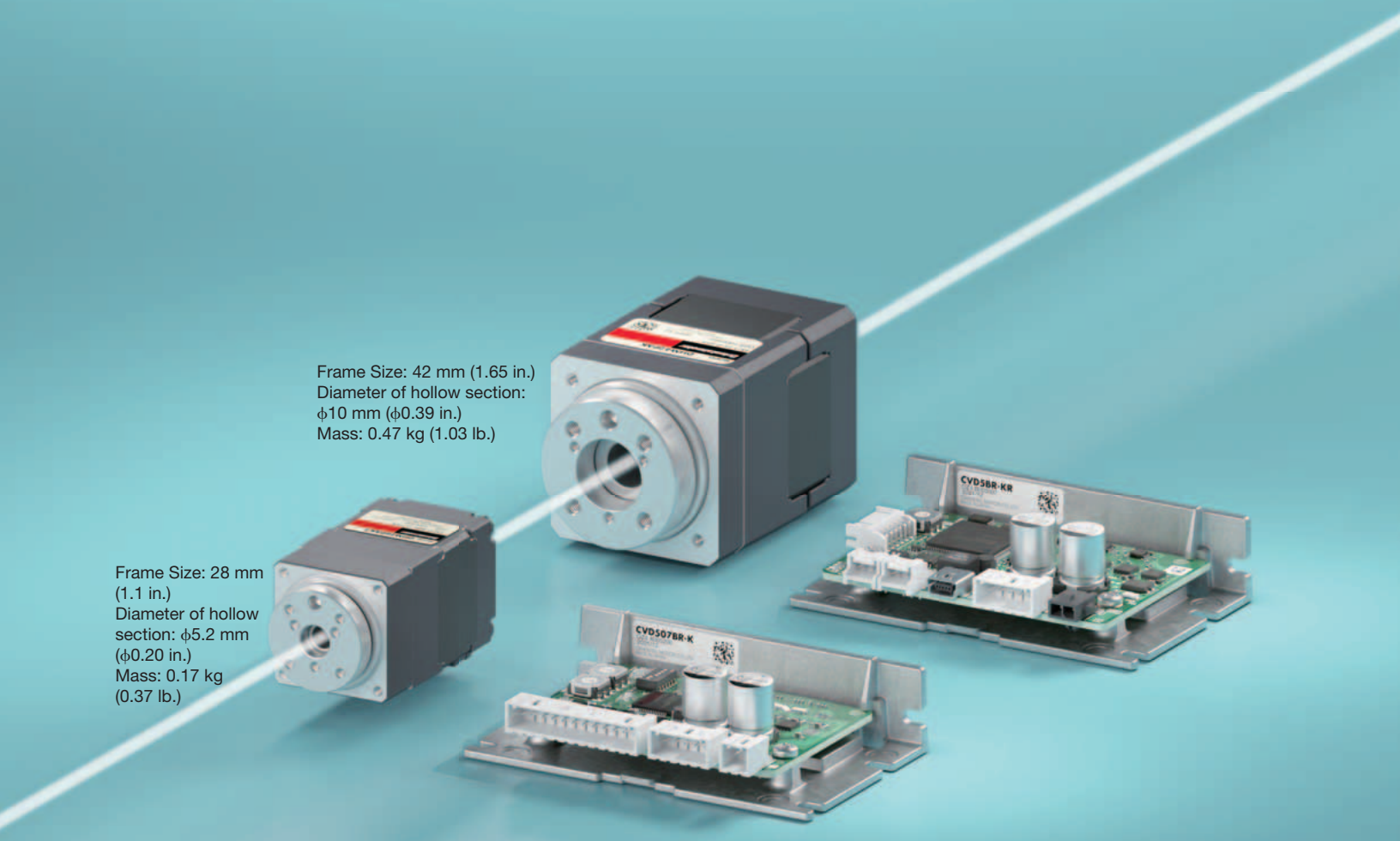
Oriental motor

Hollow Rotary Actuators

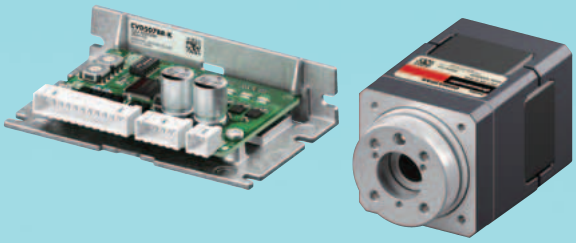
DH Series

Simpler and smaller equipment is possible with the **DH** Series. Tubing and wiring can pass through the hollow rotor of the actuator



Actuators with a hollow rotor.

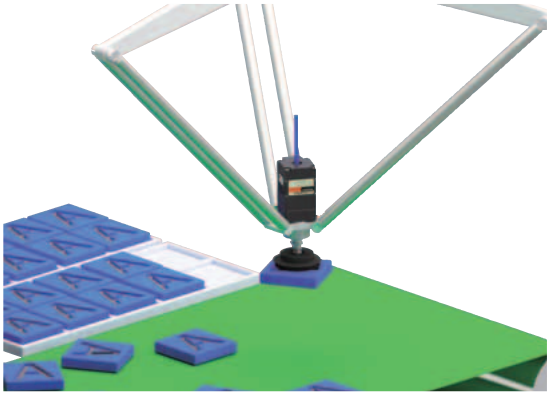
Tubing and wiring can be simplified, and the number of installation mechanism parts can be reduced.
This contributes to smaller and lighter equipment, as well as reduced design time.



Hollow Rotary Actuators
DH Series

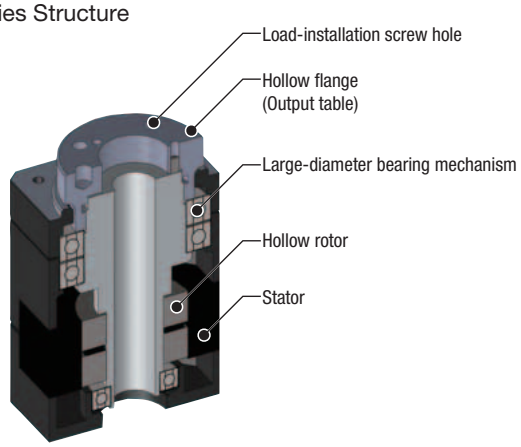
The hollow portion simplifies the tubing and wiring of cutting-edge equipment

This actuator is a 5-phase stepper motor with a hollow flange. Tubing, wiring and light beams can be passed through the hollow part, contributing to simpler cutting-edge design, as well as smaller and lighter equipment.



Parallel link robot
θ axis of suction device

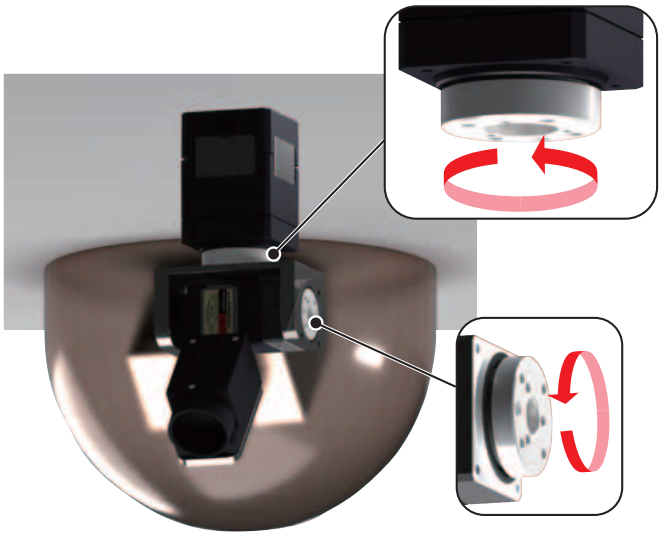
●**DH** Series Structure



Product Name	Frame Size	Diameter of Hollow Section	Mass
DHM28PAK2	28 mm (1.1 in.)	ϕ5.2 mm (ϕ0.20 in.)	0.17 kg (0.37 lb.)
DHM42PAK	42 mm (1.65 in.)	ϕ10 mm (ϕ0.39 in.)	0.47 kg (1.03 lb.)

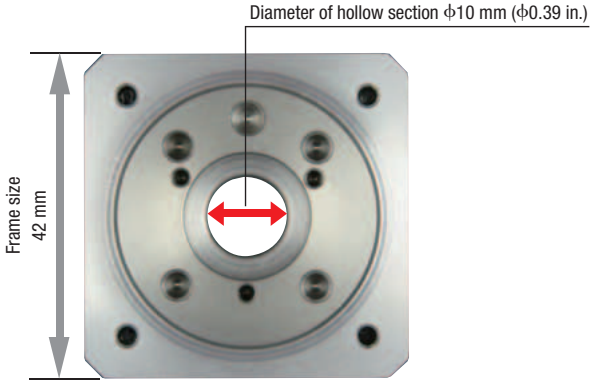
The flange installation reduces the number of parts around the moving parts

The hollow flange can be attached directly to the load. This reduces the number of parts around the moving parts.

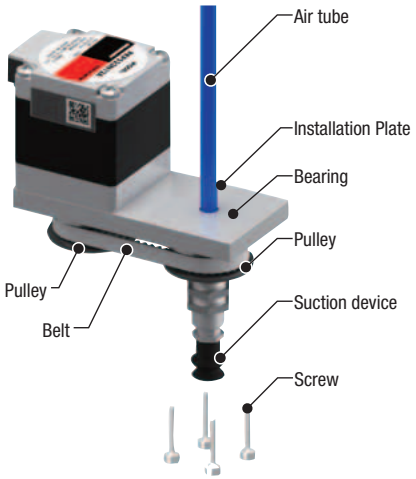


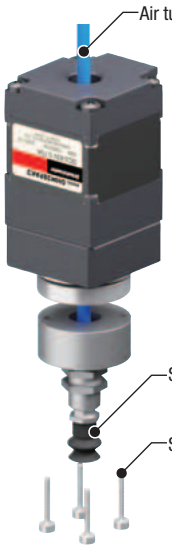
Axes of rotation of security camera

●Diameter of Hollow Section (Actual size)
Example: **DHM42PAK**



Some of the conventional parts have been eliminated, so the time required for equipment design and product selection is shortened.
Furthermore, the number of man-hours required for assembly and the adjustment of installation accuracy can be reduced, contributing to higher productivity.



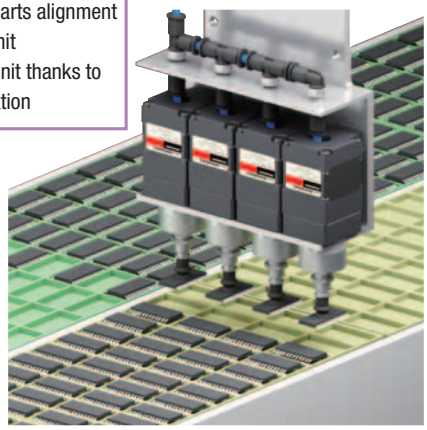


Advantages of using the equipment
-Less design time
-Lower parts cost
-Less assembly work
-Less accuracy adjustment time
-Less maintenance time

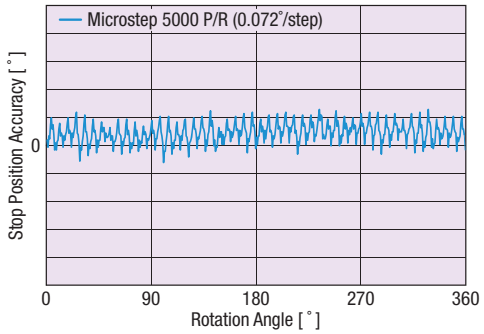
High Positioning Accuracy

The on-board 5-phase stepper motor allows for high positioning accuracy and fine operations to be stably repeated. Thanks to the microstep drive and smooth drive function in combination with the **CVD** driver, vibration is reduced at low speed and smooth operation is possible. Because the hollow flange does not use any transfer mechanisms like couplings or belts, there is no effect of error on accuracy caused by part rigidity or combination.

Advantages of using the equipment
-Highly accurate parts alignment
-Lighter suction unit
-Smaller suction unit thanks to parallel configuration



Part mounter
θ axis of parallel suction device



Product Name	Stop Position Accuracy	Repetitive Positioning Accuracy
DHM28PAK2	±0.33˚	±0.15˚
DHM42PAK	±0.11˚	±0.05˚

Combination Drivers

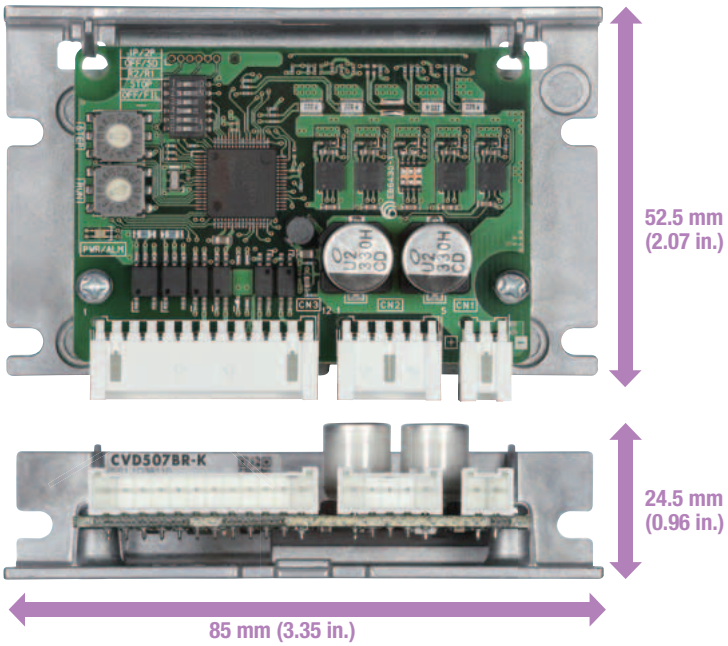
CVD Series drivers are available.
For details, see "Drivers for 5-Phase Stepper Motors **CVD** Series (Combination Driver)" on page 12.

Low Vibration with Full-Time Microstepping

Low vibration and noise reduction have been achieved across all speed ranges by significantly improving the vibration level with the use of a fully digital-controlled full-time microstep driver.

Compact and High-Performance Driver

- Compact and lightweight driver that contributes to space saving
- Equipped with a protective function that enables you to find driver errors early.
- Using the smooth drive function reduces the vibration and noise.
- Operating current can be easily set with the digital switch.



Actual Size

Mass 20g (0.71 oz.) to 70 g (2.5 oz.)
(The mass depends on the type of driver.)

A wide variety of products are available for every application or specification.

◇Pulse Input Type

Synchronous operation can be easily performed by pulse input.

Right-Angle Type with Installation Plate

With Installation Plate

- Products without installation plate are also available.

◇RS-485 Communication Type

Operation control and parameter settings can be performed by RS-485 communication (Modbus RTU).
The operation data set in the driver can be selected and executed from the host controller without the need for a pulse generator.

Right-Angle Type with Installation Plate

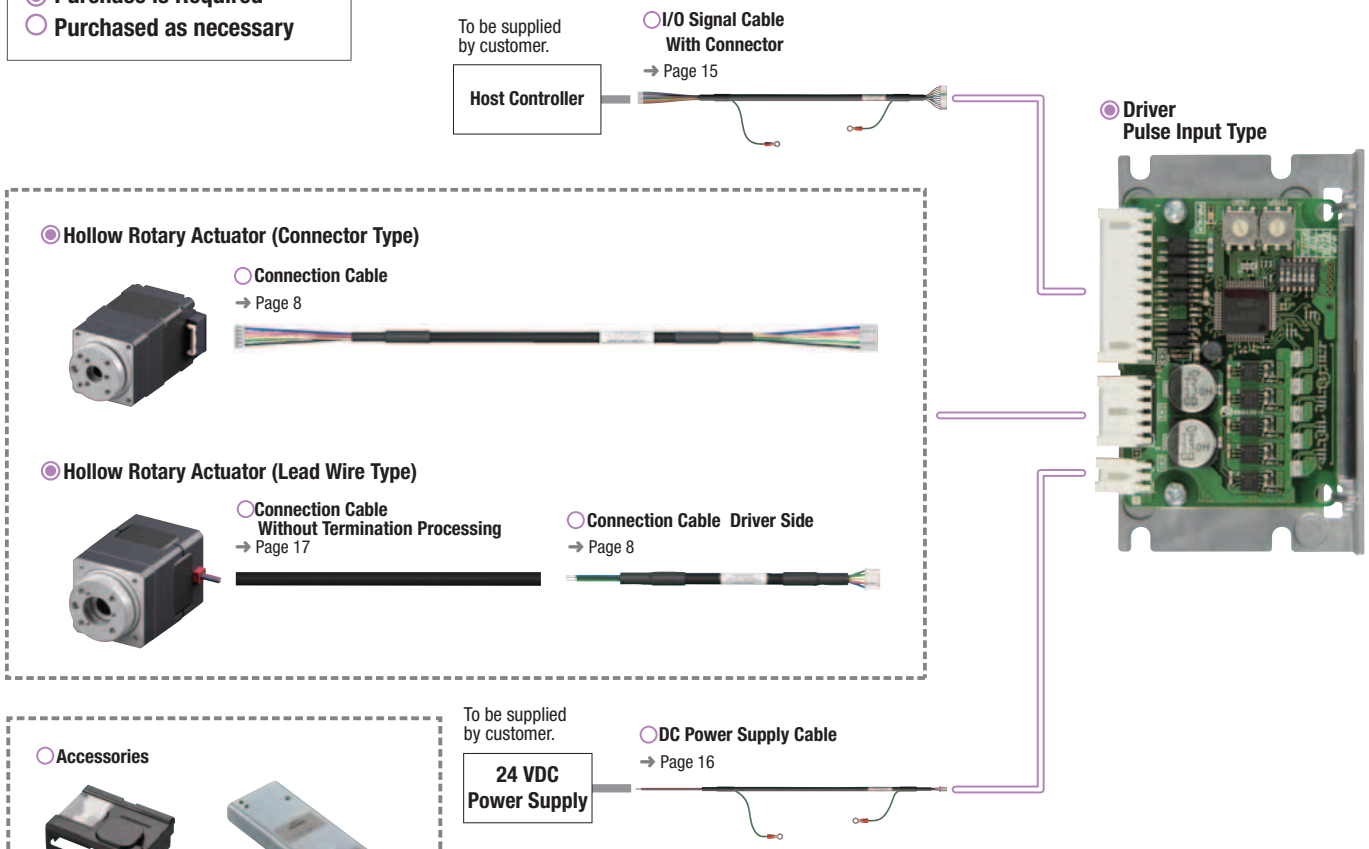
With Installation Plate

System Configuration

Combination of Hollow Rotary Actuator and **CVD** Series Pulse Input Type Driver

This is an example of system configuration using a programmable controller (with pulse oscillation function).
Hollow rotary actuators, drivers, and connection cables need to be ordered separately.

◉ Purchase is Required
○ Purchased as necessary



●Example of System Configuration

Hollow Rotary Actuator		Driver		Cable		
				Connection Cables [1 m (3.3 ft.)]	I/O Signal Cable Connector Type [1 m (3.3 ft.)]	DC Power Supply Cable [1 m (3.3 ft.)]
DHM28PAK2	+	CVD507BR-K	+	CCM010V5AAF	CC12D010-2	CC02D010-2
◉		◉		○	○	○

●The system configuration shown above is an example. Other combinations are also available.

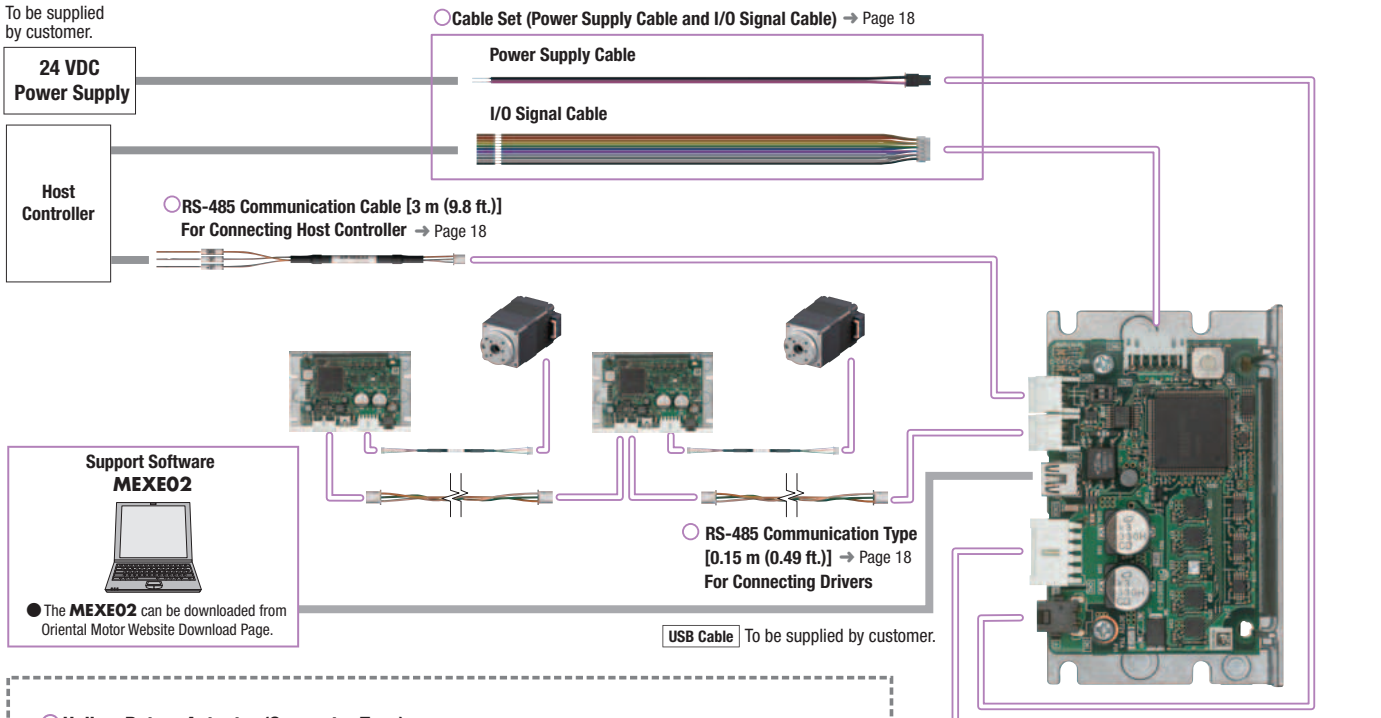
Note

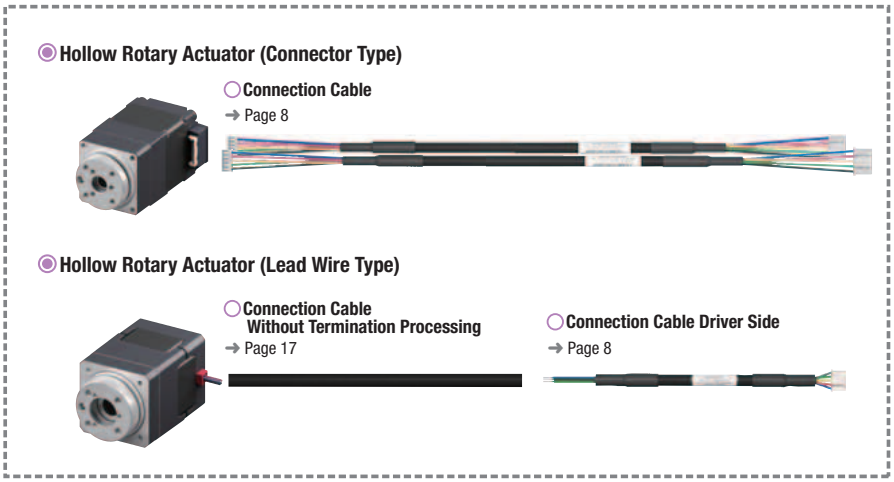
●The driver cover can be used for a pulse input type driver right-angle type with installation plate.

Combination of Hollow Rotary Actuator and **CVD** Series RS-485 Communication Type Driver

An example of three-axis system configuration when controlled with RS-485 communication is shown below.
The hollow rotary actuators, drivers, and connection cables must be ordered separately.

◉ **Purchase is required**
○ **Purchased as necessary**





◉ **Driver**
RS-485 Communication Type

Note
Connectors for connecting power supply, motor, I/O signal cable, and RS-485 communication are not included with the driver. Accessary cables need to be purchased or connectors must be supplied separately by a customer. For connector product numbers, see page 13 on this brochure or refer to the operating manual.

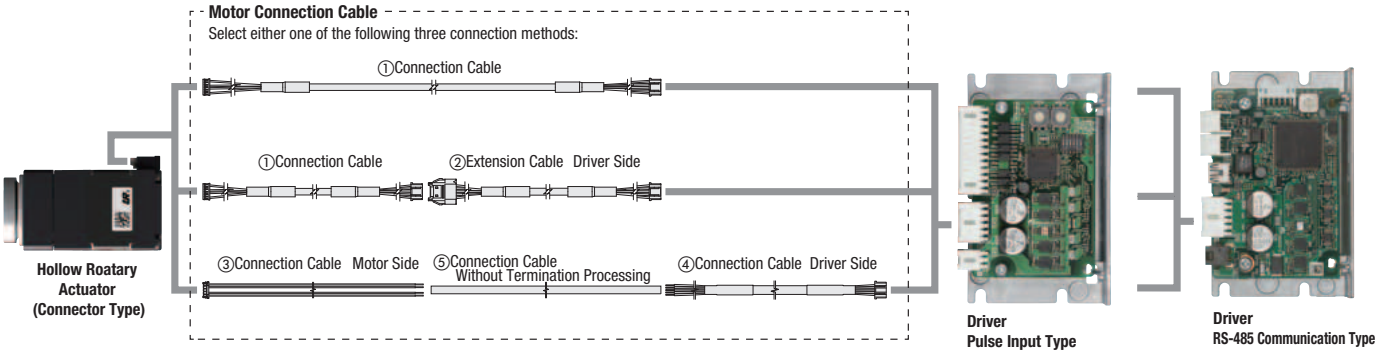
●Example of System Configuration

Hollow Rotary Actuator		Driver		Cable		
				Connection Cable [1 m (3.3 ft.)]	RS-485 Communication Cable [3 m (9.8 ft.)]	Cable Set [0.3 m (1 ft.)]
DHM28PAK2	+	**CVD5BR-KR**	+	**CCM010V5AAF**	**CC030-RS**	**LHS003CC**
◉		◉		○	○	○

The system configuration shown above is an example. Other combinations are also available.

Cable System Configuration Example

This is an example of connection between the hollow rotary actuator (connector type) and our driver.



Selectable from the following three connection methods:

Connect using a connection cable

Connect by adding a extension cable to the connection cable

Use the connection cable motor side to connect to the connection cable driver side by a customer.

Note

- Up to 3 cables can be used to connect the motor and the driver.
- The distance between the motor and the driver can be extended up to 10 m (32.8 ft.).

Product Number

DHM 28 P A K 2

① ② ③ ④ ⑤ ⑥

①	Series Name	**DHM**: **DH** Series
②	Frame Size	**28**: 28 mm (1.1 in.) **42**: 42 mm (1.65 in.)
③	Equipped Motor	**P**: 5-Phase Stepper Motor
④	Motor Type	**A**: Standard
⑤	Motor Specifications	**K**: DC Power Supply Input
⑥	Reference Number	

Product Line

Actuators, drivers, and cables need to be ordered separately. Please refer to page 12 for details of the drivers.

Actuators

Product Name
DHM28PAK2
DHM42PAK

Connection Cables / Flexible Connection Cables

◇For Frame Size 28 mm (1.1 in.)

●Connection Cables

Product Name	Length L [m (ft.)]
CCM005V5AAF	0.5 (1.64)
CCM010V5AAF	1 (3.3)
CCM015V5AAF	1.5 (4.9)
CCM020V5AAF	2 (6.6)
CCM025V5AAF	2.5 (8.2)
CCM030V5AAF	3 (9.8)
CCM040V5AAF	4 (13.1)
CCM050V5AAF	5 (16.4)
CCM070V5AAF	7 (23)
CCM100V5AAF	10 (32.8)

●Flexible Connection Cables

Product Name	Length L [m (ft.)]
CCM005V5AAR	0.5 (1.64)
CCM010V5AAR	1 (3.3)
CCM015V5AAR	1.5 (4.9)
CCM020V5AAR	2 (6.6)
CCM025V5AAR	2.5 (8.2)
CCM030V5AAR	3 (9.8)
CCM040V5AAR	4 (13.1)
CCM050V5AAR	5 (16.4)
CCM070V5AAR	7 (23)
CCM100V5AAR	10 (32.8)

●Please refer to the **PKP** Series brochure for the "Extension cable driver side (**CCM□□□V5ADFT**)" to be added to the connection cable. The wiring distance between the motor and the driver should be 10 m (32.8 ft.) or less.

◇For Frame Size 42 mm (1.65 in.)

●Connection Cables Driver Side

Product Name	Length L [m (ft.)]
CC005N1	0.5 (1.64)
CC010N1	1 (3.3)

●Flexible Connection Cables Driver Side

Product Name	Length L [m (ft.)]
CC005N1R	0.5 (1.64)
CC010N1R	1 (3.3)

●Connection cables without termination processing (**CC□□PK5**, **CC□□PK5R**) are for extending the connection between the motor and the driver. See page 17 for details. The wiring distance between the motor and the driver should be 10 m (32.8 ft.) or less.

Included

Operating Manual: 1 Copy

How to Read Specifications

Specifications

	Frame Size			28 mm (1.1 in.)	42 mm (1.65 in.)
	Actuator Product Name			**DHM28PAK2**	**DHM42PAK**
	Driver Product Name	Pulse Input		**CVD507BR-K**	
		RS-485 Communication		**CVD5BR-KR**	
①	Maximum Holding Torque		N·m	0.029	0.175
②	Holding Torque at Motor Standstill	Power ON	N·m	0.014	0.087
	Rotor Inertia		J: kg·m^2	3.5×10^{-6}	25.5×10^{-6}
	Rated Current		A/Phase	0.75	
	Basic Step Angle			0.72°	
	Stop Position Accuracy			±0.33°	±0.11°
③	Repetitive Positioning Accuracy			±0.15°	±0.05°
④	Permissible Axial Load		N	40	150
⑤	Permissible Moment Load		N·m	0.1	0.4
⑥	Runout of Output Table (Hollow Flange) Surface		mm (in.)	0.05 (0.00197)	
⑦	Runout of Output Table (Hollow Flange) Inner/Outer Diameter		mm (in.)	0.05 (0.00197)	

Note

- The accuracy is measured at a constant temperature (normal temperature) under a constant load.
- Be sure to set the driver setting current to be less than the rated current of the actuator.
  Exceeding the rated current of the actuator may damage the product.

①Maximum Holding Torque

This is the maximum holding torque the actuator has when power is supplied but the output table (hollow flange) is not rotating.

②Holding Torque at Motor Standstill

This is the holding torque when the automatic current cutback function is active.

③Repetitive Positioning Accuracy

A value indicating the degree of error that generates when positioning is performed repeatedly to the same position in the same direction.

④Permissible Axial Load

The permissible value of axial load applied to the output table (hollow flange) in the axial direction.

⑤Permissible Moment Load

When a load is applied to a position away from the center of the output table (hollow flange), the output table (hollow flange) receives a tilting force. The permissible moment load refers to the permissible value of moment load calculated by multiplying the offset distance from the center by the applied load.

⑥Runout of Output Table (Hollow Flange) Surface

The maximum value of runout of the mounting surface of the output table (hollow flange) when the output table (hollow flange) is rotated under no load.

⑦Runout of Output Table (Hollow Flange) Inner/Outer Diameter

The maximum value of runout of the inner diameter or outer diameter of the table when the output table (hollow flange) is rotated under no load.

Specifications

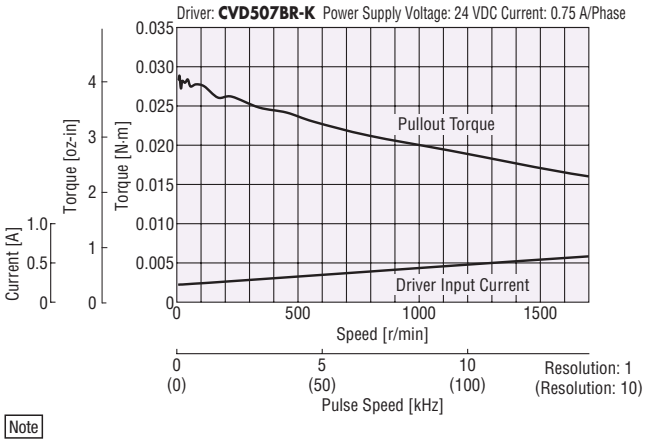
Frame Size			28 mm (1.1 in.)	42 mm (1.65 in.)
Actuator Product Name			**DHM28PAK2**	**DHM42PAK**
Driver Product Name	Pulse Input		**CVD507BR-K**	
	RS-485 Communication		**CVD5BR-KR**	
Maximum Holding Torque		N·m	0.029	0.175
Holding Torque at Motor Standstill	Power ON	N·m	0.014	0.087
Rotor Inertia		J: kg·m^2	3.5×10^{-6}	25.5×10^{-6}
Rated Current		A/Phase	0.75	
Basic Step Angle			0.72°	
Stop Position Accuracy			±0.33°	±0.11°
Repetitive Positioning Accuracy			±0.15°	±0.05°
Permissible Axial Load		N	40	150
Permissible Moment Load		N·m	0.1	0.4
Runout of Output Table (Hollow Flange) Surface		mm (in.)	0.05 (0.00197)	
Runout of Output Table (Hollow Flange) Inner/Outer Diameter		mm (in.)	0.05 (0.00197)	

Note

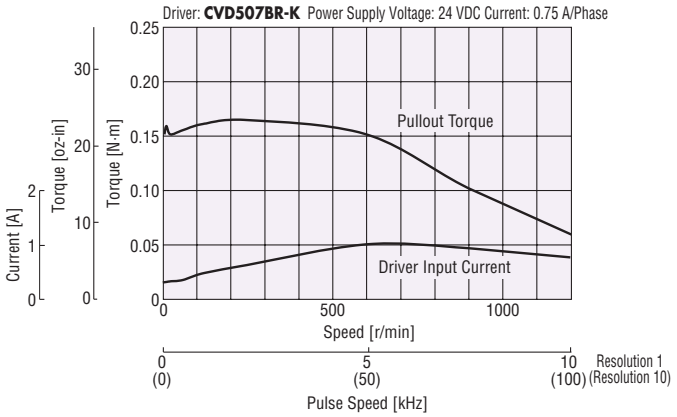
- The accuracy is measured at a constant temperature (normal temperature) under a constant load.
- Be sure to set the driver setting current to be less than the rated current of the actuator.
  Exceeding the rated current of the actuator may damage the product.

Speed - Torque Characteristics (Reference Value)

DHM28PAK2



DHM42PAK

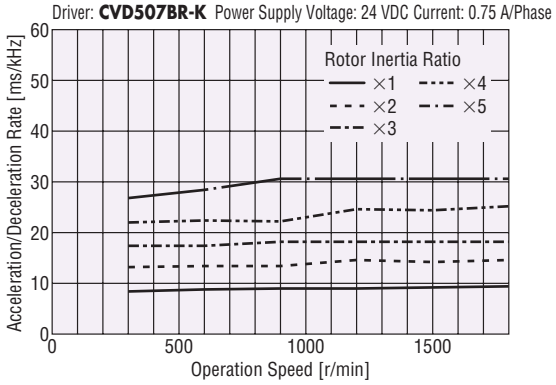


Note

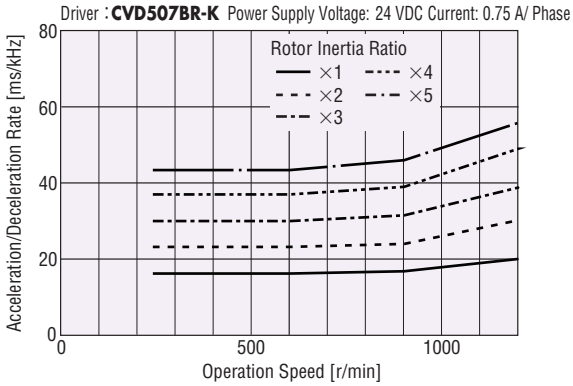
- Data for the speed – torque characteristics is based on Oriental Motor's internal measurement conditions. If the conditions are changed, the characteristics may also change as a result.
- Depending on the driving conditions, a considerable amount of heat may be generated by the actuator. Be sure to keep the motor case temperature at 100°C (212 °F) max.
- The characteristics are the same when RS-485 communication type driver is used in combination.

Operation Speed - Acceleration/Deceleration Rate (Reference Value)

DHM28PAK2



DHM42PAK



- These diagrams show the inertia ratio of the load inertia to the rotor inertia.

General Specifications

		Actuators
Thermal Class		130(B)
Insulation Resistance		The measured value is 100 MΩ or more when a 500 VDC megger is applied between the following locations: Between case and motor windings
Dielectric Strength		Sufficient to withstand the following for 1 minute: **DHM28** · Between case and motor windings: 0.5 kVAC, 50 Hz or 60 Hz **DHM42** · Between case and motor windings: 1.0 kVAC, 50 Hz or 60 Hz
Operating Environment (In operation)	Ambient Temperature	0 to +40℃ (+32 to +104 °F) (Non-freezing)
	Ambient Humidity	85% or less (Non-condensing)
	Atmosphere	No corrosive gas or dust. No water or oil.
Degree of Protection		IP20

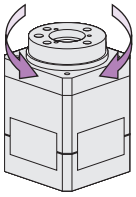
Note

● Disconnect the actuator and driver when taking an insulation resistance measurement or performing a dielectric voltage withstand test.

Rotating Direction

The rotation directions shown below represent the directions as viewed from the hollow flange (output table) side.

Rotation direction when inputting the CCW signal

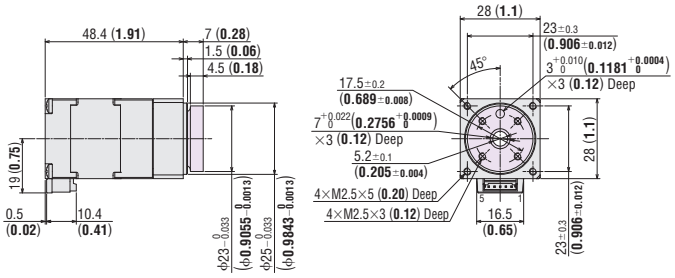


Rotation direction when inputting the CW signal

Dimensions [Unit: mm (in.)]

Flame Size 28 mm (1.1 in.) 2D & 3D CAD

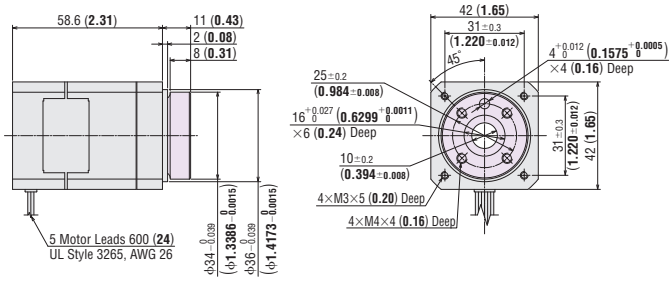
Product Name	Mass kg (lb.)	2D CAD
DHM28PAK2	0.17 (0.37)	D7909



● The ▭ shaded areas are rotating parts.

Flame Size 42 mm (1.65 in.) 2D & 3D CAD

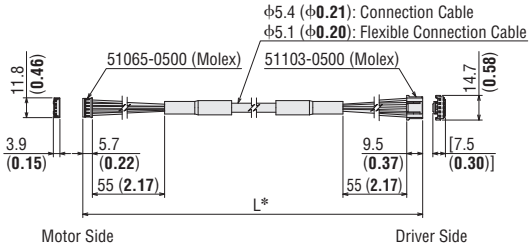
Product Name	Mass kg (lb.)	2D CAD
DHM42PAK	0.47 (1.03)	D2852



● The ▭ shaded areas are rotating parts.

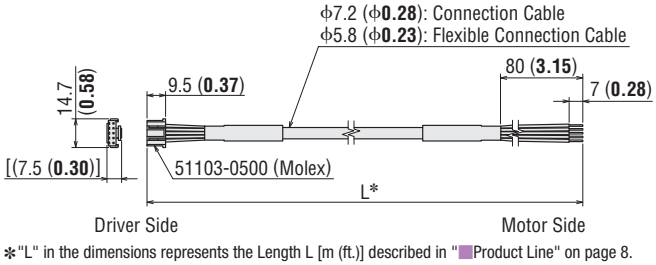
Connection Cables / Flexible Connection Cables

◇For Frame Size 28 mm (1.1 in.)



✻"L" in the dimensions represents the Length L [m (ft.)] described in "■Product Line" on page 8.

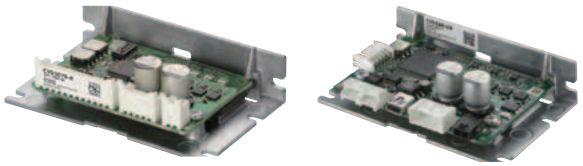
◇For Frame Size 42 mm (1.65 in.)



✻"L" in the dimensions represents the Length L [m (ft.)] described in "■Product Line" on page 8.

Drivers for 5-Phase Stepper Motors
CVD Series (Combination Driver)

The microstep function is equipped in the low-vibration design driver to enable even low-vibration and low-noise drive.



Product Number

Pulse Input Type

CVD 5 07 B R - K

① ② ③ ④ ⑤ ⑥

①	Series Name	**CVD**: **CVD** Series
②	**5**: 5-Phase	
③	Rated Current	
④	Driver Shape	**B**: With Installation Plate Blank: Without Installation Plate
⑤	Connector Shape	**R**: Right-Angle
⑥	Power Supply Input	**K**: DC Power Supply

RS-485 Communication Type

CVD 5 B R - K R

① ② ③ ④ ⑤ ⑥

①	Series Name	**CVD**: **CVD** Series
②	**5**: 5-Phase	
③	Driver Shape	**B**: With Installation Plate
④	Connector Shape	**R**: Right-Angle
⑤	Power Supply Input	**K**: DC Power Supply
⑥	Type	**R**: RS-485 Communication Type

Product Line

Pulse Input Type

◇Right-Angle Type with Installation Plate

Product Name
CVD507BR-K

◇With Installation Plate

Product Name
CVD507B-K

◇Without Installation Plate

Product Name
CVD507-K

RS-485 Communication Type

◇Right-Angle Type with Installation Plate

Product Name
CVD5BR-KR

◇With Installation Plate

Product Name
CVD5B-KR

Included

Type	Connector for Driver Connection
Pulse Input Type	CN1 Connector (1 pc.) CN2 Connector (1 pc.) CN3 Connector (1 pc.)
RS-485 Communication Type	–

Specifications

Pulse Input Type

Product Name		CVD507BR-K	CVD507B-K	CVD507-K
Driving Method		Microstep Drive, Bipolar, Constant Current Drive Method		
Power Supply Voltage		24 VDC ±10%		
Input Current	A	1.4		
Max. Input Pulse Frequency		Line driver output by programmable controller: 1 MHz (When the pulse duty is 50%) Open-collector output by programmable controller: 250 kHz (When the pulse duty is 50%) Negative Logic Pulse Input		

RS-485 Communication Type

Product Name		CVD5BR-KR	CVD5B-KR
Driving Method		Microstep Drive, Bipolar, Constant Current Drive Method	
Power Supply Voltage		24 VDC ±10%	
Input Current	A	1.4	
Interface	Control Input	7 points, Photocoupler	
	Control Output	2 points, Photocoupler and Open Collector Output	
	Field Network	Modbus RTU (RS-485 Communication)	

RS-485 Communication Specifications

Electrical Characteristics	In compliance with EIA-485 Shielded twisted-pair wire is used up to a total extension length of 10 m (32.8 ft.).
Communication Mode	Half-duplex communication Synchronous mode (data: 8-bits, stop bit: 1-bit/2-bits, parity: none/odd/even)
Transmission Rate	Selected either from 9600 bps, 19200 bps, 38400 bps, 57600 bps, 115200 bps, or 230400 bps
Protocol	Modbus RTU Mode
Connection Type	Up to 31 units can be connected to one programmable controller (master equipment).

Dimensions [Unit: mm (in.)]

Pulse Input Type

◇Right-Angle Type with Installation Plate 2D & 3D CAD

Product Name	Mass kg (oz.)	2D CAD
CVD507BR-K	0.06 (2.1)	B1210

●Included

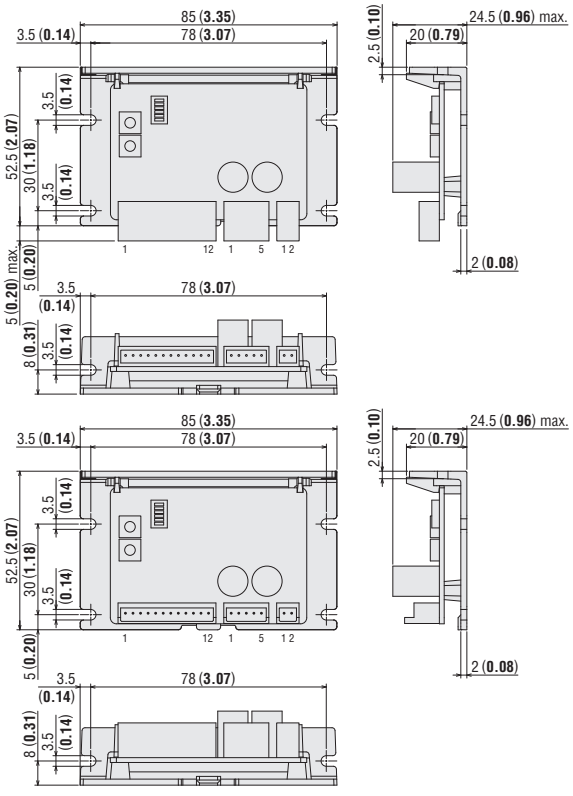
Connector Housing:	51103-0200	(Molex)
	51103-0500	(Molex)
	51103-1200	(Molex)
Contact:	50351-8100	(Molex)

◇With Installation Plate 2D & 3D CAD

Product Name	Mass kg (oz.)	2D CAD
CVD507B-K	0.06 (2.1)	B1255

●Included

Connector Housing:	51103-0200	(Molex)
	51103-0500	(Molex)
	51103-1200	(Molex)
Contact:	50351-8100	(Molex)



●Cables for motors (actuators), I/O signals, and DC power supply are available (sold separately).
Since the connector has already been crimped, no crimping tool is required and wiring can be done easily. Please see pages 8 and 15 to 17.

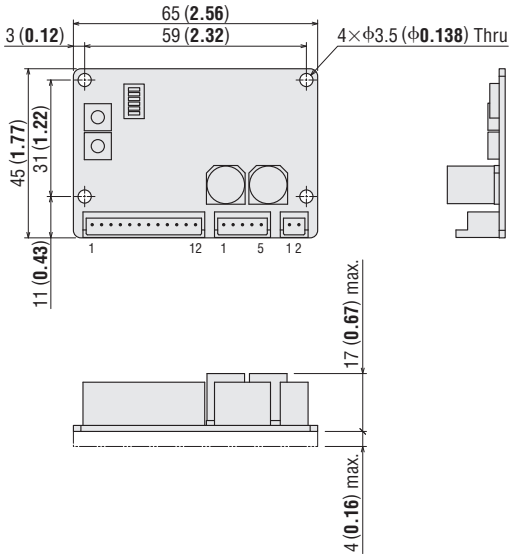
◇Without Installation Plate

2D & 3D CAD

Product Name	Mass kg (oz.)	2D CAD
CVD507-K	0.02 (0.71)	B1228

●Included

Connector Housing:	51103-0200	(Molex)
	51103-0500	(Molex)
	51103-1200	(Molex)
Contact:	50351-8100	(Molex)



●Cables for motors (actuators), I/O signals, and DC power supply are available (sold separately).
Since the connector has already been crimped, no crimping tool is required and wiring can be done easily. Please see pages 8 and 15 to 17.

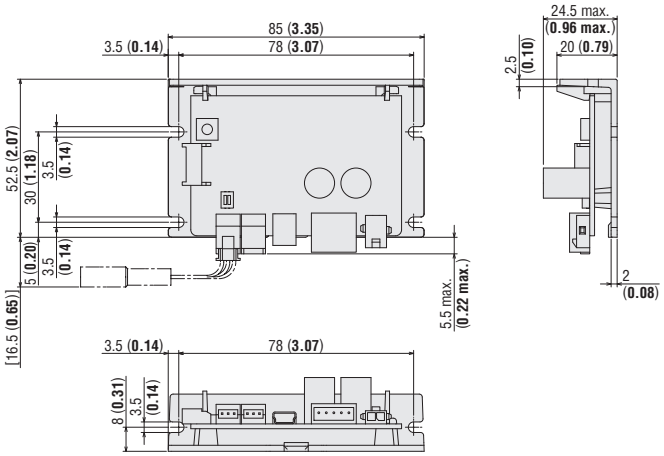
●RS-485 Communication Type

◇Right-Angle Type with Installation Plate

2D & 3D CAD

Product Name	Mass kg (oz.)	2D CAD
CVD5BR-KR	0.065 (2.3)	B1512

●Applicable Connector
Power Connector (CN1)
Connector Housing: 43645- 0200(Molex)
Contact: 43030- 0001(Molex)
Motor Connector (CN2)
Connector Housing: 51103- 0500(Molex)
Contact: 50351- 8100(Molex)
RS-485 Communication Connector (CN4, CN5)
Connector Housing: PAP-03V-S (J.S.T. Mfg. Co., Ltd.)
Contact: SPHD-001T-P0.5 or SPHD-002T-P0.5
(J.S.T. Mfg. Co., Ltd.)
I/O Signals Connector (CN6)
Connector Housing: PHDR-12VS (J.S.T. Mfg. Co., Ltd.)
Contact: SPHD-001T-P0. 5(J.S.T. Mfg. Co., Ltd.)

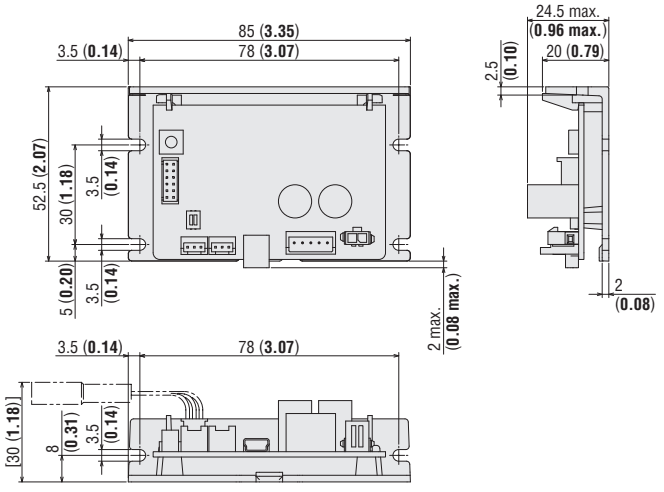


◇With Installation Plate

2D & 3D CAD

Product Name	Mass kg (oz.)	2D CAD
CVD5B-KR	0.065 (2.3)	B1511

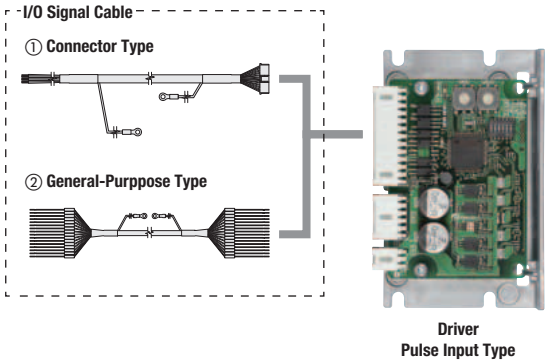
●Applicable Connector
Power Connector (CN1)
Connector Housing: 43645- 0200(Molex)
Contact: 43030- 0001(Molex)
Motor Connector (CN2)
Connector Housing: 51103- 0500(Molex)
Contact: 50351- 8100(Molex)
RS-485 Communication Connector (CN4, CN5)
Connector Housing: PAP-03V-S (J.S.T. Mfg. Co., Ltd.)
Contact: SPHD-001T-P0.5 or SPHD-002T-P0.5
(J.S.T. Mfg. Co., Ltd.)
I/O Signals Connector (CN6)
Connector Housing: PHDR-12VS (J.S.T. Mfg. Co., Ltd.)
Contact: SPHD-001T-P0. 5(J.S.T. Mfg. Co., Ltd.)



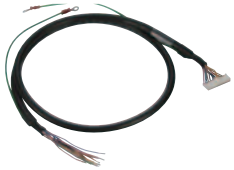
●Cables for motors (actuators), power supply and I/O signals, and RS-485 communication are available (sold separately).
Since the connector has already been crimped, no crimping tool is required and wiring can be done easily. Please see pages 8 and 18.

Cables and Accessories

I/O Signal Cables (For Pulse Input Type)



①Connector Type



These are connection cables between the host controller and the driver.
A shielded cable with protruding ground wires on both ends for easy grounding.

◇Product Line

Product Name	Length L [m (ft.)]	Conductor AWG
CC12D005-2	0.5 (1.64)	24 ($0.2mm^2$)
CC12D010-2	1 (3.3)	
CC12D015-2	1.5 (4.9)	
CC12D020-2	2 (6.6)	

●For dimensions please visit our website.

②General-Purpose Type

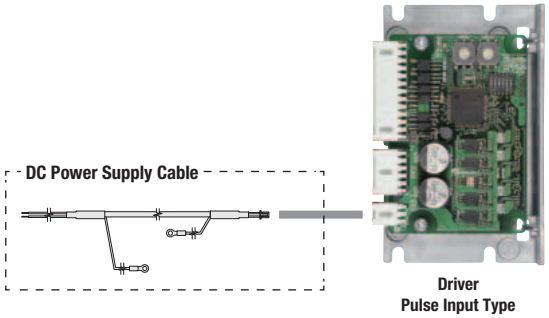
These are connection cables between the host controller and the driver.
Both ends are flying lead wires.
A shielded cable with protruding ground wires on both ends for easy grounding.

◇Product Line

Product Name	Length L [m (ft.)]	Number of Lead Wire Cores	Outer Diameter D [mm (in.)]	AWG
CC06D005B-1	0.5 (1.64)	6	ϕ5.4 (0.21)	24 ($0.2mm^2$)
CC06D010B-1	1 (3.3)			
CC06D015B-1	1.5 (4.9)			
CC06D020B-1	2 (6.6)			
CC10D005B-1	0.5 (1.64)	10	ϕ6.7 (0.26)	
CC10D010B-1	1 (3.3)			
CC10D015B-1	1.5 (4.9)			
CC10D020B-1	2 (6.6)			
CC12D005B-1	0.5 (1.64)	12	ϕ7.5 (0.30)	
CC12D010B-1	1 (3.3)			
CC12D015B-1	1.5 (4.9)			
CC12D020B-1	2 (6.6)			

●For dimensions please visit our website.

DC Power Supply Cables (For Pulse Input Type)



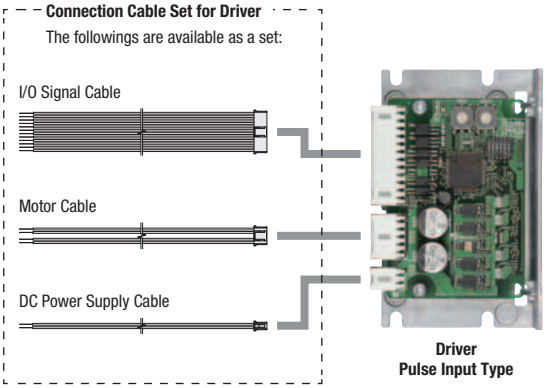
These cables are used to connect the driver and the DC power supply.
A shielded cable with protruding ground wires on both ends for easy grounding.

◇Product Line

Product Name	Length L [m (ft.)]	Conductor AWG
CC02D005-2	0.5 (1.64)	22 ($0.3mm^2$)
CC02D010-2	1 (3.3)	
CC02D015-2	1.5 (4.9)	
CC02D020-2	2 (6.6)	

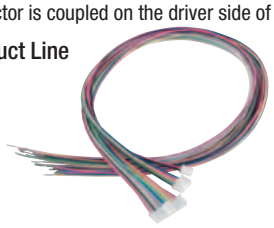
● For dimensions please visit our website.

Connection Cable Sets for Driver (For Pulse Input Type)



Connecting Cables for motor (actuator), I/O signals, and DC power supply that can be connected to the driver are available as a set.
A connector is coupled on the driver side of each cable.

Product Line



Product Name	Connector	Connector Name	Length L1	Length L2	Conductor AWG
LCS04SD5	For Motor	51103-0500	0.6 m (2.0 ft.)	10 mm (0.39 in.)	22 (0.3 mm^2)
	For Power Supply	51103-0200			
	For I/O Signal	51103-1200			

Connector Pin Assignments

◇For Motor

Pin No.	Wire Color
1	Blue
2	Red
3	Orange
4	Green
5	Black

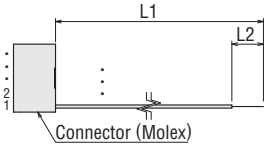
◇For Power Supply

Pin No.	Wire Color
1	Red
2	Black

◇For I/O Signal

Pin No.	Wire Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Purple
8	Gray
9	White
10	Black
11	Brown
12	Red

Dimensions



Connection Cable without Termination Processing

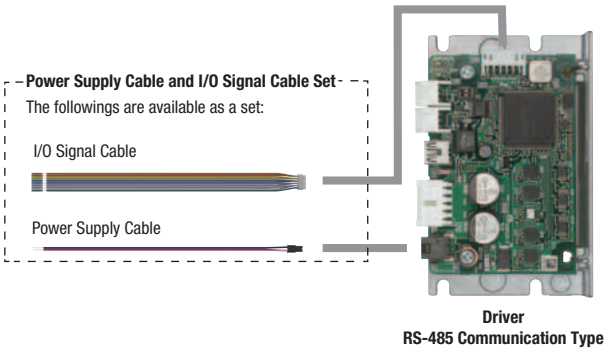
These cables are used to extend the connection between motor (actuator) and driver. The wiring distance between the motor (actuator) and the driver should be 10 m (32.8 ft.) or less.

◇Product Line

Product Name	Cable Type	Length L [m (ft.)]	Conductor AWG	Finished Outer Diameter [mm (in.)]
CC05PK5	Connection Cables	5 (16.4)	For Motor: 22 (0.3 mm^2)	ϕ7.2 (0.28)
CC10PK5		10 (32.8)		
CC05PK5R	Flexible Connection Cables	5 (16.4)	For Motor: 22 (0.3 mm^2)	ϕ5.8 (0.23)
CC10PK5R		10 (32.8)		

- Cable Core Structure: Motor: 5
- Cable Rating: 105˚C (221 °F)
- Cable Sheath: Oil-resistant, heat-resistant, non-transferable vinyl
- For dimensions please visit our website.

Power Supply Cable and I/O Signal Cable Sets (For RS-485 Communication Type)



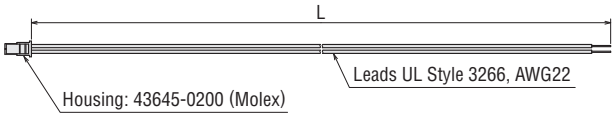
Power supply cable connects the driver and the DC power supply.
I/O signal cable connects the drivers and the host controller.
Power supply cable and I/O signal cable are available as a set.

Product Line

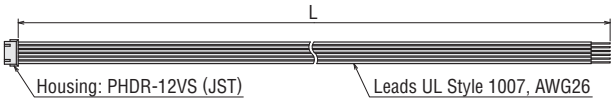
Product Name	Length L [m (ft.)]
LHS003CC	0.3 (1)
LHS010CC	1 (3.3)

Dimensions [Unit: mm (in.)]

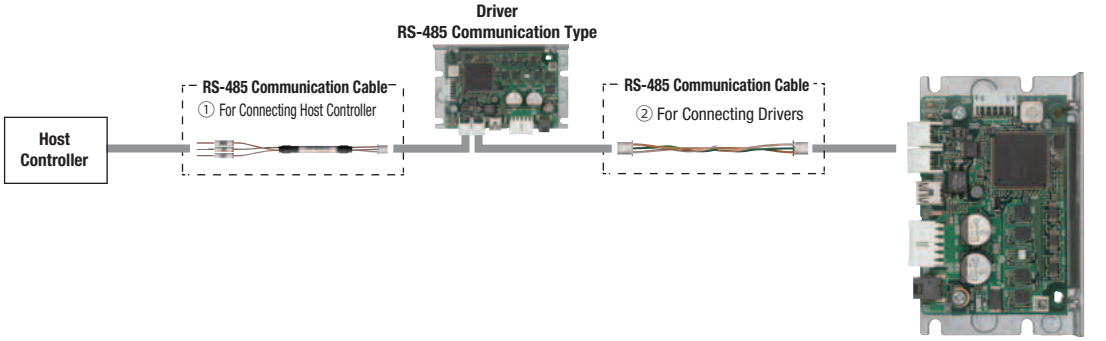
◇Power Supply Cable



◇I/O Signal Cable



RS-485 Communication Cables (For RS-485 Communication Type)



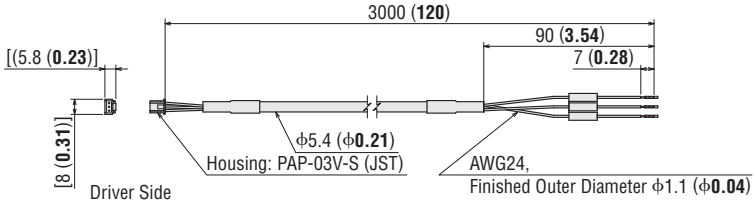
①For connecting host controller

This cable is used to connect the driver and the host controller

◇Product Line

Product Name	Length L [m (ft.)]
CC030-RS	3 (9.8)

◇Dimensions [Unit: mm (in.)]



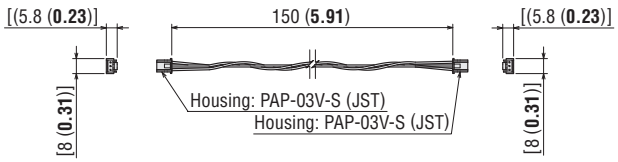
②For connecting drivers

This cable is used to connect two drivers together.

◇Product Line

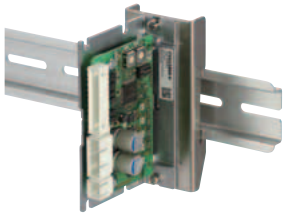
Product Name	Length L [m (ft.)]
LH0015-RWN	0.15 (0.5)

◇Dimensions [Unit: mm (in.)]



Driver Mounting Bracket

This is bracket for installation on a DIN rail.



Product Line

Product Name	Applicable Drivers	Surface Treatment
MADP07	**CVD5□□BR-K** **CVD5□□ B-K** **CVD5BR-KR** **CVD5B-KR**	Electroless nickel plating

Driver Cover

This is a protection cover to prevent contact with the circuit board.
Available for the right angle type driver with an installation plate.

<Application Example>

Product Line

Product Name	Applicable Drivers
PADC-CVD	**CVD5□□BR-K**

Note

● Cannot be attached to RS-485 communication type drivers.

Specifications are subject to change without notice. This catalog was published in August 2024.

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