSEL controllers, the above information applies to the 1-axis specification.

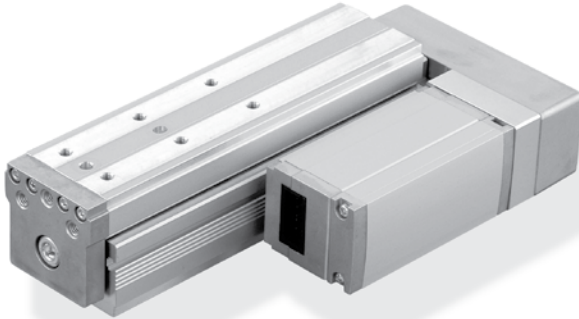
RCP3-TA5R

ROBO Cylinder, Table Type, Actuator Width 55 mm, Pulse Motor, Motor-reversing Specification

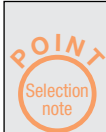
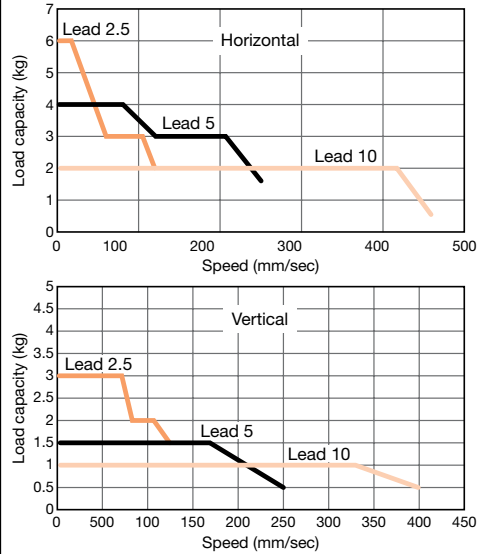
Model Name	RCP3	TA5R	I	35P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	35P: Pulse motor □ 35 size	10: 10 mm 5: 5 mm 2.5: 2.5 mm	25: 25 mm 100: 100 mm (Set in 25-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.

X□□: Specified length



■ Correlation Diagrams of Speed and Load Capacity
Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- (1) Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- (2) Take note that the maximum speed varies depending on whether the actuator is used horizontally or vertically.
- (3) The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 2.5 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-TA5R-I-35P-10-①-P1-②-③	10	~2	~1	34	25 ~ 100 (Set in 25-mm pitch)
RCP3-TA5R-I-35P-5-①-P1-②-③	5	~4	~1.5	68	
RCP3-TA5R-I-35P-2.5-①-P1-②-③	2.5	~6	~3	136	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm)	25 ~ 100 (Set in 25-mm pitch)
Lead (mm)	
10	465 <400>
5	250
2.5	125

*The value in <> applies when the actuator is used vertically. (Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code
	TA5R
	Encoder type
	Incremental
25	—
50	—
75	—
100	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—

*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, φ8 mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 6.57N·m Mb: 9.32N·m Mc: 14.32N·m
Overhang load length	Within the range of the applicable load moment
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

Directions of allowable load moments

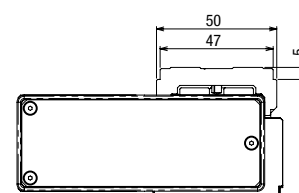
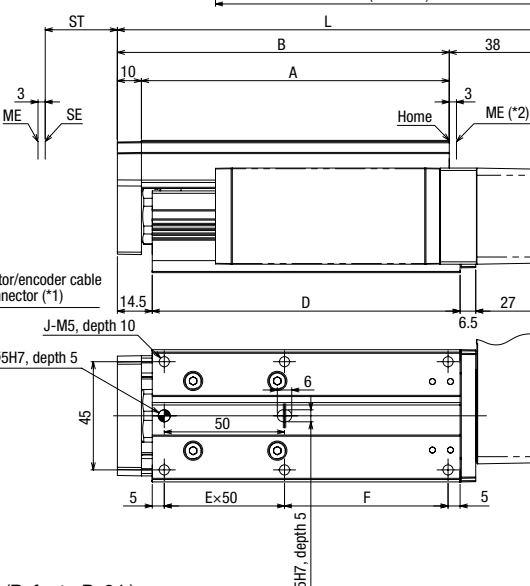
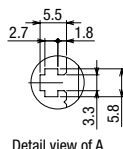
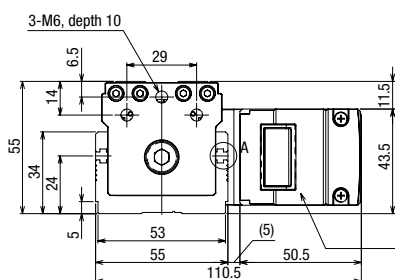
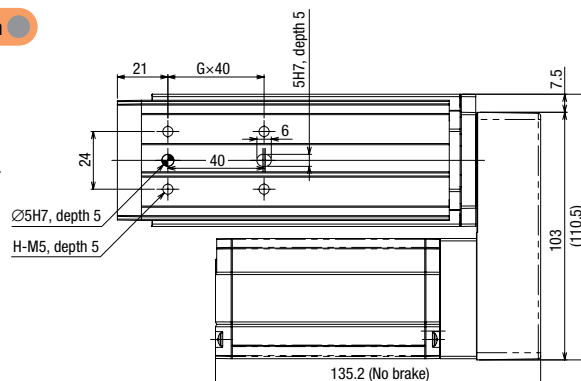
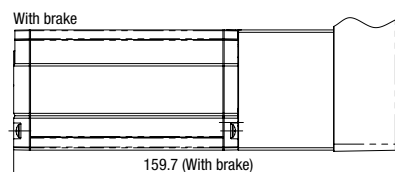


Dimensions

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

2D
CAD

* Take note that with a 25-stroke model with brake, the motor unit extends from the end face of the table.



Dimensions/Weights by Stroke

*When a brake is equipped, the weight will increase by 0.3 kg

Stroke (mm)	25	50	75	100
L	151	176	201	226
A	103	128	153	178
B	113	138	163	188
D	103	128	153	178
E	1	1	2	2
F	43	68	43	68
G	1	1	2	2
H	4	4	6	6
J	6	6	8	8
Weight (kg)	1.4	1.6	1.7	1.9

- (*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)
 (*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.
 ME: Mechanical end
 SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

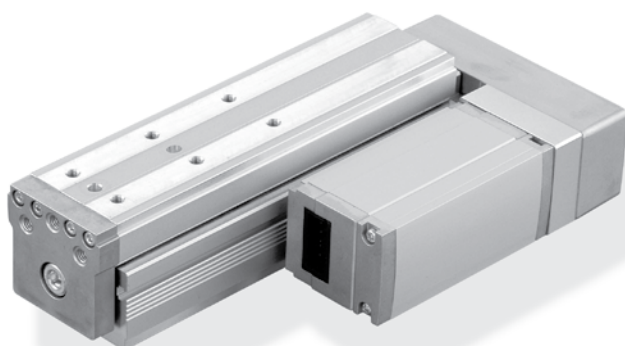
Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-35PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-35PI-NP-2-0					—	
Solenoid valve type		PCON-CY-35PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-35PI-NP-2-0	Pulse-train input type supporting differential line driver	(—)			—	
Pulse-train input type (open collector specification)		PCON-PO-35PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-35PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-35P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-35PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

*With PSEL controllers, the above information applies to the 1-axis specification.

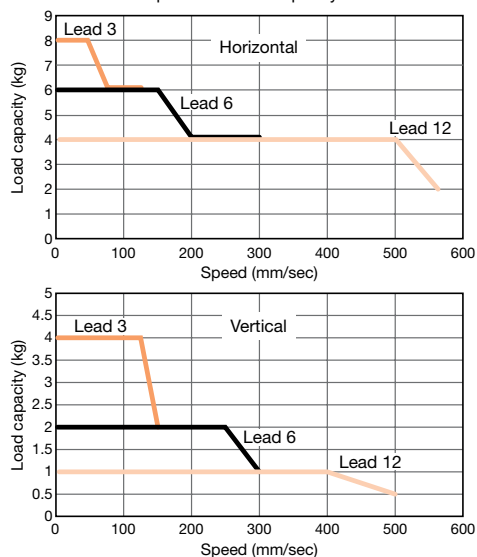
RCP3-TA6R ROBO Cylinder, Table Type, Actuator Width 65 mm, Pulse Motor, Motor-reversing Specification

Model Name	RCP3	TA6R	I	42P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	42P: Pulse motor □ 42 size	12: 12 mm 6: 6 mm 3: 3 mm	25: 25 mm 150: 150 mm (Set in 25-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m X□□: Specified length	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



■ **Correlation Diagrams of Speed and Load Capacity**
Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- (1) Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- (2) Take note that the maximum speed varies depending on whether the actuator is used horizontally or vertically.
- (3) The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 3 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

■ Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-TA6R-I-42P-12-①-P1-②-③	12	~4	~1	47	25 ~ 150 (Set in 25-mm pitch)
RCP3-TA6R-I-42P-6-①-P1-②-③	6	~6	~2	95	
RCP3-TA6R-I-42P-3-①-P1-②-③	3	~8	~4	189	

Explanation of codes: ① Stroke ② Cable length ③ Options

■ Strokes and Maximum Speeds

Stroke (mm)	25 ~ 150 (Set in 25-mm pitch)
Lead (mm)	
12	560 <500>
6	300
3	150

*The value in <> applies when the actuator is used vertically. (Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code
	TA6R
	Encoder type
	Incremental
25	—
50	—
75	—
100	—
125	—
150	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—

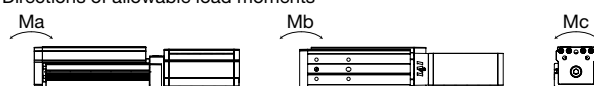
*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, $\phi 10$ mm, rolled C10
Positioning repeatability	± 0.05 mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 7.26N·m Mb: 10.3N·m Mc: 18.25N·m
Overhang load length	Within the range of the applicable load moment
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

Directions of allowable load moments

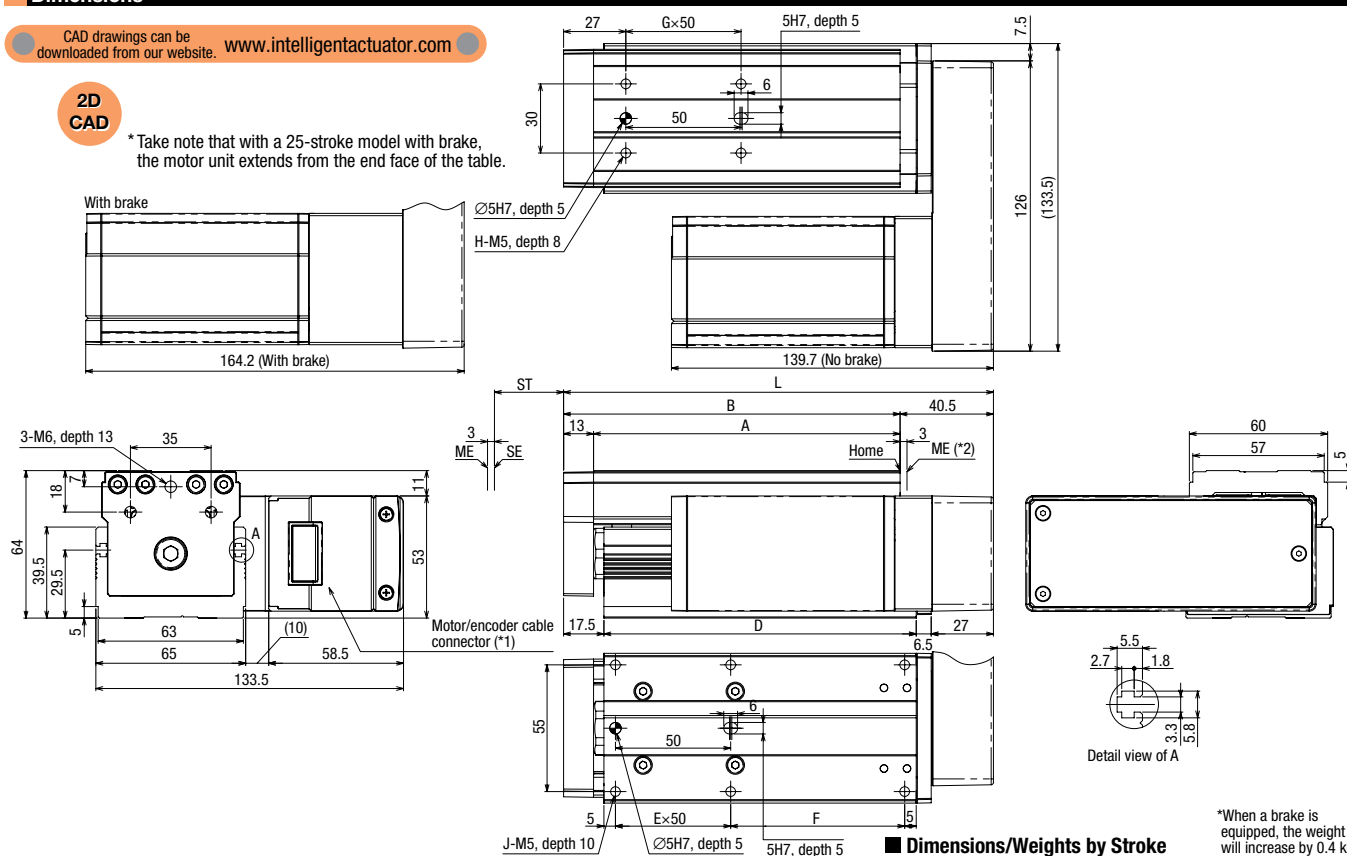


Dimensions

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

2D
CAD

*Take note that with a 25-stroke model with brake, the motor unit extends from the end face of the table.



*When a brake is equipped, the weight will increase by 0.4 kg

■ Dimensions/Weights by Stroke

Stroke (mm)	25	50	75	100	125	150
L	161.5	186.5	211.5	236.5	261.5	286.5
A	108	133	158	183	208	233
B	121	146	171	196	221	246
D	110.5	135.5	160.5	185.5	210.5	235.5
E	1	1	2	2	3	3
F	50.5	75.5	50.5	75.5	50.5	75.5
G	1	1	2	2	3	3
H	4	4	6	6	8	8
J	6	6	8	8	10	10
Weight (kg)	2.1	2.3	2.5	2.7	2.9	3.1

(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end

SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-42PI-NP-2-0					—	
Solenoid valve type		PCON-CY-42PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting differential line driver	(—)			—	
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-42PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-42P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-42PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

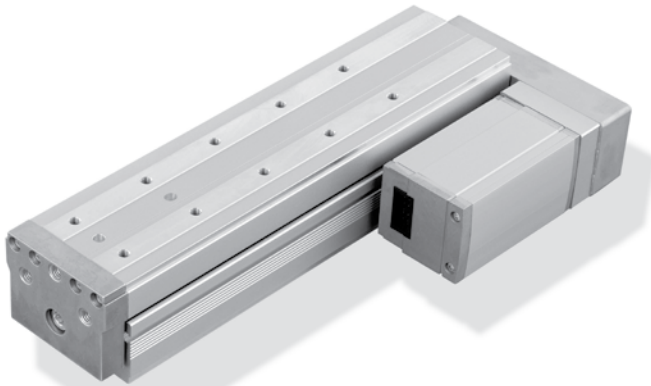
*With PSEL controllers, the above information applies to the 1-axis specification.

RCP3-TA7R

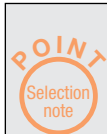
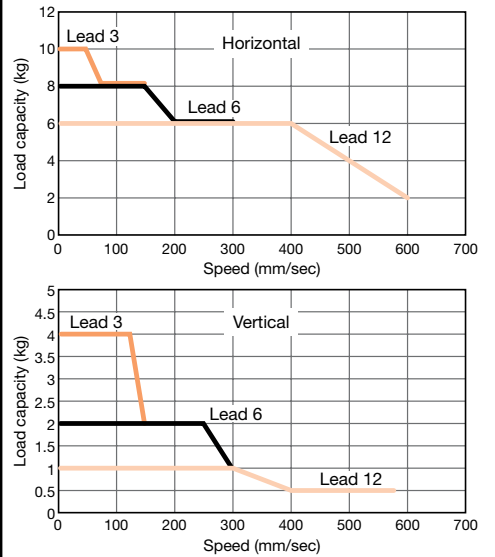
ROBO Cylinder, Table Type, Actuator Width 75 mm, Pulse Motor, Motor-reversing Specification

Model Name	RCP3	TA7R	I	42P			P1		
Specifications	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controllers	Cable length	Options
			I: Incremental specification	42P: Pulse motor □ 42 size	12: 12 mm 6: 6 mm 3: 3 mm	25: 25 mm 200: 200 mm (Set in 25-mm pitch)	P1: PCON PSEL	N: None P: 1 m S: 3 m M: 5 m X□□: Specified length	B: With brake ML: Motor reversed to left (standard) MR: Motor reversed to right NM: Counter-home specification

*For details on the items comprising the model name, refer to P. 2.



■ Correlation Diagrams of Speed and Load Capacity
Due to the characteristics of the pulse motor installed inside, the RCP3 series allows the load capacity to drop as the speed increases. Use the graphs below to check if the desired speed and load capacity can be satisfied.



- (1) Since the RCP3 series uses a pulse motor, its load capacity drops as the speed increases. Use the correlation diagrams of speed and load capacity provided on the right to check the load capacity achieved at the desired speed.
- (2) Take note that the maximum speed varies depending on whether the actuator is used horizontally or vertically.
- (3) The load capacities are based on operation at an acceleration of 0.3 G (or 0.2 G when the lead is 3 or the actuator is used vertically). The acceleration cannot be increased beyond this level.

Actuator Specifications

Strokes and Maximum Speeds

Model	Lead (mm)	Maximum load capacity		Maximum push force (N)	Stroke (mm)
		Horizontal (kg)	Vertical (kg)		
RCP3-TA7R-I-42P-12-①-P1-②-③	12	~6	~1	47	25 ~ 200 (Set in 25-mm pitch)
RCP3-TA7R-I-42P-6-①-P1-②-③	6	~8	~2	95	
RCP3-TA7R-I-42P-3-①-P1-②-③	3	~10	~4	189	

Explanation of codes: ① Stroke ② Cable length ③ Options

Strokes and Maximum Speeds

Stroke (mm)	25 ~ 200 (Set in 25-mm pitch)
Lead (mm)	
12	600 <580>
6	300
3	150

*The value in <> applies when the actuator is used vertically. (Unit: mm/sec)

① Price List by Stroke (Standard Prices)

① Stroke (mm)	Type code
	TA7R
	Encoder type
	Incremental
25	—
50	—
75	—
100	—
125	—
150	—
175	—
200	—

③ Price List of Options (Standard Prices)

Name	Option code	Reference page	Standard price
With brake	B	—	—
Motor reversed to left (standard)	ML	—	Free of charge
Motor reversed to right	MR	—	Free of charge
Counter-home specification	NM	—	Free of charge

② Price List by Cable Length (Standard Prices)

Type	Model	Standard price
Standard type (robot cable)	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—

*Refer to P. 34 for the cables sold separately for maintenance purposes.

Actuator Specifications

Item	Description
Drive method	Ball screw, $\phi 10$ mm, rolled C10
Positioning repeatability	± 0.05 mm
Lost motion	0.1 mm or less
Base	Material: Aluminum with dedicated alumite treatment
Dynamic allowable load moment (*1)	Ma: 9.91 N·m Mb: 14.13 N·m Mc: 28.65 N·m
Overhang load length	Within the range of the applicable load moment
Surrounding air temperature/humidity	0 to 40°C, 85%RH or below (non-condensing)
Traveling life	5000 km

(*1) Refer to the RCP3/RCA2 Coupling Specification catalog for the moment load calculation.

Directions of allowable load moments

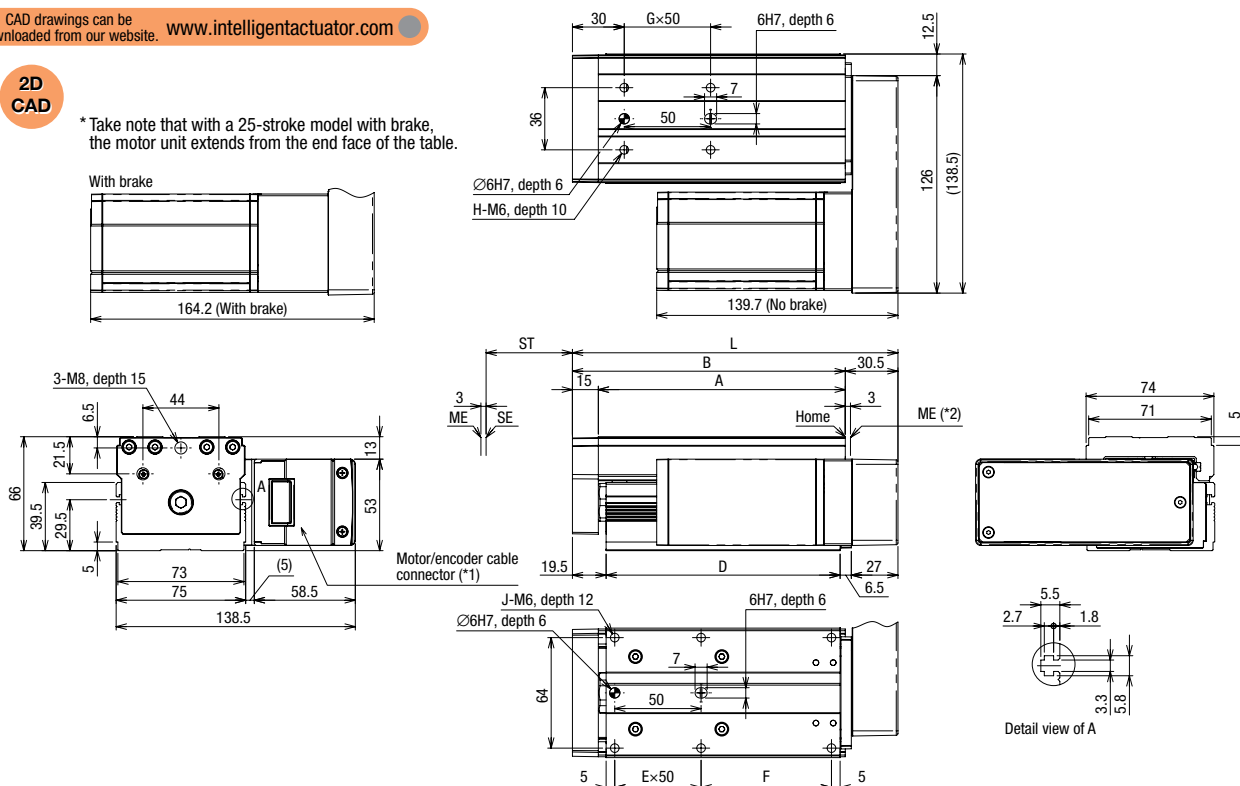


Dimensions

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

2D
CAD

* Take note that with a 25-stroke model with brake, the motor unit extends from the end face of the table.



■ Dimensions/Weights by Stroke

*When a brake is equipped, the weight will increase by 0.4 kg

Stroke (mm)	25	50	75	100	125	150	175	200
L	163.5	188.5	213.5	238.5	263.5	288.5	313.5	338.5
A	118	143	168	193	218	243	268	293
B	133	158	183	208	233	258	283	308
D	110.5	135.5	160.5	185.5	210.5	235.5	260.5	285.5
E	1	1	2	2	3	3	4	4
F	50.5	75.5	50.5	75.5	50.5	75.5	50.5	75.5
G	1	1	2	2	3	3	4	4
H	4	4	6	6	8	8	10	10
J	6	6	8	8	10	10	12	12
Weight (kg)	2.4	2.6	2.8	3.1	3.3	3.5	3.7	3.9

(*1) An integrated motor/encoder cable is provided. (Refer to P. 34.)

(*2) The slider will move to the ME after home return, so pay attention to possible contact with surrounding structures/parts.

ME: Mechanical end

SE: Stroke end

Controllers

Applicable Controllers

RCP3-series actuators can be operated with any of the following controllers. Select a controller type appropriate for your specific application.

Name	Appearance	Model	Feature	Maximum number of positioning points	Power-supply voltage	Power-supply capacity	Standard price	Reference page
Positioner type		PCON-C-42PI-NP-2-0	Up to 512 positioning points are supported	512	DC24V	2 A max.	—	→P31
Positioner type conforming to safety category		PCON-CG-42PI-NP-2-0					—	
Solenoid valve type		PCON-CY-42PI-NP-2-0	Operable with the same control you use when operating a solenoid valve	3			—	
Pulse-train input type (differential line driver specification)		PCON-PL-42PI-NP-2-0	Pulse-train input type supporting differential line driver	(—)			—	
Pulse-train input type (open collector specification)		PCON-PO-42PI-NP-2-0	Pulse-train input type supporting open collector				—	
Serial communication type		PCON-SE-42PI-N-0-0	Dedicated serial communication type	64			—	
Field network type		RPCON-42P	Dedicated field network type	768			—	
Program control type		PSEL-C-1-42PI-NP-2-0	Up to 2 axes can be operated using programs	1500			—	

*With PSEL controllers, the above information applies to the 1-axis specification.

RCP3/RCA2 Controllers

Model List/Prices

Model	PCON/ACON					RPCON PACON (ROBONET)	PSEL/ASEL
	C	CG	CY	PL/PO	SE		
Name	Positioner type	Safety category type	Solenoid valve type	Pulse-train control type	Serial communication type	Field network type	Program type
Appearance							
Feature	Positioner controller supporting up to 512 positioning points	Specification conforming to safety category	Operable with the same control you use when operating an air cylinder	Freely controllable using pulse trains	Dedicated controller for serial communication	Operable via DeviceNet, CC-Link or Profibus	Capable of operating an actuator via programs using the built-in sequence function
Price	-	-	-	-	-	- (*1)	- (*2)

(*1) A gateway unit (sold separately) is required for RPCON/ACON controllers.

(*2) 1-axis specification.

Model

[PCON/ACON Controllers]

PCON/ACON - [] - [] - [] - [] - **O** - []

Type Motor/encoder type I/O type I/O cable length Power-supply voltage Simple absolute unit

C Positioner type	28PI RCP3-SA3R	NP NPN specification (standard)	0 No cable (SE type)	0 DC24V	ABU Simple absolute unit used
CG Safety category type	35PI RCP3-SA4R/TA5R	PN PNP specification	2 2 m		None Simple absolute unit not used
CY Solenoid valve type	42PI RCP3-SA5R/SA6R/TA6R/TA7R	N No I/O (SE type)	3 3 m		
PL Pulse-train control type (differential receiver type)	10I RCA2-SA3R		5 5 m		
PO Pulse-train control type (open collector type)	20SI RCA2-SA4R/TA5R				
SE Serial communication type	20I RCA2-SA5R/TA6R				
	30I RCA2-SA6R/TA7R				

[RPCON Controllers]

RPCON/RACON - [] - []

Motor type Simple absolute unit

28P RCP3-SA3R	ABU Simple absolute unit used
35P RCP3-SA4R/TA5R	None Simple absolute unit not used
42P RCP3-SA5R/SA6R/TA6R/TA7R	
10 RCA2-SA3R	
20S RCA2-SA4R/TA5R	
20 RCA2-SA5R/TA6R	
30 RCA2-SA6R/TA7R	

*To use a RPCON controller, you need a gateway unit to connect the controller to a network. For details, refer to the ROBONET catalog.

[PSEL Controllers]

PSEL/ASEL - **C** - [] - [] - [] - [] - [] - **O**

Number of connected axes Motor/encoder type (axis 1) Motor/encoder type (axis 2) I/O type I/O cable length Power-supply voltage

1 1-axis specification	28PI RCP3-SA3R	10I RCA2-SA3R	NP NPN specification (standard)	0 No cable	0 DC24V
2 2-axis specification	28PIB RCP3-SA3R with brake	10IB RCA2-SA3R with brake	PN PNP specification		
	35PI RCP3-SA4R/TA5R	20SI RCA2-SA4R/TA5R		2 2 m	
	35PIB RCP3-SA4R/TA5R with brake	20SIB RCA2-SA4R/TA5R with brake		3 3 m	
	42PI RCP3-SA5R/SA6R/TA6R/TA7R	20I RCA2-SA5R/TA6R		5 5 m	
	42PIB RCP3-SA5R/SA6R/TA6R/TA7R with brake	20IB RCA2-SA5R/TA6R with brake			
		30I RCA2-SA6R/TA7R			
		30IB RCA2-SA6R/TA7R with brake			

*If the controller is of 1-axis specification, the information of the second axis need not be specified.

Specification Table

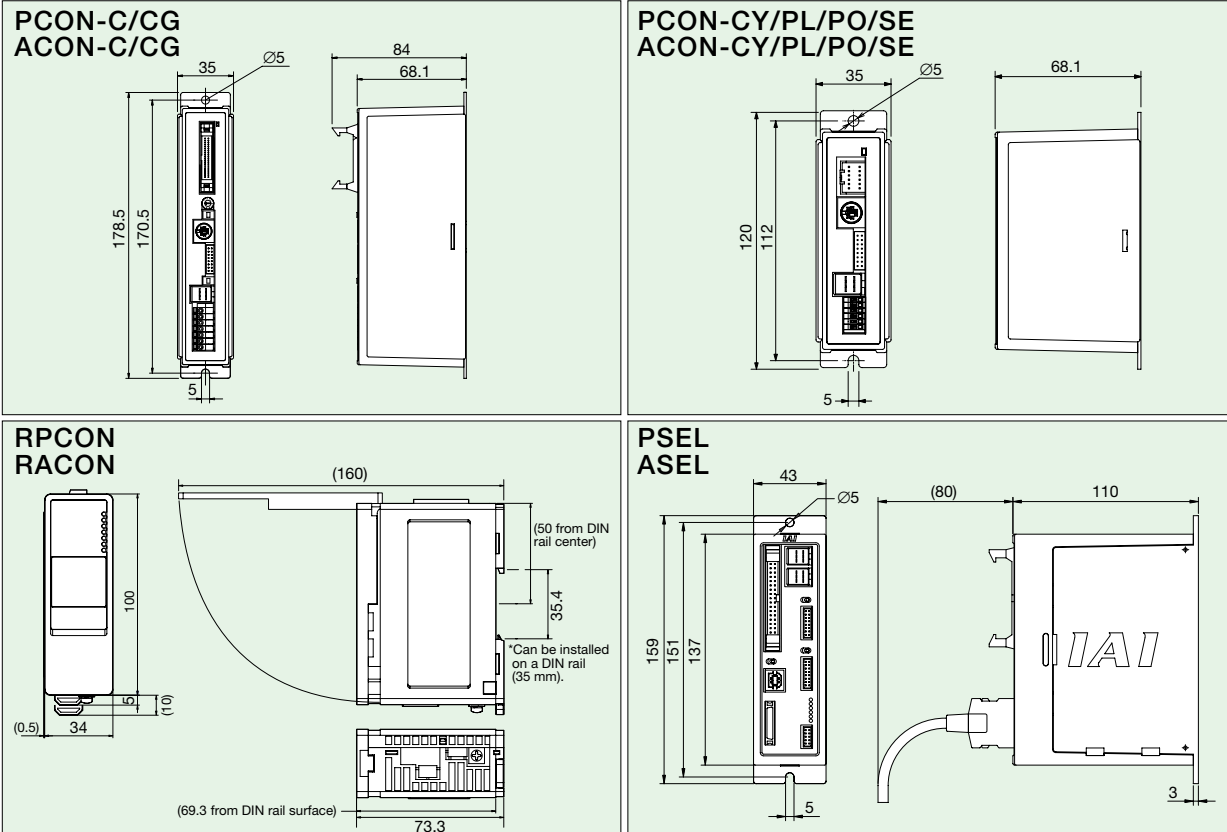
Item		Specification							
Controller type		PCON/ACON					RPCON/RACON (ROBONET)	PSEL/ASEL	
		C	CG	CY	PL	PO			SE
Maximum number of controlled axes		1 axis					Up to 16 axes can be linked and operated	2 axes	
Operation method		Positioner type		Solenoid valve	Pulse-train input type		Serial communication type	Field network	Program
Number of positioning points		512		3	—		64	768	1500
I/O connector		40-pin connector		12-pin connector	14-pin connector		—	—	34-pin connector
Number of I/O points		16 input points/ 16 output points		4 input points/ 6 output points	4 input points/4 output points		—	—	24 input points/ 8 output points
Serial communication		RS485 (Modbus RTU)							RS232
Peripheral communication cable		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		—			200 kpps	60 kpps	—		
Position detection method		Incremental encoder							
Motor/encoder cable		CB-PCS-MPA□□□(PCON)/CB-ACS-MPA□□□(ACON) (up to 20 m)							
Input power supply		DC24V±10%							
Power-supply capacity	RCP3 (all models)		2 A max.					2 A max. (*1)	5.5 A max.
	RCA2	SA5	1.3 A rated / 4.4 A max. (standard specification)					(*2)	(*3)
		TA6 (20W)	1.3 A rated / 2.5 A max. (power-saving specification)						
		SA3, SA6	1.3 A rated / 4.0 A max. (standard specification)					(*2)	(*3)
		TA7 (30W)	1.3 A rated / 2.2 A max. (power-saving specification)						
SA4, TA5 (20W)	1.3 A rated / 5.1 A max. (standard specification) 1.3 A rated / 3.4 A max. (power-saving specification)					(*2)	(*3)		
Withstand voltage		DC500V 1 MΩ							500 VDC, 10 MΩ or more
Surrounding air temperature/humidity and environment		0 to 40°C, 10 to 95% (non-condensing); not subject to corrosive gasses							
Protection degree		IP20							
Weight		Approx. 300 g			Approx. 130 g			Approx. 200 g	Approx. 450 g

(*1) The current consumed during operation is the sum of (2 A x Number of controllers used) and the current consumption of the gateway unit (approx. 0.6 A).

(*2) The required power-supply capacity of a RACON controller is the sum of (Power-supply capacity of ACON x Number of controllers used) and the current consumption of the gateway unit (approx. 0.6 A).

(*3) The required power-supply capacity of an ASEL controller is the sum of (Power-supply capacity of ACON x Number of controllers used) and the control power-supply current (approx. 1.2 A).

External Dimensions



Controller Options

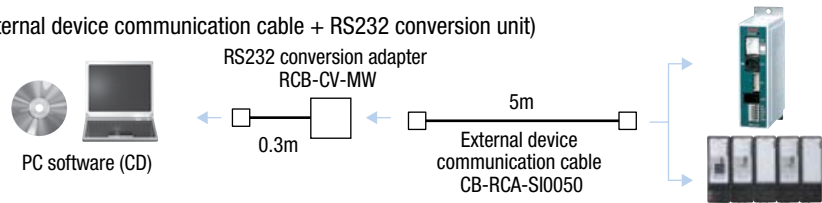
[Teaching Pendants] These teaching devices offer functions to input positions, conduct test operation, perform monitoring, and more.

Item	RCM-E	RCM-P	CON-T	SEL-T-J	SEL-TD-J
External dimensions					
Applicable controllers	PCON/ACON/RPCON/RACON			PSEL/ASEL	
Position input	○	○	○	○	○
Program input	×	×	×	○	○
Actuator operation	○	×	○	○	○
Display	LCD display of 16 characters x 2 lines			LCD display of 20 characters x 4 lines	
3-position enable switch	×	×	×	×	○
ANSI compliance	×	×	×	×	○
CE Mark compliance	×	×	○	○	○
UL compliance	×	×	×	×	○
Cable length	5m				
Surrounding air temperature/humidity	Temperature: 0 to 40°C / Humidity: 85%RH or below				
Protection degree	IP54				
Weight	Approx. 400 g	Approx. 360 g	Approx. 400 g	Approx. 400 g	Approx. 400 g
Standard price	—	—	—	—	—

[PC Software (for Windows)] Features Offering functions to input programs/positions, conduct test operation, perform monitoring, and more, these software programs assist you in the startup of your system. The debugging function has been enhanced to shorten the startup time further.

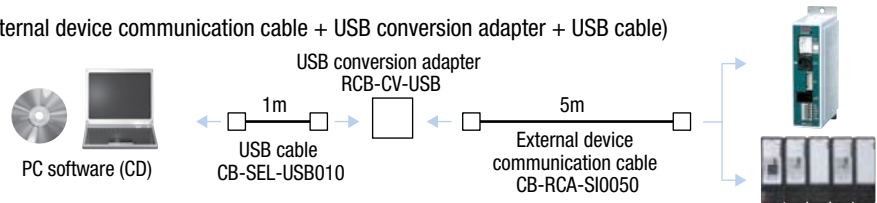
[PCON/ACON/RPCON/RACON PC Software (RS232 Connection Type)]

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



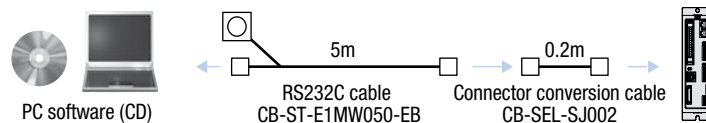
[PCON/ACON/RPCON/RACON PC Software (USB Connection Type)]

- Model RCM-101-USB (with external device communication cable + USB conversion adapter + USB cable)
- Configuration



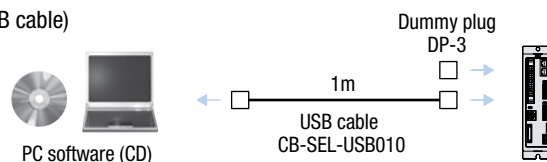
[PSEL/ASEL PC Software (RS232 Connection Type)]

- Model IA-101-X-MW-J (with RS232C cable + connector conversion cable)
- Configuration



[PSEL/ASEL PC Software (USB Connection Type)]

- Model IA-101-X-USB (with USB cable)
- Configuration



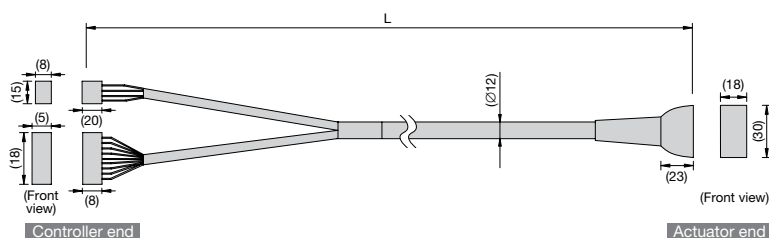
Maintenance Parts

[Motor/Encoder Cables]

RCP3 Motor/Encoder Cables

Model **CB-PCS-MPA**

*Indicate a desired cable length (L) up to 20 m in
Example) 080 = 8 m



Signal	Pin number	(Cable color)	Pin number	Signal
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
			A5	BK+
			B5	BK-
			A6	LS+
			B6	LS-
			A7	A+
			B7	A-
			A8	B+
			B8	B-
			A9	NC
			B9	VPS
			A10	VCC
			B10	GND
			A11	NC
			B11	FG

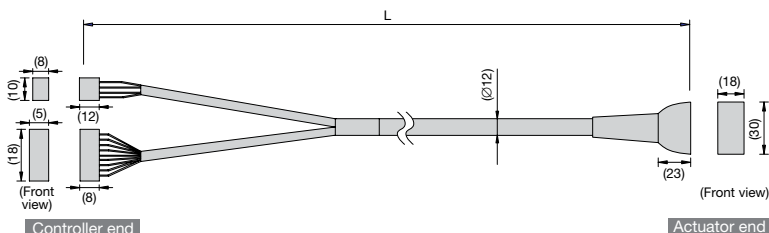
BK+	14	Pink (red dot)
BK-	13	Pink (blue dot)
LS+	16	White (red dot)
LS-	15	White (blue dot)
A+	12	Orange (red dot)
A-	11	Orange (blue dot)
B+	10	Gray (red dot)
B-	9	Gray (blue dot)
NC	8	
VPS	7	
VCC	6	Orange (continuous blue dots)
GND	5	Gray (continuous red dots)
NC	4	Gray (continuous blue dots)
FG	1	

Shield

RCA2 Motor/Encoder Cables

Model **CB-ACS-MPA**

*Indicate a desired cable length (L) up to 20 m in
Example) 080 = 8 m



Signal	Pin number	(Cable color)	Pin number	Signal
U	1	Red	A1	U
V	2	Yellow	B1	V
W	3	Black	A2	W
			B2	NC
			A3	NC
			B3	NC
			A4	BK+
			B4	BK-
			A5	LS+
			B5	LS-
			A6	A+
			B6	A-
			A7	B+
			B7	B-
			A8	Z+
			B8	Z-
			A9	-
			B9	/PS
			A10	VCC
			B10	GND
			A11	NC
			B11	FG

BK+	16	Yellow (red dot)
BK-	15	Yellow (blue dot)
LS+	18	Pink (red dot)
LS-	17	Pink (blue dot)
A+	14	White (red dot)
A-	13	White (blue dot)
B+	12	Orange (red dot)
B-	11	Orange (blue dot)
Z+	10	Gray (red dot)
Z-	9	Gray (blue dot)
-	8	
/PS	7	Orange (continuous red dots)
VCC	6	Orange (continuous blue dots)
GND	5	Gray (continuous red dots)
NC	4	Gray (continuous blue dots)
FG	1	

Shield

[Motor Units]

Axis type			Motor Units			
			No brake		With brake	
			Model	Standard price	Model	Standard price
RCP3	Slider type	SA3R	RCP3-MU1B	-	RCP3-MU1B-B	-
		SA4R	RCP3-MU2B	-	RCP3-MU2B-B	-
		SA5R	RCP3-MU3B	-	RCP3-MU3B-B	-
	Table type	SA6R	RCP3-MU3B	-	RCP3-MU3B-B	-
		TA5R	RCP3-MU2B	-	RCP3-MU2B-B	-
		TA6R	RCP3-MU3B	-	RCP3-MU3B-B	-
RCA2	Slider type	TA7R	RCP3-MU3B	-	RCP3-MU3B-B	-
		SA3R	RCA2-MU1B	-	RCA2-MU1B-B	-
		SA4R	RCA2-MU2B	-	RCA2-MU2B-B	-
	Table type	SA5R	RCA2-MU3B	-	RCA2-MU3B-B	-
		SA6R	RCA2-MU4B	-	RCA2-MU4B-B	-
		TA5R	RCA2-MU2B	-	RCA2-MU2B-B	-
		TA6R	RCA2-MU3B	-	RCA2-MU3B-B	-
		TA7R	RCA2-MU4B	-	RCA2-MU4B-B	-

RCP3 & RCA2 AR Series
Catalogue No. 0808-E

The information contained in this catalog is
subject to change without notice for the purpose
of product improvement



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Ihr Partner für IAI-Produkte:
Schlüter Automation und Sensorik GmbH
Bergstr. 2
D-79674 Todtnau

Tel.: +49 (0) 7671 99256 - 0 Fax: -50

Hotline: 0180-2-LINEAR (6 ct./Anruf)

E-Mail: anfragen@schlueter-automation.de

www.linearachsensysteme.de