

**Discontinued**

## PQCPA Series dedicated to analog/pulse output position sensing cylinders

- Environmentally-friendly lead-free indicator.
- Analog input and pulse input types are available.
- Provided with multi-point output function (5 points) as a standard function to enable to individually set the upper and lower limits.<sup>Note 1)</sup>
- A 16-bit AD converter is provided to realize high resolution. (Analog input type)
- Provided with a counter with a response frequency of 200 kHz (Pulse input type)
- Provided with a pulse position correcting function.<sup>Note 2)</sup>

Note 1) Setting the bank switching enables to use the multi-output function of up to 15 points.  
 Note 2) Position correction can be made by mounting a cylinder sensor. Positional error caused by slippage of the encoder is eliminated.



### Standard Specifications

Type	Analog	Pulse
Model number	PQCPA-CU-A	PQCPA-CU-P
Applicable input signals	Analog voltage/analog current	Phase AB
Display range	±999999	
Resolution	Stroke×1/10000	—
Response frequency	1 kHz	200 kHz
Linearity	±0.02%FS	—
Signals	Voltage input 0 to 10 V Voltage input 1 to 5 V Current input 4 to 20 mA	Open collector input Differential input (line driver input) 12 V voltage input 24 V voltage input
Monitor output	Voltage output Note)	Line driver output
Sampling speed	1000 times/sec	
Display speed	10 times/sec	
Display method	Display by fluorescent display tube	
Control input	No-voltage input (reed sensor/solid state sensor)	
Control output	Open collector Max. rating: 50 V DC, 50 mA (Provided with multi-point output function (5 points) to enable to individually set the upper and lower limits and pulse position correcting function)	
Power supply voltage	24 V DC ±10%	
Ambient temperature	0 to 50°C (No freezing)	
Ambient humidity	35 to 85%RH (No condensing)	

Note) The monitor output at current input (4 to 20 mA) is voltage output of 1 to 5 V.

### Function Table

Type	Analog input	Pulse input
Model number	PQCPA-CU-A-A	PQCPA-CU-P-12
	PQCPA-CU-A-V	PQCPA-CU-P-24
Functions	—	PQCPA-CU-P-00
	Display of position	Display of position
	Bank switching	Bank switching
	Multi-point output	Multi-point output
	Positional data hold	Positional data hold
	—	0 setting signal
—	Correcting function	

### List of Applicable Actuators

Series	Detection method	Signal type
PTN-1B	Absolute type	Analog type (4 to 20 mA, 0 to 10 V)
PTH-1B		
PTT-1B		Analog type (1 to 5 V)
PSR-1A		
35P-3	Linear pulse encoder	Encoder type
70P-8		
140P-8		

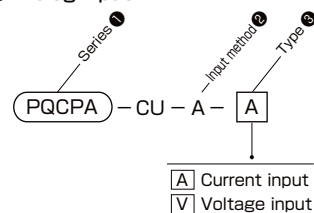
Note) For the details of each cylinder, refer to the section of each series.

**Discontinued**

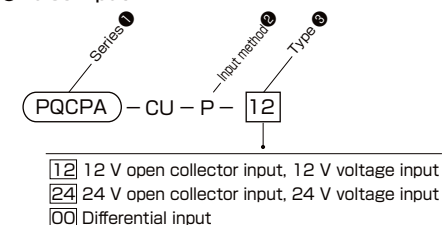
### How to order

#### Position Indicator

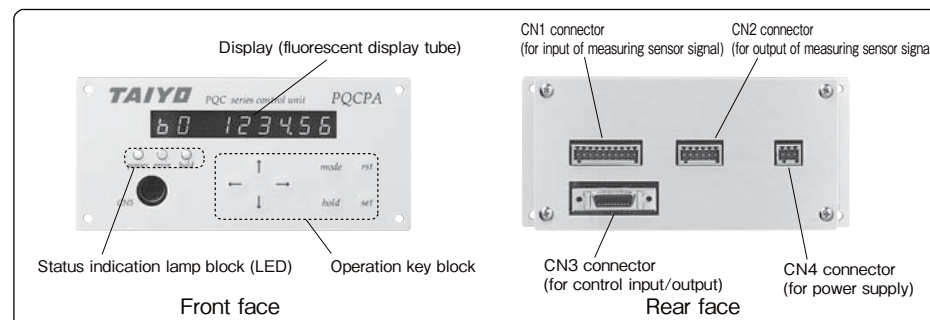
##### ● Analog input



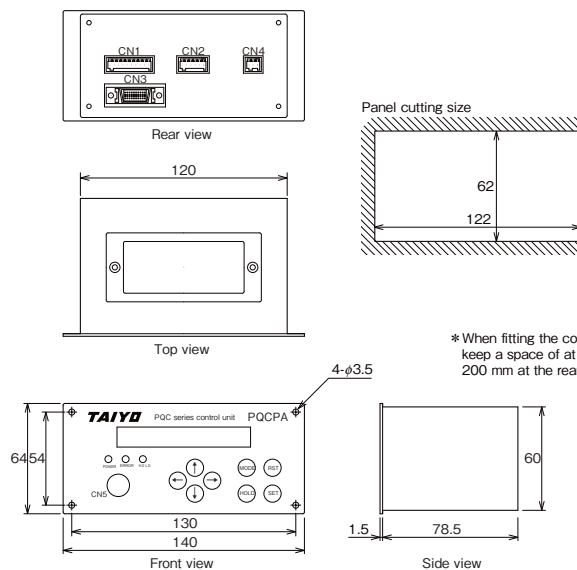
##### ● Pulse input



Note) Cylinders do not come with indicators of differential input type [00]. (Specification to use the indicator in stand-alone state)



### Dimensional Drawings

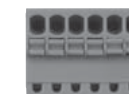


### Supplied Connector

#### ● CN1 connector (for input of measuring sensor signal)



#### ● CN2 connector (for output of measuring sensor signal)



#### ● CN3 connector (for control input/output)



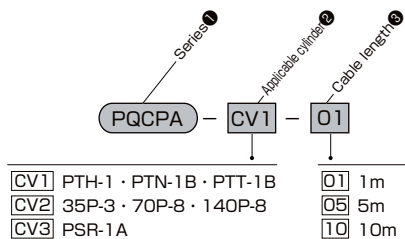
#### ● CN4 connector (for power supply)



\* When fitting the connectors, keep a space of at least 200 mm at the rear.

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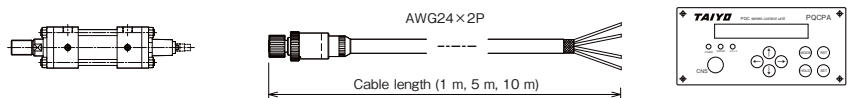
How to order cable between sensor and indicator



- \* When ordering a cable, confirm the series name of the actuator on the sensor side. Some models cannot be connected.
- \* After wiring, connect the indicator side connector to the CN1 connector on the indicator.

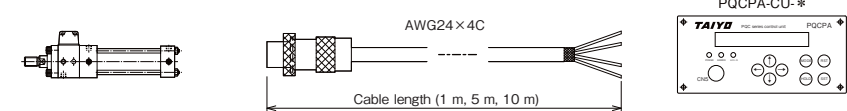
**PQCPA-CV1 - Cable length**

Applicable actuators: PTH-1B/PTN-1B/PTT-1B



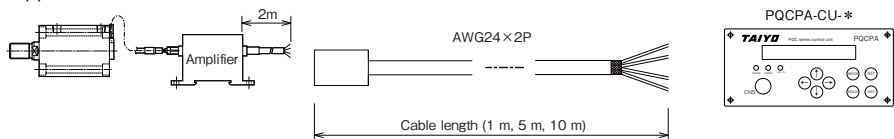
**PQCPA-CV2 - Cable length**

Applicable actuators: 35P-3/70P-8/140P-8



**PQCPA-CV3 - Cable length**

Applicable actuators: PSR-1A

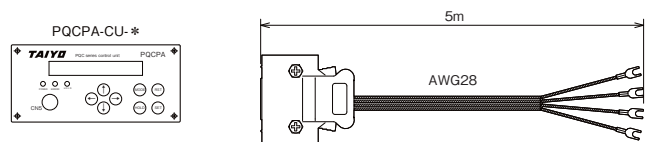


Note) PSR-1A comes with a 2m cable as a standard accessory. If another cable is required, select this cable. (In this case, disconnect the standard cable (2 m) of PSR-1A, and connect the selected cable directly to the amplifier.)

How to order I/O cable

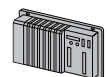
PQCPA - IO

\*The I/O cable is 5 m long.



CN3 Half-pitch connector  
 Note) Only the CN3 half-pitch connector is supplied as a standard accessory. If you need the connector with a cable, place an order for the connector.

External devices (programmable controller, etc.)



**Discontinued**

External input/output

**CN1**

Pin No.	Description	Signals
1	Voltage/current input	Analog input
2	NC	-
3	Voltage/current GND	Analog input
4	Phase A	Pulse input
5	Phase -A	Pulse input
6	Phase B	Pulse input
7	Phase -B	Pulse input
8	+24V	Power supply output
9	+12V	Power supply output
10	GND	Power supply output/Phase AB GND

**CN2**

Pin No.	Description	Signals
1	Pout	Analog output
2	Vss	Analog output
3	A pulse	Pulse output
4	A pulse GND	Pulse output
5	B pulse	Pulse output
6	B pulse GND	Pulse output

**CN4**

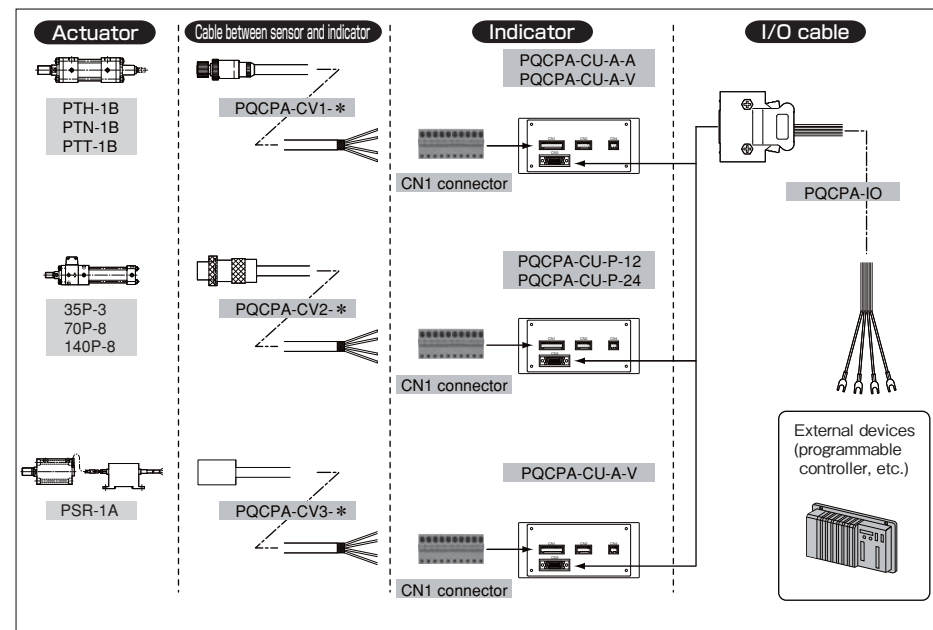
Pin No.	Description	Signals
1	P24	Power supply
2	N24	Power supply
3	PE	Power supply

**CN3**

Pin No.	Description	Signals
1	0 setting signal	Input
2	Positional data hold	Input
3	Correcting function	Input
4	Bank switching 0	Input
5	Bank switching 1	Input
6	Bank switching 2	Input
7	Reserved input	Input
8	Reserved input	Input
9	Input common	Input
10	Input common	Input
11	Multi-point output signal 0	Output
12	Multi-point output signal 1	Output
13	Multi-point output signal 2	Output
14	Multi-point output signal 3	Output
15	Multi-point output signal 4	Output
16	Reserved output	Output
17	Reserved output	Output
18	Reserved output	Output
19	Output common	Output
20	Output common	Output

\* For details, see the instruction manual.

Example of product configuration



External devices (programmable controller, etc.)

