RCP2-RTCS/RTCSL

ROBO Cylinder, Rotary, Small Flat Type, Actuator Width 72mm, Pulse Motor

Model Specification Items

RCP2 — ☐ — I — 20P — ☐ — ☐ — ☐ — ☐ — ☐

Series	Type	Encoder type	Motor type	Deceleration Ratio	Oscillation Angle	Applicable controller	Cable length	Options
	RTCS: 330-deg rotation RTCSL: Multiple rotation	I: Incremental * The Simple absolute encoder is also considered type "I".	20P: Pulse motor, 20☐ size	30: 1/30 deceleration ratio 45: 1/45 deceleration ratio	330: 330-degrees (RTCS only) 360: 360-degrees (RTCSL only)	P1: PCON-PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP	N: None P: 1m S: 3m M:5m X☐☐:Custom length	NM: Non-motor end SA: Shaft adapter TA: Table adapter

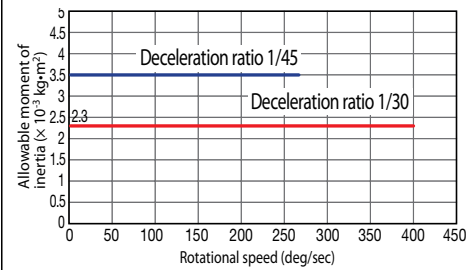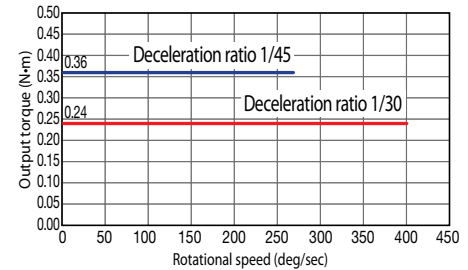* See page Pre-47 for details on the model descriptions.

CE RoHS

■ 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.

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 0.2G.
(4) Please note that the PMEC/PSEP controllers cannot be used when performing infinite rotation with the multiple rotation type.

Actuator Specifications

■ Leads and Payload

Model number	Deceleration Ratio	Max. Torque (N·m)	Allowable Movement of Inertia (kg·m²)	Oscillation Angle (deg)
RCP2-RTCS-I-20P-30-330-①-②-③	1/30	0.24	0.0023	330
RCP2-RTCS-I-20P-45-330-①-②-③	1/45	0.36	0.0035	330
RCP2-RTCSL-I-20P-30-360-①-②-③	1/30	0.24	0.0023	360
RCP2-RTCSL-I-20P-45-360-①-②-③	1/45	0.36	0.0035	360

■ Deceleration Ratio and Max. Speed

Stroke Deceleration ratio	330/360 (deg)
1/30	400
1/45	266

(Unit: degrees/s)

Code explanation ① Applicable Controller ② Cable Length ③ Options

Stroke

Type	Oscillation Angle (deg)	Standard price
RTCS	330	—
RTCSL	360	—

② Cable Length

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

* The standard cable is the motor-encoder integrated robot cable.
* 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	±0.05 degrees
Homing accuracy	±0.05 degrees
Lost motion	±0.1 degrees
Allowable thrust load	30N
Allowable load moment	3.6 N·m
Weight	0.48kg
Ambient operating temperature, humidity	0 to 40℃, 85% RH or less (Non-condensing)

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**

For Special Orders ☞ Appendix P.15

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

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

Secure at least 100

Cable joint connector *1

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.

Weight (kg)	0.48

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-20PI-①-2-⑪	Easy-to-use controller, even for beginners	3 points	AC100V AC200V	Refer to P541	—	→ P537
Solenoid Valve Type		PSEP-C-20PI-①-2-0	Simple controller operable with the same signal as a solenoid valve	3 points	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		DC24V	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	DC24V	Refer to P572	—	→ P563
Positioner type High-output specification		PCON-CA-20PI-①-2-0	Equipped with a high-output driver Positioner type based on PIO control	512 points	DC24V	Refer to P618	—	→ P607
Pulse-train type High-output specification		PCON-CA-20PI-PL□-2-0	Equipped with a high-output driver Pulse-train input type	(—)	DC24V	Refer to P618	—	→ P607
Field network type High-output specification		PCON-CA-20PI-⑭-0-0	Equipped with a high-output driver Supporting 7 major field networks	768 points	DC24V	Refer to P618	—	→ P607
Pulse Train Input Type (Differential Line Driver)		PCON-PL-20PI-①-2-0	Pulse train input type with differential line driver support	(—)	DC24V	Refer to P628	—	→ P623
Pulse Train Input Type (Open Collector)		PCON-PO-20PI-①-2-0	Pulse train input type with open collector support	(—)	DC24V	Refer to P628	—	→ P623
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated Serial Communication	64 points	DC24V	Refer to P628	—	→ P623
Program Control Type		PSEL-CS-1-20PI-①-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	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).
* ⑫ indicates number of axes (1 to 8). * ⑭ indicates field network specification symbol. * □ indicates N (NPN specification) or P (PNP specification) symbol.

IAI

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