PCON

■ Model C / CG / CY / PL / PO / SE

Position controller
for RCP2 series

Type List

Position controller capable of operating RCP2 series actuator. Select from five types each supporting a different control mode.

Type	C	CG	CY	PL / PO	SE
Name	Positioner type	Safety category type	Solenoid valve type	Pulse-train control type	Serial communication type
External view					
Description	Positioner supporting up to 512 positioning points	C type conforming to safety category	Same control actions as those used on air cylinders	Controller for pulse-train control	Network controller
Number of position points	512 points	512 points	3 points	—	64 points
	—	—	—	—	—

Model

PCON — Series | Type | Motor type | Encoder type **I** | Standard I/O | I/O cable length | Power-supply voltage **0**

C	Positioner type
CG	Safety category type
CY	Solenoid valve type
SE	Serial communication type
PL	Pulse-train control type (differential receiver type)
PO	Pulse-train control type (open collector type)

20P	20 square pulse motor type
28P	28 square pulse motor type
42P	42 square pulse motor type
56P	56 square pulse motor type

I	Incremental

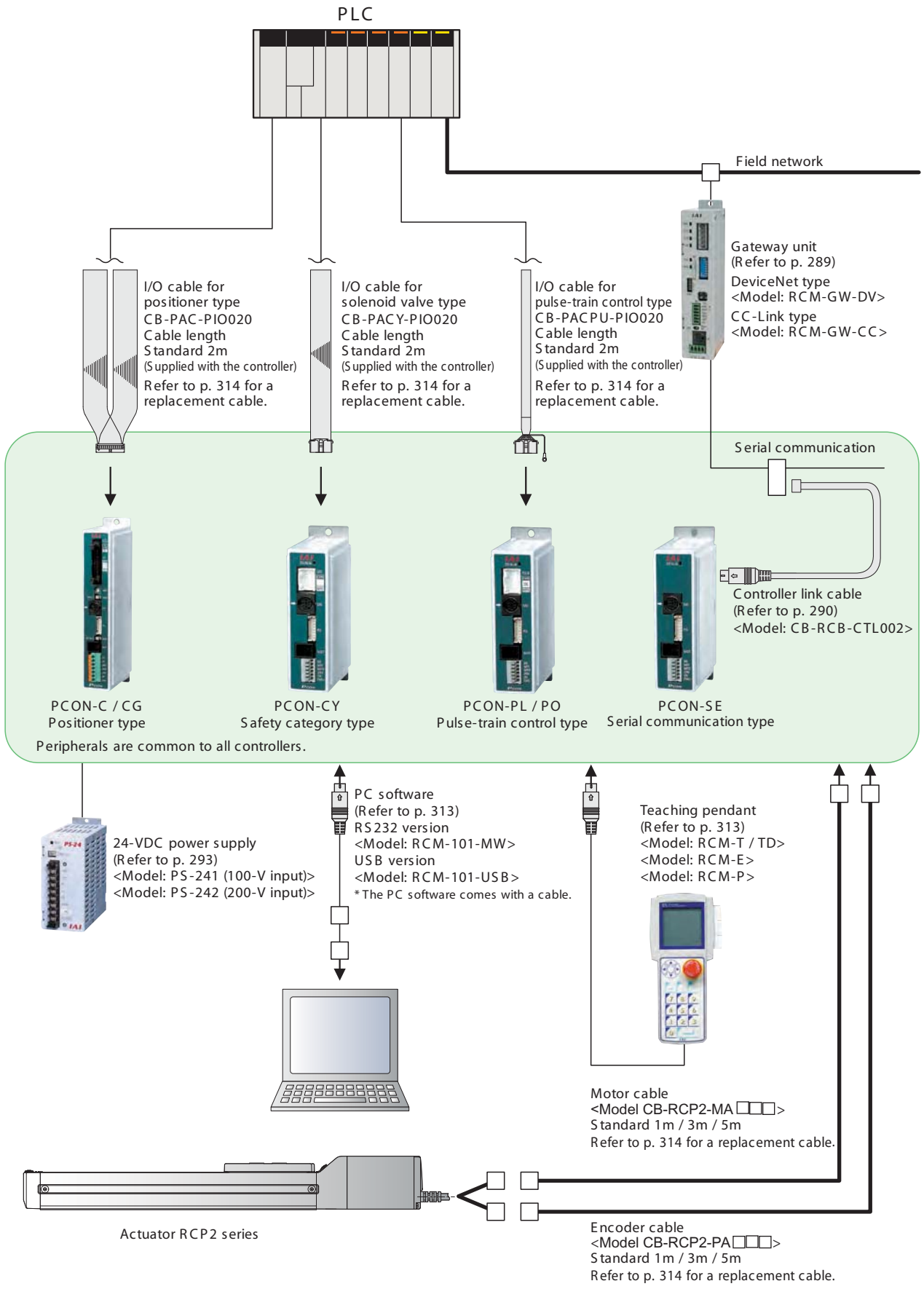
NP	NPN specification (standard)
PN	PNP specification

* If SE (serial communication type) is specified, "0" is automatically specified for the I/O cable option (no cable).

0	No cable
2	2m
3	3m
5	5m

0	DC24V

System Configuration



I/O Specifications

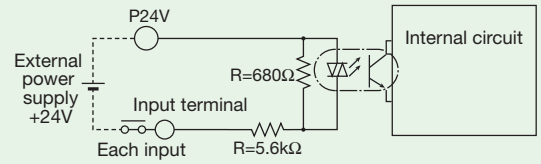
■ Input Part External input specifications

Item	Specification
Input voltage	24VDC ± 10%
Input current	4mA/circuit
Leak current	1mA max./point
Insulation method	Photocoupler

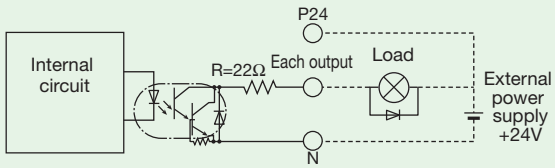
■ Output Part External output specifications

Item	Specification
Load voltage	DC24V
Maximum load current	50mA/point
Residual voltage	2V max.
Insulation method	Photocoupler

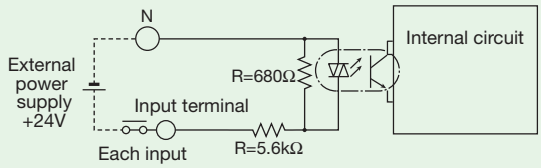
NPN specification



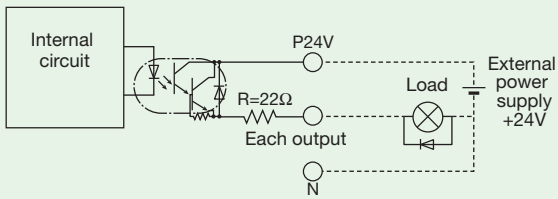
NPN specification



PNP specification



PNP specification



I/O Specifications

The four controller types (C/CG, CY, PL/PO and SE) are differentiated by their I/O specifications. Since the positioner type and solenoid valve type allow the I/O signal settings to be changed through the controller, multiple functions can be provided for selection as needed.

■ Controller Functions by Type

Type	C / CG	CY	PL / PO	SE	Features
Name	Positioner type	Solenoid valve type	Pulse-train control type	Serial communication type	
Positioner mode	○	○	×	×	A basic operation mode in which the actuator is operated by specifying a position number and then inputting a start signal.
Teaching mode	○	×	×	×	In this mode, the slider (rod) can be moved by means of an external signal to store the achieved position as position data.
Solenoid valve mode	○	○	×	×	The actuator can be moved simply by ON/OFF of position signals. This mode supports the same control actions you are already familiar with on solenoid valves of air cylinders.
Pulse train mode	×	×	○	×	In this mode, you can operate the actuator freely using pulse trains without inputting position data.
Network support	○	○	×	○	The controller can be connected to a DeviceNet or CC-Link network using a gateway unit.

Explanation of I/O Signal Functions

The table below explains the functions assigned to the respective I/O signals of the controller.
Since the signals that can be used vary depending on the controller type and settings, check the signal table for each controller to confirm the available functions.

■ Controller Functions by Type

Category	Abbreviation	Signal name	Function description
Input	CSTR	PTP strobe signal (start signal)	Input this signal to cause the actuator to start moving to the position set by the command position number signal.
	PC1~PC256	Command position number signal	This signal is used to input a target position number (binary input).
	BKRL	Brake forced-release signal	This signal forcibly releases the brake.
	RMOD	Running mode switching signal	This signal can switch the running mode when the MODE switch on the controller is set to AUTO (AUTO when this signal is OFF, or MANU when the signal is ON).
	* STP	Pause signal	Turning this signal OFF causes the moving actuator to decelerate to a stop. The actuator will resume the remaining movement if the signal is turned OFF during the pause.
	RES	Reset signal	Turning this signal ON resets the alarms that are present. If this signal is turned ON while the actuator is paused (*STP is OFF), the remaining movement can be cancelled.
	SON	Servo ON signal	The servo remains on while this signal is ON, or off while the signal is OFF.
	HOME	Home return signal	Turning this signal ON performs home-return operation.
	MODE	Teaching mode signal	Turning this signal ON switches the controller to the teaching mode (provided that CSTR, JOG+ and JOG- are all OFF and the actuator is not moving).
	JISL	Jog/inching switching signal	The actuator can be jogged with JOG+ and JOG- while this signal is OFF. The actuator performs inching operation with JOG+ and JOG- while this signal is ON.
	JOG+ JOG–	------	----
	PWRT	Teaching signal	In the teaching mode, specify a desired position number and then turn this signal ON for at least 20 ms to write the current position under the specified position number.
	ST0~ST6	Start position command	Turning this signal ON in the solenoid valve mode causes the actuator to move to the specified position. (Start signal is not required.)
	TL	Torque limit selection signal	While this signal is ON, torque is limited by the value set by a parameter. The TLR signal turns ON if torque has reached the specified value.
	DCLR	Deviation counter clear signal	The position deviation counter is continuously cleared while this signal is ON.
Output	PEND/INP	Position complete signal	This signal turns ON when the actuator has entered the positioning band after movement. If the actuator has exceeded the positioning band, PEND does not turn OFF, but INP does. PEND and INP can be swapped using a parameter.
	PM1~PM256	Completed position number signal	This signal is used to output the position number achieved at completion of positioning (binary output).
	HEND	Home return complete signal	This signal turns ON upon completion of home return.
	ZONE1	Zone signal	This signal turns ON when the current actuator position has entered the range specified by parameters.
	PZONE	Position zone signal	This signal turns ON when the current actuator position has entered the range specified by position data during position movement. PZONE can be used together with ZONE1, but PZONE is valid only during movement to a specified position.
	RMDS	Running mode status signal	This signal is used to output the running mode status.
	* ALM	Controller alarm status signal	This signal remains ON while the controller is normal, and turns OFF if an alarm has generated.
	MOVE	Moving signal	This signal remains ON while the actuator is moving (including the periods during home return and push-motion operation).
	SV	Servo ON status signal	This signal remains ON while the servo is on.
	* EMGS	Emergency stop status signal	This signal remains ON while the controller is not in the emergency stop mode, and turns OFF once an emergency stop has been actuated.
	MODES	Mode status signal	This signal turns ON when the controller has switched to the teaching mode via MODE signal input. It turns OFF upon returning to the normal mode.
	WEND	Write complete signal	This signal remains OFF after the controller has switched to the teaching mode. It turns ON upon completion of data write using the PWRT signal. If the PWRT signal is turned OFF, this signal also turns OFF.
	PE0~PE6	Current position number signal	This signal turns ON after the controller has completed moving to the target position in the solenoid valve mode.
	TLR	Torque limiting signal	This signal turns ON once the motor torque has reached the specified value in a condition where torque is being limited by the TL signal.
	LSO~LS2	Limit switch output signal	Each signal turns ON when the current actuator position has entered the positioning band before or after the target position. If the actuator has already completed home return, these signals are output even before a movement command is issued or while the servo is OFF.
	TRQS	Torque level status signal	This signal outputs when the current value of the motor reaches the limitation value, before the JOG operation returns to the starting point and the slider (rod) collides to the mechanical end or an obstacle.

I/O Signal Table

■ Positioner type (PCON-C / CG)

Pin number	Category		Parameter (PIO pattern) selection					
			0	1	2	3	4	5
			Positioning mode	Teaching mode	256-point mode	512-point mode	Solenoid valve mode 1	Solenoid valve mode 2
		Number of positioning points	64 points	64 points	256 points	512 points	7 points	3 points
		Zone signal	○	×	×	×	○	○
		P zone signal	○	○	○	×	○	○
1A	24V		P24					
2A	24V		P24					
3A	–		NC					
4A	–		NC					
5A	Input	IN0	PC1	PC1	PC1	PC1	ST0	ST0
6A		IN1	PC2	PC2	PC2	PC2	ST1	ST1 (JOG+)
7A		IN2	PC4	PC4	PC4	PC4	ST2	ST2 (–)
8A		IN3	PC8	PC8	PC8	PC8	ST3	–
9A		IN4	PC16	PC16	PC16	PC16	ST4	–
10A		IN5	PC32	PC32	PC32	PC32	ST5	–
11A		IN6	–	MODE	PC64	PC64	ST6	–
12A		IN7	–	JISL	PC128	PC128	–	–
13A		IN8	–	JOG+	–	PC256	–	–
14A		IN9	BKRL	JOG-	BKRL	BKRL	BKRL	BKRL
15A		IN10	RMOD	RMOD	RMOD	RMOD	RMOD	RMOD
16A		IN11	HOME	HOME	HOME	HOME	HOME	–
17A		IN12	* STP	* STP	* STP	* STP	* STP	–
18A		IN13	CSTR	CSTR/PWRT	CSTR	CSTR	–	–
19A		IN14	RES	RES	RES	RES	RES	RES
20A		IN15	SON	SON	SON	SON	SON	SON
1B	Output	OUT0	PM1	PM1	PM1	PM1	PE0	LSO
2B		OUT1	PM2	PM2	PM2	PM2	PE1	LS1 (TRQS)
3B		OUT2	PM4	PM4	PM4	PM4	PE2	LS2(–)
4B		OUT3	PM8	PM8	PM8	PM8	PE3	–
5B		OUT4	PM16	PM16	PM16	PM16	PE4	–
6B		OUT5	PM32	PM32	PM32	PM32	PE5	–
7B		OUT6	MOVE	MOVE	PM64	PM64	PE6	–
8B		OUT7	ZONE1	MODES	PM128	PM128	ZONE1	ZONE1
9B		OUT8	PZONE	PZONE	PZONE	PM256	PZONE	PZONE
10B		OUT9	RMDS	RMDS	RMDS	RMDS	RMDS	RMDS
11B		OUT10	HEND	HEND	HEND	HEND	HEND	HEND
12B		OUT11	PEND	PEND/WEND	PEND	PEND	PEND	–
13B		OUT12	SV	SV	SV	SV	SV	SV
14B		OUT13	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS	* EMGS
15B		OUT14	* ALM	* ALM	* ALM	* ALM	* ALM	* ALM
16B			–	–	–	–	–	–
17B	–		NC					
18B	–		NC					
19B	0V		N					
20B	0V		N					

(Note) The signal names inside the parenthesis become the function before returning to the starting point.

■ Solenoid valve type (PCON-CY)

Pin number	Category		Parameter (PIO pattern) selection	
			0	1
			Solenoid valve mode 0	Solenoid valve mode 1
		Number of positioning points	3 points	3 points
		Zone signal	×	×
		P zone signal	×	○
1	24V			
2	0V			
3	Input	IN0	ST0	ST0
4		IN1	ST1(JOG)	ST1(JOG)
5		IN2	ST2(–)	ST2(–)
6		IN3	SON	SON
7	Output	OUT0	LS0	PE0
8		OUT1	LS1(TRQS)	PE1(TRQS)
9		OUT2	LS2(–)	PE2(–)
10		OUT3	SV	PZONE
11		OUT4	HEND	HEND
12		OUT5	* ALM	* ALM

(Note) The signal names inside the parenthesis become the function before returning to the starting point.

■ Pulse-train type (PCON-PL/PO)

Pin number	Category		Parameter (PIO pattern) selection	
			0	1
			Standard mode	Push mode
		Number of positioning points	–	–
		Zone signal	×	×
		P zone signal	×	×
1	24V			
2	0V			
3	Input	IN0	SON	SON
4		IN1	TL	TL
5		IN2	HOME	HOME
6		IN3	RES	RES/DCLR
7	Output	OUT0	SV	SV
8		OUT1	INP	INP/TLR
9		OUT2	HEND	HEND
10		OUT3	* ALM	* ALM
11	Input		* PP	* PP
12			PP	PP
13			* NP	* NP
14			NP	NP

Wiring Diagram for Pulse-Train Input Type

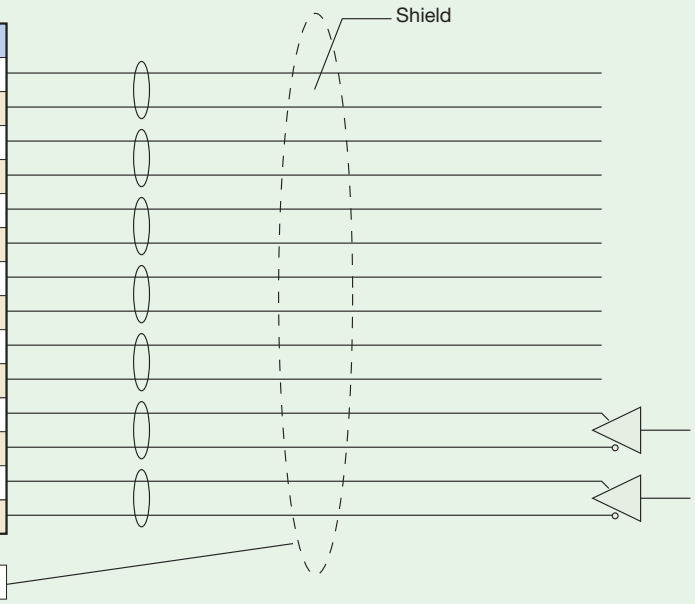
■ Differential Receiver Method (PCON-PL)

Maximum input pulse frequency	: MAX 200kpps
Cable length	: MAX 10m

PIO connector

Pin number	Category	Signal name
1	External 24 V	24V
2	External 0 V	0V
3	Input	SON
4	Input	TL
5	Input	HOME
6	Input	RES
7	Output	SV
8	Output	INP
9	Output	HEND
10	Output	* ALM
11	Differential input	/PP
12		PP
13		/NP
14		NP

Mounting plate	FG



* The shield of the twisted pair cable connected to the PULSE connector must be connected to the mounting plate.

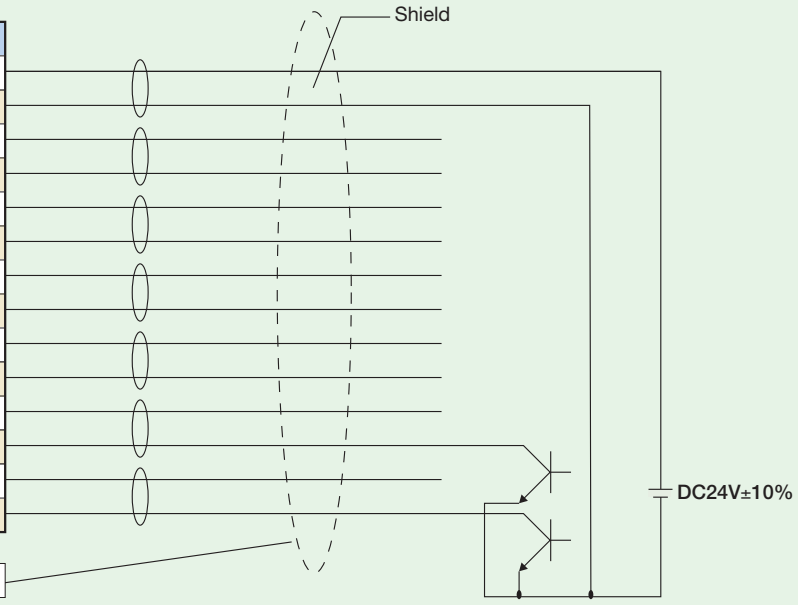
■ Open Collector Method (PCON-PO)

Maximum input pulse frequency	: MAX 60kpps
Cable length	: MAX 2m

PIO connector

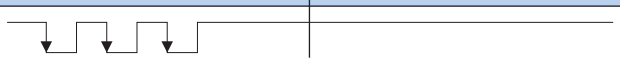
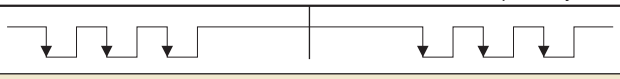
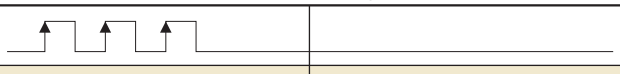
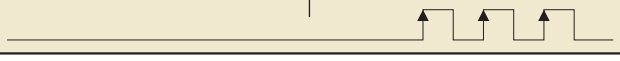
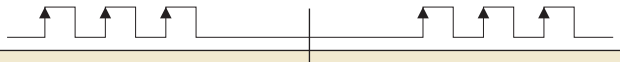
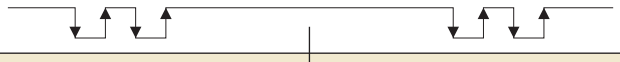
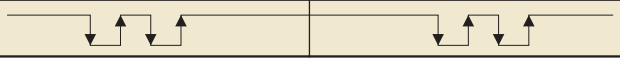
Pin number	Category	Signal name
1	External 24 V	24V
2	External 0 V	0V
3	Input	SON
4	Input	TL
5	Input	HOME
6	Input	RES
7	Output	SV
8	Output	INP
9	Output	HEND
10	Output	* ALM
11	N.C	/PP
12	Open collector input	PP
13	N.C	/NP
14	Open collector input	NP

Mounting plate	FG



* The shield of the twisted pair cable connected to the PULSE connector must be connected to the mounting plate.
* Connect the external 0-V pin (common) to the ground for controller power.

Command Pulse Input Patterns

	Command pulse train pattern	Input terminal	Forward	Reverse
Negative logic	Forward pulse train	PP・/PP		
	Reverse pulse train	NP・/NP		
	Forward pulse trains and reverse pulse trains indicate the motor revolutions in forward direction and reverse direction, respectively.			
	Pulse train	PP・/PP		
	Sign	NP・/NP	Low	High
	Command pulses indicate the motor revolutions, while the sign of the command indicates the rotating direction.			
	Phase-A/B pulse train	PP・/PP		
		NP・/NP		
	Phase-A/B (x4) pulses with a 90° phase difference specify both the revolutions and rotating direction.			
Positive logic	Forward pulse train	PP・/PP		
	Reverse pulse train	NP・/NP		
	Pulse train	PP・/PP		
	Sign	NP・/NP	High	Low
	Phase-A/B pulse train	PP・/PP		
		NP・/NP		

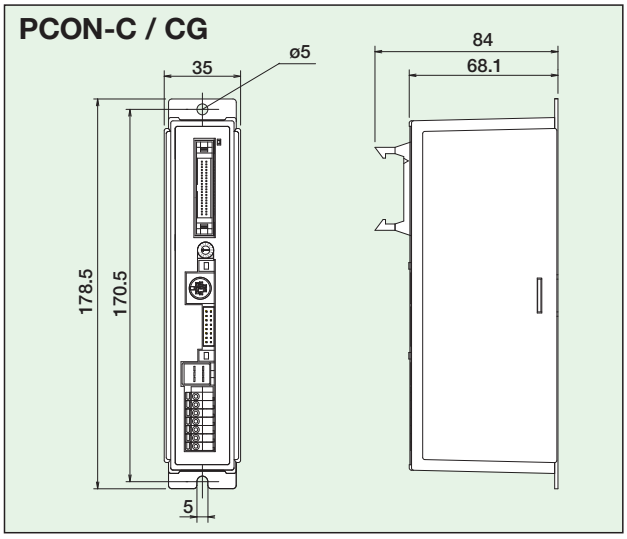
Specification Table

Item	Specification					
Controller type	C	CG	CY	PL	PO	SE
Connectable actuators	RCP2 series actuator (Note 1)					
Number of controlled axes	1 axis					
Operation method	Positioner type		Solenoid valve type	Pulse-train control type		Serial communication type
Number of positioning points	512 points		3 points	—		64 points
Backup memory	EEPROM					
I/O connector	40-pin connector		12-pin connector	14-pin connector		None
Number of I/O points	16 input points / 16 output points		4 input points / 6 output points	4 input points / 4 output points		None
I/O power supply	Externally supplied 24VDC ± 10%					—
Serial communication	RS485 1ch					
Peripheral communication cable	CB-PAC-PIO □□□		CB-PACY-PIO □□□	CB-PACPU-PIO □□□		CB-RCB-CTL002
Command pulse-train input method	—			Differential line driver	Open collector	—
Maximum input pulse frequency (Note 2)	—			Max 200kpps	Max 60kpps	—
Position detection method	Incremental encoder					
Drive-source cutoff relay at emergency stop	Built-in	External				
Forced release of electromagnetic brake	Brake release switch ON/OFF		BK-release terminal signal ON/OFF on power connector			
Motor cable	CB-RCP2-MA □□□ (20m max.)					
Encoder cable	CB-RCP2-PA □□□ (20m max.)					
Input power supply	DC24V±10%					
Power-supply capacity	2A max.					
Dielectric strength voltage	DC500V 1MΩ					
Vibration resistance	XYZ directions	10~57Hz One-side amplitude 0.035mm (continuous), 0.075mm (intermittent) 58~150Hz 4.9m/s2 (continuous), 9.8m/s2 (intermittent)				
Ambient operating temperature	0~40°C					
Ambient operating humidity	10~95% (non-condensing)					
Operating ambience	Free from corrosive gases					
Protection class	IP20					
Weight	Approx. 300g		Approx. 130g			

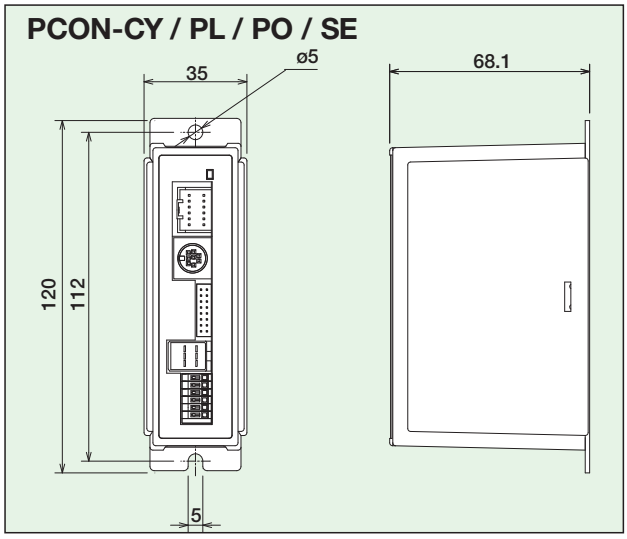
(Note 1) The high-thrust type (RFA), high-speed type (HS8C/HS8R) and waterproof type (RCP2W-SA16) cannot be operated.
(Note 2) With the open collector specification, keep the maximum input frequency to 60 kpps or below to prevent malfunction.

External Dimensions

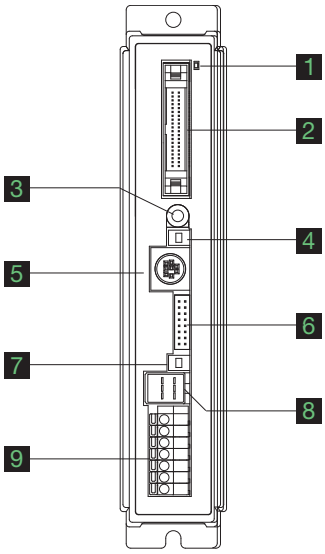
PCON-C / CG



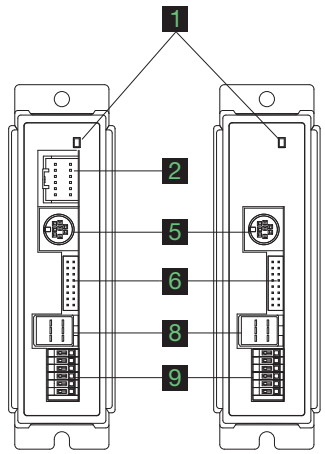
PCON-CY / PL / PO / SE



Name of Each Part



C / CG type



CY / PL / PO type

SE type

* PIO connector pins
CY: 12 pins
PL/PO: 14 pins

Blinking (green) **LED indicators**

These LED indicate the condition of the controller.

Unlit Servo on Lit (red) Alarm present Lit (green) Servo off 1 Automatic servo-off mode

2 PIO connector

Connect a cable for communicating with a PLC or other external equipment.

3 Address-setting rotary switch

This switch is used to set the address of each controller when multiple controllers are linked.

4 Mode switch

This switch is used to switch between teaching operation (MANU) and automatic operation (AUTO).

Operation details

MANU	I/O commands are not accepted. Data can be written from a teaching pendant.
AUTO	I/O commands are valid, while operations from a teaching pendant are not accepted. Monitoring is possible.

5 SIO connector

Connect a teaching-pendant or PC cable, or a controller to connect to a gateway unit.

Operation details

Pin number	Signal	Pin	Remarks
1	SGA	RS485 differential signal+	
2	SGB	RS485 differential signal-	
3	5V	+5-V output	For RS232/485 conversion
4	ENBL	Enable signal	
5	EMGA	EMG line connection to external equipment	
6	24V	24-V power for T/P	For T/P
7	0V	Ground	
8	EMGB	EMG line connection to external equipment	
9	0V	Ground for EMG line connection to external equipment	

6 Encoder/brake connector

Connect the encoder/brake cables of the actuator.

7 Brake release switc

A switch to forcibly release the brake

8 Motor connector

Connect the motor cable of the actuator.

9 Power terminal block

Supplies the main controller power and actuates an emergency stop.

C/CG types

Pin number	Signal Name	Name
7	S1	TP_EMG external drive-source cutoff terminal
6	S2	
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)

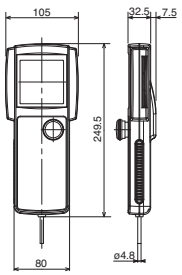
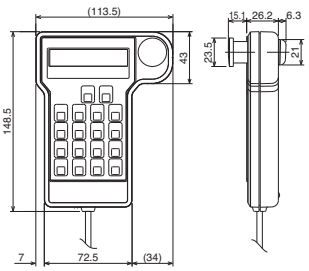
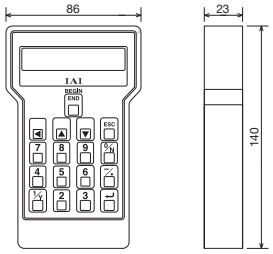
CY / PL / PO / SE types

Pin number	Signal Name	Name
6	BK	Brake release
5	MPI	Motor drive-source cutoff terminal
4	MPO	Motor drive-source cutoff terminal
3	24V	Positive side of the 24-V power supply
2	0V	Negative side of the 24-V power supply
1	EMG	EMG signal (application of 24 V)

Options

■ Teaching Pendant

An input device that provides all functions you need for trial operation and adjustment, such as position data input, test operation, as well as monitoring of current axis positions and input/output signals.

Name	Teaching Pendant	Simple teaching pendant	Data setting unit
Model	RCM-T (standard specification) RCM-TD (with deadman switch *1)	RCM-E	RCM-P
Standard price	—	—	—
External view			
Features	A standard, user-friendly teaching pendant equipped with a large LCD screen. A deadman switch type ensuring added safety is also available.	An economical type offering the same functions as the RCA-T at a substantially lower price.	An affordable data setting unit that provides all editing functions other than those relating to axis operation. * This unit does not support operations relating to axis movement.
Display	21 characters x 16 lines on LCD	16 characters x 2 lines on LCD	16 characters x 2 lines on LCD
Weight	Approx. 550g	Approx. 400g	Approx. 360g
Cable length	5m	5m	5m
Ambient operating temperature, humidity	Temperature: 0~40°C, Humidity: 85% RH or below		
External dimensions			

*1 The deadman switch is a safety switch that cuts off the drive source when released to disable operation.

■ PC Software

A software program that helps input position data and perform test operation.
It significantly facilitates debugging operation by offering wide-ranging functions including jogging, inching, step operation and continuous operation.

■ RS232 Communication Type

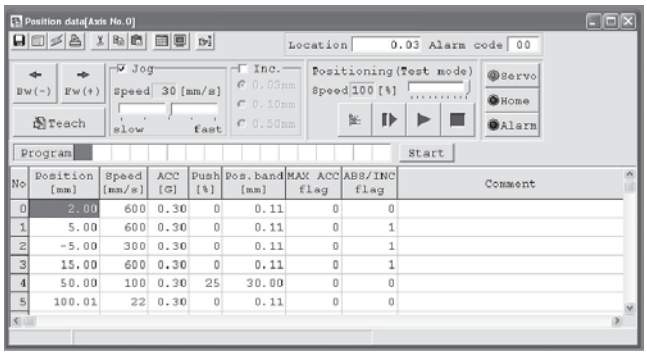
Model RCM-101-MW

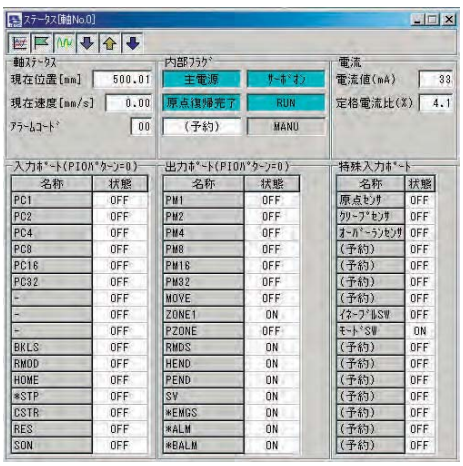
<Content>PC software (CD-ROM),
PC cable
(communication cable +
RS232 conversion unit)

■ USB Communication Type

Model RCM-101-USB

<Content>PC software (CD-ROM),
PC cable
(communication cable + USB
conversion unit + USB cable)





Explanation of Position Data

Input the following position data to the controller and specify a desired number in the far-left column using an input/output signal, and the actuator will start moving to the specified position (coordinates) at the specified speed, acceleration and deceleration.

	①	②	③	④	⑤	⑥	⑦	⑧	⑨		⑩	⑪	⑫	⑬
	No	Position (mm)	Speed (mm/sec)	Acceleration (G)	Deceleration (G)	Push (%)	Threshold (%)	Positioning band (mm)	Zone –	Zone +	Acceleration / deceleration mode	Incremental	Command mode	Standstill mode
0	0	50.00	100.00	0.30	0.30	0	0	0.10	0.00	0.00	0	0	0	0
1	1	100.00	500.00	0.30	0.10	0	0	0.10	10.00	20.00	0	0	0	0
2	2	10.00	100.00	0.30	0.30	0	0	0.10	0.00	0.00	0	1	0	0
3	3													

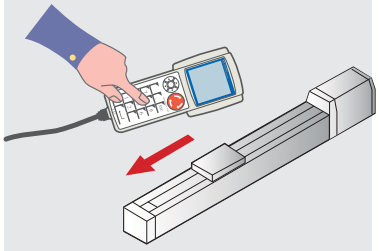
① Position No.	Target position number specified externally.
② Position	Coordinates of the target position (distance from the home).
③ Speed	Specified speed at which the actuator will move to the target position.
④ Acceleration	Rate at which the actuator will accelerate to the specified speed after starting movement from a stationary state. Acceleration is set in G, where 1 G represents 9,800 mm/s2 (reaching 9,800 mm/s per second).
⑤ Deceleration	Rate at which the actuator will decelerate when stopping from a moving state. Deceleration is also set in G.
⑥ Push	Push force applied during push-motion operation (force with which the actuator rod pushes), indicated by a percentage of the maximum push force.
⑦ Threshold	When a press-fit task is performed as push-motion operation, this current value is used to check if the press-fit task was completed properly. Since a signal is output if the current threshold is exceeded, output of a position complete signal after a threshold signal indicates that the press-fit task was completed properly. *This function is available only with the PCON-CF controller (to be released soon).
⑧ Positioning band	In positioning operation, this value sets the distance in mm before the movement completion position where a position complete signal will be output. In push-motion operation, it indicates the range of push-motion operation.
⑨ Position zone	A signal can be output when the moving slider (or rod) enters the specified zone. Normally a zone signal requires the output range to be specified by parameters, and only up to two zones/output signals can be set. On the other hand, in the position data table a zone signal can be set for each position, up to 512 points. Note, however, that only one common output signal is used for all points, and the zone range specified for each position becomes valid only when the actuator passes through the specified position.
⑩ Acceleration / deceleration mode	This value is used to set acceleration/deceleration operation. (Available with the ACON/SCON only).
⑪ Incremental	Input an applicable value when performing pitch-feed operation. (0: Positioning operation, 1: Pitch-feed operation)
⑫ Command mode	Not used.
⑬ Standstill mode	Power-saving mode to be applied in standstill state.

How to Input Target Positions

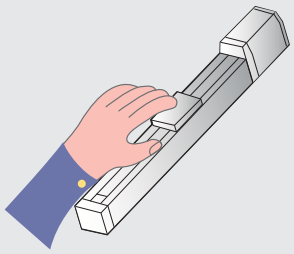
Positions can be input in any of the following three methods.

① Directly enter coordinates (mm) using numerical keys.

② Move the actuator by jogging/inching and write the achieved position.



③ Move the actuator to a desired position and write the achieved position.



Bulls-Eye Terminal Block Kit - P,A,S-Con (-CF) Controller I/O Wiring For TB with/without LED's

P I/O Pattern Setting Definitions From Parameter Setting # 25

Lower Pin	Upper Pin	Wire Color	0=Standard	1=Teaching Mode	2=256 Point Mode	3=512 Point Mode	4=7-Point Mode	5=3-Point Mode	PNP Wiring	NPN Wiring	
	1	Brown-1	24 Volt	24 Volt	24 Volt	24 Volt	24 Volt	24 Volt	24v	24v	I
2		Red-1	24 Volt	24 Volt	24 Volt	24 Volt	24 Volt	24 Volt	7mA/pt.	7mA/pt.	
	3	Orange-1	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT			N
4		Yellow-1	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT			
	5	Green-1	PC1	PC1	PC1	PC1	Start to Pt.0	Start to Pt.0	24V	0V/Com	P
6		Blue-1	PC2	PC2	PC2	PC2	Start to Pt.1	Start to Pt.1	24V	0V/Com	
	7	Purple-1	PC4	PC4	PC4	PC4	Start to Pt.2	Start to Pt.2	24V	0V/Com	U
8		Grey-1	PC8	PC8	PN8	PN8	Start to Pt.3		24V	0V/Com	
	9	White-1	PC16	PC16	PC16	PC16	Start to Pt.4		24V	0V/Com	T
10		Black-1	PC32	PC32	PC32	PC32	Start to Pt.5		24V	0V/Com	
	11	Brown-2		Mode	PC64	PC64	Start to Pt.6		24V	0V/Com	S
12		Red-2		Jog On/Off	PC128	PC128			24V	0V/Com	
	13	Orange-2		Jog +		PC256			24V	0V/Com	
14		Yellow-2	Brake Release	Jog -	Brake Release	Brake Release	Brake Release	Brake Release	24V	0V/Com	
	15	Green-2	Auto / Manual (RMOD)	Auto / Manual (RMOD)	Auto / Manual (RMOD)	Auto / Manual (RMOD)	Auto / Manual (RMOD)	Auto / Manual (RMOD)	24V	0V/Com	
16		Blue-2	Home	Home	Home	Home	Home		24V	0V/Com	
	17	Purple-2	**Stop / Pause	**Stop / Pause	**Stop / Pause	**Stop / Pause	**Stop / Pause		24V	0V/Com	
18		Grey-2	Cycle Start	Cycle Start / Pos.Write	Cycle Start	Cycle Start			24V	0V/Com	
	19	White-2	Reset	Reset	Reset	Reset	Reset	Reset	24V	0V/Com	
20		Black-2	**Servo On	**Servo On	**Servo On	**Servo On	**Servo On	**Servo On	24V	0V/Com	
	21	Brown-3	PM1	PM1	PM1	PM1	Pos. End-Pt.0	LS0	0V/Com	24v	O
22		Red-3	PM2	PM2	PM2	PM2	Pos. End-Pt.1	LS1	0V/Com	24v	
	23	Orange-3	PM4	PM4	PM4	PM4	Pos. End-Pt.2	LS2	0V/Com	24v	U
24		Yellow-3	PN8	PN8	PN8	PN8	Pos. End-Pt.3		0V/Com	24v	
	25	Green-3	PM16	PM16	PM16	PM16	Pos. End-Pt.4		0V/Com	24v	T
26		Blue-3	PM32	PM32	PM32	PM32	Pos. End-Pt.5		0V/Com	24v	
	27	Purple-3	Move	Move	PM64	PM64	Pos. End-Pt.6		0V/Com	24v	P
28		Grey-3	Zone 1	Mode Confirm	PM128	PM128	Zone 1	Zone 1	0V/Com	24v	
	29	White-3	Pos. Zone	Pos. Zone	Pos. Zone	PM256	Pos. Zone	Pos. Zone	0V/Com	24v	U
30		Black-3	Auto / Manual Status	Auto / Manual Status	Auto / Manual Status	Auto / Manual Status	Auto / Manual Status	Auto / Manual Status	0V/Com	24v	
	31	Brown-4	Home Status	Home Status	Home Status	Home Status	Home Status	Home Status	0V/Com	24v	T
32		Red-4	Pos. End	Pos. End / Write Done	Pos. End	Pos. End	Pos. End		0V/Com	24v	
	33	Orange-4	Servo On	Servo On	Servo On	Servo On	Servo On	Servo On	0V/Com	24v	S
34		Yellow-4	*Emergency	*Emergency	*Emergency	*Emergency	*Emergency	*Emergency	0V/Com	24v	
	35	Green-4	*Alarm	*Alarm	*Alarm	*Alarm	*Alarm	*Alarm	0V/Com	24v	
36		Blue-4	***Load/TRQ	DO NOT CONNECT	***Load/TRQ	***Load/TRQ	***Load/TRQ	DO NOT CONNECT			
	37	Purple-4	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT			
38		Grey-4	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT	DO NOT CONNECT			
	39	White-4	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	
40		Black-4	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	0 Volt	
	-	Connection For LED's PnP Only							0 Volt	N/A	
	-	Connection For LED's PnP Only							0 Volt	N/A	

Notes

Terminal Block Dimensions: 115 x 80 x 60, Din Rail Mount

Be sure to set the desired PIO Pattern in the parametes before wiring and programming

* These ***outputs*** are normally on.

** This input must be turned on for normal operation unless deactivated from parameter setting

*** This is only available on the PCON-CF Controller

For PnP Type I/O, 24 volts turns on inputs, outputs give out 24 volts	For NpN Type I/O, 0 volts turns on inputs, outputs give out 0 volts