

Ezi-SERVO[®]

Closed Loop Stepping System

- Embedded Motion Controller
- RS-485 Interface
- Position Table
- Closed-Loop Stepping System
- Tuning Not Required / No Hunting
- High Resolution / High Response
- Low Heat Generation / High Torque

Plus-R

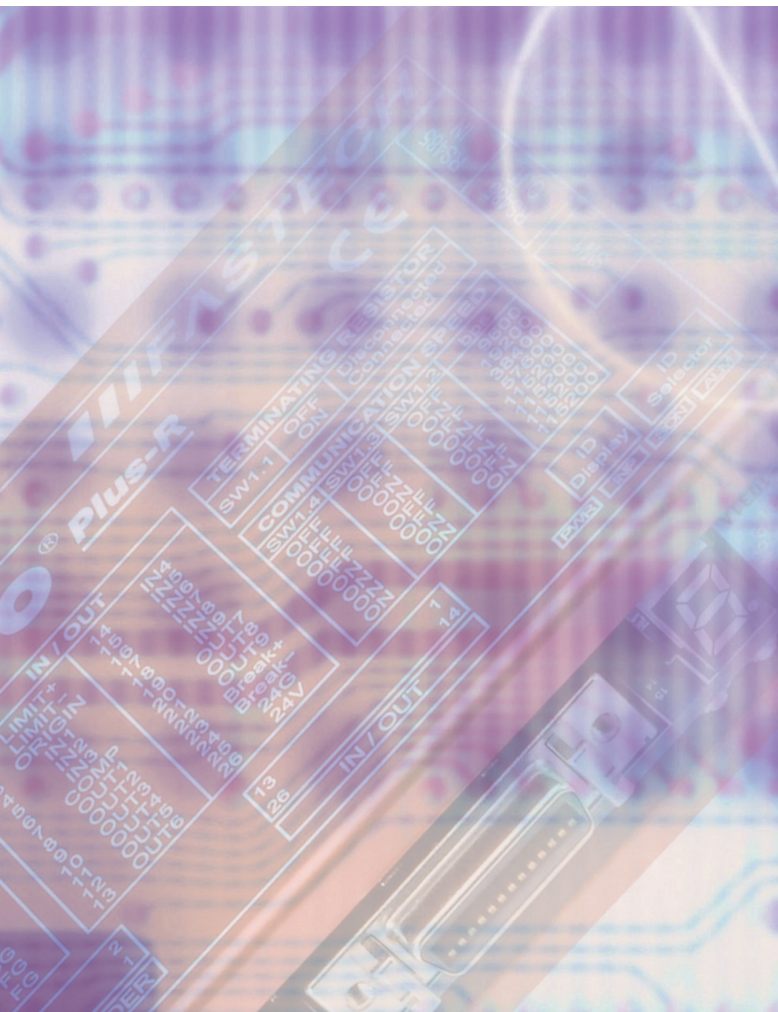


Fast, Accurate, Smooth Motion



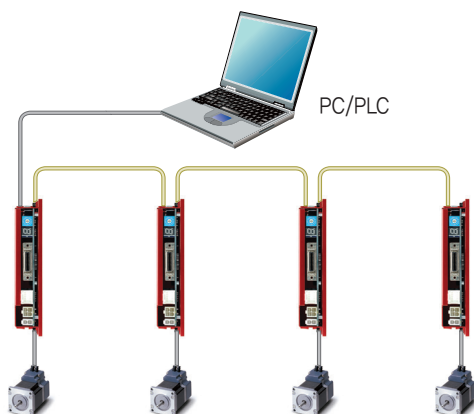
Fast, Accurate, Smooth Motion

Ezi-SERVO[®] Plus-R
Closed Loop Stepping System



1 RS-485 Based Motion Control

A maximum of 16 axis can be operated from a PC through RS-485 communications. Also, motions are controlled by RS-485, and all of the Motion conditions are set through the network and saved in Flash ROM as a parameter. Motion Library(API) is provided for programming under Windows 7/8/10.

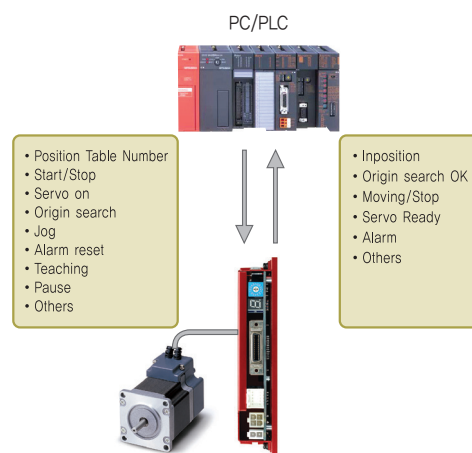


2 Position Table Function

Position Table can be used for motion control by digital input and output signals of host controller.

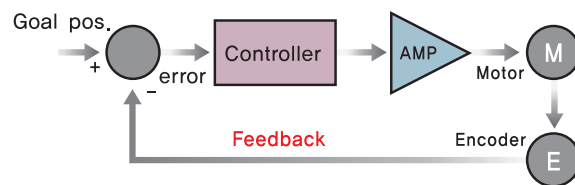
You can operate the motor directly by sending the position table number, start/stop, origin search and other digital input values from a PC.

The PC can monitor the 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 PC.



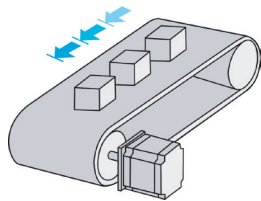
3 Closed-Loop System

Ezi-SERVO is an innovative Closed-Loop System that utilizes a high-resolution motor mounted encoder constantly to monitor the current position. The encoder feedback allows the Ezi-SERVO to update the current position every 25μs. It allows the Ezi-SERVO drive to compensate for the loss of position, ensuring accurate positioning. For example, due to a sudden load change, a conventional stepping motor and drive could lose a step but Ezi-SERVO automatically correct the position by encoder feedback.



4 Tuning Not Required

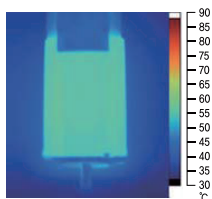
To ensure machine performance, conventional servo systems require the adjustment of its servo's gains as an initial crucial step. Even systems that employ auto-tuning require manual tuning after the system is installed. Ezi-SERVO employs the best characteristics of the stepping motor to eliminate the need of tedious gain tuning required for conventional closed-loop servo systems. Ezi-SERVO is especially well suited for low-rigidity loads (e.g., a belt and pulley system) that sometimes require conventional servo systems to use the additional bulky and expensive gearbox.



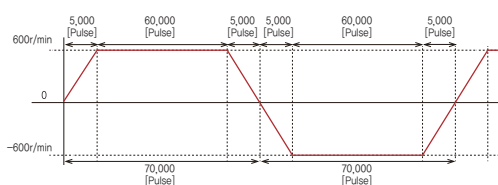
5 Low Heat Generation / Energy Savings

(Motor Current Control according to load)

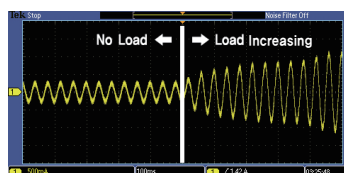
Ezi-SERVO automatically controls motor current according to load. Ezi-SERVO reduces motor current when motor load is low and increases motor current when load is high. By optimizing the motor current, motor heat can be minimized and energy can be saved.



Motor temperature [Measured by Thermal Imaging Camera]



Condition to measure the motor temperature
[4hours operation, Motor surface temperature saturation]

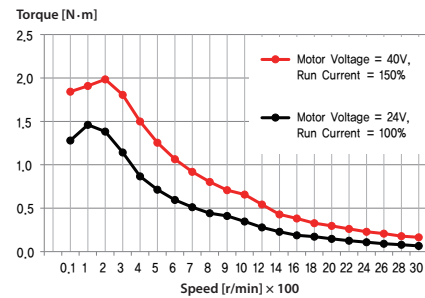


Example of the Motor Current Control according to load

6 High Torque

(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.

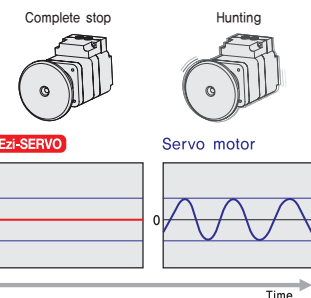


※ The torque at low speed and high speed is improved about 30%.

Measured Condition : Drive = Ezi-SERVO-PR-56L
Motor Voltage = DC40V
Input Voltage = DC24V

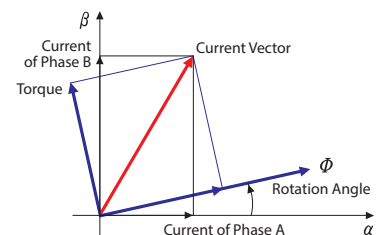
7 No Hunting

Ezi-SERVO utilizes the unique characteristics of stepping motors and locks itself into the desired target position, preventing vibration and eliminating Null Hunt which happens to the conventional servo systems. This feature is especially useful in applications such as vision systems in which system oscillation and vibration could be a problem.



8 Smooth and Accurate Operation

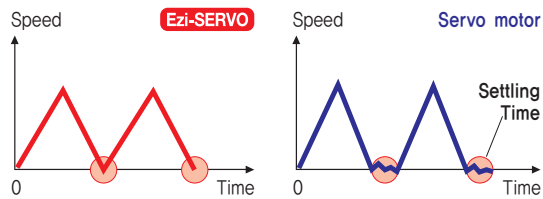
Ezi-SERVO is a high-precision servo drive, using a high-resolution encoder with 32,000 pulses/revolution. Unlike a conventional Microstep drive, the on-board high performance MCU (Micro Controller Unit) performs vector control and filtering, producing a smooth rotational control with minimum ripples.



9

High Response

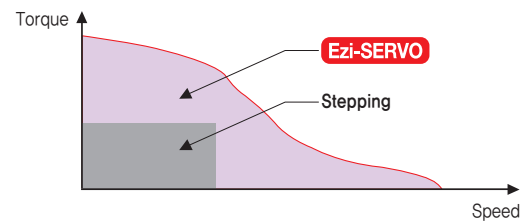
Similar to conventional stepping motors, Ezi-SERVO instantly synchronizes with command pulses providing fast positional response. Ezi-SERVO is the optimal choice when zero-speed stability and rapid motions within a short distance are required. Traditional servo motor systems have a natural delay called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



11

High Torque/Continuous Operation

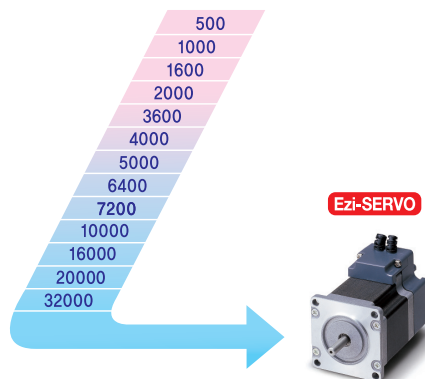
Compared with common step motors and drives, Ezi-SERVO motion control systems can maintain a high torque state over relatively long period of time. This means that Ezi-SERVO continuously operates without loss of position under 100% of the load. Unlike conventional Microstep drives, Ezi-SERVO exploits continuous high torque operation during high speed motion due to its innovative optimum current phase control.



10

High Resolution

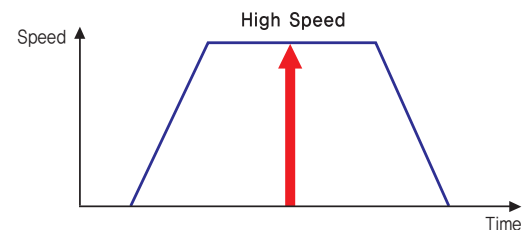
The unit of the position command can be divided precisely. (Max. 32,000 pulses/revolution)



12

High Speed

The Ezi-SERVO operates well at high speed without the loss of synchronism or positioning error. Ezi-SERVO's ability to monitor current position continuously enables the stepping motor to generate high torque, even under a 100% load condition.



Advantages over Open-Loop Stepping System Drive

1. Positioning is reliable without loss of synchronism.
2. It can hold stable position and automatically recover to the original position even after experiencing positioning error due to external forces, such as mechanical vibration or vertical positional holding.
3. Ezi-SERVO utilizes 100% of rated motor torque, contrary to a conventional open-loop stepping driver that can use up to 50% of the rated motor torque due to the loss of synchronism.
4. Ezi-SERVO can operate at high speed due to load-dependent current control, while open-loop stepping drives use a constant current control at all speed ranges without considering load variations. (Max Speed : 3,000r/min)

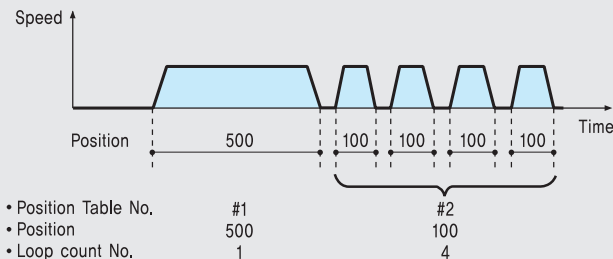
Advantages over Servo Motor Controller

1. Tuning is not required. (Automatic gain adjustment in response to a load change)
2. It can maintain the stable holding position without oscillation after completion of positioning.
3. Positioning is fast due to the independent control by on-board MCU.
4. Operation is constant during rapid short-stroke movement due to instantaneous positioning.

● Motion Controller Features of Ezi-SERVO

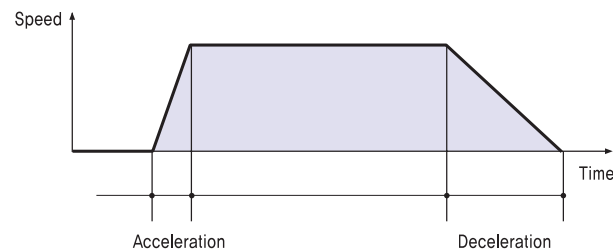
1. Loop Count

This function allows positioning repeatedly according to the Loop Count Number.



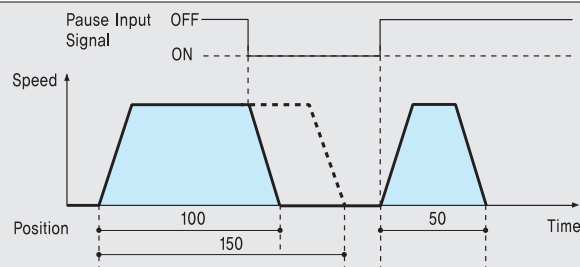
2. Acceleration/Deceleration

For quick acceleration and gradual deceleration, you can set each acceleration and deceleration time separately.



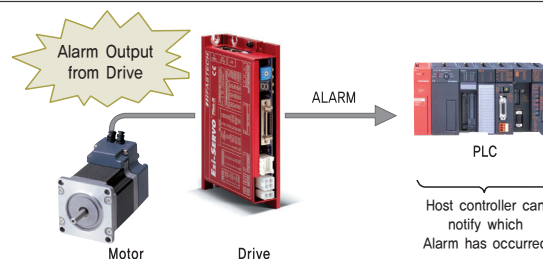
3. Pause

You can pause the motion upon the input of an external signal. When Pause signal change to OFF, the motor will restart to original target position.



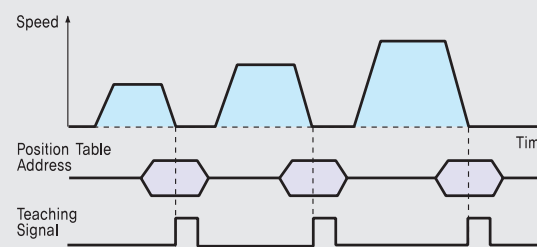
4. Alarm

The number of LED flashing time indicates which Alarm has occurred.



5. Teaching

Teaching signal is used to memorize current Position data into the selected Position Table item.

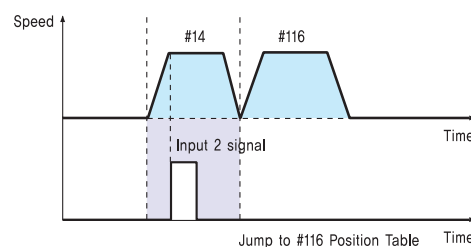
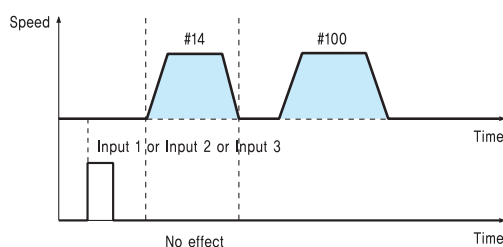


6. Jump

Within one Position Table, you can select various Position Table numbers that you want to jump. With three external input signal during movement, the next jump Position Table number can be select.

◆ Position Table #14

Position	---	Next	---	Input 1	Input 2	Input 3	---
10000		100		115	116	117	



● Ezi-SERVO Plus-R Part Numbering

Ezi-SERVO-PR-56L-A-BK-PN05

Product Name	
Drive Series	
PR : Plus RS-485	
Motor Flange Size	
20 : 20mm	
28 : 28mm	
35 : 35mm	
42 : 42mm	
56 : 56mm	
60 : 60mm	
86 : 86mm	
Motor Length	
S : Small	
M : Medium	
L : Large	
XL : Extra Large	
Encoder Resolution	
A : 10,000P/R	
B : 20,000P/R	
C : 32,000P/R	
D : 16,000P/R	
F : 4,000P/R	
Brake	
Blank : Without Brake	
BK : Brake	
Gear Ratio	
Blank : Without Gear	
PN03 : 1:3	
PN05 : 1:5	
PN08 : 1:8	
PN10 : 1:10	
PN15 : 1:15	
PN25 : 1:25	
PN40 : 1:40	
PN50 : 1:50	

● Standard Combination

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-SERVO-PR-20M-F	EzM-20M-F	EzS-NDR-20M-F
Ezi-SERVO-PR-20L-F	EzM-20L-F	EzS-NDR-20L-F
Ezi-SERVO-PR-28S-D	EzM-28S-D	EzS-NDR-28S-D
Ezi-SERVO-PR-28SM-D	EzM-28SM-D	EzS-NDR-28S-D
Ezi-SERVO-PR-28M-D	EzM-28M-D	EzS-NDR-28M-D
Ezi-SERVO-PR-28MM-D	EzM-28MM-D	EzS-NDR-28M-D
Ezi-SERVO-PR-28L-D	EzM-28L-D	EzS-NDR-28L-D
Ezi-SERVO-PR-28LM-D	EzM-28LM-D	EzS-NDR-28L-D
Ezi-SERVO-PR-35M-D	EzM-35M-D	EzS-NDR-35M-D
Ezi-SERVO-PR-35MM-D	EzM-35MM-D	EzS-NDR-35M-D
Ezi-SERVO-PR-35L-D	EzM-35L-D	EzS-NDR-35L-D
Ezi-SERVO-PR-35LM-D	EzM-35LM-D	EzS-NDR-35L-D
Ezi-SERVO-PR-42S-A	EzM-42S-A	EzS-NDR-42S-A
Ezi-SERVO-PR-42S-B	EzM-42S-B	EzS-NDR-42S-B
Ezi-SERVO-PR-42S-C	EzM-42S-C	EzS-NDR-42S-C
Ezi-SERVO-PR-42M-A	EzM-42M-A	EzS-NDR-42M-A
Ezi-SERVO-PR-42M-B	EzM-42M-B	EzS-NDR-42M-B
Ezi-SERVO-PR-42M-C	EzM-42M-C	EzS-NDR-42M-C
Ezi-SERVO-PR-42L-A	EzM-42L-A	EzS-NDR-42L-A
Ezi-SERVO-PR-42L-B	EzM-42L-B	EzS-NDR-42L-B
Ezi-SERVO-PR-42L-C	EzM-42L-C	EzS-NDR-42L-C
Ezi-SERVO-PR-42XL-A	EzM-42XL-A	EzS-NDR-42XL-A
Ezi-SERVO-PR-42XL-B	EzM-42XL-B	EzS-NDR-42XL-B
Ezi-SERVO-PR-42XL-C	EzM-42XL-C	EzS-NDR-42XL-C
Ezi-SERVO-PR-56S-A	EzM-56S-A	EzS-NDR-56S-A
Ezi-SERVO-PR-56S-B	EzM-56S-B	EzS-NDR-56S-B
Ezi-SERVO-PR-56S-C	EzM-56S-C	EzS-NDR-56S-C
Ezi-SERVO-PR-56M-A	EzM-56M-A	EzS-NDR-56M-A
Ezi-SERVO-PR-56M-B	EzM-56M-B	EzS-NDR-56M-B
Ezi-SERVO-PR-56M-C	EzM-56M-C	EzS-NDR-56M-C
Ezi-SERVO-PR-56L-A	EzM-56L-A	EzS-NDR-56L-A
Ezi-SERVO-PR-56L-B	EzM-56L-B	EzS-NDR-56L-B
Ezi-SERVO-PR-56L-C	EzM-56L-C	EzS-NDR-56L-C
Ezi-SERVO-PR-60S-A	EzM-60S-A	EzS-NDR-60S-A
Ezi-SERVO-PR-60S-B	EzM-60S-B	EzS-NDR-60S-B
Ezi-SERVO-PR-60S-C	EzM-60S-C	EzS-NDR-60S-C
Ezi-SERVO-PR-60M-A	EzM-60M-A	EzS-NDR-60M-A
Ezi-SERVO-PR-60M-B	EzM-60M-B	EzS-NDR-60M-B
Ezi-SERVO-PR-60M-C	EzM-60M-C	EzS-NDR-60M-C
Ezi-SERVO-PR-60L-A	EzM-60L-A	EzS-NDR-60L-A
Ezi-SERVO-PR-60L-B	EzM-60L-B	EzS-NDR-60L-B
Ezi-SERVO-PR-60L-C	EzM-60L-C	EzS-NDR-60L-C
Ezi-SERVO-PR-86M-A	EzM-86M-A	EzS-NDR-86M-A
Ezi-SERVO-PR-86M-B	EzM-86M-B	EzS-NDR-86M-B
Ezi-SERVO-PR-86M-C	EzM-86M-C	EzS-NDR-86M-C
Ezi-SERVO-PR-86L-A	EzM-86L-A	EzS-NDR-86L-A
Ezi-SERVO-PR-86L-B	EzM-86L-B	EzS-NDR-86L-B
Ezi-SERVO-PR-86L-C	EzM-86L-C	EzS-NDR-86L-C
Ezi-SERVO-PR-86XL-A	EzM-86XL-A	EzS-NDR-86XL-A
Ezi-SERVO-PR-86XL-B	EzM-86XL-B	EzS-NDR-86XL-B
Ezi-SERVO-PR-86XL-C	EzM-86XL-C	EzS-NDR-86XL-C

* When places an order for Stopper type 28mm, 35mm motor, please write "M" additionally after motor length of unit part number.
(e.g., Ezi-SERVO-PR-28LM-D, Ezi-SERVO-PR-35LM-D)

● Combination with Brake

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-SERVO-PR-42S-A-BK	EzM-42S-A-BK	EzS-NDR-42S-A
Ezi-SERVO-PR-42S-B-BK	EzM-42S-B-BK	EzS-NDR-42S-B
Ezi-SERVO-PR-42M-A-BK	EzM-42M-A-BK	EzS-NDR-42M-A
Ezi-SERVO-PR-42M-B-BK	EzM-42M-B-BK	EzS-NDR-42M-B
Ezi-SERVO-PR-42L-A-BK	EzM-42L-A-BK	EzS-NDR-42L-A
Ezi-SERVO-PR-42L-B-BK	EzM-42L-B-BK	EzS-NDR-42L-B
Ezi-SERVO-PR-42XL-A-BK	EzM-42XL-A-BK	EzS-NDR-42XL-A
Ezi-SERVO-PR-42XL-B-BK	EzM-42XL-B-BK	EzS-NDR-42XL-B
Ezi-SERVO-PR-56S-A-BK	EzM-56S-A-BK	EzS-NDR-56S-A
Ezi-SERVO-PR-56S-B-BK	EzM-56S-B-BK	EzS-NDR-56S-B
Ezi-SERVO-PR-56M-A-BK	EzM-56M-A-BK	EzS-NDR-56M-A
Ezi-SERVO-PR-56M-B-BK	EzM-56M-B-BK	EzS-NDR-56M-B
Ezi-SERVO-PR-56L-A-BK	EzM-56L-A-BK	EzS-NDR-56L-A
Ezi-SERVO-PR-56L-B-BK	EzM-56L-B-BK	EzS-NDR-56L-B
Ezi-SERVO-PR-60S-A-BK	EzM-60S-A-BK	EzS-NDR-60S-A
Ezi-SERVO-PR-60S-B-BK	EzM-60S-B-BK	EzS-NDR-60S-B
Ezi-SERVO-PR-60M-A-BK	EzM-60M-A-BK	EzS-NDR-60M-A
Ezi-SERVO-PR-60M-B-BK	EzM-60M-B-BK	EzS-NDR-60M-B
Ezi-SERVO-PR-60L-A-BK	EzM-60L-A-BK	EzS-NDR-60L-A
Ezi-SERVO-PR-60L-B-BK	EzM-60L-B-BK	EzS-NDR-60L-B
Ezi-SERVO-PR-86M-A-BK	EzM-86M-A-BK	EzS-NDR-86M-A
Ezi-SERVO-PR-86M-B-BK	EzM-86M-B-BK	EzS-NDR-86M-B
Ezi-SERVO-PR-86L-A-BK	EzM-86L-A-BK	EzS-NDR-86L-A
Ezi-SERVO-PR-86L-B-BK	EzM-86L-B-BK	EzS-NDR-86L-B
Ezi-SERVO-PR-86XL-A-BK	EzM-86XL-A-BK	EzS-NDR-86XL-A
Ezi-SERVO-PR-86XL-B-BK	EzM-86XL-B-BK	EzS-NDR-86XL-B

● Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO-PR-42S-A-PN3	EzM-42S-A-PN3	EzS-NDR-42S-A	1:3
Ezi-SERVO-PR-42S-B-PN3	EzM-42S-B-PN3	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN5	EzM-42S-A-PN5	EzS-NDR-42S-A	1:5
Ezi-SERVO-PR-42S-B-PN5	EzM-42S-B-PN5	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN8	EzM-42S-A-PN8	EzS-NDR-42S-A	1:8
Ezi-SERVO-PR-42S-B-PN8	EzM-42S-B-PN8	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN10	EzM-42S-A-PN10	EzS-NDR-42S-A	1:10
Ezi-SERVO-PR-42S-B-PN10	EzM-42S-B-PN10	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN15	EzM-42S-A-PN15	EzS-NDR-42S-A	1:15
Ezi-SERVO-PR-42S-B-PN15	EzM-42S-B-PN15	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN25	EzM-42S-A-PN25	EzS-NDR-42S-A	1:25
Ezi-SERVO-PR-42S-B-PN25	EzM-42S-B-PN25	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN40	EzM-42S-A-PN40	EzS-NDR-42S-A	1:40
Ezi-SERVO-PR-42S-B-PN40	EzM-42S-B-PN40	EzS-NDR-42S-B	
Ezi-SERVO-PR-42S-A-PN50	EzM-42S-A-PN50	EzS-NDR-42S-A	1:50
Ezi-SERVO-PR-42S-B-PN50	EzM-42S-B-PN50	EzS-NDR-42S-B	
Ezi-SERVO-PR-42M-A-PN3	EzM-42M-A-PN3	EzS-NDR-42M-A	1:3
Ezi-SERVO-PR-42M-B-PN3	EzM-42M-B-PN3	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN5	EzM-42M-A-PN5	EzS-NDR-42M-A	1:5
Ezi-SERVO-PR-42M-B-PN5	EzM-42M-B-PN5	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN8	EzM-42M-A-PN8	EzS-NDR-42M-A	1:8
Ezi-SERVO-PR-42M-B-PN8	EzM-42M-B-PN8	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN10	EzM-42M-A-PN10	EzS-NDR-42M-A	1:10
Ezi-SERVO-PR-42M-B-PN10	EzM-42M-B-PN10	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN15	EzM-42M-A-PN15	EzS-NDR-42M-A	1:15
Ezi-SERVO-PR-42M-B-PN15	EzM-42M-B-PN15	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN25	EzM-42M-A-PN25	EzS-NDR-42M-A	1:25
Ezi-SERVO-PR-42M-B-PN25	EzM-42M-B-PN25	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN40	EzM-42M-A-PN40	EzS-NDR-42M-A	1:40
Ezi-SERVO-PR-42M-B-PN40	EzM-42M-B-PN40	EzS-NDR-42M-B	
Ezi-SERVO-PR-42M-A-PN50	EzM-42M-A-PN50	EzS-NDR-42M-A	1:50
Ezi-SERVO-PR-42M-B-PN50	EzM-42M-B-PN50	EzS-NDR-42M-B	

● Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO-PR-42L-A-PN3	EzM-42L-A-PN3	EzS-NDR-42L-A	1:3
Ezi-SERVO-PR-42L-B-PN3	EzM-42L-B-PN3	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN5	EzM-42L-A-PN5	EzS-NDR-42L-A	1:5
Ezi-SERVO-PR-42L-B-PN5	EzM-42L-B-PN5	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN8	EzM-42L-A-PN8	EzS-NDR-42L-A	1:8
Ezi-SERVO-PR-42L-B-PN8	EzM-42L-B-PN8	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN10	EzM-42L-A-PN10	EzS-NDR-42L-A	1:10
Ezi-SERVO-PR-42L-B-PN10	EzM-42L-B-PN10	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN15	EzM-42L-A-PN15	EzS-NDR-42L-A	1:15
Ezi-SERVO-PR-42L-B-PN15	EzM-42L-B-PN15	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN25	EzM-42L-A-PN25	EzS-NDR-42L-A	1:25
Ezi-SERVO-PR-42L-B-PN25	EzM-42L-B-PN25	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN40	EzM-42L-A-PN40	EzS-NDR-42L-A	1:40
Ezi-SERVO-PR-42L-B-PN40	EzM-42L-B-PN40	EzS-NDR-42L-B	
Ezi-SERVO-PR-42L-A-PN50	EzM-42L-A-PN50	EzS-NDR-42L-A	1:50
Ezi-SERVO-PR-42L-B-PN50	EzM-42L-B-PN50	EzS-NDR-42L-B	
Ezi-SERVO-PR-42XL-A-PN3	EzM-42XL-A-PN3	EzS-NDR-42XL-A	1:3
Ezi-SERVO-PR-42XL-B-PN3	EzM-42XL-B-PN3	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN5	EzM-42XL-A-PN5	EzS-NDR-42XL-A	1:5
Ezi-SERVO-PR-42XL-B-PN5	EzM-42XL-B-PN5	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN8	EzM-42XL-A-PN8	EzS-NDR-42XL-A	1:8
Ezi-SERVO-PR-42XL-B-PN8	EzM-42XL-B-PN8	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN10	EzM-42XL-A-PN10	EzS-NDR-42XL-A	1:10
Ezi-SERVO-PR-42XL-B-PN10	EzM-42XL-B-PN10	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN15	EzM-42XL-A-PN15	EzS-NDR-42XL-A	1:15
Ezi-SERVO-PR-42XL-B-PN15	EzM-42XL-B-PN15	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN25	EzM-42XL-A-PN25	EzS-NDR-42XL-A	1:25
Ezi-SERVO-PR-42XL-B-PN25	EzM-42XL-B-PN25	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN40	EzM-42XL-A-PN40	EzS-NDR-42XL-A	1:40
Ezi-SERVO-PR-42XL-B-PN40	EzM-42XL-B-PN40	EzS-NDR-42XL-B	
Ezi-SERVO-PR-42XL-A-PN50	EzM-42XL-A-PN50	EzS-NDR-42XL-A	1:50
Ezi-SERVO-PR-42XL-B-PN50	EzM-42XL-B-PN50	EzS-NDR-42XL-B	
Ezi-SERVO-PR-56S-A-PN3	EzM-56S-A-PN3	EzS-NDR-56S-A	1:3
Ezi-SERVO-PR-56S-B-PN3	EzM-56S-B-PN3	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN5	EzM-56S-A-PN5	EzS-NDR-56S-A	1:5
Ezi-SERVO-PR-56S-B-PN5	EzM-56S-B-PN5	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN8	EzM-56S-A-PN8	EzS-NDR-56S-A	1:8
Ezi-SERVO-PR-56S-B-PN8	EzM-56S-B-PN8	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN10	EzM-56S-A-PN10	EzS-NDR-56S-A	1:10
Ezi-SERVO-PR-56S-B-PN10	EzM-56S-B-PN10	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN15	EzM-56S-A-PN15	EzS-NDR-56S-A	1:15
Ezi-SERVO-PR-56S-B-PN15	EzM-56S-B-PN15	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN25	EzM-56S-A-PN25	EzS-NDR-56S-A	1:25
Ezi-SERVO-PR-56S-B-PN25	EzM-56S-B-PN25	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN40	EzM-56S-A-PN40	EzS-NDR-56S-A	1:40
Ezi-SERVO-PR-56S-B-PN40	EzM-56S-B-PN40	EzS-NDR-56S-B	
Ezi-SERVO-PR-56S-A-PN50	EzM-56S-A-PN50	EzS-NDR-56S-A	1:50
Ezi-SERVO-PR-56S-B-PN50	EzM-56S-B-PN50	EzS-NDR-56S-B	
Ezi-SERVO-PR-56M-A-PN3	EzM-56M-A-PN3	EzS-NDR-56M-A	1:3
Ezi-SERVO-PR-56M-B-PN3	EzM-56M-B-PN3	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN5	EzM-56M-A-PN5	EzS-NDR-56M-A	1:5
Ezi-SERVO-PR-56M-B-PN5	EzM-56M-B-PN5	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN8	EzM-56M-A-PN8	EzS-NDR-56M-A	1:8
Ezi-SERVO-PR-56M-B-PN8	EzM-56M-B-PN8	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN10	EzM-56M-A-PN10	EzS-NDR-56M-A	1:10
Ezi-SERVO-PR-56M-B-PN10	EzM-56M-B-PN10	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN15	EzM-56M-A-PN15	EzS-NDR-56M-A	1:15
Ezi-SERVO-PR-56M-B-PN15	EzM-56M-B-PN15	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN25	EzM-56M-A-PN25	EzS-NDR-56M-A	1:25
Ezi-SERVO-PR-56M-B-PN25	EzM-56M-B-PN25	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN40	EzM-56M-A-PN40	EzS-NDR-56M-A	1:40
Ezi-SERVO-PR-56M-B-PN40	EzM-56M-B-PN40	EzS-NDR-56M-B	
Ezi-SERVO-PR-56M-A-PN50	EzM-56M-A-PN50	EzS-NDR-56M-A	1:50
Ezi-SERVO-PR-56M-B-PN50	EzM-56M-B-PN50	EzS-NDR-56M-B	

● Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO-PR-56L-A-PN3	EzM-56L-A-PN3	EzS-NDR-56L-A	1:3
Ezi-SERVO-PR-56L-B-PN3	EzM-56L-B-PN3	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN5	EzM-56L-A-PN5	EzS-NDR-56L-A	1:5
Ezi-SERVO-PR-56L-B-PN5	EzM-56L-B-PN5	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN8	EzM-56L-A-PN8	EzS-NDR-56L-A	1:8
Ezi-SERVO-PR-56L-B-PN8	EzM-56L-B-PN8	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN10	EzM-56L-A-PN10	EzS-NDR-56L-A	1:10
Ezi-SERVO-PR-56L-B-PN10	EzM-56L-B-PN10	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN15	EzM-56L-A-PN15	EzS-NDR-56L-A	1:15
Ezi-SERVO-PR-56L-B-PN15	EzM-56L-B-PN15	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN25	EzM-56L-A-PN25	EzS-NDR-56L-A	1:25
Ezi-SERVO-PR-56L-B-PN25	EzM-56L-B-PN25	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN40	EzM-56L-A-PN40	EzS-NDR-56L-A	1:40
Ezi-SERVO-PR-56L-B-PN40	EzM-56L-B-PN40	EzS-NDR-56L-B	
Ezi-SERVO-PR-56L-A-PN50	EzM-56L-A-PN50	EzS-NDR-56L-A	1:50
Ezi-SERVO-PR-56L-B-PN50	EzM-56L-B-PN50	EzS-NDR-56L-B	
Ezi-SERVO-PR-60S-A-PN3	EzM-60S-A-PN3	EzS-NDR-60S-A	1:3
Ezi-SERVO-PR-60S-B-PN3	EzM-60S-B-PN3	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN5	EzM-60S-A-PN5	EzS-NDR-60S-A	1:5
Ezi-SERVO-PR-60S-B-PN5	EzM-60S-B-PN5	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN8	EzM-60S-A-PN8	EzS-NDR-60S-A	1:8
Ezi-SERVO-PR-60S-B-PN8	EzM-60S-B-PN8	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN10	EzM-60S-A-PN10	EzS-NDR-60S-A	1:10
Ezi-SERVO-PR-60S-B-PN10	EzM-60S-B-PN10	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN15	EzM-60S-A-PN15	EzS-NDR-60S-A	1:15
Ezi-SERVO-PR-60S-B-PN15	EzM-60S-B-PN15	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN25	EzM-60S-A-PN25	EzS-NDR-60S-A	1:25
Ezi-SERVO-PR-60S-B-PN25	EzM-60S-B-PN25	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN40	EzM-60S-A-PN40	EzS-NDR-60S-A	1:40
Ezi-SERVO-PR-60S-B-PN40	EzM-60S-B-PN40	EzS-NDR-60S-B	
Ezi-SERVO-PR-60S-A-PN50	EzM-60S-A-PN50	EzS-NDR-60S-A	1:50
Ezi-SERVO-PR-60S-B-PN50	EzM-60S-B-PN50	EzS-NDR-60S-B	
Ezi-SERVO-PR-60M-A-PN3	EzM-60M-A-PN3	EzS-NDR-60M-A	1:3
Ezi-SERVO-PR-60M-B-PN3	EzM-60M-B-PN3	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN5	EzM-60M-A-PN5	EzS-NDR-60M-A	1:5
Ezi-SERVO-PR-60M-B-PN5	EzM-60M-B-PN5	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN8	EzM-60M-A-PN8	EzS-NDR-60M-A	1:8
Ezi-SERVO-PR-60M-B-PN8	EzM-60M-B-PN8	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN10	EzM-60M-A-PN10	EzS-NDR-60M-A	1:10
Ezi-SERVO-PR-60M-B-PN10	EzM-60M-B-PN10	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN15	EzM-60M-A-PN15	EzS-NDR-60M-A	1:15
Ezi-SERVO-PR-60M-B-PN15	EzM-60M-B-PN15	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN25	EzM-60M-A-PN25	EzS-NDR-60M-A	1:25
Ezi-SERVO-PR-60M-B-PN25	EzM-60M-B-PN25	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN40	EzM-60M-A-PN40	EzS-NDR-60M-A	1:40
Ezi-SERVO-PR-60M-B-PN40	EzM-60M-B-PN40	EzS-NDR-60M-B	
Ezi-SERVO-PR-60M-A-PN50	EzM-60M-A-PN50	EzS-NDR-60M-A	1:50
Ezi-SERVO-PR-60M-B-PN50	EzM-60M-B-PN50	EzS-NDR-60M-B	
Ezi-SERVO-PR-60L-A-PN3	EzM-60L-A-PN3	EzS-NDR-60L-A	1:3
Ezi-SERVO-PR-60L-B-PN3	EzM-60L-B-PN3	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN5	EzM-60L-A-PN5	EzS-NDR-60L-A	1:5
Ezi-SERVO-PR-60L-B-PN5	EzM-60L-B-PN5	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN8	EzM-60L-A-PN8	EzS-NDR-60L-A	1:8
Ezi-SERVO-PR-60L-B-PN8	EzM-60L-B-PN8	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN10	EzM-60L-A-PN10	EzS-NDR-60L-A	1:10
Ezi-SERVO-PR-60L-B-PN10	EzM-60L-B-PN10	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN15	EzM-60L-A-PN15	EzS-NDR-60L-A	1:15
Ezi-SERVO-PR-60L-B-PN15	EzM-60L-B-PN15	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN25	EzM-60L-A-PN25	EzS-NDR-60L-A	1:25
Ezi-SERVO-PR-60L-B-PN25	EzM-60L-B-PN25	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN40	EzM-60L-A-PN40	EzS-NDR-60L-A	1:40
Ezi-SERVO-PR-60L-B-PN40	EzM-60L-B-PN40	EzS-NDR-60L-B	
Ezi-SERVO-PR-60L-A-PN50	EzM-60L-A-PN50	EzS-NDR-60L-A	1:50
Ezi-SERVO-PR-60L-B-PN50	EzM-60L-B-PN50	EzS-NDR-60L-B	

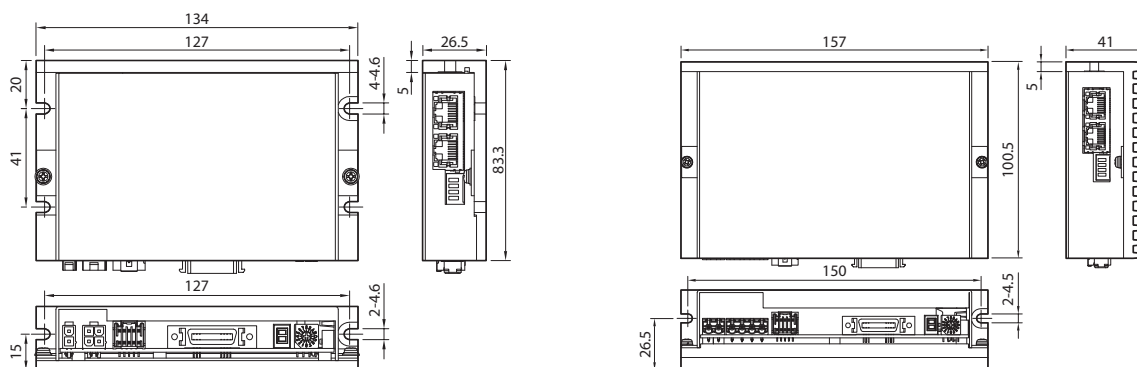
Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO-PR-86M-A-PN3	EzM-86M-A-PN3	EzS-NDR-86M-A	1:3
Ezi-SERVO-PR-86M-B-PN3	EzM-86M-B-PN3	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN5	EzM-86M-A-PN5	EzS-NDR-86M-A	1:5
Ezi-SERVO-PR-86M-B-PN5	EzM-86M-B-PN5	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN8	EzM-86M-A-PN8	EzS-NDR-86M-A	1:8
Ezi-SERVO-PR-86M-B-PN8	EzM-86M-B-PN8	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN10	EzM-86M-A-PN10	EzS-NDR-86M-A	1:10
Ezi-SERVO-PR-86M-B-PN10	EzM-86M-B-PN10	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN15	EzM-86M-A-PN15	EzS-NDR-86M-A	1:15
Ezi-SERVO-PR-86M-B-PN15	EzM-86M-B-PN15	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN25	EzM-86M-A-PN25	EzS-NDR-86M-A	1:25
Ezi-SERVO-PR-86M-B-PN25	EzM-86M-B-PN25	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN40	EzM-86M-A-PN40	EzS-NDR-86M-A	1:40
Ezi-SERVO-PR-86M-B-PN40	EzM-86M-B-PN40	EzS-NDR-86M-B	
Ezi-SERVO-PR-86M-A-PN50	EzM-86M-A-PN50	EzS-NDR-86M-A	1:50
Ezi-SERVO-PR-86M-B-PN50	EzM-86M-B-PN50	EzS-NDR-86M-B	
Ezi-SERVO-PR-86L-A-PN3	EzM-86L-A-PN3	EzS-NDR-86L-A	1:3
Ezi-SERVO-PR-86L-B-PN3	EzM-86L-B-PN3	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN5	EzM-86L-A-PN5	EzS-NDR-86L-A	1:5
Ezi-SERVO-PR-86L-B-PN5	EzM-86L-B-PN5	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN8	EzM-86L-A-PN8	EzS-NDR-86L-A	1:8
Ezi-SERVO-PR-86L-B-PN8	EzM-86L-B-PN8	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN10	EzM-86L-A-PN10	EzS-NDR-86L-A	1:10
Ezi-SERVO-PR-86L-B-PN10	EzM-86L-B-PN10	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN15	EzM-86L-A-PN15	EzS-NDR-86L-A	1:15
Ezi-SERVO-PR-86L-B-PN15	EzM-86L-B-PN15	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN25	EzM-86L-A-PN25	EzS-NDR-86L-A	1:25
Ezi-SERVO-PR-86L-B-PN25	EzM-86L-B-PN25	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN40	EzM-86L-A-PN40	EzS-NDR-86L-A	1:40
Ezi-SERVO-PR-86L-B-PN40	EzM-86L-B-PN40	EzS-NDR-86L-B	
Ezi-SERVO-PR-86L-A-PN50	EzM-86L-A-PN50	EzS-NDR-86L-A	1:50
Ezi-SERVO-PR-86L-B-PN50	EzM-86L-B-PN50	EzS-NDR-86L-B	
Ezi-SERVO-PR-86XL-A-PN3	EzM-86XL-A-PN3	EzS-NDR-86XL-A	1:3
Ezi-SERVO-PR-86XL-B-PN3	EzM-86XL-B-PN3	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN5	EzM-86XL-A-PN5	EzS-NDR-86XL-A	1:5
Ezi-SERVO-PR-86XL-B-PN5	EzM-86XL-B-PN5	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN8	EzM-86XL-A-PN8	EzS-NDR-86XL-A	1:8
Ezi-SERVO-PR-86XL-B-PN8	EzM-86XL-B-PN8	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN10	EzM-86XL-A-PN10	EzS-NDR-86XL-A	1:10
Ezi-SERVO-PR-86XL-B-PN10	EzM-86XL-B-PN10	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN15	EzM-86XL-A-PN15	EzS-NDR-86XL-A	1:15
Ezi-SERVO-PR-86XL-B-PN15	EzM-86XL-B-PN15	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN25	EzM-86XL-A-PN25	EzS-NDR-86XL-A	1:25
Ezi-SERVO-PR-86XL-B-PN25	EzM-86XL-B-PN25	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN40	EzM-86XL-A-PN40	EzS-NDR-86XL-A	1:40
Ezi-SERVO-PR-86XL-B-PN40	EzM-86XL-B-PN40	EzS-NDR-86XL-B	
Ezi-SERVO-PR-86XL-A-PN50	EzM-86XL-A-PN50	EzS-NDR-86XL-A	1:50
Ezi-SERVO-PR-86XL-B-PN50	EzM-86XL-B-PN50	EzS-NDR-86XL-B	

● Specifications of Drive

Motor Model		EzM-20 series	EzM-28 series	EzM-35 series	EzM-42 series	EzM-56 series	EzM-60 series	EzM-86 series					
Drive Model		EzS-NDR-20 series	EzS-NDR-28 series	EzS-NDR-35 series	EzS-NDR-42 series	EzS-NDR-56 series	EzS-NDR-60 series	EzS-NDR-86 series					
Input Voltage		DC24V±10%							DC40~70V				
Control Method		Closed-loop control with 32 bit MCU											
Multi Axis Drive		Max. 16 axis operating (Daisy Chain)											
Position Table		256 motion command steps											
Current Consumption		Max. 500mA (Except motor current)											
Operating Condition	Ambient Temperature	· In Use: 0~50℃ · In Storage: -20~70℃											
	Humidity	· In Use: 35~85% RH (Non-Condensing) · In Storage: 10~90% RH (Non-Condensing)											
	Vib. Resist.	0.5g											
Function	Rotation Speed	0~3,000r/min ^{*1}											
	Resolution	Encoder Resolution [P/R]		Configurable Resolution [P/R]									
		4,000		500	1,000	1,600	2,000	3,600	4,000	5,000	6,400	7,200	10,000
		10,000		500	1,000	1,600	2,000	3,600	5,000	6,400	7,200	10,000	
		16,000		500	1,000	1,600	2,000	3,600	5,000	6,400	7,200	10,000	16,000
		20,000		500	1,000	1,600	2,000	3,600	5,000	6,400	7,200	10,000	20,000
		32,000		500	1,000	1,600	2,000	3,600	5,000	6,400	7,200	10,000	32,000
	(Selectable by parameter)												
	Error Types	Over Current Error, Over Speed Error, Position Tracking Error, Over Load Error, Over Temperature Error, Over Regenerated Voltage Error, Motor Connect Error, Encoder Connect Error, In-Position Error, System Error, ROM Error, Position Overflow Error											
	LED Display	Power Status, In-Position Status, Servo ON Status, Alarm Status											
	In-Position Selection	0~15 (Set by parameter)											
Position Gain Selection	0~15 (Set by parameter)												
Rotation Direction	CW/CCW (Set by parameter)												
I/O Signal	Input Signals	3 dedicated inputs (LIMIT+, LIMIT-, ORIGIN), 9 programmable inputs (Photocoupler Input)											
	Output Signals	1 dedicated output (Compare Out), 9 programmable outputs (Photocoupler Output), 1 Brake output											
Communication Interface		· RS-485 Communication · Baud Rate : 9,600~921,600bps											
Position Control		· Incremental mode / Absolute mode Data Range: -134,217,728 to +134,217,727 [pulse] · Operating speed: Max. 3,000 r/min											
Return to Origin		Origin Sensor, Z phase, ±Limit sensor, Torque											
GUI		User Interface Program within Windows											
Library		Motion Library (API) for Windows 7/8/10											

*1 : Up to the resolution of 10,000P/R, maximum speed can be reached by 3,000r/min and with the resolution more than 10,000P/R, maximum speed shall be reduced accordingly.

● Dimensions of Drive [mm]



※ 86mm motor drive (EzS-NDR-86 series)

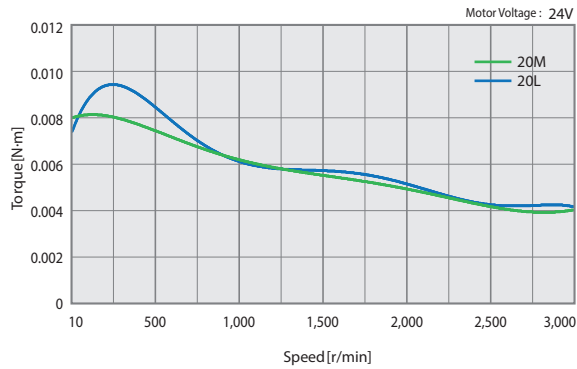
● Specifications of Motor

MODEL			EzM-20 series		EzM-28 series			EzM-35 series		EzM-42 series				
			UNIT	20M	20L	28S	28M	28L	35M	35L	42S	42M	42L	42XL
DRIVE METHOD			—	Bipolar										
NUMBER OF PHASES			—	2 Phase										
CURRENT per PHASE			A/Phase	0,5	0,5	0,95	0,95	0,95	1,5	1,5	1,2	1,2	1,2	1,2
MAXIMUM HOLDING TORQUE			N・m	0,016	0,025	0,069	0,098	0,118	0,13	0,23	0,32	0,44	0,5	0,65
ROTOR INERTIA			g・cm ²	2,5	3,3	9,0	13	18	15	20	35	54	77	114
WEIGHTS			kg	0,079	0,104	0,147	0,204	0,232	0,194	0,226	0,299	0,364	0,433	0,567
LENGTH(L)			mm	28	38	32	45	50	32	36	34	40	48	60
PERMISSIBLE RADIAL LOAD	DIS-TANCE FROM END OF SHAFT	3mm	N	18	18	30	30	30	22	22	22	22	22	22
		8mm		30	30	38	38	38	26	26	26	26	26	26
		13mm		—	—	53	53	53	33	33	33	33	33	33
		18mm		—	—	—	—	—	46	46	46	46	46	46
PERMISSIBLE AXIAL LOAD			N	Lower than Motor Unit's Weight										
INSULATION RESISTANCE			MΩ	Min. 100(When measured with a DC500V insulation resistance meter)										
INSULATION CLASS			—	CLASS B(130℃)										
OPERATING TEMPERATURE			℃	0 ~ 55										

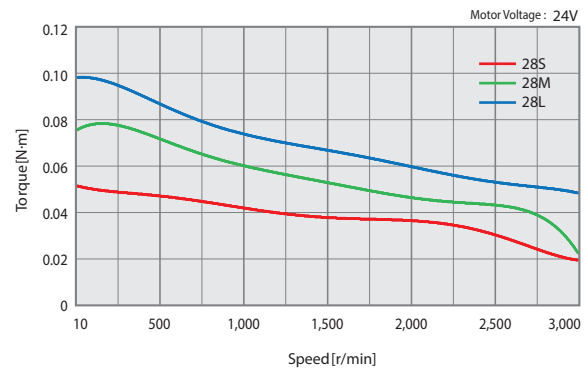
MODEL			EzM-56 series			EzM-60 series			EzM-86 series			
			UNIT	56S	56M	56L	60S	60M	60L	86M	86L	86XL
DRIVE METHOD			—	Bipolar								
NUMBER OF PHASES			—	2 Phase								
CURRENT per PHASE			A/Phase	3.0	3.0	3.0	4.0	4.0	4.0	6.0	6.0	6.0
MAXIMUM HOLDING TORQUE			N・m	0.64	1.0	1.5	0.88	1.28	2.4	4.5	8.5	12
ROTOR INERTIA			g・cm ²	180	280	520	240	490	690	1800	3600	5400
WEIGHTS			kg	0.613	0.784	1.231	0.697	0.862	1.422	2.412	3.956	5.486
LENGTH(L)			mm	46	55	80	47	56	85	78	117	155
PERMISSIBLE RADIAL LOAD	DIS-TANCE FROM END OF SHAFT	3mm	N	52	52	52	70	70	70	270	270	270
		8mm		65	65	65	87	87	87	300	300	300
		13mm		85	85	85	114	114	114	350	350	350
		18mm		123	123	123	165	165	165	400	400	400
PERMISSIBLE AXIAL LOAD			N	Lower than Motor Unit's Weight								
INSULATION RESISTANCE			MΩ	Min. 100(When measured with a DC500V insulation resistance meter)								
INSULATION CLASS			—	CLASS B(130℃)								
OPERATING TEMPERATURE			℃	0 ~ 55								

● Torque Characteristics of Motor

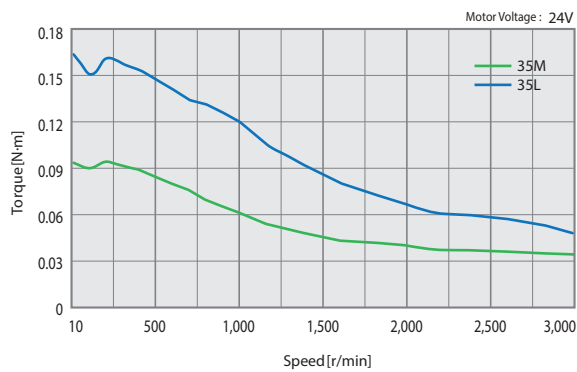
Ezi-SERVO-PR-20 series



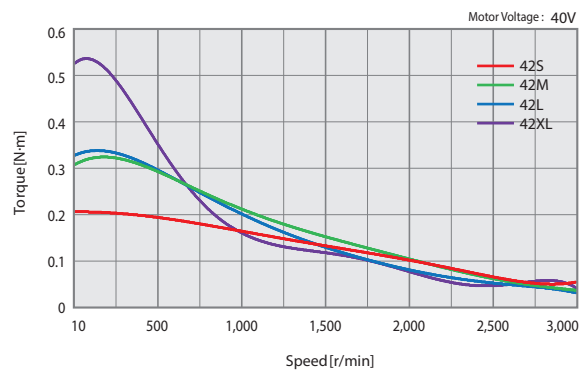
Ezi-SERVO-PR-28 series



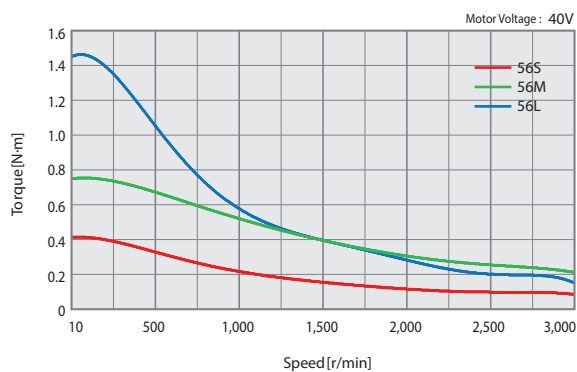
Ezi-SERVO-PR-35 series



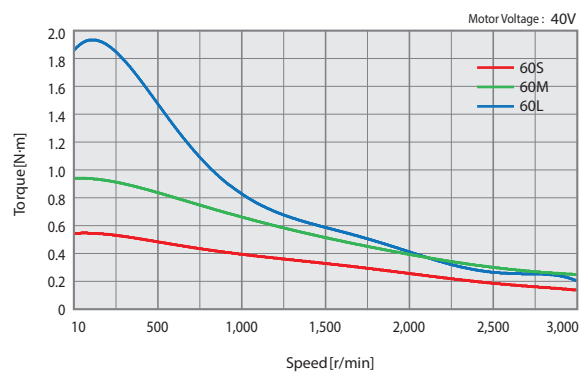
Ezi-SERVO-PR-42 series



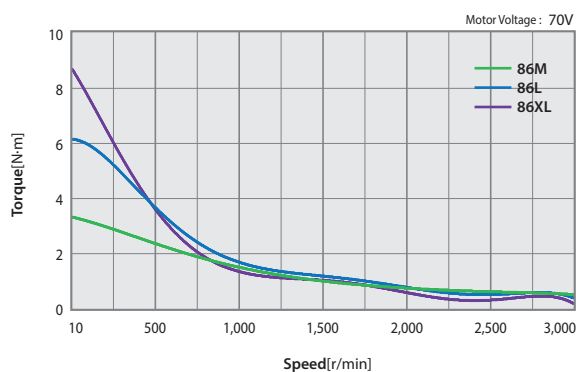
Ezi-SERVO-PR-56 series



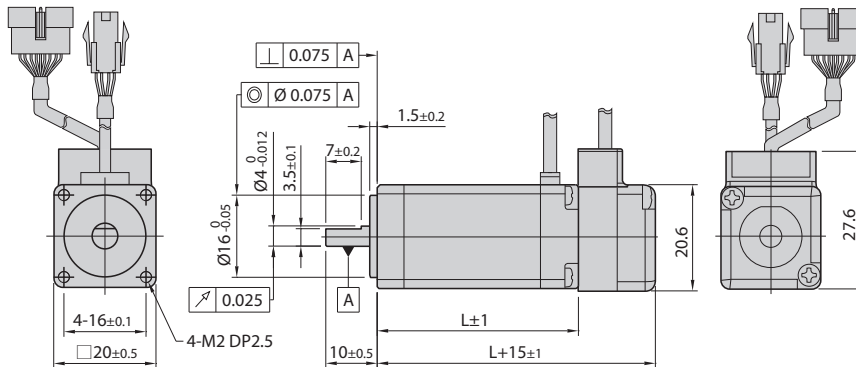
Ezi-SERVO-PR-60 series



Ezi-SERVO-PR-86 series

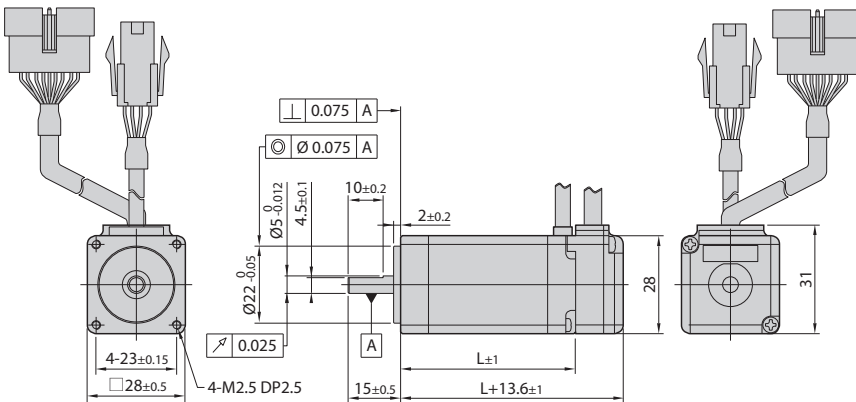


● Dimensions of Motor [mm]



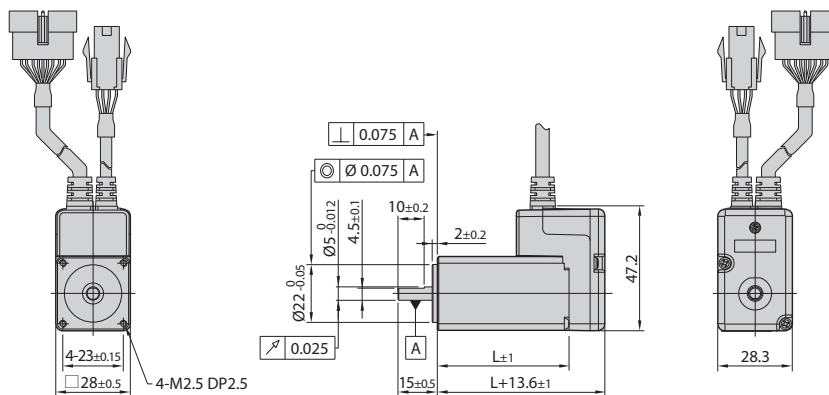
20mm

Model name	Length(L)
EzM-20M	28
EzM-20L	38



28mm

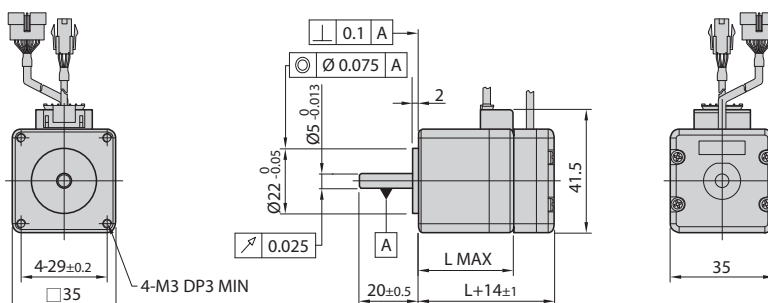
Model name	Length(L)
EzM-28S	32
EzM-28M	45
EzM-28L	50



28mm
(Stopper type)

Model name	Length(L)
EzM-28SM	32
EzM-28MM	45
EzM-28LM	50

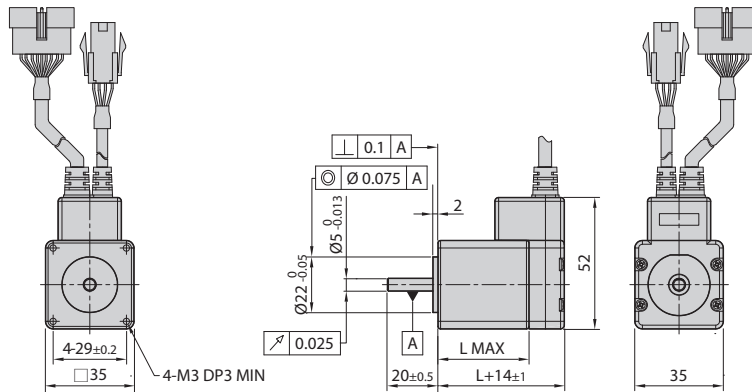
※ When ordering 28mm Stopper type of motor, please add "M" after standard motor model number.



35mm

Model name	Length(L)
EzM-35M	32
EzM-35L	36

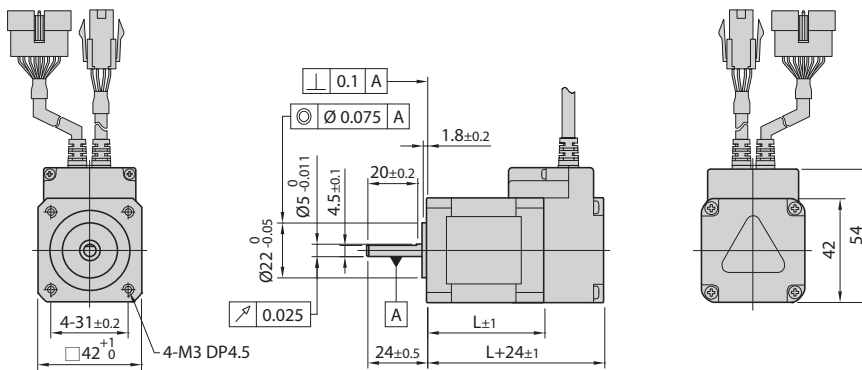
● Dimensions of Motor [mm]



35mm (Stopper type)

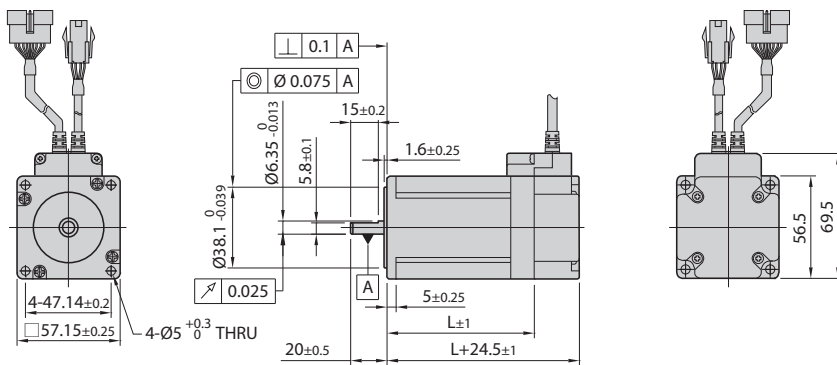
Model name	Length(L)
EzM-35MM	32
EzM-35LM	36

※ When ordering 35mm Stopper type of motor, please add "M" after standard motor model number.



42mm

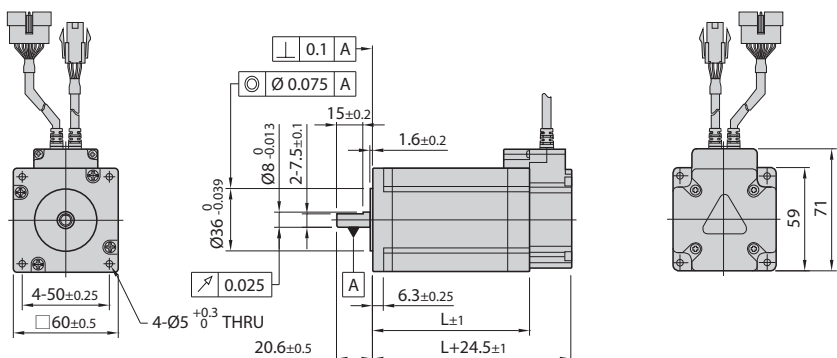
Model name	Length(L)
EzM-42S	34
EzM-42M	40
EzM-42L	48
EzM-42XL	60



56mm

Model name	Length(L)
EzM-56S	46
EzM-56M	55
EzM-56L	80

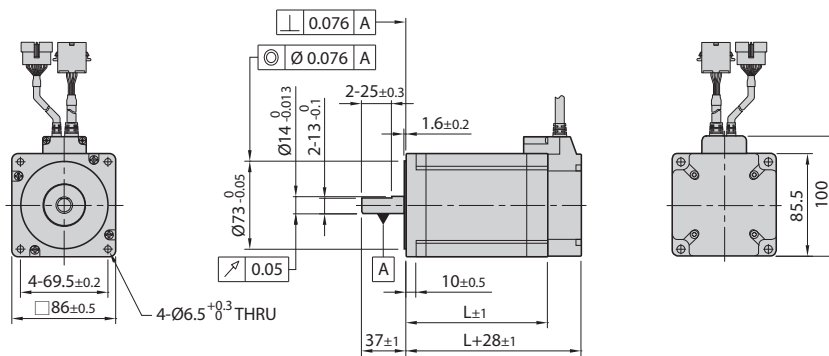
※ There are 2 kinds size of front shaft diameter for EzM-56 series as Ø6.35 and Ø8.0.



60mm

Model name	Length(L)
EzM-60S	47
EzM-60M	56
EzM-60L	85

● Dimensions of Motor [mm]



86mm

Model name	Length(L)
EzM-86M	78
EzM-86L	117
EzM-86XL	155

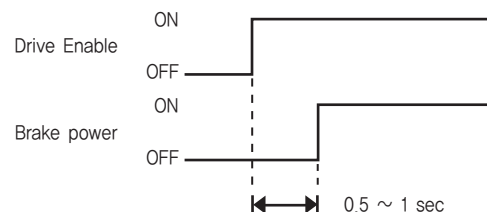
● Specifications of Motor with Brake

Unit Part Number	Motor Model Number	Electromagnetic Brake					Motor Unit Weight [kg]	Permissible Radial Load [N]				Permissible Axial Load [N]
		Type	Voltage Input [V]	Rated Current [A]	Power Consumption [W]	Static Friction Torque [N · m]		Distance from End of Shaft [mm]				
								3	8	13	18	
Ezi-SERVO-PR-42S-■-BK	EzM-42S-■-BK	Non-excitation run Type	DC24V ±10%	0.2	5	0.2	0,56	22	26	33	46	Must be Lower than Motor Unit Weight
Ezi-SERVO-PR-42M-■-BK	EzM-42M-■-BK						0,62					
Ezi-SERVO-PR-42L-■-BK	EzM-42L-■-BK						0,69					
Ezi-SERVO-PR-42XL-■-BK	EzM-42XL-■-BK						0,83					
Ezi-SERVO-PR-56S-■-BK	EzM-56S-■-BK			0.27	6.6	0.7	1,03	52	65	85	123	
Ezi-SERVO-PR-56M-■-BK	EzM-56M-■-BK						1,20					
Ezi-SERVO-PR-56L-■-BK	EzM-56L-■-BK						1,65					
Ezi-SERVO-PR-60S-■-BK	EzM-60S-■-BK						1,14	70	87	114	165	
Ezi-SERVO-PR-60M-■-BK	EzM-60M-■-BK						1,30					
Ezi-SERVO-PR-60L-■-BK	EzM-60L-■-BK						1,86					
Ezi-SERVO-PR-86M-■-BK	EzM-86M-■-BK			0,54	13	4	3,71	270	300	350	400	
Ezi-SERVO-PR-86L-■-BK	EzM-86L-■-BK						5,26					
Ezi-SERVO-PR-86XL-■-BK	EzM-86XL-■-BK						6,79					

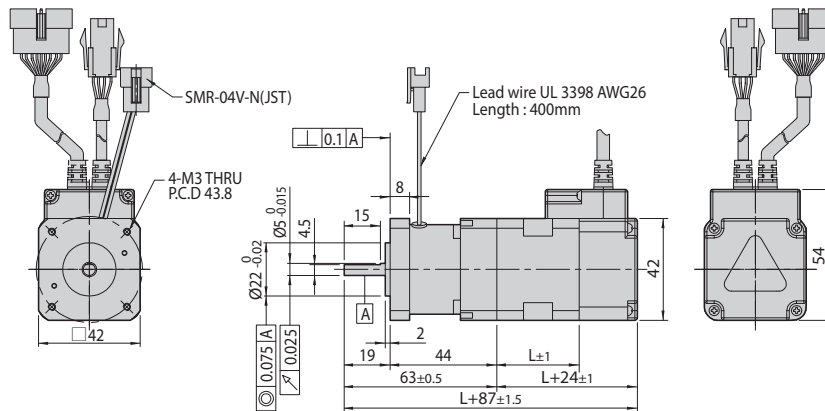
- * The code of encoder resolution will be marked in "■"
- * Electronic Brake cannot be used for braking. Position hold purpose only when power OFF.
- * The weight means Motor Unit Weight including Motor and Electronic Brake.
- * Motor Model Number is combined model name of Motor and Brake.
- * Motor specification and torque characteristic are same as Standard Motor.
- * An external power supply (DC24V) is not required when installing the Electric Brake on the 86mm motor drive.

* Brake Operation Timing Chart

Ezi-SERVO Plus-R controls Brake by Drive automatically.
Please refer to below Timing Chart when Brake is controlled by the upper controller other than using Ezi-SERVO Plus-R Brake control.
Otherwise, Drive might malfunction and loads might fall down.
Also, please do not operate Brake during motor operation to prevent damage.

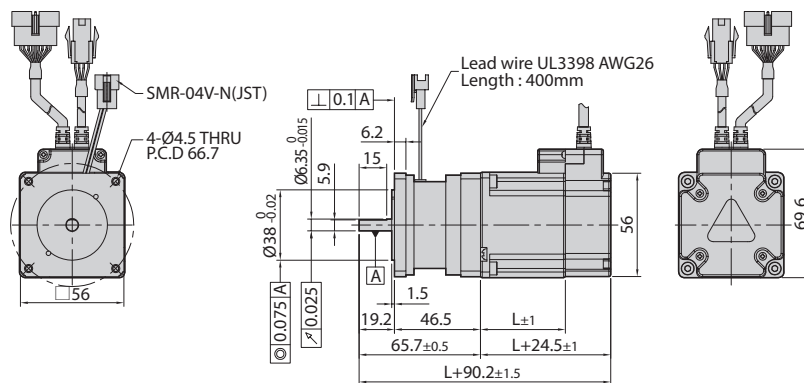


● Dimensions of Motor with Brake [mm]



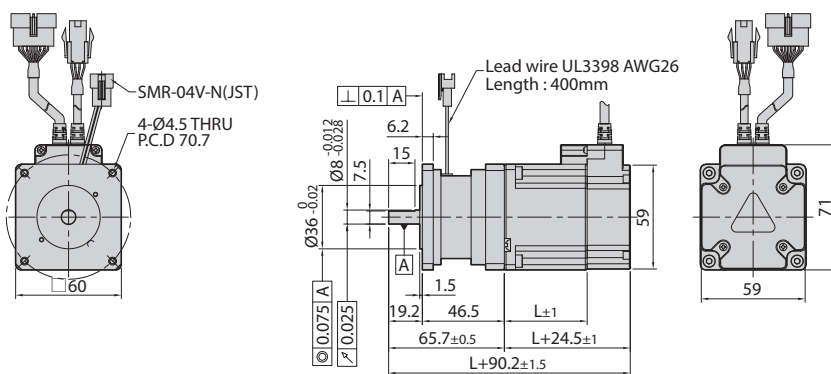
42mm

Model Name	Length(L)
EzM-42S	34
EzM-42M	40
EzM-42L	48
EzM-42XL	60



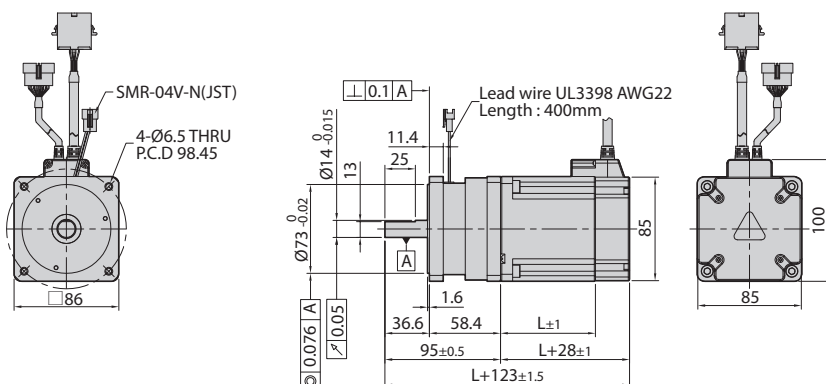
56mm

Model Name	Length(L)
EzM-56S	46
EzM-56M	55
EzM-56L	80



60mm

Model Name	Length(L)
EzM-60S	47
EzM-60M	56
EzM-60L	85



86mm

Model Name	Length(L)
EzM-86M	78
EzM-86L	117
EzM-86XL	155

● How to Read Specifications

Unit Part Number	① Maximum Holding Torque [N·m]	② Rotor Inertia Moment [kg·m ²]	③ Back- lash [arcmin]	④ Angle Trans- mission Error [arcmin]	⑤ Gear Ratio	⑥ Resolution (10,000 P/R Standard)	⑦ Permis- sible Torque [N·m]	⑧ Instan- taneous Max- imum Torque [N·m]	⑨ Permis- sible Speed Range [r/min]	⑩ Unit Weight [kg]	⑪ Permissi- ble Radial Load (At Center of Axis) [N]	⑫ Permissi- ble Axial Load [N]
Ezi-SERVO-PR-42S-■-PN3	0,57	35x10 ⁻⁷	3	5	3	0,012°	6	12	0~1000	0,76	240	270
Ezi-SERVO-PR-42S-■-PN5	0,95				5	0,0072°	9	18	0~600		290	330
Ezi-SERVO-PR-42S-■-PN8	1,52				8	0,0045°	9	18	0~375		340	410
Ezi-SERVO-PR-42S-■-PN10	1,90				10	0,0036°	6	12	0~300		360	450
Ezi-SERVO-PR-42S-■-PN15	2,76		5	7	15	0,0024°	6	12	0~200	0,92	410	540
Ezi-SERVO-PR-42S-■-PN25	4,60				25	0,00144°	9	18	0~120		490	640
Ezi-SERVO-PR-42S-■-PN40	7,36				40	0,0009°	9	18	0~75		570	640
Ezi-SERVO-PR-42S-■-PN50	9,00				50	0,00072°	9	18	0~60		620	640

Description of Specification Items

No.	Item	Description
①	Maximum Holding Torque	This is the maximum torque that can be exerted through the gearbox when the motor is stopped, (Based on 100% of stop current) Use the torque below the permissible torque of the gearbox.
②	Rotor Inertia Moment	It is the value of the moment of inertia of the motor.
③	Backlash	It is the gap between the gear and the gear, and it is the angle at which the gearbox shaft moves without external force when stopped.
④	Angle Transmission Error	This is the transmission characteristic of the gearbox, which means the difference between the theoretical rotation angle and the actual rotation angle of the output shaft.
⑤	Gear Ratio	It is the value obtained by dividing the number of output rotation by the number of input rotation.
⑥	Resolution	This is the angle at which the gearbox output shaft moves when the motor is driven by 1 pulse.
⑦	Permissible Torque	It refers to the maximum value of the torque that can be continuously applied to the output shaft of the gearbox during constant speed operation. (When the input rotation speed is 3,000r/min and the lifetime of the motor becomes 20,000 hours)
⑧	Instantaneous Maximum Torque	This is the maximum torque allowed to the output shaft of the gearbox during acceleration/deceleration.
⑨	Permissible Speed Range	It is the range of rotation speed based on the output shaft of the gearbox.
⑩	Unit Weight	It is the sum of the weight of the gearbox and the motor.
⑪	Permissible Radial Load	It is the maximum value of the load applied in the direction perpendicular to the gearbox output shaft.
⑫	Permissible Axial Load	It is the maximum value of the load applied in the axial direction to the gearbox output shaft.

● Specifications of Motor with Gearbox

42_{mm}

Unit Part Number	Maximum Holding Torque [N·m]	Rotor Inertia Moment [kg·m ²]	Back-lash [arcmin]	Angle Trans-mission Error [arcmin]	Gear Ratio	Resolution (10,000 P/R Standard)	Permissible Torque [N·m]	Instantaneous Maximum Torque [N·m]	Permissible Speed Range [r/min]	Unit Weight [kg]	Permissible Radial Load (At Center of Axis) [N]	Permissible Axial Load [N]
Ezi-SERVO-PR-42S-■-PN3	0.57	35x10 ⁻⁷	3	5	3	0.012°	6	12	0~1000	0.76	240	270
Ezi-SERVO-PR-42S-■-PN5	0.95				5	0.0072°	9	18	0~600		290	330
Ezi-SERVO-PR-42S-■-PN8	1.52				8	0.0045°	9	18	0~375		340	410
Ezi-SERVO-PR-42S-■-PN10	1.90				10	0.0036°	6	12	0~300		360	450
Ezi-SERVO-PR-42S-■-PN15	2.76		5	7	15	0.0024°	6	12	0~200	0.92	410	540
Ezi-SERVO-PR-42S-■-PN25	4.60				25	0.00144°	9	18	0~120		490	640
Ezi-SERVO-PR-42S-■-PN40	7.36				40	0.0009°	9	18	0~75		570	640
Ezi-SERVO-PR-42S-■-PN50	9.00				50	0.00072°	9	18	0~60		620	640
Ezi-SERVO-PR-42M-■-PN3	0.85	54x10 ⁻⁷	3	5	3	0.012°	6	12	0~1000	0.83	240	270
Ezi-SERVO-PR-42M-■-PN5	1.42				5	0.0072°	9	18	0~600		290	330
Ezi-SERVO-PR-42M-■-PN8	2.28				8	0.0045°	9	18	0~375		340	410
Ezi-SERVO-PR-42M-■-PN10	2.85				10	0.0036°	6	12	0~300		360	450
Ezi-SERVO-PR-42M-■-PN15	4.14		5	7	15	0.0024°	6	12	0~200	0.98	410	540
Ezi-SERVO-PR-42M-■-PN25	6.90				25	0.00144°	9	18	0~120		490	640
Ezi-SERVO-PR-42M-■-PN40	9.00				40	0.0009°	9	18	0~75		570	640
Ezi-SERVO-PR-42M-■-PN50	9.00				50	0.00072°	9	18	0~60		620	640
Ezi-SERVO-PR-42L-■-PN3	0.92	77x10 ⁻⁷	3	5	3	0.012°	6	12	0~1000	0.89	240	270
Ezi-SERVO-PR-42L-■-PN5	1.54				5	0.0072°	9	18	0~600		290	330
Ezi-SERVO-PR-42L-■-PN8	2.47				8	0.0045°	9	18	0~375		340	410
Ezi-SERVO-PR-42L-■-PN10	3.09				10	0.0036°	6	12	0~300		360	450
Ezi-SERVO-PR-42L-■-PN15	4.49		5	7	15	0.0024°	6	12	0~200	1.05	410	540
Ezi-SERVO-PR-42L-■-PN25	7.49				25	0.00144°	9	18	0~120		490	640
Ezi-SERVO-PR-42L-■-PN40	9.00				40	0.0009°	9	18	0~75		570	640
Ezi-SERVO-PR-42L-■-PN50	9.00				50	0.00072°	9	18	0~60		620	640
Ezi-SERVO-PR-42XL-■-PN3	1.45	114x10 ⁻⁷	3	5	3	0.012°	6	12	0~1000	1.03	240	270
Ezi-SERVO-PR-42XL-■-PN5	2.42				5	0.0072°	9	18	0~600		290	330
Ezi-SERVO-PR-42XL-■-PN8	3.87				8	0.0045°	9	18	0~375		340	410
Ezi-SERVO-PR-42XL-■-PN10	4.84				10	0.0036°	6	12	0~300		360	450
Ezi-SERVO-PR-42XL-■-PN15	6.00		5	7	15	0.0024°	6	12	0~200	1.18	410	540
Ezi-SERVO-PR-42XL-■-PN25	9.00				25	0.00144°	9	18	0~120		490	640
Ezi-SERVO-PR-42XL-■-PN40	9.00				40	0.0009°	9	18	0~75		570	640
Ezi-SERVO-PR-42XL-■-PN50	9.00				50	0.00072°	9	18	0~60		620	640

* The code of encoder resolution will be marked in "■"

● Specifications of Motor with Gearbox

56_{mm}

Unit Part Number	Maximum Holding Torque [N·m]	Rotor Inertia Moment [kg·m ²]	Back-lash [arcmin]	Angle Trans-mission Error [arcmin]	Gear Ratio	Resolution (10,000 P/R Standard)	Permis-sible Torque [N·m]	Instan-taneous Max-imum Torque [N·m]	Permis-sible Speed Range [r/min]	Unit Weight [kg]	Permissi-ble Radial Load (At Center of Axis) [N]	Permissi-ble Axial Load [N]
Ezi-SERVO-PR-56S-■-PN3	1,1	180x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,75	430	310
Ezi-SERVO-PR-56S-■-PN5	1,9				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-56S-■-PN8	3,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-56S-■-PN10	3,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-56S-■-PN15	5,5				15	0,0024°	18	35	0~200	2,06	740	630
Ezi-SERVO-PR-56S-■-PN25	9,3				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-56S-■-PN40	14,9				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-56S-■-PN50	18,6				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-PR-56M-■-PN3	2,0	280x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,93	430	310
Ezi-SERVO-PR-56M-■-PN5	3,4				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-56M-■-PN8	5,4				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-56M-■-PN10	6,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-56M-■-PN15	9,9				15	0,0024°	18	35	0~200	2,23	740	630
Ezi-SERVO-PR-56M-■-PN25	16,6				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-56M-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-56M-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-PR-56L-■-PN3	4,0	520x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,37	430	310
Ezi-SERVO-PR-56L-■-PN5	6,8				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-56L-■-PN8	10,8				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-56L-■-PN10	13,6				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-56L-■-PN15	18,0				15	0,0024°	18	35	0~200	2,67	740	630
Ezi-SERVO-PR-56L-■-PN25	27,0				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-56L-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-56L-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100

* The code of encoder resolution will be marked in "■"

● Specifications of Motor with Gearbox

60_{mm}

Unit Part Number	Maximum Holding Torque [N·m]	Rotor Inertia Moment [kg·m ²]	Back-lash [arcmin]	Angle Trans-mission Error [arcmin]	Gear Ratio	Resolution (10,000 P/R Standard)	Permissible Torque [N·m]	Instantaneous Maximum Torque [N·m]	Permissible Speed Range [r/min]	Unit Weight [kg]	Permissible Radial Load (At Center of Axis) [N]	Permissible Axial Load [N]
Ezi-SERVO-PR-60S-■-PN3	1,5	240x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,84	430	310
Ezi-SERVO-PR-60S-■-PN5	2,5				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-60S-■-PN8	4,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-60S-■-PN10	5,1				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-60S-■-PN15	7,4				15	0,0024°	18	35	0~200	2,14	740	630
Ezi-SERVO-PR-60S-■-PN25	12,3				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-60S-■-PN40	19,8				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-60S-■-PN50	24,7				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-PR-60M-■-PN3	2,6	490x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,00	430	310
Ezi-SERVO-PR-60M-■-PN5	4,4				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-60M-■-PN8	7,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-60M-■-PN10	8,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-60M-■-PN15	12,8				15	0,0024°	18	35	0~200	2,30	740	630
Ezi-SERVO-PR-60M-■-PN25	21,4				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-60M-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-60M-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-PR-60L-■-PN3	5,2	690x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,56	430	310
Ezi-SERVO-PR-60L-■-PN5	8,7				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-PR-60L-■-PN8	13,9				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-PR-60L-■-PN10	18,0				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-PR-60L-■-PN15	18,0				15	0,0024°	18	35	0~200	2,86	740	630
Ezi-SERVO-PR-60L-■-PN25	27,0				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-PR-60L-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-PR-60L-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100

* The code of encoder resolution will be marked in "■"

● Specifications of Motor with Gearbox

86_{mm}

Unit Part Number	Maximum Holding Torque [N·m]	Rotor Inertia Moment [kg·m ²]	Backlash [arc-min]	Angle Transmission Error [arcmin]	Gear Ratio	Resolution (10,000 P/R Standard)	Permissible Torque [N·m]	Instantaneous Maximum Torque [N·m]	Permissible Speed Range [r/min]	Unit Weight [kg]	Permissible Radial Load (At Center of Axis) [N]	Permissible Axial Load [N]
Ezi-SERVO-PR-86M-■-PN3	9,6	1800x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	5,80	810	930
Ezi-SERVO-PR-86M-■-PN5	16,0				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-PR-86M-■-PN8	25,7				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-PR-86M-■-PN10	32,1				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-PR-86M-■-PN15	46,6				15	0,0024°	50	80	0~200	6,60	1200	1900
Ezi-SERVO-PR-86M-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-PR-86M-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-PR-86M-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200
Ezi-SERVO-PR-86L-■-PN3	17,1	3600x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	7,34	810	930
Ezi-SERVO-PR-86L-■-PN5	28,5				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-PR-86L-■-PN8	45,6				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-PR-86L-■-PN10	50,0				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-PR-86L-■-PN15	50,0				15	0,0024°	50	80	0~200	8,14	1200	1900
Ezi-SERVO-PR-86L-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-PR-86L-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-PR-86L-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200
Ezi-SERVO-PR-86XL-■-PN3	23,6	5400x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	8,87	810	930
Ezi-SERVO-PR-86XL-■-PN5	39,4				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-PR-86XL-■-PN8	63,0				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-PR-86XL-■-PN10	50,0				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-PR-86XL-■-PN15	50,0				15	0,0024°	50	80	0~200	9,67	1200	1900
Ezi-SERVO-PR-86XL-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-PR-86XL-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-PR-86XL-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200

* The code of encoder resolution will be marked in "■"

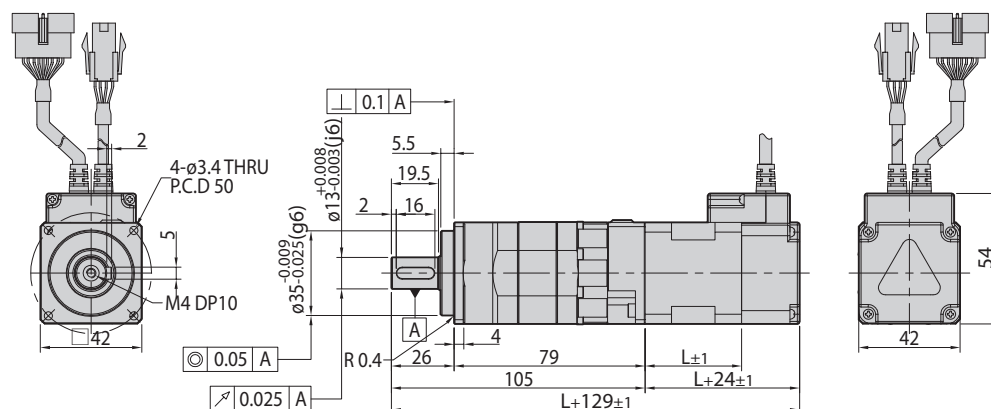
FASTECH Ezi-SERVO Plus-R

42_{mm}

* The code of encoder resolution will be marked in “■”



* The code of encoder resolution will be marked in “■”

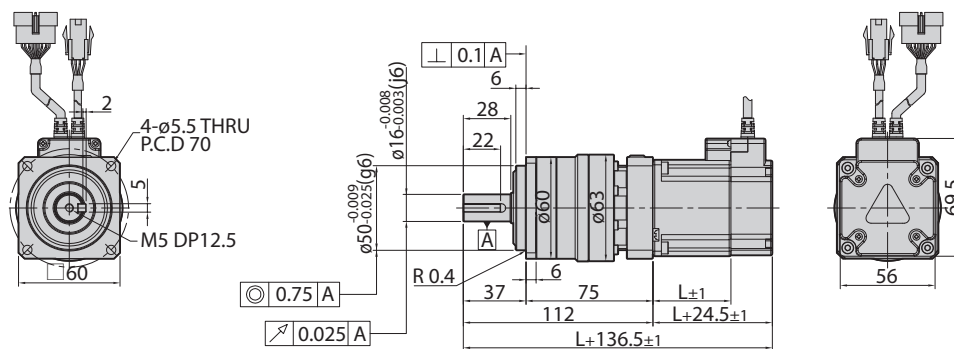


● Dimensions of Motor with Gearbox [mm]

56_{mm}

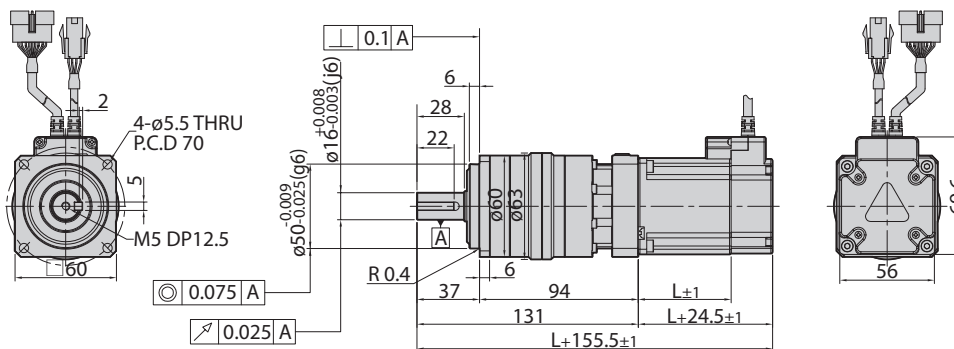
Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-PR-56S-■-PN□	EzM-56S-■-PN□	Single Stage	3, 5, 8, 10	46
Ezi-SERVO-PR-56M-■-PN□	EzM-56M-■-PN□		3, 5, 8, 10	55
Ezi-SERVO-PR-56L-■-PN□	EzM-56L-■-PN□		3, 5, 8, 10	80

* The code of encoder resolution will be marked in "■"



Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-PR-56S-■-PN□	EzM-56S-■-PN□	Double Stage	15, 25, 40, 50	46
Ezi-SERVO-PR-56M-■-PN□	EzM-56M-■-PN□		15, 25, 40, 50	55
Ezi-SERVO-PR-56L-■-PN□	EzM-56L-■-PN□		15, 25, 40, 50	80

* The code of encoder resolution will be marked in "■"



60_{mm}

* The code of encoder resolution will be marked in “■”

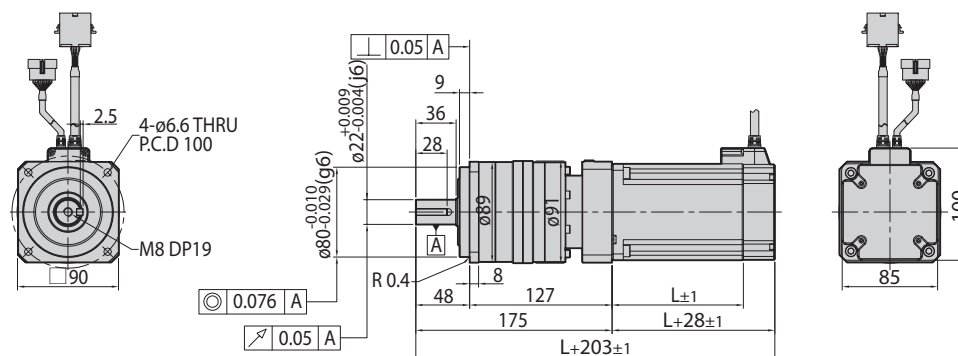


* The code of encoder resolution will be marked in “■”

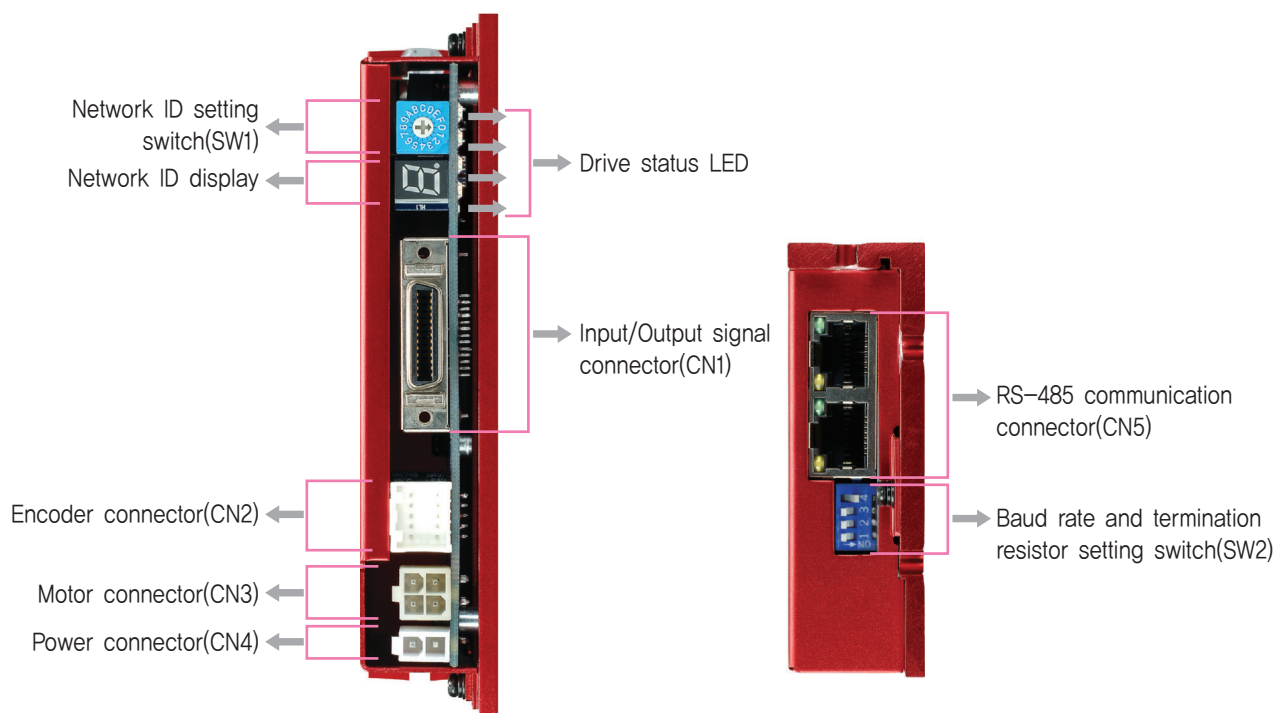


86_{mm}

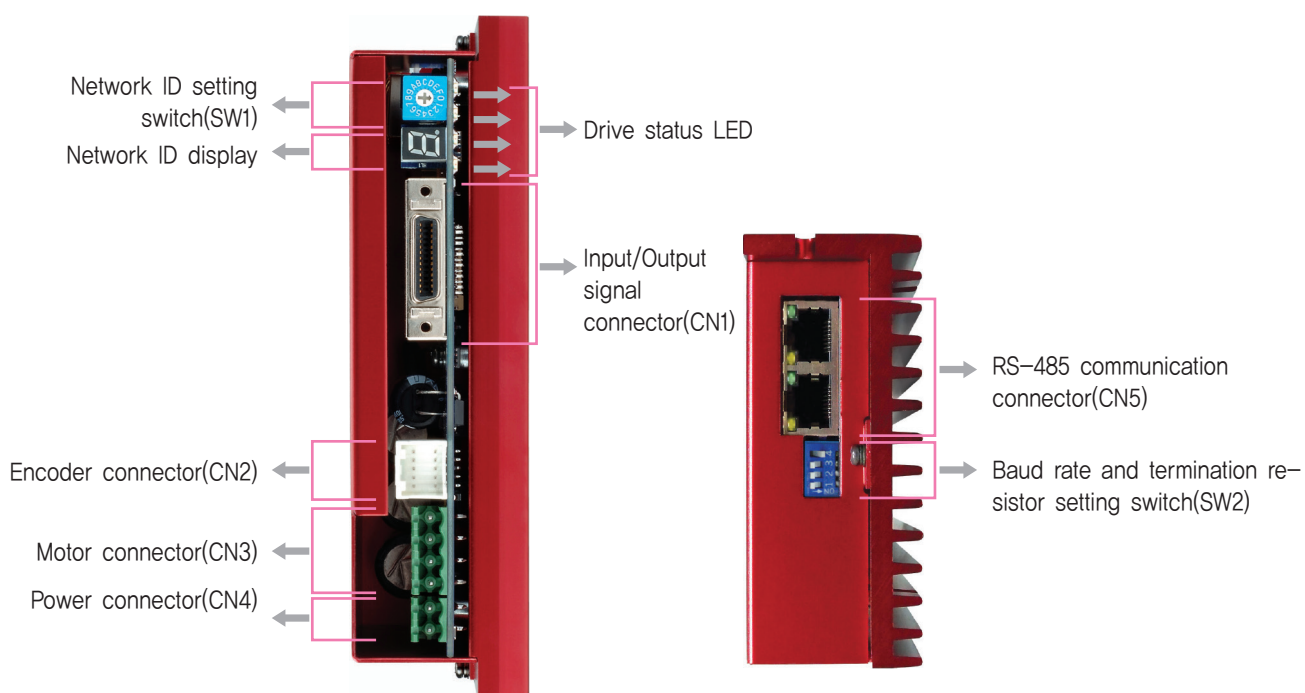
* The code of encoder resolution will be marked in “■”



● Settings and Operation



◆ 86mm Motor Drive(EzS-NDR-86 series)



1. Drive Status LED

Name	Color	Function	Description
PWR	Green	Power Input Indication	LED is turned ON when power is applied.
INP	Yellow	Positioning Completion Indication	LED is turned ON when position error reaches within the preset value after the positioning is complete.
SON	Orange	SERVO On/Off Indication	Servo ON: Lights ON, Servo OFF: Lights OFF
ALM	Red	Alarm Indication	LED blinks when an error occurs.

◆ List of error types by the number of alarm LED blinking

No.	Error Type	Causes
1	Over Current Error	The current through power devices in drive exceeds the limit.*1
2	Over Speed Error	The motor speed exceeds 3,000r/min.
3	Position Tracking Error	Position error value is greater than the reference value while the motor is running.*2
4	Over Load Error	The motor is continuously operated more than 5 seconds under a load exceeding the max. torque.
5	Over Temperature Error	Internal temperature of the drive exceeds 85°C.
6	Over Regenerative Voltage Error	Back-EMF is higher than limit value.*3
7	Motor Connect Error	There is a problem with the connection between the drive and the motor.
8	Encoder Connect Error	There is a problem with the connection between the drive and the encoder.
10	In-Position Error	After operation is finished, position error larger than 1 pulse is continued for more than 3 seconds.
11	System Error	There is a problem in the drive system (Watchdog Timer Out)
12	ROM Error	Error occurs in parameter storage device(ROM).
15	Position Overflow Error	Position error value is greater than the reference value while the motor is stopped.*2

*1 : Limit value depends on motor model, (Refer to the Manual)

*2 : The default reference value is 180 °, and it can be changed by parameter.
(Refer to the Manual)

*3 : Voltage limit of Back-EMF depends on motor model, (Refer to the Manual)

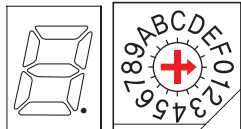
※ Please refer to user Manual for the details of protection functions.



Alarm LED flash
(e.g., Position tracking error)

2. Network ID Setting Switch(SW1)

Value	ID No.	Value	ID No.
0	0	8	8
1	1	9	9
2	2	A	10
3	3	B	11
4	4	C	12
5	5	D	13
6	6	E	14
7	7	F	15



※ ID No. is displayed on 7-segment LED display
※ Up to 16 axis can be operated with one network.

3. Baud Rate and Termination Resistor Setting Switch(SW2)

Termination Resistor Setting Switch(SW2.1)

When using multiple drives, set a termination resistor for the drive installed at the end of the network for stable operation.

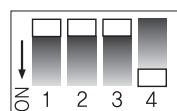
- SW2.1 ON: Termination resistor is set
- SW2.1 OFF: Termination resistor is not set

Baud Rate Setting Switch(SW2.2~SW2.4)

Baud rate is set by SW2.2~SW2.4 as follows.

SW2.1	SW2.2	SW2.3	SW2.4	Baud Rate [bps]
–	OFF	OFF	OFF	9,600
–	ON	OFF	OFF	19,200
–	OFF	ON	OFF	38,400
–	ON	ON	OFF	57,600
–	OFF	OFF	ON	115,200*1
–	ON	OFF	ON	230,400
–	OFF	ON	ON	460,800
–	ON	ON	ON	921,600

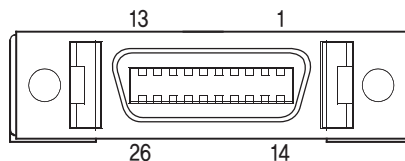
*1 : Default Value



Baud Rate Setting Switch
Termination Resistor Setting Switch

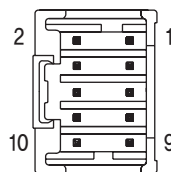
4. Input/Output Signal Connector(CN1)

No.	Function	I/O
1	LIMIT+	Input
2	LIMIT-	Input
3	ORIGIN	Input
4	Digital In1	Input
5	Digital In6	Input
6	Digital In7	Input
7	Compare Out	Output
8	Digital Out1	Output
9	Digital Out2	Output
10	Digital Out3	Output
11	Digital Out4	Output
12	Digital Out5	Output
13	Digital Out6	Output
14	Digital In2	Input
15	Digital In3	Input
16	Digital In4	Input
17	Digital In5	Input
18	Digital In8	Input
19	Digital In9	Input
20	Digital Out7	Output
21	Digital Out8	Output
22	Digital Out9	Output
23	BRAKE+	Output
24	BRAKE-	Output
25	EXT_GND	Input
26	EXT_DC24V	Input



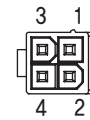
5. Encoder Connector(CN2)

No.	Function	I/O
1	A+	Input
2	A-	Input
3	B+	Input
4	B-	Input
5	Z+	Input
6	Z-	Input
7	DC5V	Output
8	GND	Output
9	F.GND	----
10	F.GND	----

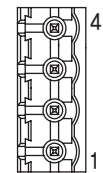


6. Motor Connector(CN3)

No.	Function	I/O
1	A Phase	Output
2	B Phase	Output
3	Ā Phase	Output
4	B̄ Phase	Output



No.	Function	I/O
1	B̄ Phase	Output
2	B Phase	Output
3	Ā Phase	Output
4	A Phase	Output



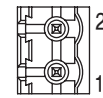
※ 86mm Motor Drive

7. Power Connector(CN4)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



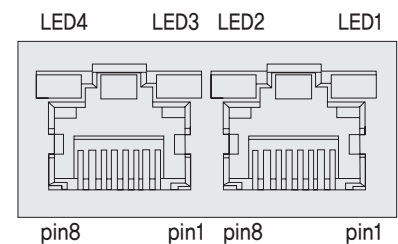
No.	Function	I/O
1	GND	Input
2	DC40~70V	Input



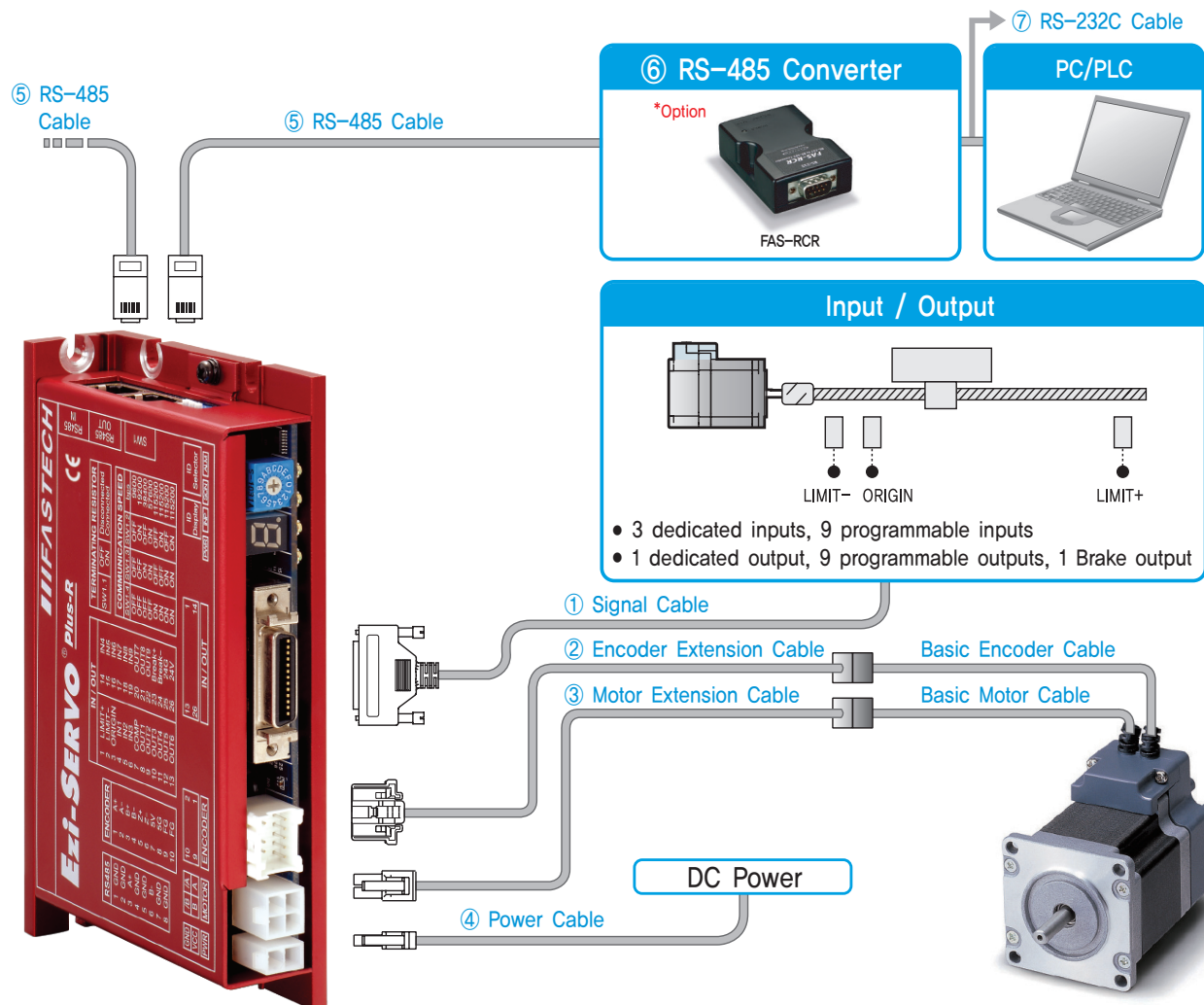
※ 86mm Motor Drive

8. RS-485 Communication Connector(CN5)

No.	Function	No.	Function
1	GND	6	Data-
2	GND	7	GND
3	Data+	8	GND
4	GND	LED 1, 3	Drive Status
5	GND	LED 2, 4	Communication Status



● System Configuration



Cable Type	Max. Length	Remarks
① Signal Cable	20m	Options (Sold separately)
② Encoder Extension Cable	20m	
③ Motor Extension Cable	20m	
④ Power Cable	2m	
⑤ RS-485 Cable	30m	Basic cables are attached to motors.
Basic Encoder Cable	0,3m (Basic length)	
Basic Motor Cable	0,3m (Basic length)	

1. Accessories

Connectors

These are connector specifications for drive cabling.

Purpose		Item	Part Number	Manufacturer
Power (CN4)		Housing	5557-02R	MOLEX
		Terminal	5556T	
Motor	Drive Side (CN3)	Housing	5557-04R	MOLEX
		Terminal	5556T	
	Motor Side	Housing	5557-04R	MOLEX
		Terminal	5556T	
Encoder	Drive Side (CN2)	Housing	51353-1000	MOLEX
		Terminal	56134-9000	
	Encoder Side	Housing	SMP-09V-NC	JST
		Terminal	SHF-001T-0.8BS	
Signal (CN1)		Connector	10126-3000PE	3M
		Connector Cover	10326-52F0-008	

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

2. Options

① Signal Cable

These are the cables to connect Ezi-SERVO Plus-R drive and other input/output devices.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – I/O Device Connection	CSV-R-S-001F	1	Normal Cable	Maximum Length: 20m
	CSV-R-S-002F	2		
	CSV-R-S-003F	3		
	CSV-R-S-005F	5		
	CSV-R-S-001M	1	Robot Cable	
	CSV-R-S-002M	2		
	CSV-R-S-003M	3		
	CSV-R-S-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

② Encoder Extension Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the encoder.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Basic Encoder Cable Connection	CSVO-E-001F	1	Normal Cable	Maximum Length: 20m
	CSVO-E-002F	2		
	CSVO-E-003F	3		
	CSVO-E-005F	5		
	CSVO-E-001M	1	Robot Cable	
	CSVO-E-002M	2		
	CSVO-E-003M	3		
	CSVO-E-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

③ Motor Extension Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the motor.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Basic Motor Cable Connection	CSVO-M-001F	1	Normal Cable	Maximum Length: 20m
	CSVO-M-002F	2		
	CSVO-M-003F	3		
	CSVO-M-005F	5		
	CSVO-M-001M	1	Robot Cable	
	CSVO-M-002M	2		
	CSVO-M-003M	3		
	CSVO-M-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

④ Drive Power Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the power.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Power Connection	CSVO-P-001F	1	Normal Cable	Maximum Length: 2m
	CSVO-P-002F	2		
	CSVO-P-001M	1	Robot Cable	
	CSVO-P-002M	2		

⑤ RS-485 Cable

Purpose	Part Number	Length [m]	Cable Type
RS-485 Connection	CGNR-R-0R6F	0,6	Normal Cable
	CGNR-R-001F	1	
	CGNR-R-1R5F	1,5	
	CGNR-R-002F	2	
	CGNR-R-003F	3	
	CGNR-R-005F	5	

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

⑥ RS-485 Converter

Purpose	Part Number	Specifications		Product Image
RS-232C to RS-485 Converter	FAS-RCR	Baud Rate	Max, 115,2kbps	
		Comm. Distance	RS-232C: Max, 15m RS-485: Max, 1,2km	
		Connector	RS-232C: DB9 Female RS-485: RJ-45	
		Dimensions	50X75X23mm	
		Weight	38g	
		Power	Power supplied by RS-232C (DC5~24V external power can be applied)	

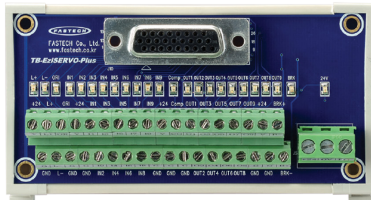
⑦ RS-232C Cable

These are the cables to connect FAS-RCR and RS-232C port of the host controller.

Purpose	Part Number	Length [m]	Cable Type
FAS-RCR – RS-232C Connection	CGNR-C-002F	2	Normal Cable
	CGNR-C-003F	3	
	CGNR-C-005F	5	

[Option] TB-Plus Interface Board

This is an interface board to connect Ezi-SERVO Plus-R drive and I/O signals more conveniently.

Purpose	Part Number	Product Image
Drive – I/O signal Connection Board	TB-Plus	

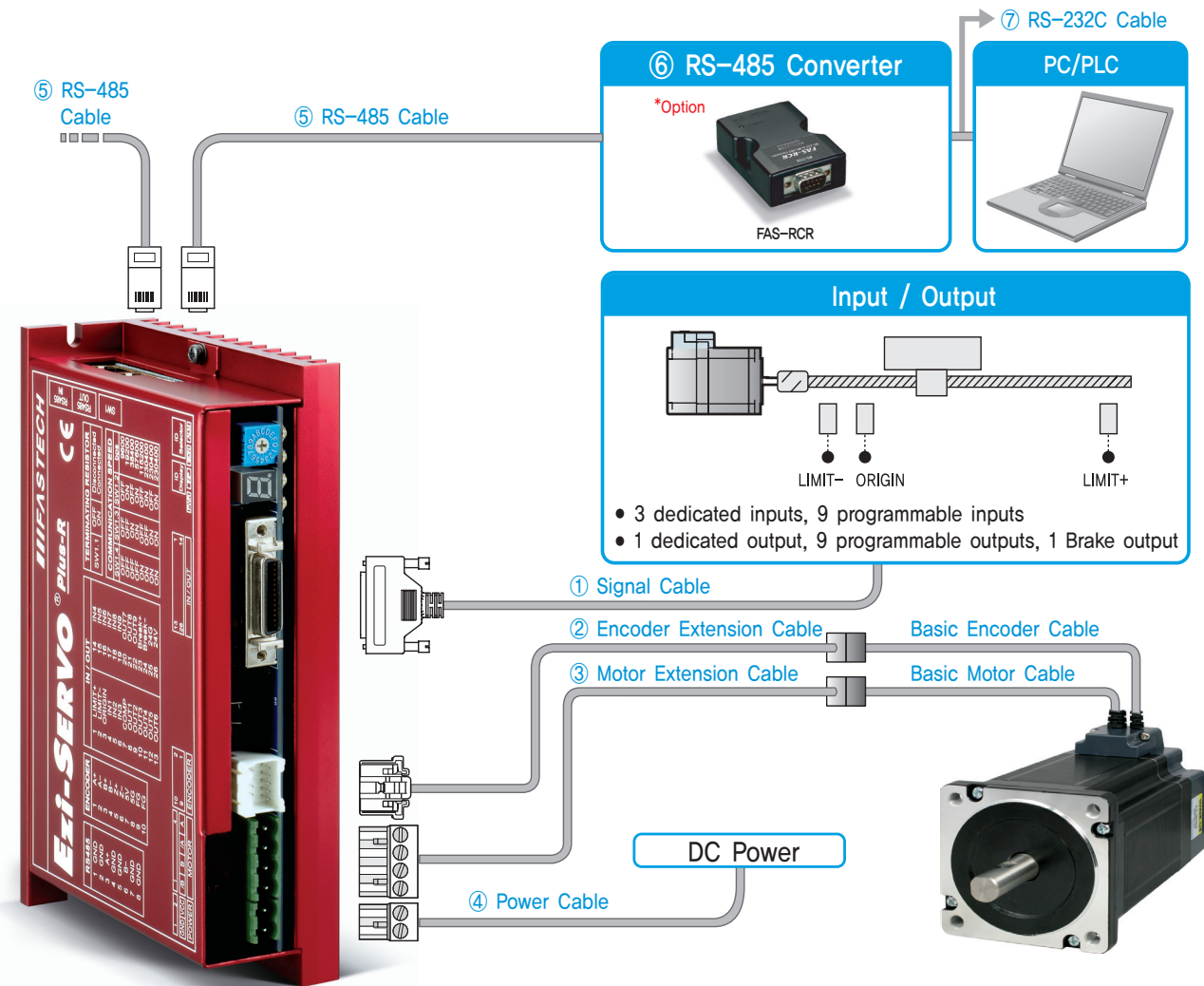
[Option] TB-Plus Interface Cable

These are the cables to connect Ezi-SERVO Plus-R and TB-Plus interface board.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Interface(TB-Plus) Connection	CIFD-S-001F	1	Normal Cable	Maximum Length: 20m
	CIFD-S-002F	2		
	CIFD-S-003F	3		
	CIFD-S-005F	5		
	CIFD-S-001M	1	Robot Cable	
	CIFD-S-002M	2		
	CIFD-S-003M	3		
	CIFD-S-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

● System Configuration [86mm Motor Drive]



Cable Type	Max. Length	Remarks
① Signal Cable	20m	Options (Sold separately)
② Encoder Extension Cable	20m	
③ Motor Extension Cable	20m	
④ Power Cable	2m	
⑤ RS-485 Cable	30m	Basic cables are attached to motors.
Basic Encoder Cable	0,3m (Basic length)	
Basic Motor Cable	0,3m (Basic length)	

1. Accessories

Connectors

These are connector specifications for drive cabling.

Purpose		Item	Part Number	Manufacturer
Power (CN4)		Terminal Block	AK950-2	PTR
Motor	Drive Side (CN3)	Terminal Block	AK950-4	PTR
	Motor Side	Housing	3191-4R1	MOLEX
		Terminal	1381T	
Encoder	Drive Side (CN2)	Housing	51353-1000	MOLEX
		Terminal	56134-9000	
	Encoder Side	Housing	SMP-09V-NC	JST
		Terminal	SHF-001T-0.8BS	
Signal (CN1)		Connector	10126-3000PE	3M
		Connector Cover	10326-52F0-008	

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

2. Options

① Signal Cable

These are the cables to connect Ezi-SERVO Plus-R drive and other input/output devices.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – I/O Device Connection	CSVR-S-001F	1	Normal Cable	Maximum Length: 20m
	CSVR-S-002F	2		
	CSVR-S-003F	3		
	CSVR-S-005F	5		
	CSVR-S-001M	1	Robot Cable	
	CSVR-S-002M	2		
	CSVR-S-003M	3		
	CSVR-S-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

② Encoder Extension Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the encoder.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Basic Encoder Cable Connection	CSVO-E-001F	1	Normal Cable	Maximum Length: 20m
	CSVO-E-002F	2		
	CSVO-E-003F	3		
	CSVO-E-005F	5		
	CSVO-E-001M	1	Robot Cable	
	CSVO-E-002M	2		
	CSVO-E-003M	3		
	CSVO-E-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

③ Motor Extension Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the motor.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Basic Motor Cable Connection	CSVP-M-001F	1	Normal Cable	Maximum Length: 20m
	CSVP-M-002F	2		
	CSVP-M-003F	3		
	CSVP-M-005F	5		
	CSVP-M-001M	1	Robot Cable	
	CSVP-M-002M	2		
	CSVP-M-003M	3		
	CSVP-M-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

④ Drive Power Cable

These are the cables to connect Ezi-SERVO Plus-R drive and the power.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Power Connection	CSVP-P-001F	1	Normal Cable	Maximum Length: 2m
	CSVP-P-002F	2		
	CSVP-P-001M	1	Robot Cable	
	CSVP-P-002M	2		

⑤ RS-485 Cable

Purpose	Part Number	Length [m]	Cable Type
RS-485 Connection	CGNR-R-0R6F	0,6	Normal Cable
	CGNR-R-001F	1	
	CGNR-R-1R5F	1,5	
	CGNR-R-002F	2	
	CGNR-R-003F	3	
	CGNR-R-005F	5	

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

⑥ RS-Converter

Purpose	Part Number	Specifications		Product Image
RS-232C to RS-485 Converter	FAS-RCR	Baud Rate	Max, 115,2kbps	
		Comm. Distance	RS-232C: Max, 15m RS-485: Max, 1,2km	
		Connector	RS-232C: DB9 Female RS-485: RJ-45	
		Dimensions	50X75X23mm	
		Weight	38g	
		Power	Power supplied by RS-232C (DC5~24V external power can be applied)	

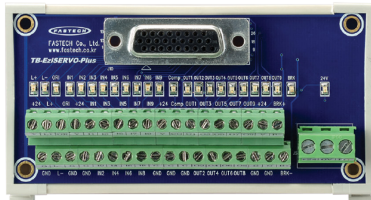
⑦ RS-232C Cable

These are the cables to connect FAS-RCR and RS-232C port of the host controller.

Purpose	Part Number	Length [m]	Cable Type
FAS-RCR – RS-232C Connection	CGNR-C-002F	2	Normal Cable
	CGNR-C-003F	3	
	CGNR-C-005F	5	

[Option] TB-Plus Interface Board

This is an interface board to connect Ezi-SERVO Plus-R drive and I/O signals more conveniently.

Purpose	Part Number	Product Image
Drive – I/O signal Connection Board	TB-Plus	

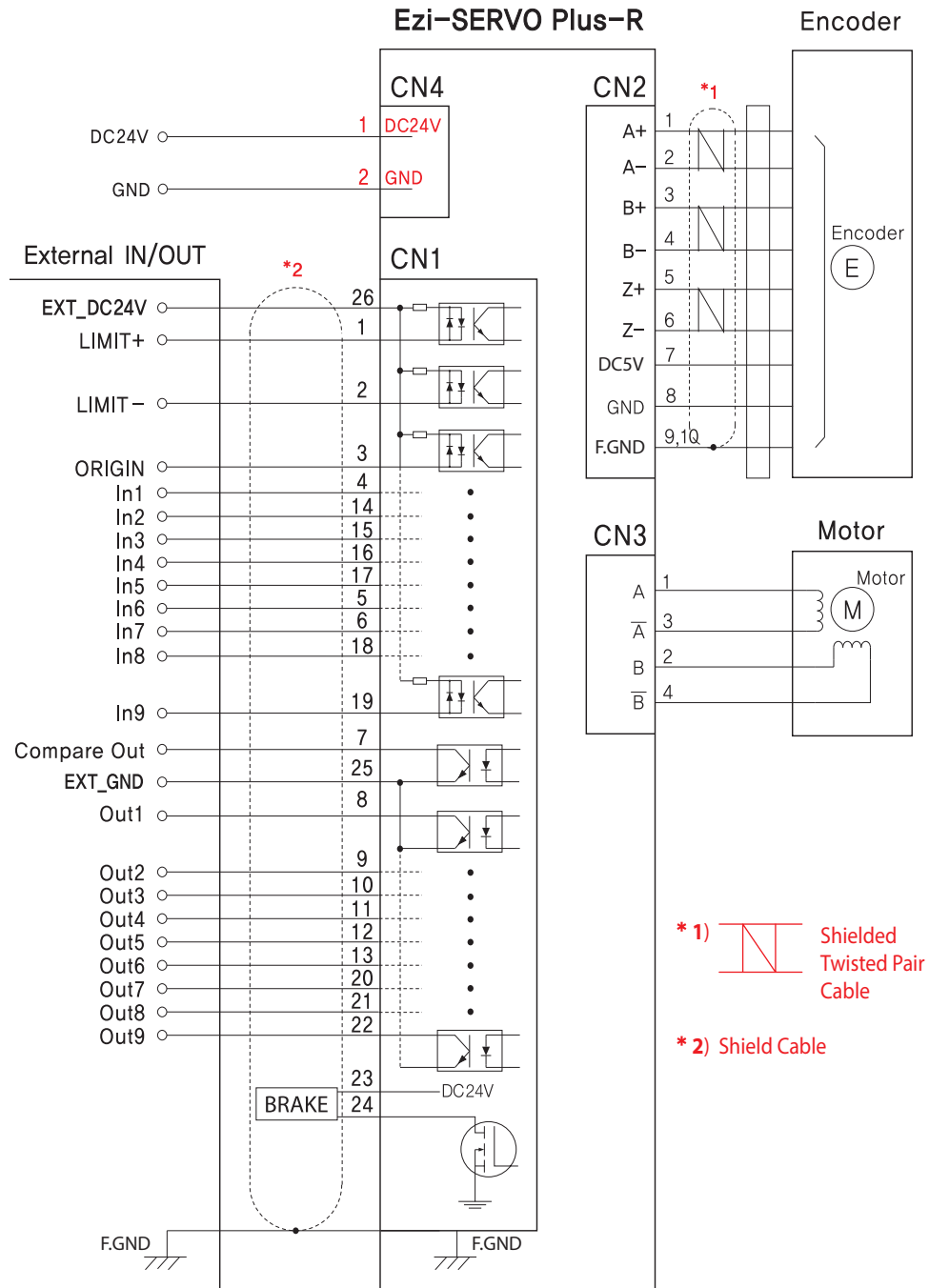
[Option] TB-Plus Interface Cable

These are the cables to connect Ezi-SERVO Plus-R and TB-Plus interface board.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Interface(TB-Plus) Connection	CIFD-S-001F	1	Normal Cable	Maximum Length: 20m
	CIFD-S-002F	2		
	CIFD-S-003F	3		
	CIFD-S-005F	5		
	CIFD-S-001M	1	Robot Cable	
	CIFD-S-002M	2		
	CIFD-S-003M	3		
	CIFD-S-005M	5		

* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

● External Wiring Diagram

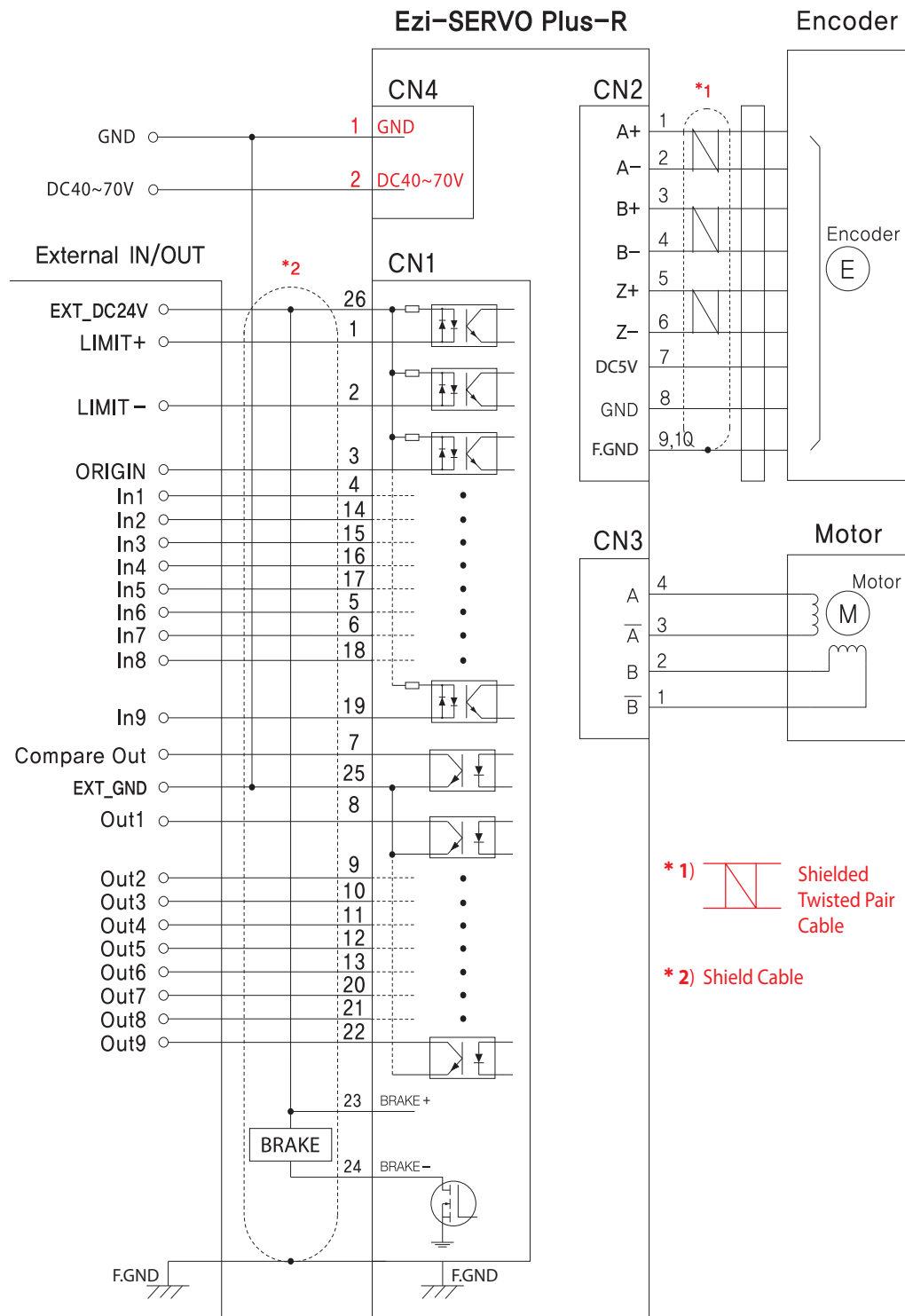


※ When connecting I/O cable between controller and drive, please turn off the power of both controller and drive to prevent electric shock or to protect the drive from any damage.

CAUTION

In order to use the products listed in this catalog safely and correctly, be sure to read the instruction manual before using the product.

● External Wiring Diagram [86mm Motor Drive]

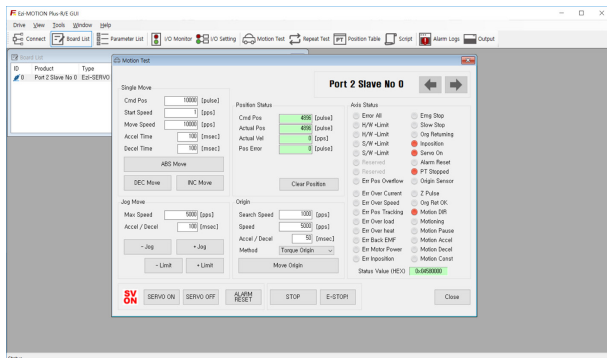


CAUTION

In order to use the products listed in this catalog safely and correctly, be sure to read the instruction manual before using the product.

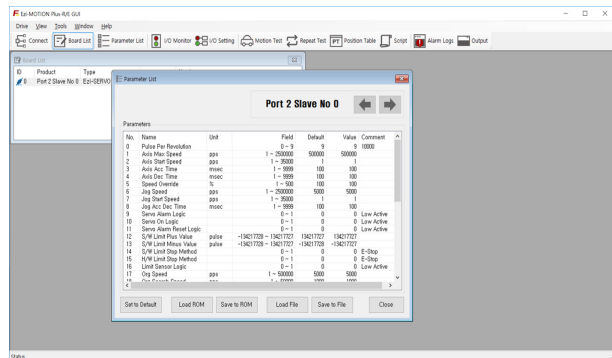
※ When connecting I/O cable between controller and drive, please turn off the power of both controller and drive to prevent electric shock or to protect the drive from any damage.

● GUI(Graphic User Interface) Program



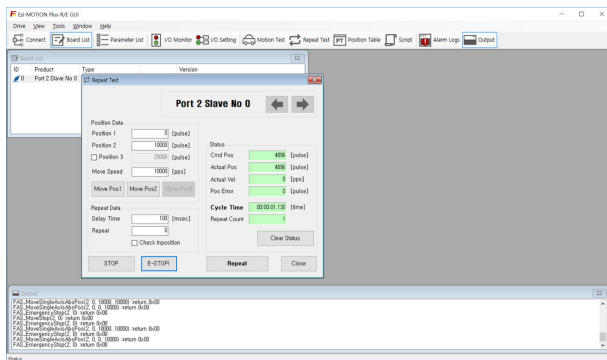
◆ Product List and Motion Test

The product list shows the products connected to the host controller. You can test single position movements, jog movements, and origin search operations, and monitor the operation status on the motion test window.



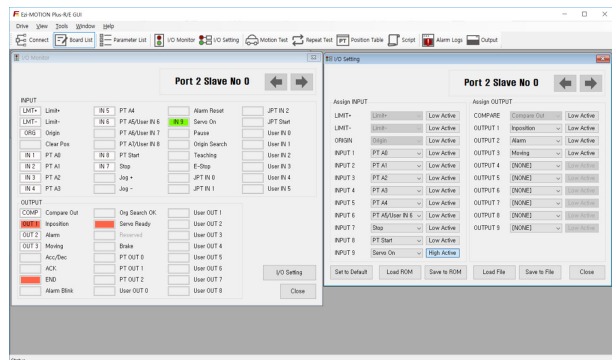
◆ Parameter List

All of the parameters are displayed and modified on this screen.



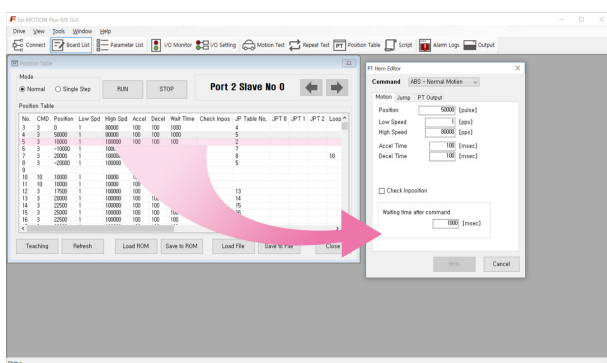
◆ Motion Repeat and Status Monitoring

You can set the target position value, speed, delay time and number of repetitions for repeated motion test. A motion library(API) is also displayed on the screen.



◆ I/O Monitoring and Setting

You can check the status of input/output signals related to the current operation status, and you can assign the signals to the desired input/output channels.



◆ Position Table

You can configure the data for the position table function or drive the motor with the position table. The position table is a function that allows you to easily operate the motor with motion data stored in memory in advance.

- ※ GUI Program(Ezi-MOTIONLINK Plus-R) can be downloaded from website. (www.fastech-motions.com)
- ※ GUI Program(Ezi-MOTIONLINK Plus-R) supports Windows 7/8/10.
- ※ GUI Program(Ezi-MOTIONLINK Plus-R) is subject to change without prior notice for performance improvement.



Fast, Accurate, Smooth Motion

FASTECH Co., Ltd.

Rm#1202, 401-dong, Bucheon Techno-Park,
655, Pyeongcheon-ro, Bucheon-si Gyeonggi-do,
Republic of Korea (Postal Code: 14502)
TEL : +82-32-234-6317 FAX : +82-32-234-6302
E-mail : sales@fastech-motions.com
Homepage : www.fastech-motions.com