RCP2-RTC/RTCL

ROBO Cylinder, Rotary, Medium Flat Type, Actuator Width 88mm, Pulse Motor

Model Specification Items

RCP2 — ☐ — I — 28P — ☐ — ☐ — ☐ — ☐ — ☐

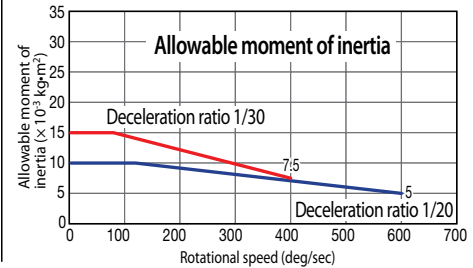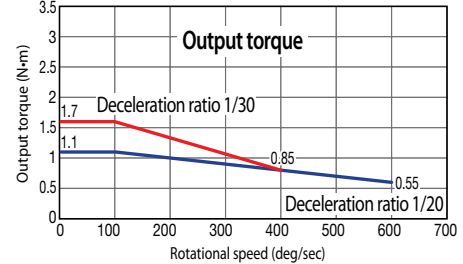| Series	Type	Encoder type	Motor type	Deceleration Ratio	Oscillation Angle	Applicable controller	Cable length	Options
	RTC: 330-deg rotation RTCL: Multiple rotation	I: Incremental * The Simple absolute encoder is also considered type "I".	28P: Pulse motor, 28☐ size	20: 1/20 deceleration ratio 30: 1/30 deceleration ratio	330: 330-degrees (RTC only) 360: 360-degrees (RTCL only)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M:5m X☐☐: Custom length R☐☐: Robot cable	NM: Non-motor end SA: Shaft adapter TA: Table adapter

* See page Pre-47 for details on the model descriptions.

CE RoHS

Technical References 👉 Appendix P.5

POINT — Notes on selection

(1) The output torque decreases as the rotational speed increases. Check the Output Torque graph on the right to see whether the speed required for your desired motion is supported.

(2) The allowable moment of inertia of the rotated work piece varies with the rotational speed. Check the Allowable Moment of Inertia graph on the right to see if the moment of inertia required for your desired motion is within the allowable range.

(3) The rated acceleration while moving is 0.3G.

(4) Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

■ **Speed vs. Load Capacity**

Due to the characteristics of the pulse motor, the RCP2 series' load capacity decreases at high speeds. In the table below, check if your desired speed and load capacity are supported.

Output torque

Deceleration ratio 1/30
Deceleration ratio 1/20

Allowable moment of inertia

Deceleration ratio 1/30
Deceleration ratio 1/20

Actuator Specifications

■ Leads and Payload

Model number	Deceleration Ratio	Max. Torque (N·m)	Allowable Movement of Inertia (kg·m²)	Oscillation Angle (deg)
RCP2-RTC-I-28P-20-330-①-②-③	1/20	1.1	0.01	330
RCP2-RTC-I-28P-30-330-①-②-③	1/30	1.7	0.015	
RCP2-RTCL-I-28P-20-360-①-②-③	1/20	1.1	0.01	360
RCP2-RTCL-I-28P-30-360-①-②-③	1/30	1.7	0.015	

Code explanation ① Applicable Controller ② Cable Length ③ Options

■ Deceleration Ratio and Max. Speed

Deceleration ratio \ Stroke	330/360 (deg)
1/20	600
1/30	400

(Unit: degrees/s)

Stroke

Type	Oscillation Angle (deg)	Standard price
RTC	330	—
RTCL	360	—

② Cable Length

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

* See page A-59 for cables for maintenance.

③ Options

Name	Option code	See page	Standard price
Reversed-rotation	NM	→ A-52	—
Shaft adapter	SA	→ A-54	—
Table adapter	TA	→ A-56	—

Actuator Specifications

Item	Description
Drive System	Hypoid gear
Positioning repeatability	±0.01 degrees
Homing accuracy	±0.01 degrees (RTC) / ±0.05 (RTCL)
Lost motion	±0.1 degrees
Allowable thrust load	50N
Allowable load moment	3.9 N·m
Weight	0.92kg
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Side tabs: Slider Type | Mini | Standard | Controllers Integrated | Rod Type | Mini | Standard | Controllers Integrated | Table/Arm/Flat Type | Mini | Standard | Gripper/Rotary Type | Linear Servo Type | Clean-room Type | Splash-Proof Type | Pulse Motor | Servo Motor (24V) | Servo Motor (200V) | Linear Servo Motor

RCP2 ROBO Cylinder

Slider Type
Mini
Standard
Controllers Integrated
Rod Type
Mini
Standard
Controllers Integrated
Table/ Arm/ Flat Type
Mini
Standard
Gripper/ Rotary Type
Linear Servo Type
Clean-room Type
Splash-Proof Type
Pulse Motor
Servo Motor (24V)
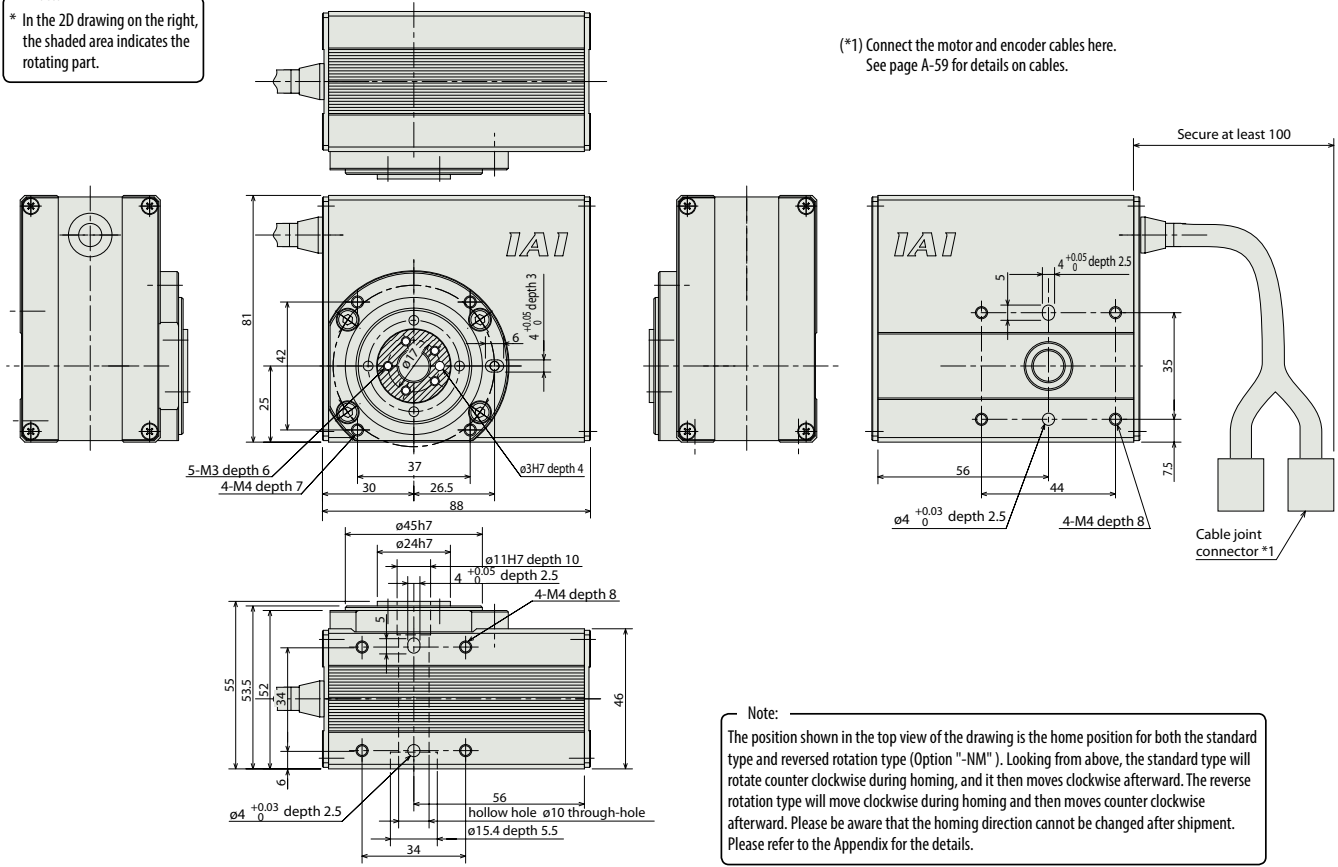Servo Motor (200V)
Linear Servo Motor

■ Dimensional Drawings

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

2D CAD   **3D CAD**

Note:
* In the 2D drawing on the right, the shaded area indicates the rotating part.

For Special Orders ☞ Appendix P.15

(*1) Connect the motor and encoder cables here. See page A-59 for details on cables.

Secure at least 100

IAI

IAI

4 +0.05 0 depth 2.5

5

35

7.5

56

44

ø4 +0.03 0 depth 2.5   4-M4 depth 8

Cable joint connector *1

5-M3 depth 6
4-M4 depth 7

37
30   26.5
88

6   4 +0.05 0 depth 3

ø3H7 depth 4

81
42
25

ø45h7
ø24h7

ø11H7 depth 10
4 +0.05 0 depth 2.5
4-M4 depth 8

55
53.5
52
34
34

5

6

46

ø4 +0.03 0 depth 2.5
34

56
hollow hole ø10 through-hole
ø15.4 depth 5.5

Note:
The position shown in the top view of the drawing is the home position for both the standard type and reversed rotation type (Option "-NM"). Looking from above, the standard type will rotate counter clockwise during homing, and it then moves clockwise afterward. The reverse rotation type will move clockwise during homing and then moves counter clockwise afterward. Please be aware that the homing direction cannot be changed after shipment. Please refer to the Appendix for the details.

*The bend radius R of the cable is the same as other models.

Weight (kg)	0.92

■ ① Applicable Controllers

RCP2 series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		PMEC-C-28PI-①-2-⑪	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
		PSEP-C-28PI-①-2-0	Simple controller operable with the same signal as a solenoid valve		DC24V	Refer to P555	—	→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-⑪-~-①-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected			Refer to P572	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-⑪-~-⑭-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected	256 points			—	
Positioner type High-output specification		PCON-CA-28PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points		Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-28PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)			—	
Field network type High-output specification		PCON-CA-28PI-⑭-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points			—	
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28PI-①-2-0	Pulse train input type with differential line driver support	(—)		Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-28PI-①-2-0	Pulse train input type with open collector support				—	
Serial Communication Type		PCON-SE-28PI-N-0-0	Dedicated Serial Communication	64 points			—	
Program Control Type		PSEL-CS-1-28PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points		Refer to P671	—	→ P665

* This is for the single-axis PSEL.   * ① indicates I/O type (NP/PN).   * ⑪ indicates power supply voltage (1: 100V / 2: 100~240V).
* ⑪ indicates number of axes (1 to 8).   * ⑭ indicates field network specification symbol.   * □ indicates N (NPN specification) or P (PNP specification) symbol.