

Ezi-Robo®

Actuator series Driven by Ezi-SERVO

- Ezi-SERVO + Hollow Rotary Index Table
- Hollow Diameter : Max. Ø85mm
- Maximum Torque : Max. 170N·m
- Permissible Axial Load : Max. 4000N
- Repeatability : Min. ± 10 arcsec
- EtherCAT, Ethernet, CC-Link Support

HG



EtherCAT
Conformance tested



EtherCAT 4X



Ethernet



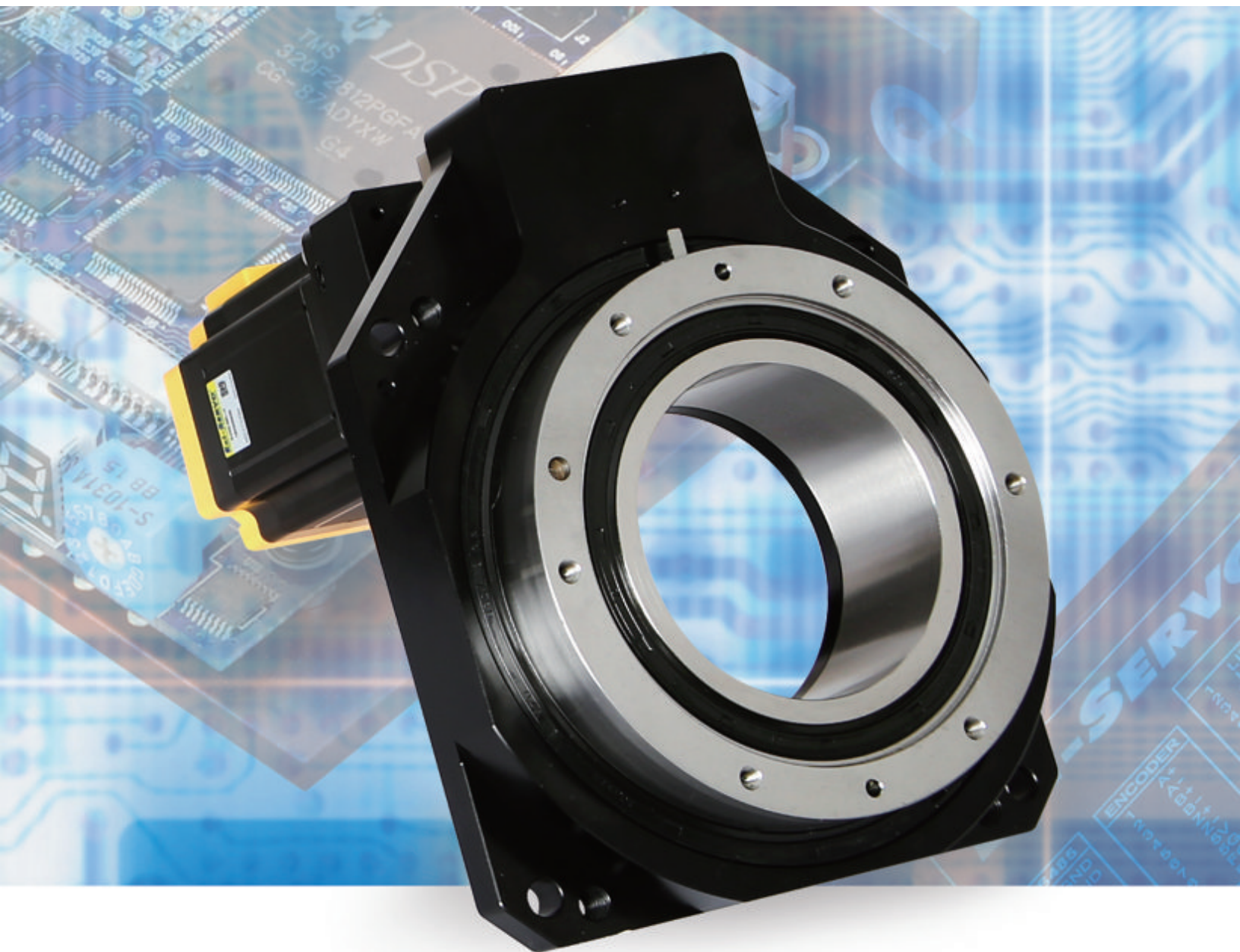
CC-Link



Pulse Input



Fast, Accurate, Smooth Motion



- Ezi-Robo HG(Hollow Gear) is a unit that combines a Hollow Rotary Table and Ezi-SERVO which is a Closed Loop System.



Fast, Accurate, Smooth Motion

Ezi-Robo[®] HG

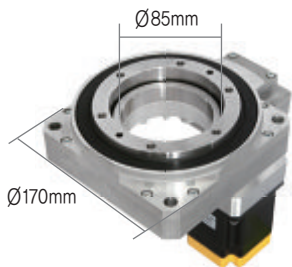
Actuator series Driven by Ezi-SERVO



1 Large Diameter Hollow Rotary Table

Large Diameter hollow bore to penetrate the output table equipped HG Series ensure flexibility and convenience in the design of equipment when installing complex wiring and piping.

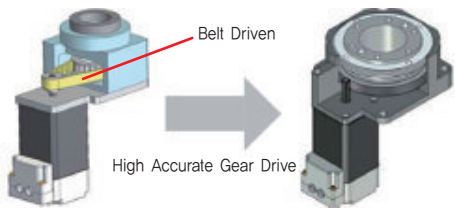
| Model Name | Size of Plinth [mm] | Hollow bore Diameter [mm] |
|------------|---------------------|---------------------------|
| HG60 | 60 | Ø20 |
| HG100 | 100 | Ø29 |
| HG130S | 130 | Ø56 |
| HG170S | 170 | Ø85 |



* HG170S series

2 High Accurate Gear Driven

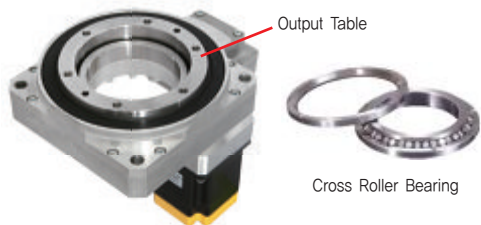
Since it is driven directly by the gear with extremely low backlash, it can perform precise positioning with ± 10 arcsec of Repeatability and Lost Motion with less than 2 arcmin. In addition Belt-Pulley is not used, so there is no need to adjust the tension of the belt, so maintenance is easy and operation cost can be reduced.



3 High Rigidity / High Load

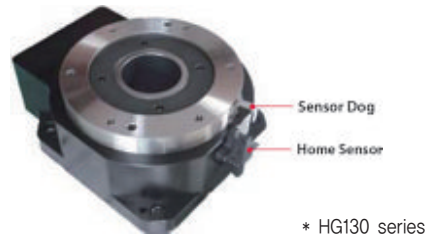
Cross roller bearing with high rigidity is integrated with a hollow rotary table to maximize the stiffness of the actuator by being able to receive loads in all directions such as thrust load and moment load.

- ※ In case of HG170S model
 - Maximum permissible axial load : 4000N
 - Maximum permissible moment : 200N·m



4 Simple Configuration of Homing Function

The home sensor is available as an option to easily configure the homing operation that is often needed in the rotary table. All the parts needed for homing output are provided, saving the effort to design, assemble and procure parts when the home sensor installation is needed.



* HG130 series

5 Supporting Various Field Network

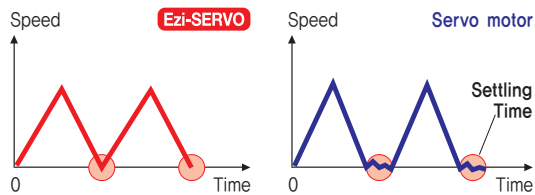
Ezi-Robo HG is a unit that combines Ezi-SERVO, a high performance closed loop step drive. Ezi-SERVO drives that support field networks such as EtherCAT, Ethernet and CC-Link can be connected to master controllers such as PC/PLC through corresponding field networks.

In case of Ezi-SERVO II Plus-E products, motion library (DLL) for Windows 7/8/10 can be provided.



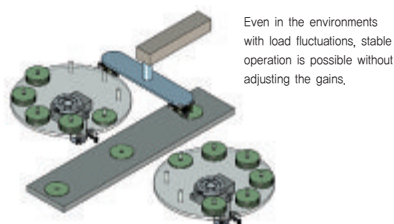
6 Fast Response

Similar to conventional stepping motors, Ezi-SERVO instantly synchronizes with command pulses providing fast positional response. Ezi-SERVO is the optimum choice when zero-speed stability and rapid motions within a short distance are required. Traditional servo motor systems have a natural delay called settling time between the command input signals and the resultant motion because of the constant monitoring of the current position.



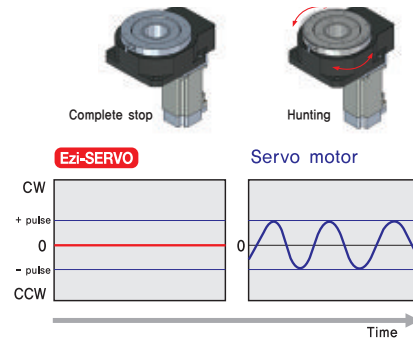
7 No Gain Tuning

In general servo systems, gain adjustment is essential for performance improvement. It takes a lot of time to adjust the gain and it causes problems depending on the type of load. However Ezi-SERVO is a servo system that does not require gain adjustment by using characteristics of stepping motor. Ezi-Robo HG is a Tuning Free Actuator that does not need gain adjustment even in sudden load change or rapid acceleration because it is driven by Ezi-SERVO.



8 No Hunting

Since Ezi-SERVO utilizes the characteristics of the stepping motor, there is no hunting problem in general servo system. Therefore hunting does not occur because it stops completely after motor stopping.



9 Position Table Function

Position Table can be used for motion control by digital input and output signals of host controller. You can operate the motor directly by sending the position table number, start/stop, origin search and other digital input values from a PLC. The PLC can monitor In-Position, origin search, moving/stop, servo ready and other digital output signals from a drive. A maximum of 256 positioning points can be set from PLC.



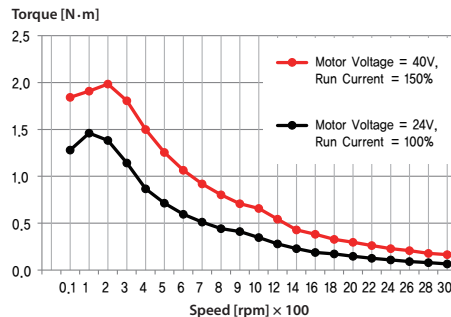
* Ethernet, CC-Link products only.

10 Torque Improvement

(Motor Voltage Increasing and Motor Current Setting)

Ezi-SERVO boosts the voltage supplied to the motor by internal DC-DC Converter. The torque at the high speed is increased. In addition, it is possible to set the Run Current up to 150%, whereby the torque at low speed is increased.

Torque can be improved by about 30% over the entire speed range.



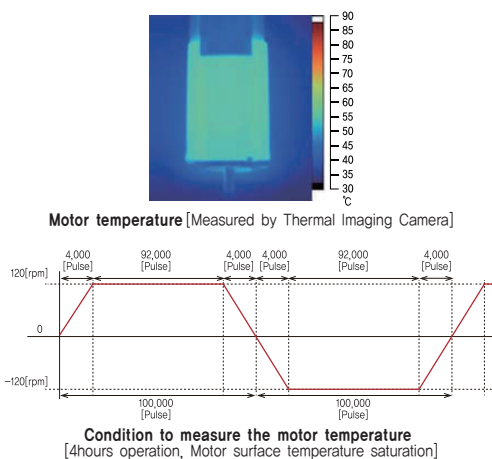
※ The torque at low speed and high speed is improved about 30%.

Measured Condition : Drive = Ezi-SERVO II-PE-56L
Motor Voltage = 40VDC
Input Voltage = 24VDC

11 Heat Reduction / Energy Saving

(Motor Current Control according to load)

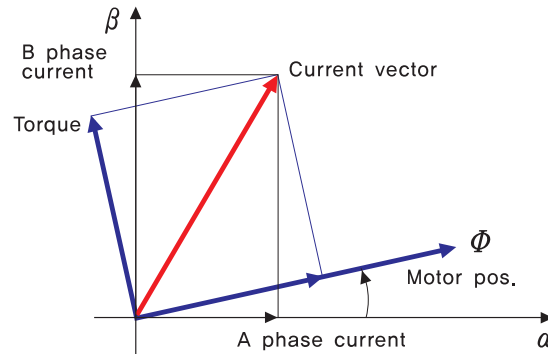
Ezi-SERVO automatically controls motor current according to load. Ezi-SERVO reduces motor current when motor load is low and increases motor current when load is high. By optimizing the motor current, motor heat can be minimized and energy can be saved.



Example of the Motor Current Control according to load

12 Smooth and Accurate

Ezi-SERVO is a high-precision servo drive, using a high-resolution encoder with 10,000 pulses/revolution. Unlike a conventional Microstep drive, the on-board high performance MCU performs vector control and filtering, producing a smooth rotational control with minimum ripples.

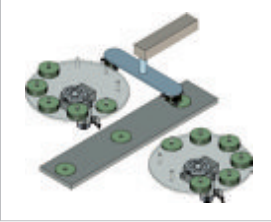
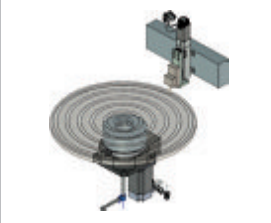
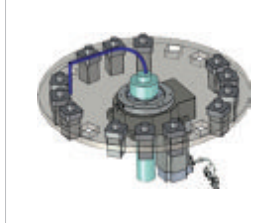


13 Available I/O signal

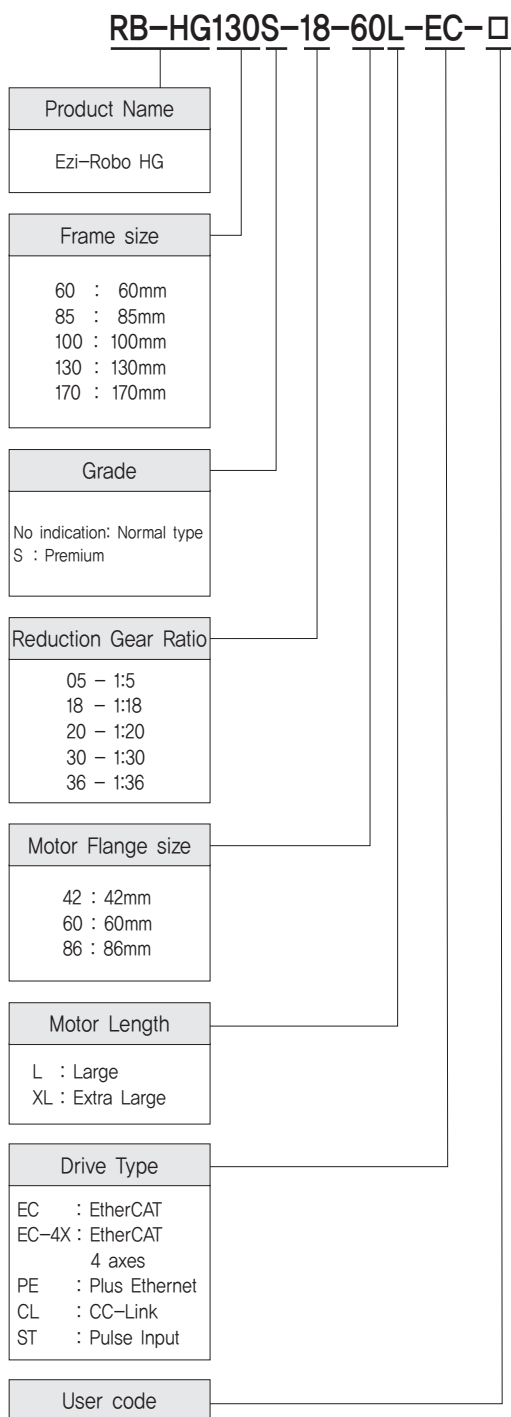
The Ezi-SERVO drive offers the ability to process multiple input and output signals. Equipment can be configured without a separate I/O device.

- EtherCAT : 7 inputs / 6 outputs
- CC-Link : 7 inputs / 6 outputs
- Ethernet : 9 inputs / 9 outputs

* For more details on I/O signals, Please refer to the catalog or manual of each drive.

Applications support to
changing load inertia fluctuationApplications for high
precision positioningApplications support moment
loadApplications for optical
applications using hollow boreApplications for a precise
positioning using hollow boreApplications for air
absorption using hollow bore

● Ezi-Robo HG Part Numbering



● Applicable Product Line-up

| Product | Specification |
|--------------------------|--|
| Ezi-SERVO II EtherCAT | Embedded EtherCAT |
| Ezi-SERVO II EtherCAT 4X | Embedded EtherCAT 4 axes |
| Ezi-SERVO II Plus-E | Ethernet based controller integrated product |
| Ezi-SERVO II CC-Link | Embedded CC-Link |
| Ezi-SERVO ST | Pulse Input Type |



Ezi-SERVO II EtherCAT
(EtherCAT)



Ezi-SERVO II EtherCAT 4X
(EtherCAT)



Ezi-SERVO II Plus-E
(Ethernet)



Ezi-SERVO II CC-Link
(CC-Link)



Ezi-SERVO ST
(Pulse Input)

● Motor, Drive Combination

| Unit Part Number | Reduction Gear Number | Motor Model Number | DRIVE | | | | |
|--------------------|-----------------------|--------------------|--------------|-----------------------|--------------------------|---------------------|----------------------|
| | | | Ezi-SERVO ST | Ezi-SERVO II EtherCAT | Ezi-SERVO II EtherCAT 4X | Ezi-SERVO II Plus-E | Ezi-SERVO II CC-Link |
| RB-HG60-05-42XL-□ | HG60-05 | EzM2-42XL-A | 0 | 0 | 0 | 0 | 0 |
| RB-HG100-08-60L-□ | HG100-08 | EzM2-60L-A | 0 | 0 | 0 | 0 | 0 |
| RB-HG130S-18-60L-□ | HG130S-18 | EzM2-60L-A | 0 | 0 | 0 | 0 | 0 |
| RB-HG170S-20-60L-□ | HG170S-20 | EzM2-60L-A | 0 | 0 | 0 | 0 | 0 |
| RB-HG170S-36-60L-□ | HG170S-36 | EzM2-60L-A | 0 | 0 | 0 | 0 | 0 |
| RB-HG170S-20-86L-□ | HG170S-20 | EzM2-86L-A | ● | ● | | ● | ● |
| RB-HG170S-36-86L-□ | HG170S-36 | EzM2-86L-A | ● | ● | | ● | ● |

※ □ is the drive type.
 ● Corresponds to 86mm drives.

● How to Read Specifications

| Model Name | RB-HG60-05-42XL |
|--|------------------------|
| ① Type of output table supporting bearing | Ball Bearing |
| ② Maximum torque [N·m] | 4.5 |
| ③ Inertia moment [kg·m ²] | $2,330 \times 10^{-7}$ |
| ④ Permissible speed [rpm] | 300 |
| ⑤ Gear ratio | 1:5 |
| ⑥ Maximum holding torque [N·m] | 1.6 |
| ⑦ Repeatability [arcsec] | $\pm 10(0.0028^\circ)$ |
| ⑧ Lost motion [arcmin] | $2(0.033^\circ)$ |
| ⑨ Angular transmission error [arcmin] | $4(0.067^\circ)$ |
| ⑩ Permissible axial load [N] | 100 |
| ⑪ Permissible moment load [N·m] | 2 |
| ⑫ Runout of output table surface [mm] | 0.015 |
| ⑬ Runout of output table inner/outer diameter [mm] | 0.015 |
| ⑭ Parallelism of output table [mm] | 0.03 |
| ⑮ Degree of protection ^{*1} | IP40 |
| ⑯ Mass [kg] | 1.0 |

^{*1} : IP20 for motor connector

Description of Specification Items

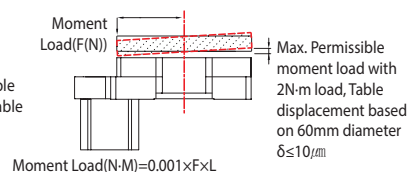
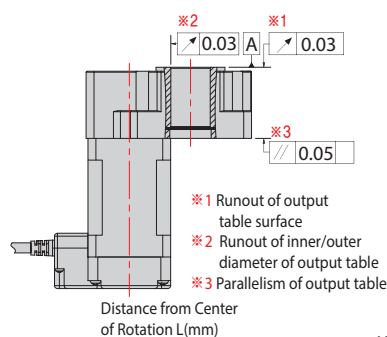
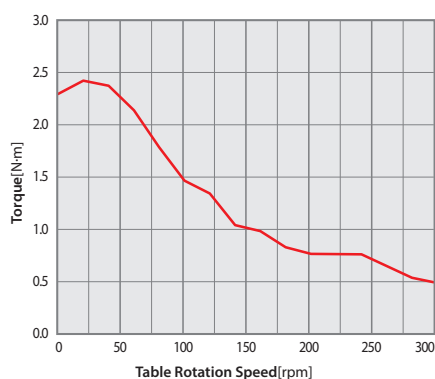
- ① **Type of output table supporting bearing** The type of the bearing used for the output table.
- ② **Maximum torque** This is the maximum torque that can be applied to the gear output shaft during acceleration/deceleration such when an inertial load is started and stopped.
- ③ **Inertia moment** The total of inertia moment of rotor of motor, reduction mechanism and output table converted from output table side.
- ④ **Permissible speed** The output table speed can be tolerated by the mechanical strength of the reduction gear mechanism.
- ⑤ **Gear ratio** The tooth ratio of the two gears constituting the reduction mechanism.
- ⑥ **Maximum holding torque** The maximum torque that the output table can maintain the current position when the motor is excited.
- ⑦ **Repeatability** The degree of error when repeatedly positioning to the same location in the same direction.
- ⑧ **Lost motion** The difference between forward and reverse stop positions for the same destination. It is mainly caused by backlash of gears.
- ⑨ **Angular transmission error** The difference between the target rotation angle and the actual rotation angle of the output table
- ⑩ **Permissible axial load** The permissible value of thrust load applied to the output table in the axial direction.
- ⑪ **Permissible moment load** When load is applied to a position deviating from the center of rotation of the output table, a tilting force acts on the output table. This is the allowable value of the moment load calculated by multiplying the displacement from the center of rotation and the load.
- ⑫ **Runout of output table surface** The maximum value of runout of the mounting surface of the output table when the output table rotates without load.
- ⑬ **Runout of output table inner/outer diameter** The maximum value of runout of the inner diameter or outer diameter of the table when the output table rotates without load.
- ⑭ **Parallelism of output table** The angle at which the mounting surface of the actuator body and the mounting surface of the output table are inclined
- ⑮ **Degree of protection** The grade of the equipment classified as dustproof and waterproof based on IEC 60529, EN60034-5 (=IEC60034-5)
- ⑯ **Mass** The total weight of all parts, including the output table, reduction mechanism, motor and so on that make up the actuator.

● Specifications of Product [HG60 series]

| Model Name | | RB-HG60-05-42XL |
|---|----------------------|------------------------|
| Type of output table supporting bearing | | Ball Bearing |
| Maximum torque | [N·m] | 4.5 |
| Inertia moment | [kg·m ²] | $2,330 \times 10^{-7}$ |
| Permissible speed | [rpm] | 300 |
| Gear ratio | | 1:5 |
| Maximum holding torque | [N·m] | 1.6 |
| Repeatability | [arcsec] | $\pm 10(0.0028^\circ)$ |
| Lost motion | [arcmin] | $2(0.033^\circ)$ |
| Angular transmission error | [arcmin] | $4(0.067^\circ)$ |
| Permissible axial load | [N] | 100 |
| Permissible moment load | [N·m] | 2 |
| Runout of output table surface | [mm] | 0.03 |
| Runout of output table inner/outer diameter | [mm] | 0.03 |
| Parallelism of output table | [mm] | 0.05 |
| Degree of protection ^{*1} | | IP40 |
| Mass | [kg] | 1.0 |

*1 : IP20 for motor connector

RB-HG60-05-42XL

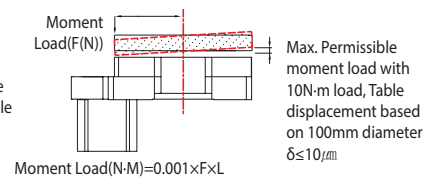
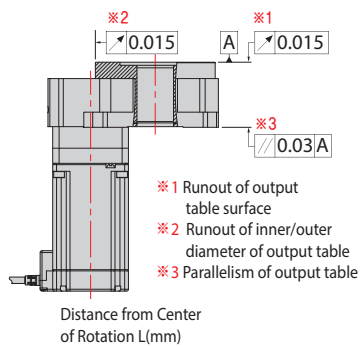
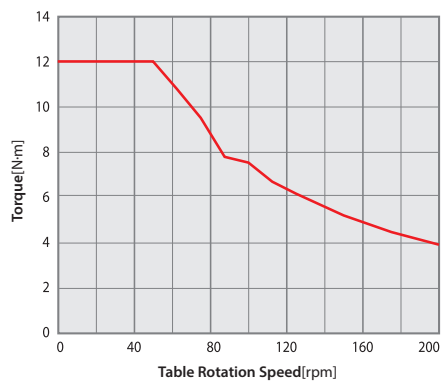


● Specifications of Product [HG100 series]

| Model Name | RB-HG100-08-60L | |
|---|-------------------------------------|------------------------|
| Type of output table supporting bearing | Taper Roller Bearing + Ball Bearing | |
| Maximum torque | [N·m] | 12 |
| Inertia moment | [kg·m ²] | $3,898 \times 10^{-6}$ |
| Permissible speed | [rpm] | 200 |
| Gear ratio | | 1:8 |
| Maximum holding torque | [N·m] | 10 |
| Repetitive positioning accuracy | [arcsec] | $\pm 10(0,0028^\circ)$ |
| Lost motion | [arcmin] | $2(0,033^\circ)$ |
| Angular transmission error | [arcmin] | $4(0,067^\circ)$ |
| Permissible axial load | [N] | 500 |
| Permissible moment load | [N·m] | 10 |
| Runout of output table surface | [mm] | 0,015 |
| Runout of output table inner/outer diameter | [mm] | 0,015 |
| Parallelism of output table | [mm] | 0,03 |
| Degree of protection ^{*1} | | IP40 |
| Mass | [kg] | 4,0 |

^{*1} : IP20 for motor connector

RB-HG100-08-60L

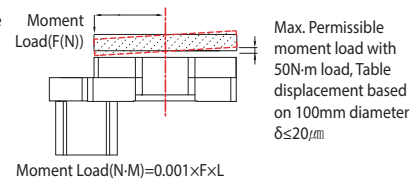
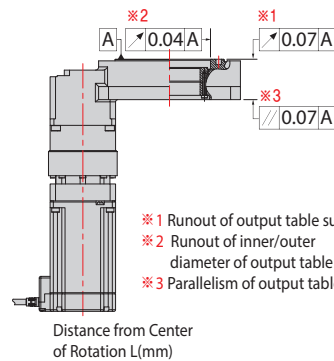
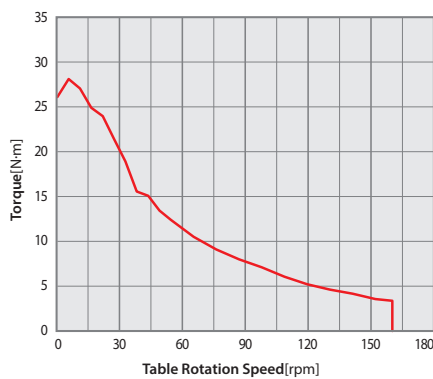


● Specifications of Product [HG130S series]

| | | |
|---|----------------------|------------------------|
| Model Name | | RB-HG130S-18-60L |
| Type of output table supporting bearing | | Cross Roller Bearing |
| Maximum torque | [N·m] | 34 |
| Inertia moment | [kg·m ²] | 3,127×10 ⁻⁵ |
| Permissible speed | [rpm] | 200 |
| Gear ratio | | 1:18 |
| Maximum holding torque | [N·m] | 22,3 |
| Repeatability | [arcsec] | ±10(0,0028°) |
| Lost motion | [arcmin] | 2(0,033°) |
| Angular transmission error | [arcmin] | 4(0,067°) |
| Permissible axial load | [N] | 2,000 |
| Permissible moment load | [N·m] | 50 |
| Runout of output table surface | [mm] | 0,07 |
| Runout of output table inner/outer diameter | [mm] | 0,04 |
| Parallelism of output table | [mm] | 0,07 |
| Degree of protection ^{*1} | | IP40 |
| Mass | [kg] | 6,3 |

*1 : IP20 for motor connector

RB-HG130S-18-60L

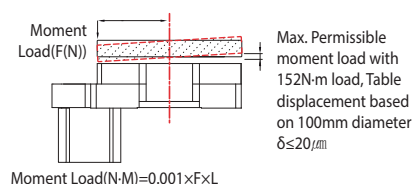
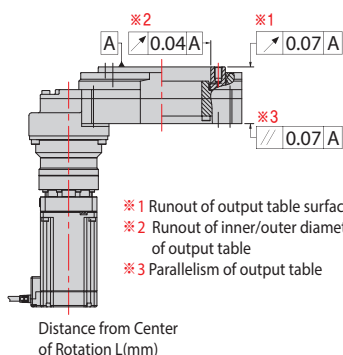
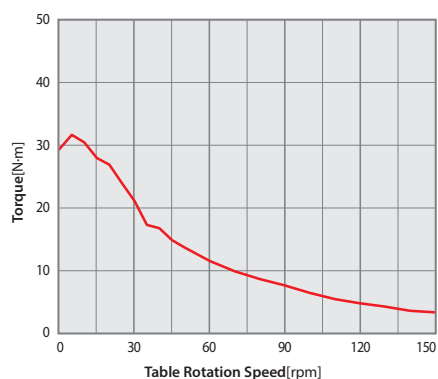


● Specifications of Product [HG170S series (Ratio 1:20)]

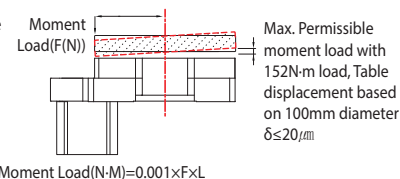
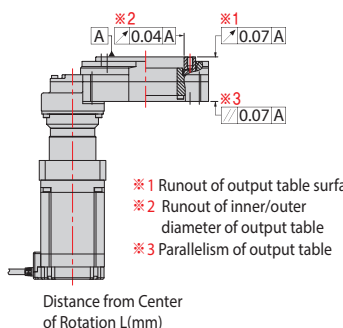
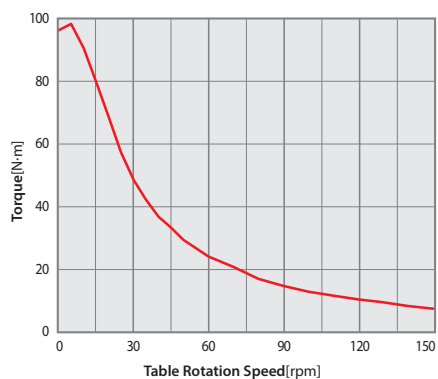
| Model Name | | RB-HG170S-20-60L | RB-HG170S-20-86L |
|---|----------------------|------------------------|------------------------|
| Type of output table supporting bearing | | Cross Roller Bearing | |
| Maximum torque | [N·m] | 170 | |
| Inertia moment | [kg·m ²] | $4,752 \times 10^{-5}$ | $7,484 \times 10^{-5}$ |
| Permissible speed | [rpm] | 150 | |
| Gear ratio | | 1:20 | |
| Maximum holding torque | [N·m] | 24,7 | 37,2 |
| Repeatability | [arcsec] | $\pm 10(0,0028^\circ)$ | |
| Lost motion | [arcmin] | $2(0,033^\circ)$ | |
| Angular transmission error | [arcmin] | $4(0,067^\circ)$ | |
| Permissible axial load | [N] | 3,900 | |
| Permissible moment load | [N·m] | 152 | |
| Runout of output table surface | [mm] | 0,07 | |
| Runout of output table inner/outer diameter | [mm] | 0,04 | |
| Parallelism of output table | [mm] | 0,07 | |
| Degree of protection ^{*1} | | IP40 | |
| Mass | [kg] | 7,3 | 8,0 |

*1 : IP20 for motor connector

RB-HG170S-20-60L



RB-HG170S-20-86L

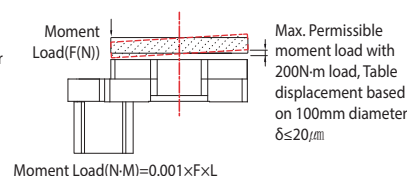
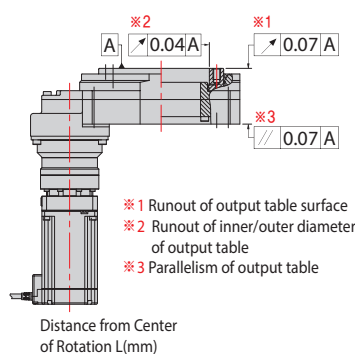
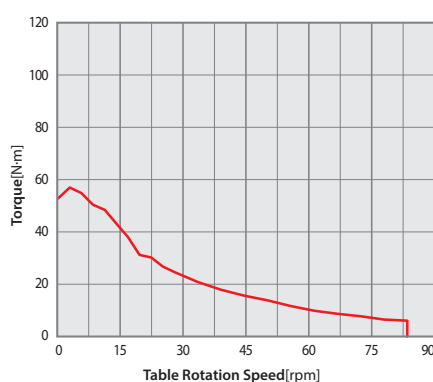


● Specifications of Product [HG170S series (Ratio 1:36)]

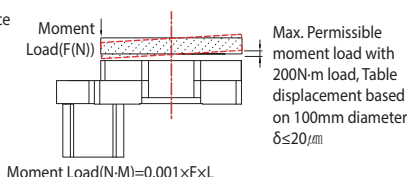
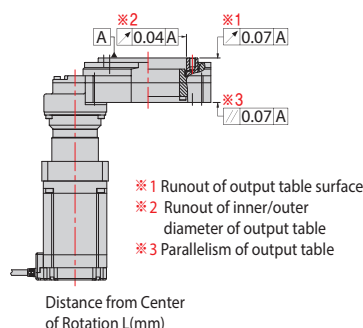
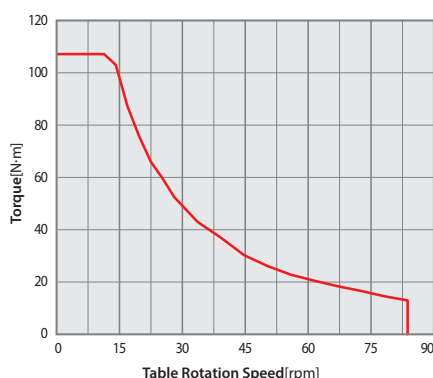
| Model Name | | RB-HG170S-36-60L | RB-HG170S-36-86L |
|---|----------------------|-------------------------|-------------------------|
| Type of output table supporting bearing | | Cross Roller Bearing | |
| Maximum torque | [N·m] | 107 | |
| Inertia moment | [kg·m ²] | $12,351 \times 10^{-5}$ | $21,203 \times 10^{-5}$ |
| Permissible speed | [rpm] | 150 | |
| Gear ratio | | 1:36 | |
| Maximum holding torque | [N·m] | 44,6 | 67,0 |
| Repeatability | [arcsec] | $\pm 10(0,0028^\circ)$ | |
| Lost motion | [arcmin] | $2(0,033^\circ)$ | |
| Angular transmission error | [arcmin] | $4(0,067^\circ)$ | |
| Permissible axial load | [N] | 4,000 | |
| Permissible moment load | [N·m] | 200 | |
| Runout of output table surface | [mm] | 0,07 | |
| Runout of output table inner/outer diameter | [mm] | 0,04 | |
| Parallelism of output table | [mm] | 0,07 | |
| Degree of protection ^{*1} | | IP40 | |
| Mass | [kg] | 7,3 | 8,0 |

*1 : IP20 for motor connector

RB-HG170S-36-60L

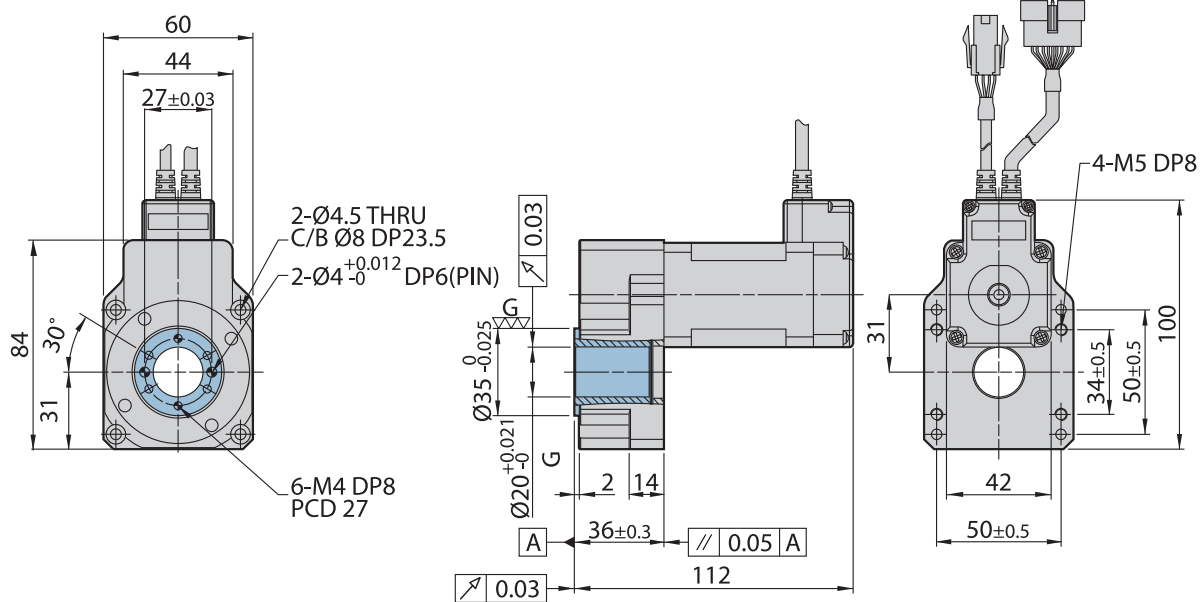


RB-HG170S-36-86L



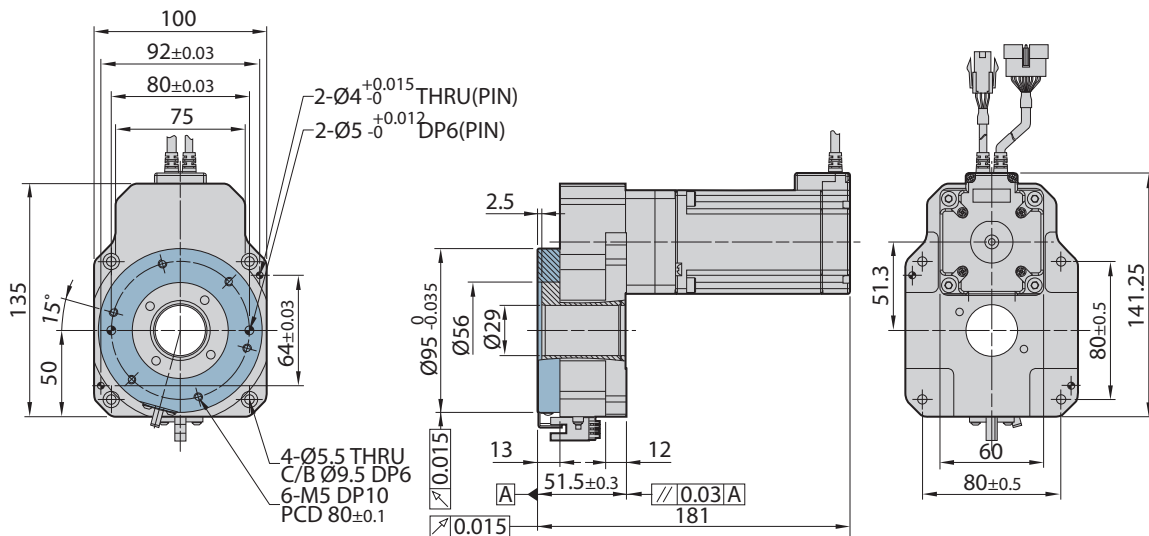
● Dimensions of Product [mm]

RB-HG60-05-42XL-□



※ □ is the drive type.

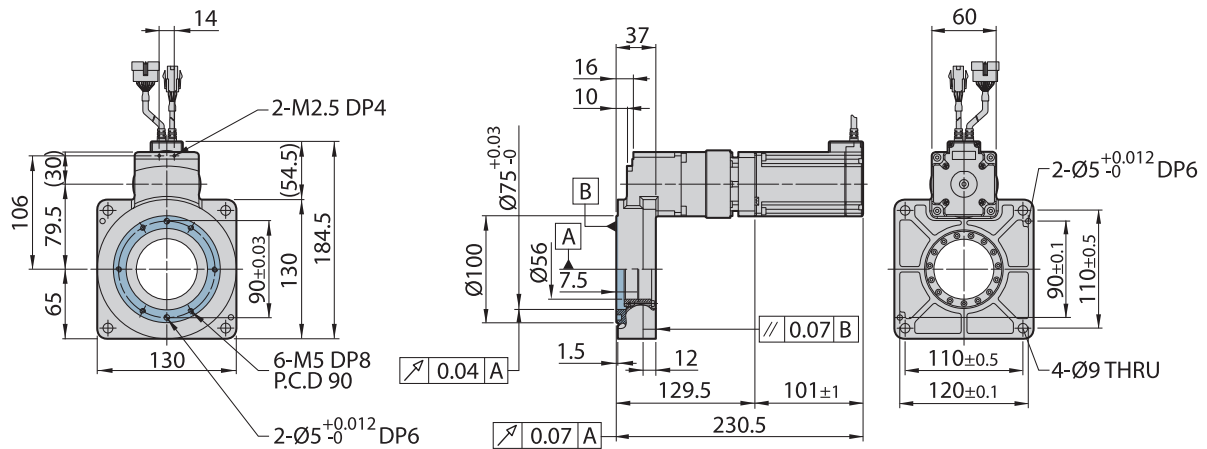
RB-HG100-08-60L-□



※ □ is the drive type.

● Dimensions of Product [mm]

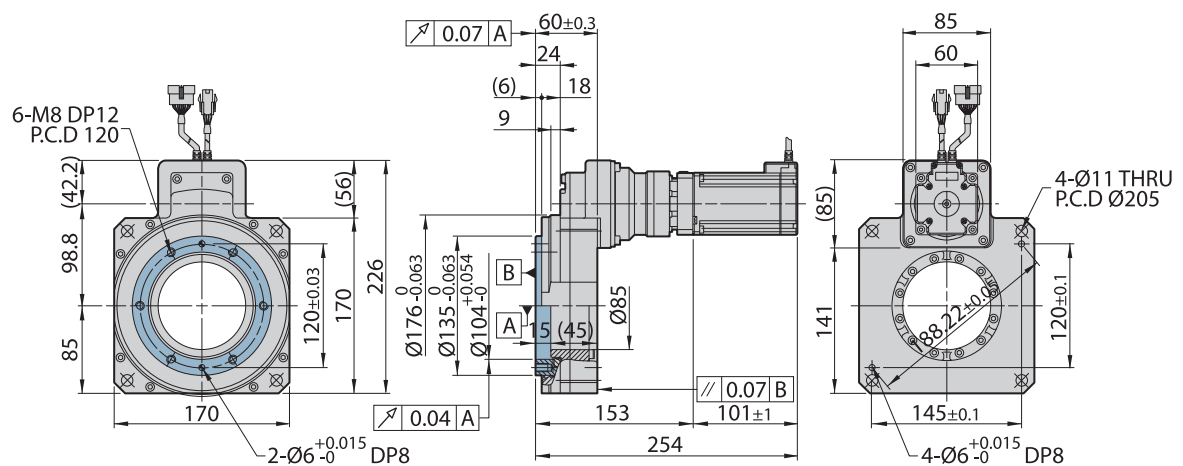
RB-HG130S-18-60L-□



※ □ is the drive type.

RB-HG170S-20-60L-□

RB-HG170S-36-60L-□

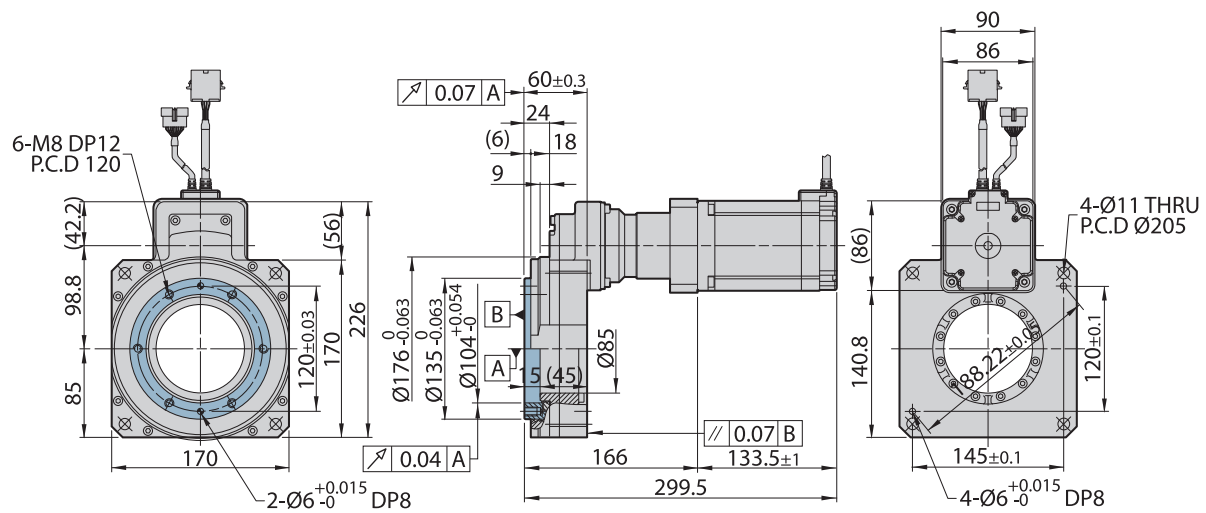


※ □ is the drive type.

● Dimensions of Product [mm]

RB-HG170S-20-86L-□

RB-HG170S-36-86L-□



※ □ is the drive type.

● Mechanical Part Option [Home-sensor Set]

In order to simplify configuring the homing operation on the rotary table, there is an option to configure the home sensor set with Photo Micro Sensor, connector cable, shield plate and mounting screw. Since all the parts necessary for home detection are provided, it is possible to save the effort to design, manufacture and procure parts when the origin sensor is needed and it can be installed and used immediately.

1. Type

| Part Number | Sensor output | Applicable product |
|-------------|---------------|--|
| OSHG-A | NPN | HG60, HG85W, HG100, HG130W, HG130S, HG170S, HG200W |
| OSHG-AY | PNP | |

2. Home-sensor Set Composition OSHG-A



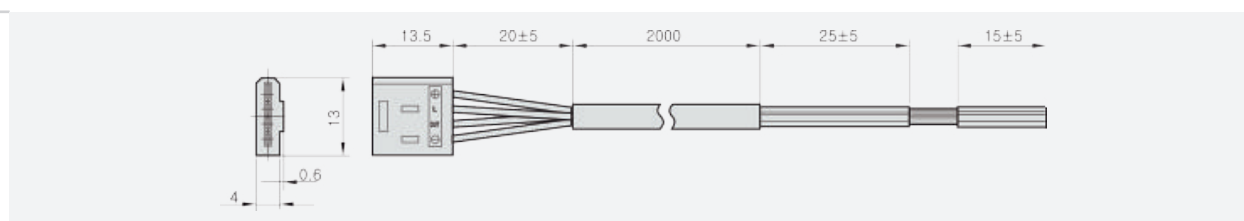
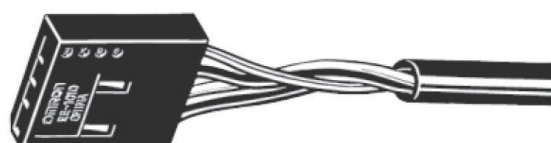
3. Specifications

| | NPN Type | PNP Type |
|---------------------|---|---|
| Sensor Model | EE-SX672A(OMRON Product) | EE-SX672R(OMRON Product) |
| Input Voltage | 5~24VDC $\pm 10\%$, Ripple(P-P) 10% less | 5~24VDC $\pm 10\%$, Ripple(P-P) 10% less |
| Current Consumption | 35mA less | 30mA less |
| Control Output | NPN Open Collector output 5~24VDC 100mA less Residual Voltage 0.8V less(at load current of 100mA) | PNP Open Collector output 5~24VDC 100mA less Residual Voltage 1.3V less(at load current of 100mA) |
| Display LED | Detection(Red) | Detection(Red) |
| Sensor Logic | Normally Open / Normally Closed (Depending on connection) | Normally Open / Normally Closed (Depending on connection) |

4. Cable with connector(OMRON robot code attached connector EE1010-R)

· Terminal Layout

| | | |
|---|-----|-------|
| ① | ⊕ | Brown |
| ② | L | Pink |
| ③ | OUT | Black |
| ④ | ⊖ | Blue |



5. Precautions for installing home sensor.

Please note the followings when installing the home sensor set.

- Keep the operating temperature below 40°C and the motor surface temperature below 90°C.
- When configuring the homing function using the shaft of the motor, Prepare an individual sensor and bracket.

6. Precautions for extending the sensor cable

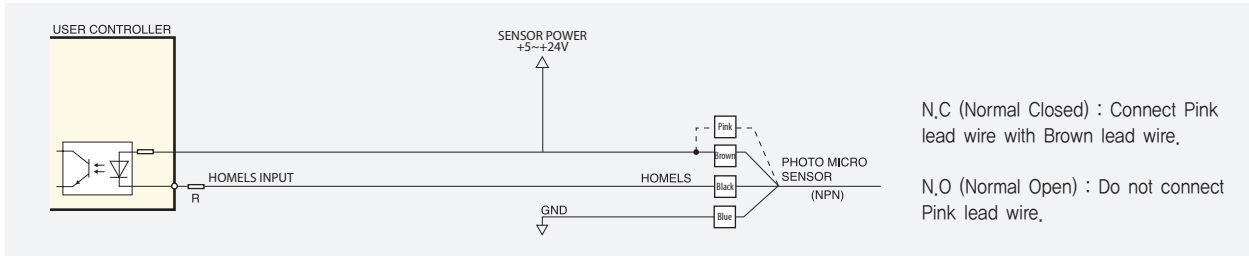
Sensor shield should be cabled and grounded if extended to more than 2m long.

● Mechanical Part Option [Home-sensor Installation]

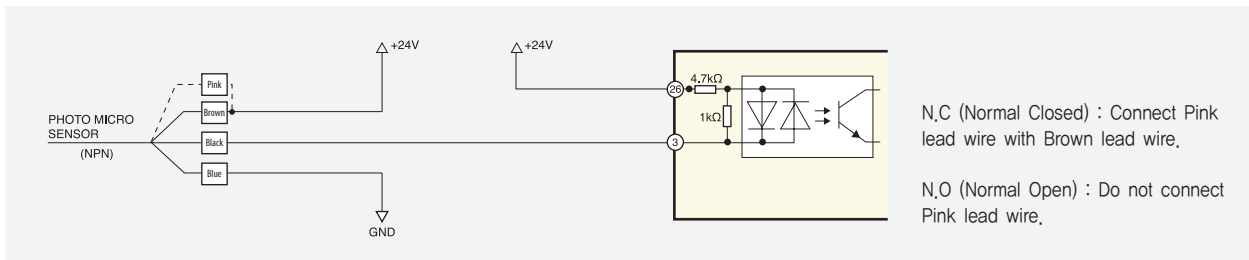
1. NPN Type

Please use 5~24VDC power supply and configure the active current to 5~20mA. Connect external resistor if it exceeds 20mA. The GND of the power supplies of the sensor and user controller must be common.

· Pulse Train Input unit



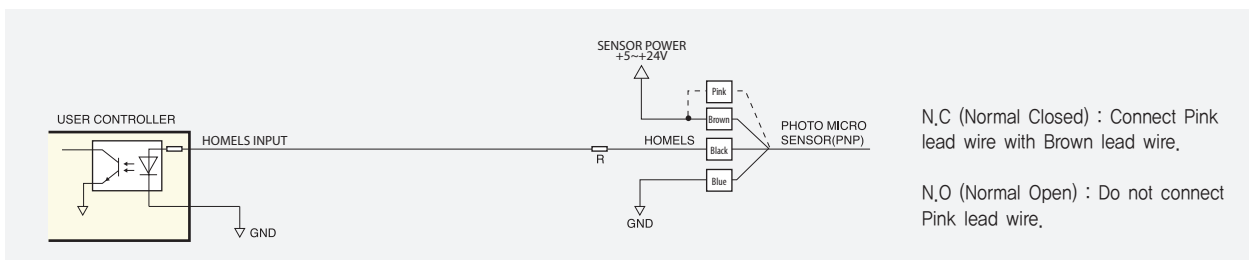
· Controller integrated unit (Example of Ezi-SERVOII Plus-E)



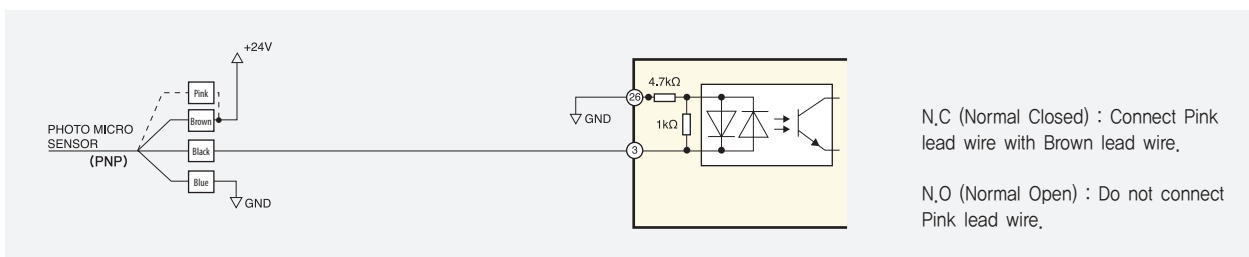
2. PNP Type

Please use 5~24VDC power supply and configure the active current to 5~20mA. Connect external resistor if it exceeds 20mA. The GND of the power supplies of the sensor and user controller must be common.

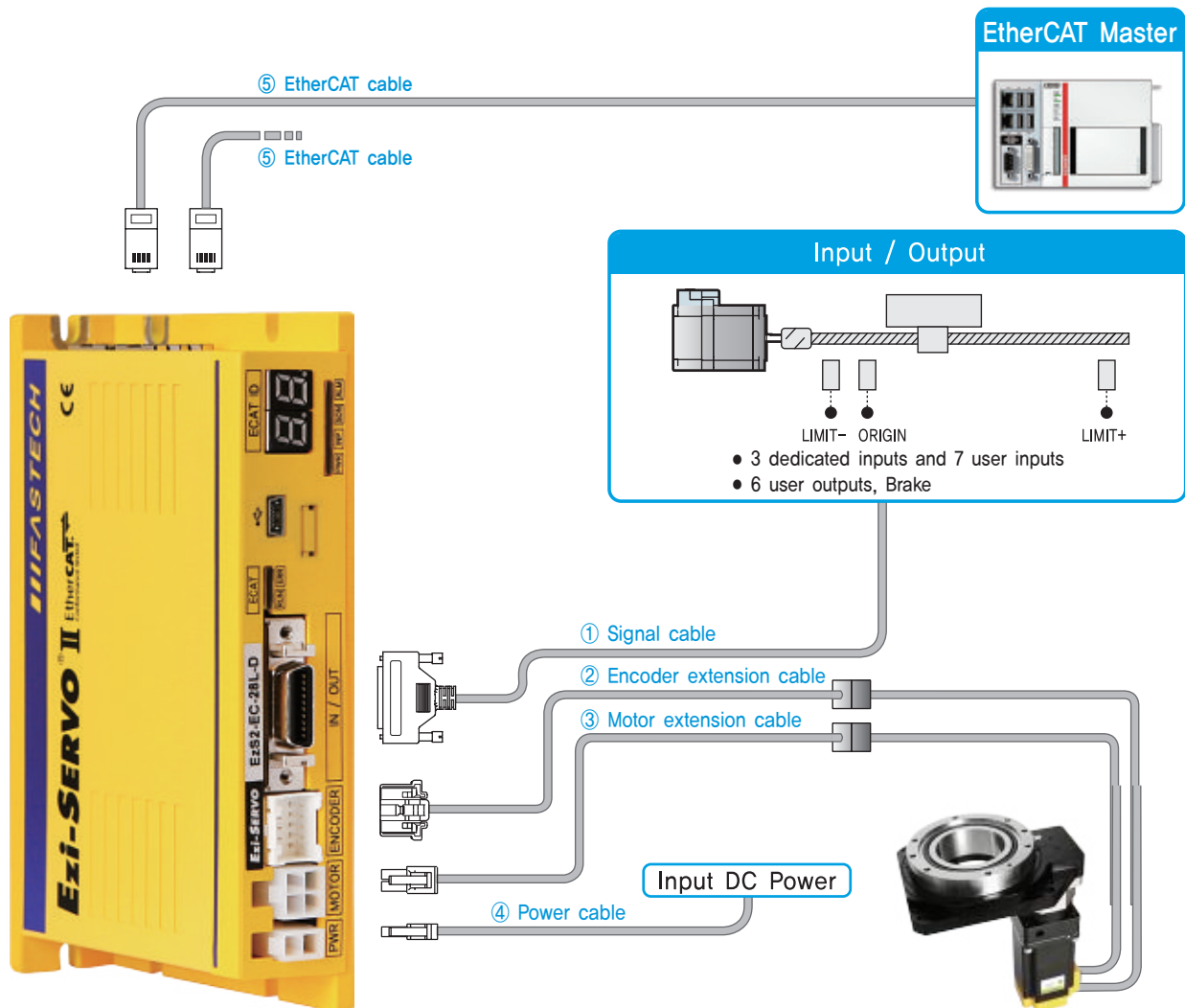
· Pulse Train Input unit



· Controller integrated unit (Example of Ezi-SERVOII Plus-E)



● System Configuration [EtherCAT (Ezi-SERVO II EtherCAT)]



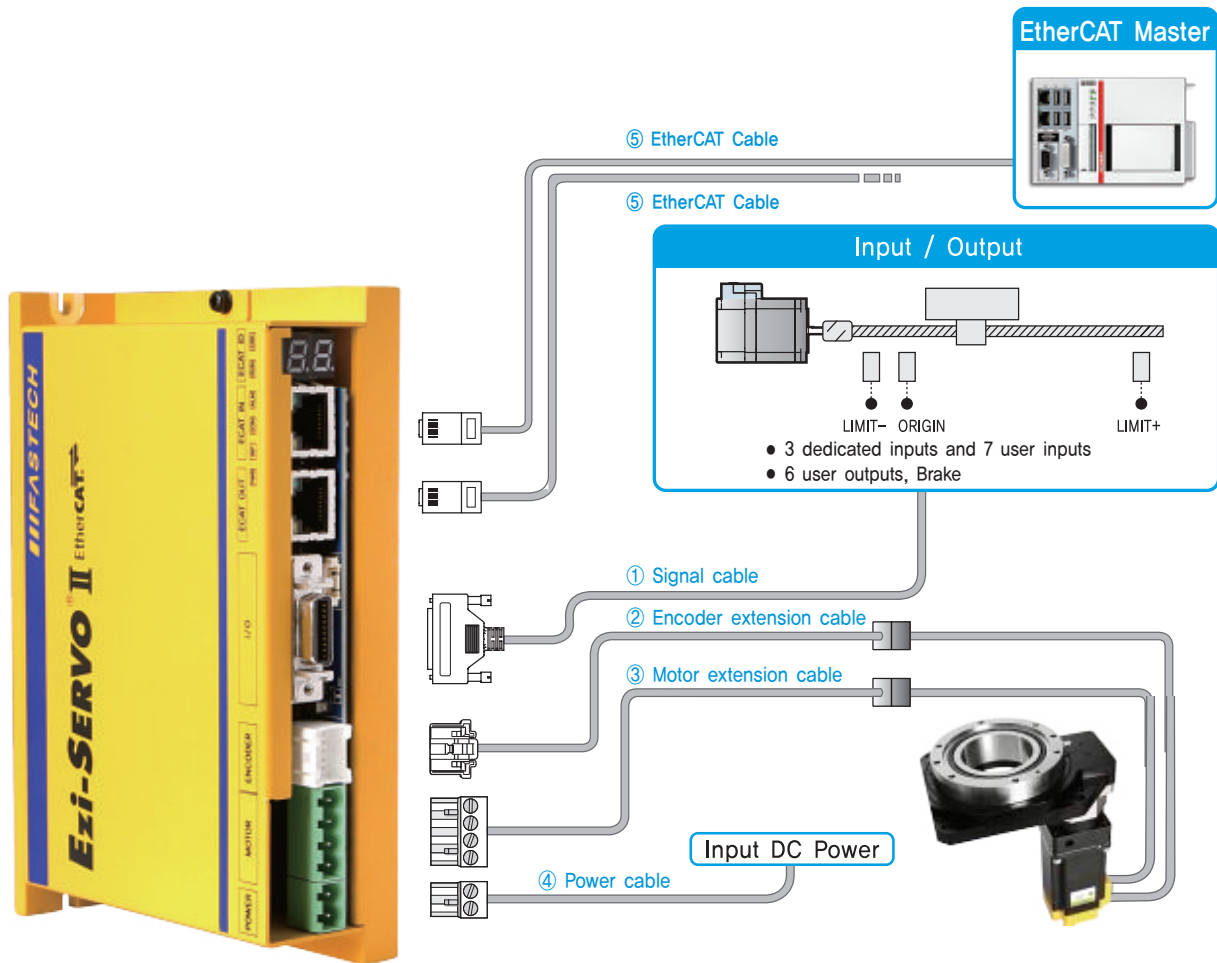
* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II EtherCAT drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | EtherCAT Cable |
|-----------------|--------------|---------------|-------------|-------------|----------------|
| Length supplied | — | 30cm | 30cm | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m |

- Ezi-SERVO II EtherCAT is stepping motor control system using EtherCAT, high speed Ethernet(100Mbps Full-Duplex) based fieldbus. Ezi-SERVO II EtherCAT is EtherCAT slave module which support CAN application layer over EtherCAT(CoE). CiA 402 Drive profile implemented. Supported modes are Profile Position Mode, Homing Mode, Cyclic Synchronous Position Mode.

- Please refer to the Ezi-SERVO II EtherCAT catalog for optional cables, functions and operation.

● System Configuration [EtherCAT (Ezi-SERVO II EtherCAT 86mm)]

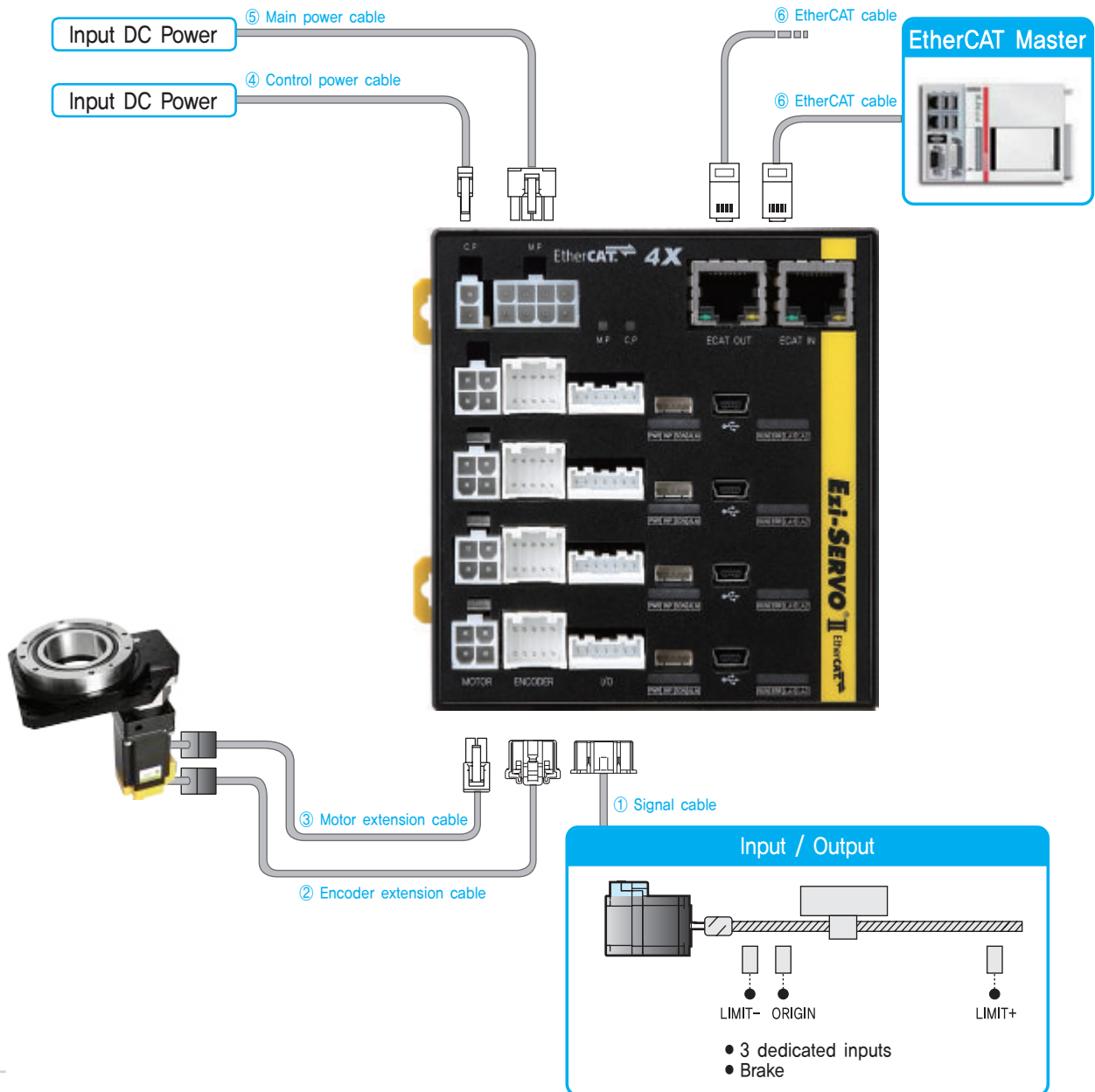


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II EtherCAT drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | EtherCAT Cable |
|-----------------|--------------|---------------|-------------|-------------|----------------|
| Length supplied | — | 30cm | 30cm | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m |

- Ezi-SERVO II EtherCAT is stepping motor control system using EtherCAT, high speed Ethernet(100Mbps Full-Duplex) based fieldbus.
Ezi-SERVO II EtherCAT is EtherCAT slave module which support CAN application layer over EtherCAT(CoE). CiA 402 Drive profile implemented.
Supported modes are Profile Position Mode, Homing Mode, Cyclic Synchronous Position Mode.
- Please refer to the Ezi-SERVO II EtherCAT catalog for optional cables, functions and operation.

● System Configuration [EtherCAT 4X (Ezi-SERVO|| EtherCAT 4X)]

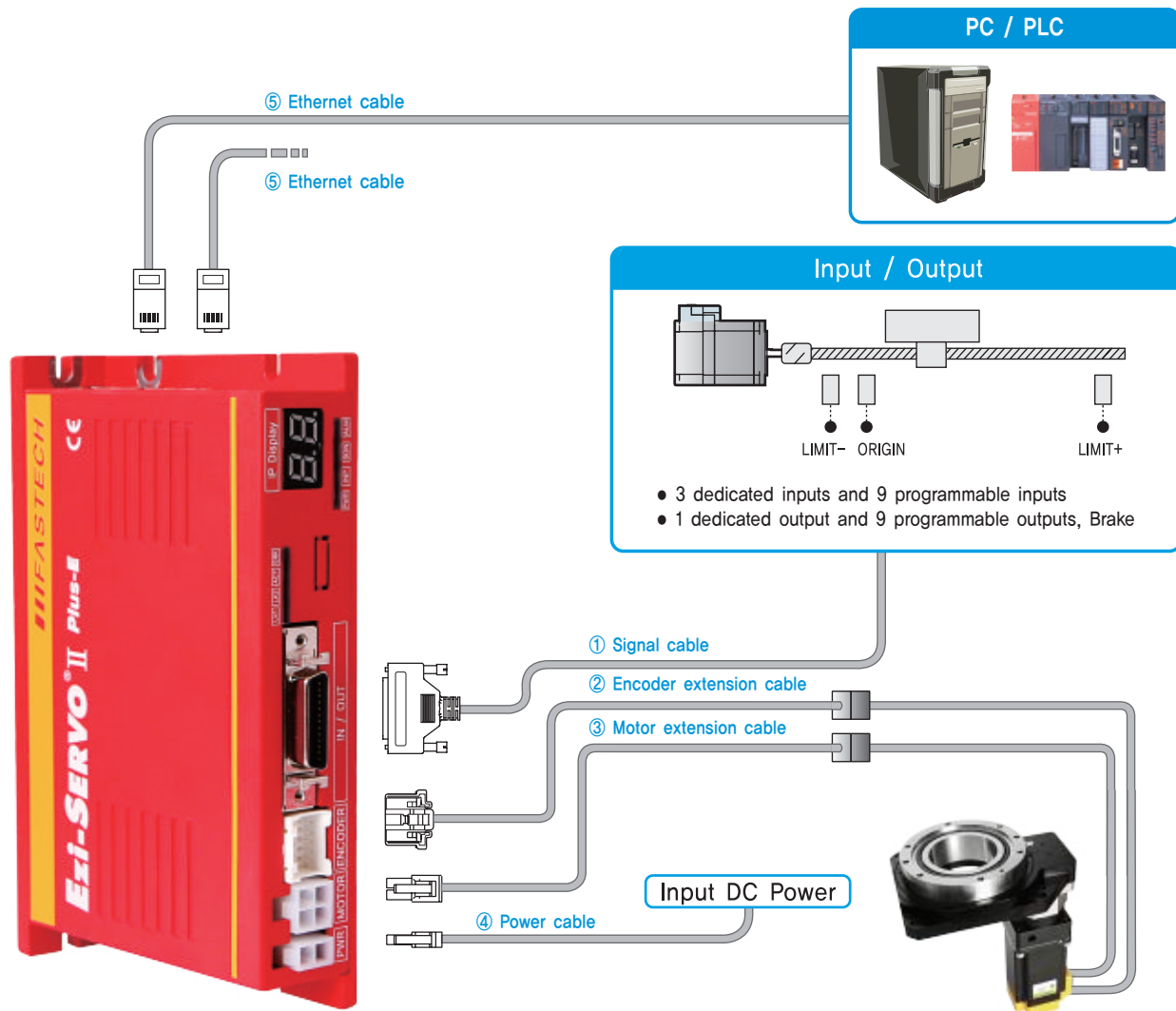


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II EtherCAT 4X drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Control Power Cable | Main Power Cable | EtherCAT Cable |
|-----------------|--------------|---------------|-------------|---------------------|------------------|----------------|
| Length supplied | — | 30cm | 30cm | — | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 2m | 100m |

- Ezi-SERVO II EtherCAT 4X is 4 axes stepping motor control system using EtherCAT, high speed Ethernet(100Mbps Full-Duplex) based fieldbus. Ezi-SERVO II EtherCAT 4X is EtherCAT slave module which support CAN application layer over EtherCAT(CoE). CiA 402 Drive profile implemented. Supported modes are Profile Position Mode, Homing Mode, Cyclic Synchronous Position Mode.
- Please refer to the Ezi-SERVO II EtherCAT 4X catalog for optional cables, functions and operation.

● System Configuration [Ethernet (Ezi-SERVO II Plus-E)]

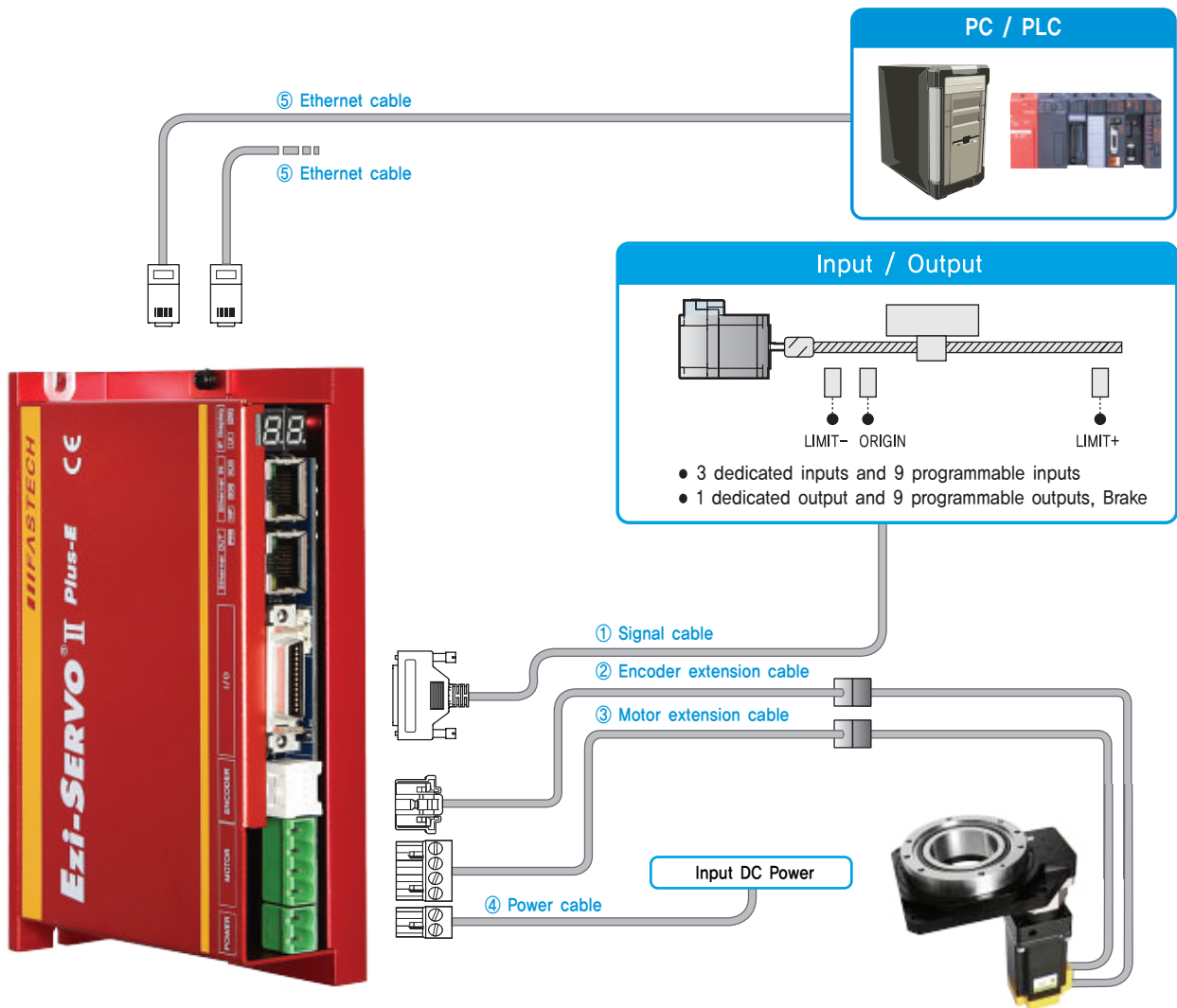


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II Plus-E drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | Ethernet Cable |
|-----------------|--------------|---------------|-------------|-------------|----------------|
| Length supplied | — | 30cm | 30cm | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m |

- Ezi-SERVO II Plus-E drive can drive up to 254 axes through Ethernet communication with master controller such as PC. Ethernet HUB is built-in and can be connected in Daisy-chain form. All motion control functions can be controlled through network communication and motion related conditions(eg. acceleration/deceleration time, etc.) are stored in the ROM as parameters. A motion library(DLL) is provided for programming under Windows 7/8/10.
- Please refer to the Ezi-SERVO II Plus-E catalog for optional cables, functions and operation.

● System Configuration [Ethernet (Ezi-SERVO II Plus-E 86mm)]

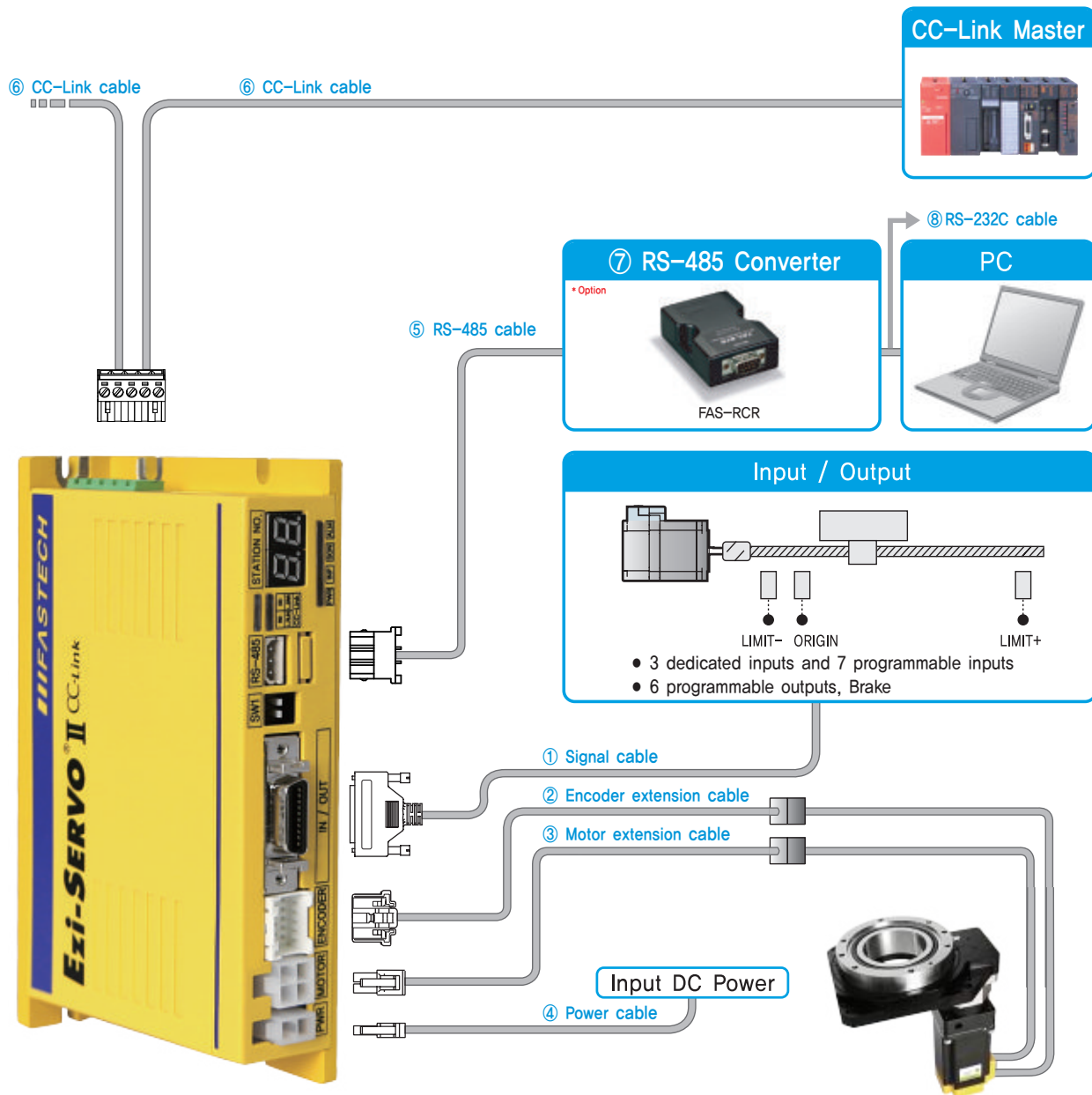


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II Plus-E drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | Ethernet Cable |
|-----------------|--------------|---------------|-------------|-------------|----------------|
| Length supplied | — | 30cm | 30cm | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m |

- Ezi-SERVO II Plus-E drive can drive up to 254 axes through Ethernet communication with master controller such as PC. Ethernet HUB is built-in and can be connected in Daisy-chain form. All motion control functions can be controlled through network communication and motion related conditions(eg. acceleration/deceleration time, etc.) are stored in the ROM as parameters. A motion library(DLL) is provided for programming under Windows 7/8/10.
- Please refer to the Ezi-SERVO II Plus-E catalog for optional cables, functions and operation.

● System Configuration [CC-Link (Ezi-SERVO II CC-Link)]



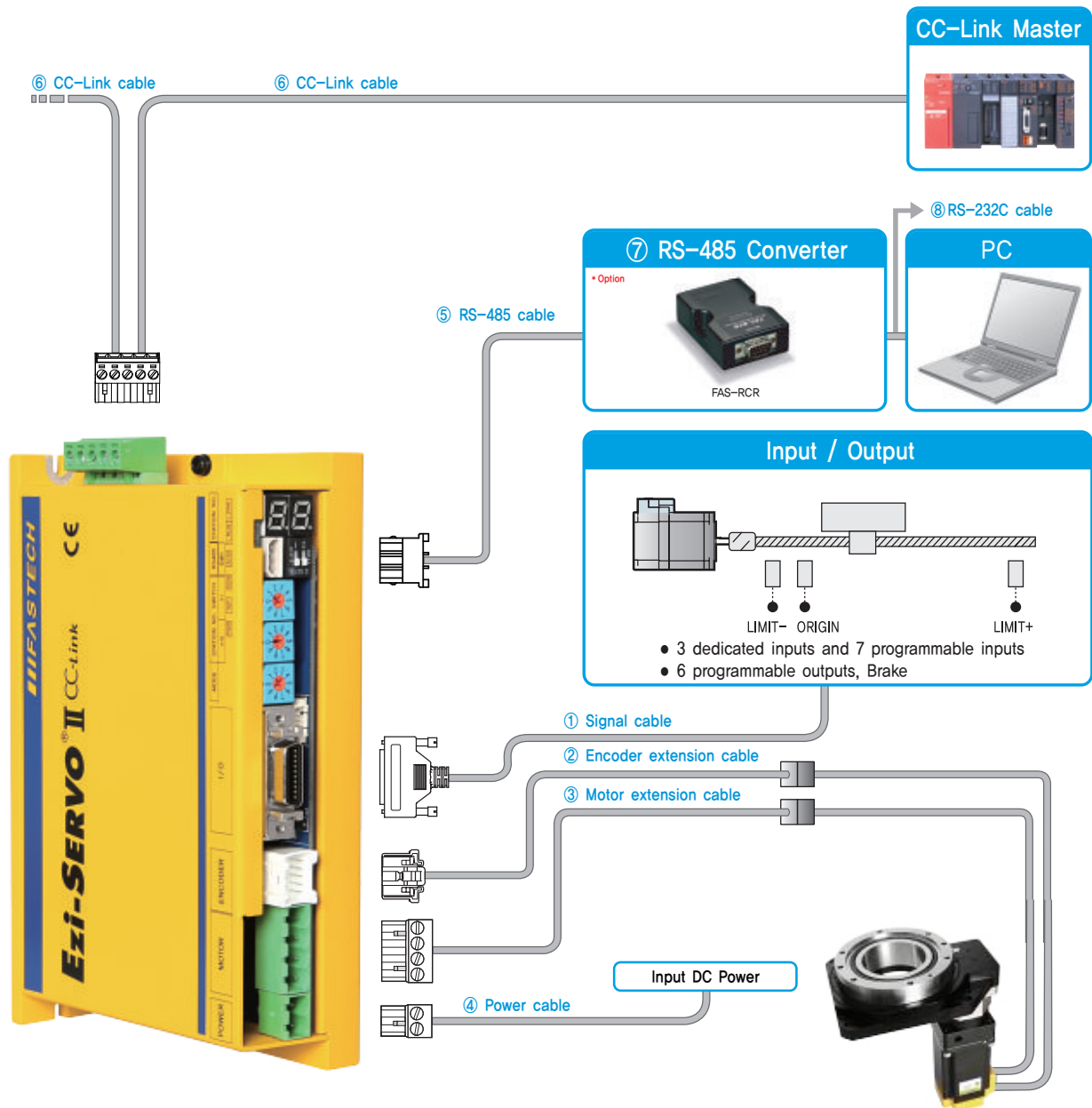
* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO II CC-Link drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | CC-Link Cable | RS-485 Cable |
|-----------------|--------------|---------------|-------------|-------------|---------------|--------------|
| Length supplied | — | 30cm | 30cm | — | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m | 2m |

- Ezi-SERVO II CC-Link is a drive supporting CC-Link, a high speed fieldbus(max, 10Mbps). Ezi-SERVO II CC-Link is a Remote Device module supporting CC-Link network. Multi-function control is possible by occupying 1 station and 2 stations in CC-Link, and motion and monitoring functions are processed by device commands.

- Please refer to the Ezi-SERVO II CC-Link catalog for optional cables, functions and operation.

● System Configuration [CC-Link (Ezi-SERVOII CC-Link 86mm)]



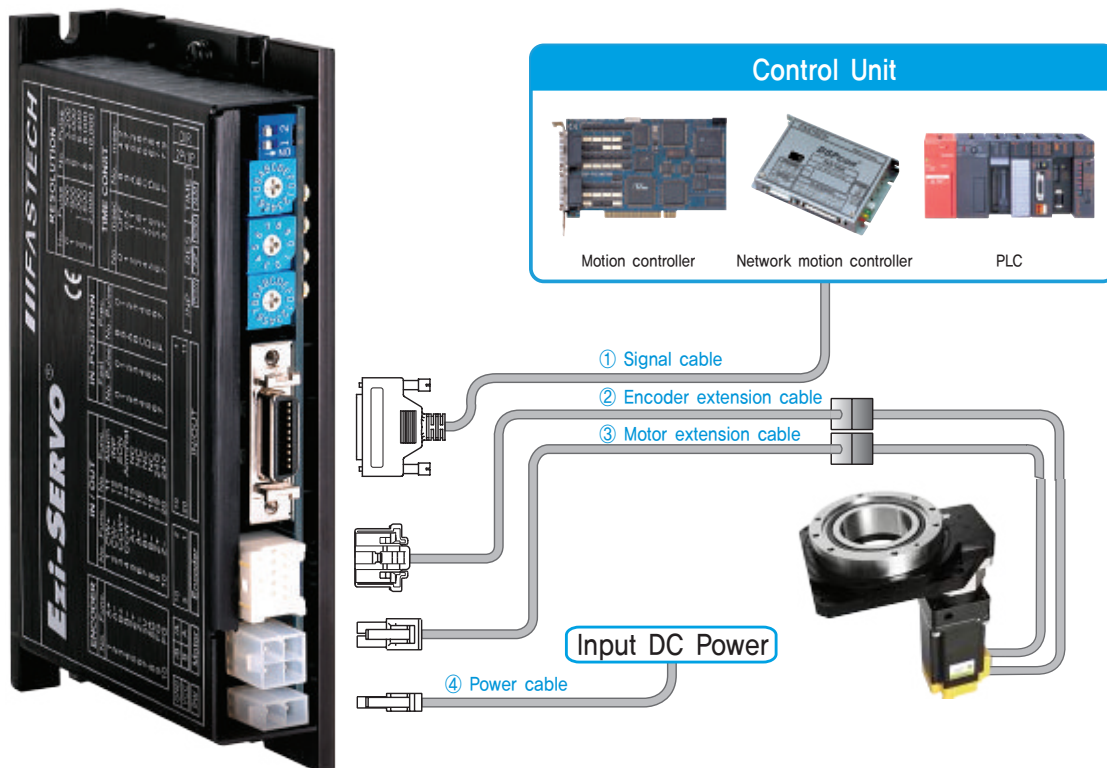
* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVOII CC-Link drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable | CC-Link Cable | RS-485 Cable |
|-----------------|--------------|---------------|-------------|-------------|---------------|--------------|
| Length supplied | — | 30cm | 30cm | — | — | — |
| Max. Length | 20m | 20m | 20m | 2m | 100m | 2m |

- Ezi-SERVOII CC-Link is a drive supporting CC-Link, a high speed fieldbus(max. 10Mbps). Ezi-SERVOII CC-Link is a Remote Device module supporting CC-Link network. Multi-function control is possible by occupying 1 station and 2 stations in CC-Link, and motion and monitoring functions are processed by device commands.

- Please refer to the Ezi-SERVOII CC-Link catalog for optional cables, functions and operation.

● System Configuration [Pulse Input Drive (Ezi-SERVO ST)]

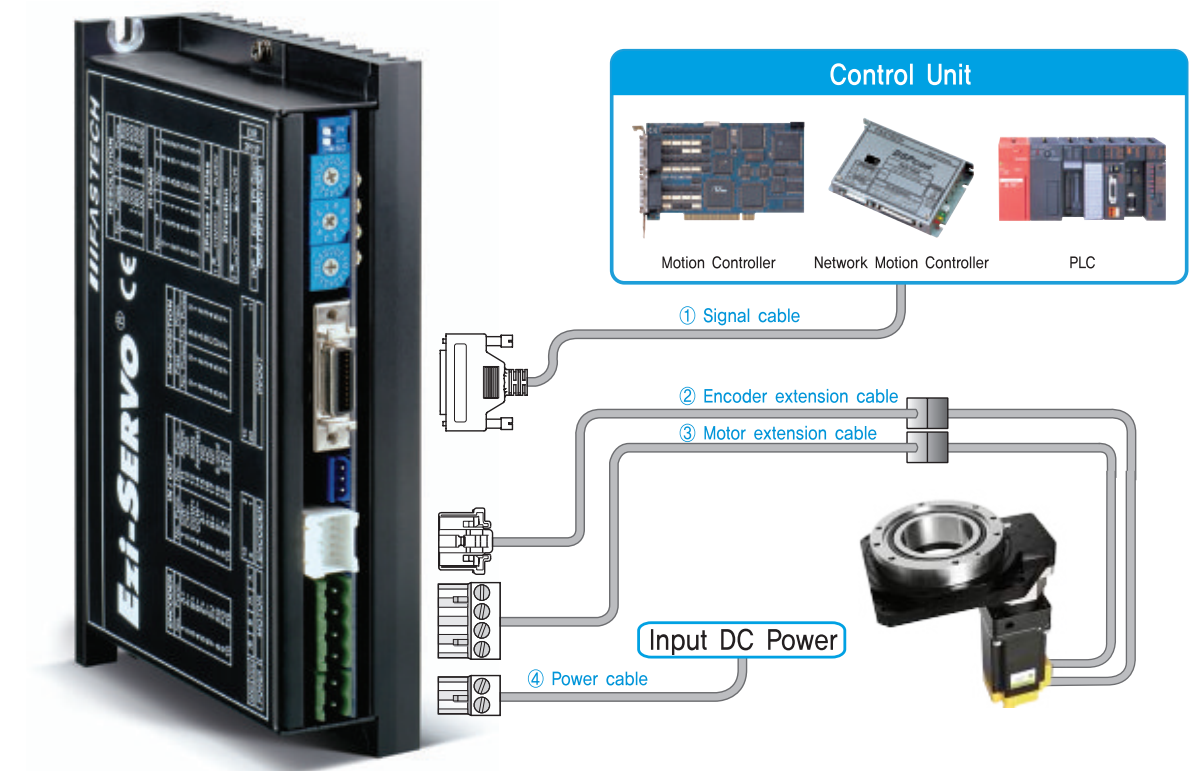


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO ST drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable |
|-----------------|--------------|---------------|-------------|-------------|
| Length supplied | — | 30cm | 30cm | — |
| Max. Length | 20m | 20m | 20m | 2m |

- Ezi-SERVO ST is a pulse input type drive. It is controlled by using of Motion controller, standalone controller or PLC (with positioning module).
- Please refer to the Ezi-SERVO ST catalog for optional cables, functions and operation.

● System Configuration [Pulse Input Drive (Ezi-SERVO ST 86mm)]

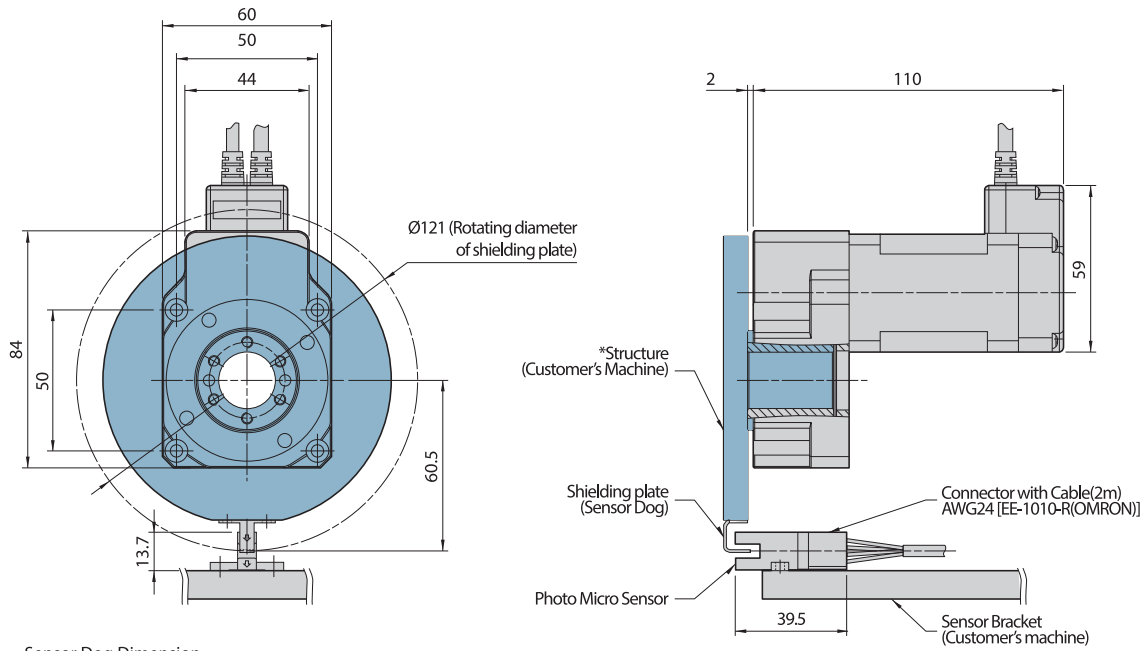


* Please refer to page 8 (Motor, Drive Combination) for the Ezi-SERVO ST drive and Actuator part number.

| Type | Signal Cable | Encoder Cable | Motor Cable | Power Cable |
|-----------------|--------------|---------------|-------------|-------------|
| Length supplied | — | 30cm | 30cm | — |
| Max. Length | 20m | 20m | 20m | 2m |

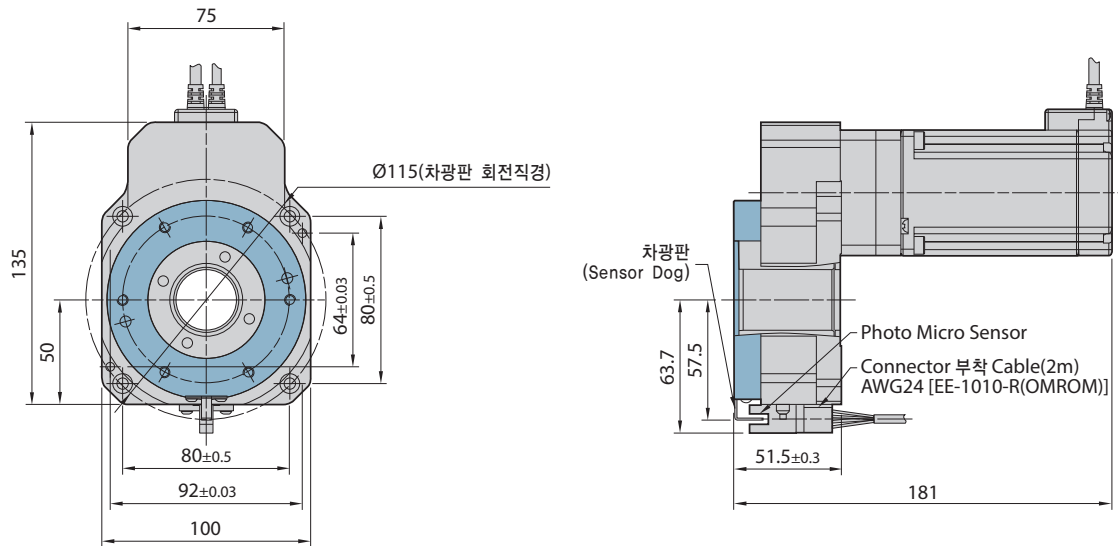
- Ezi-SERVO ST is a pulse input type drive. It is controlled by using of Motion controller, standalone controller or PLC (with positioning module).
- Please refer to the Ezi-SERVO ST catalog for optional cables, functions and operation.

● Dimensions of Home-sensor Installation [RB-HG60]

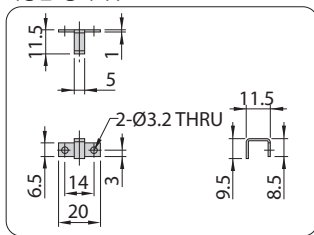


This is only example dimension of home-sensor installation and sensor bracket and structures are not provided.

● Dimensions of Home-sensor Installation [RB-HG100]

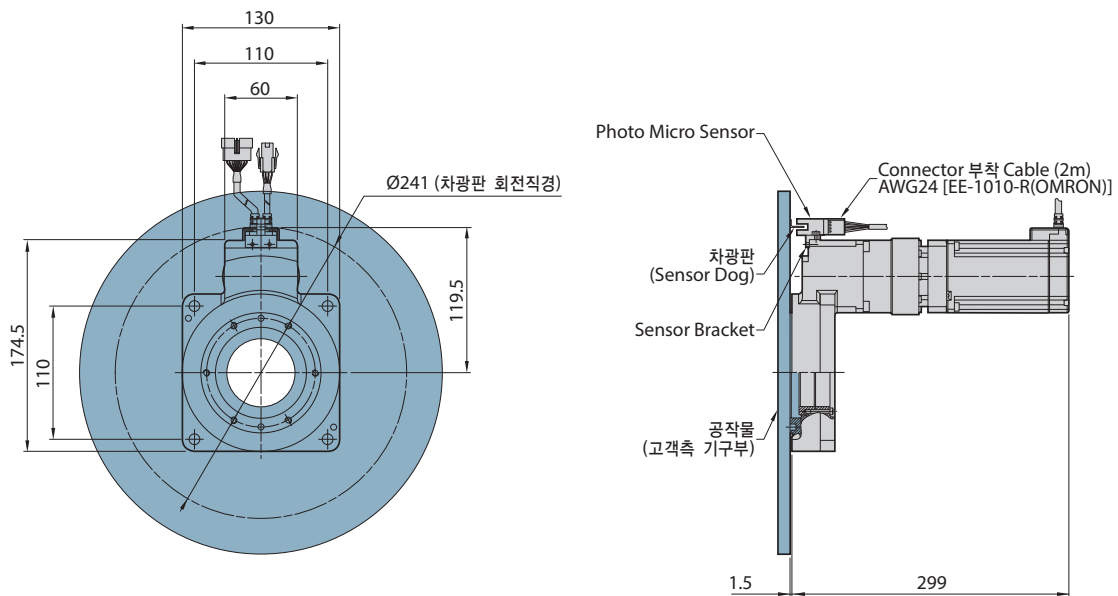


차광판 상세치수도



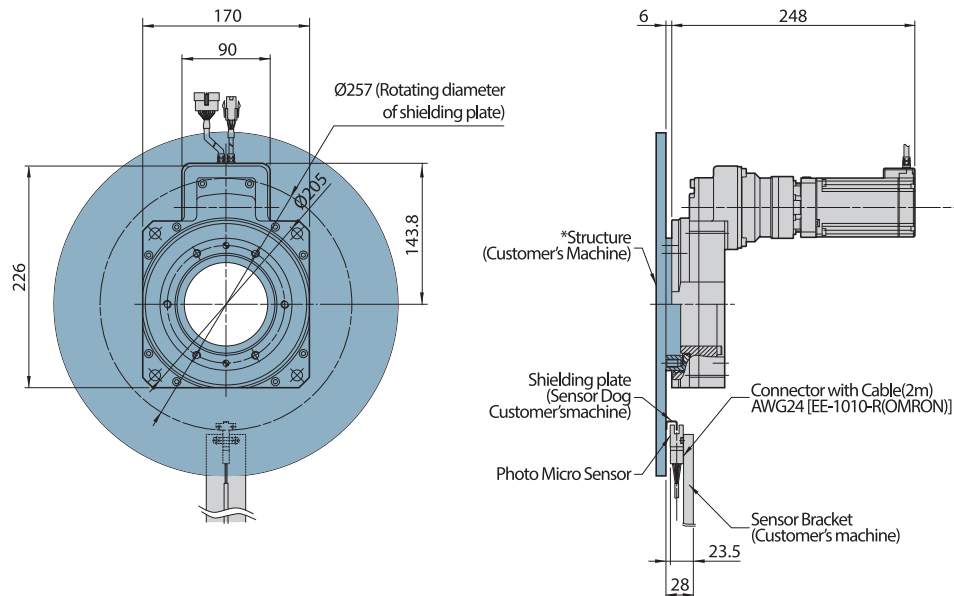
This is only example dimention of home-sensor installation and sensor braket and structures are not provided.

● Dimensions of Home-sensor Installation [RB-HG130S]



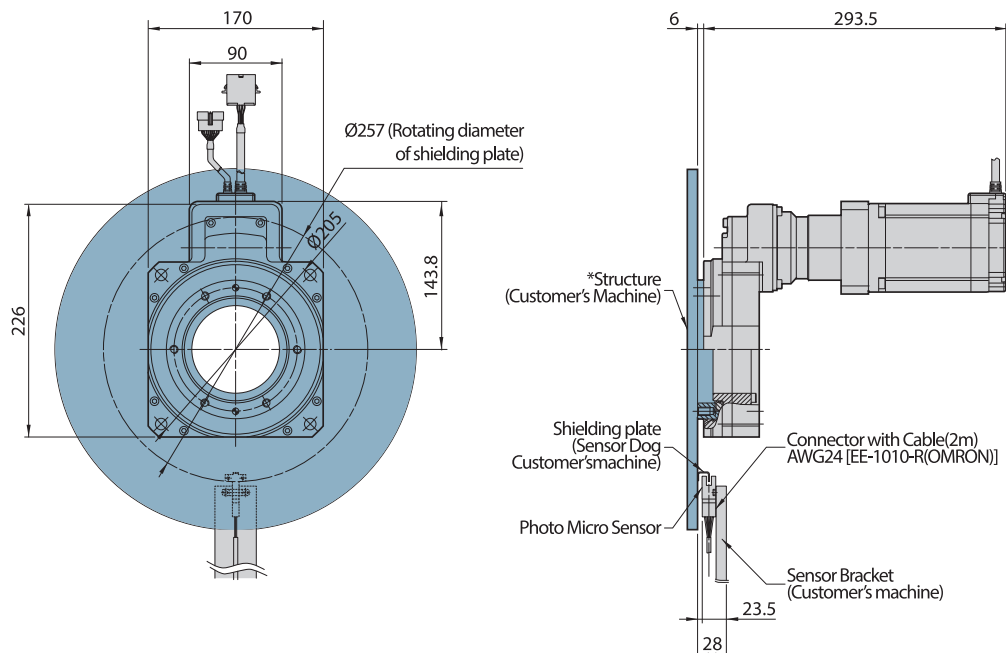
This is only example dimention of home-sensor installation and sensor braket and structures are not provided.

● Dimensions of Home-sensor Installation [RB-HG170S-60L]



This is only example dimention of home-sensor installation and sensor braket and structures are not provided.

● Dimensions of Home-sensor Installation [RB-HG170S-86L]



This is only example dimention of home-sensor installation and sensor braket and structures are not provided.



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