Ezi-SERVO® II Plus-E
FASTECH
Ezi-SERVO
EzS2-PE-56L-A
PWR
MOTOR
ENCODER
RUN
ERR
D/L
NET ID
PWR
INP
SON
ALM

Ezi-SERVO® II Plus-E

Closed Loop Stepping System

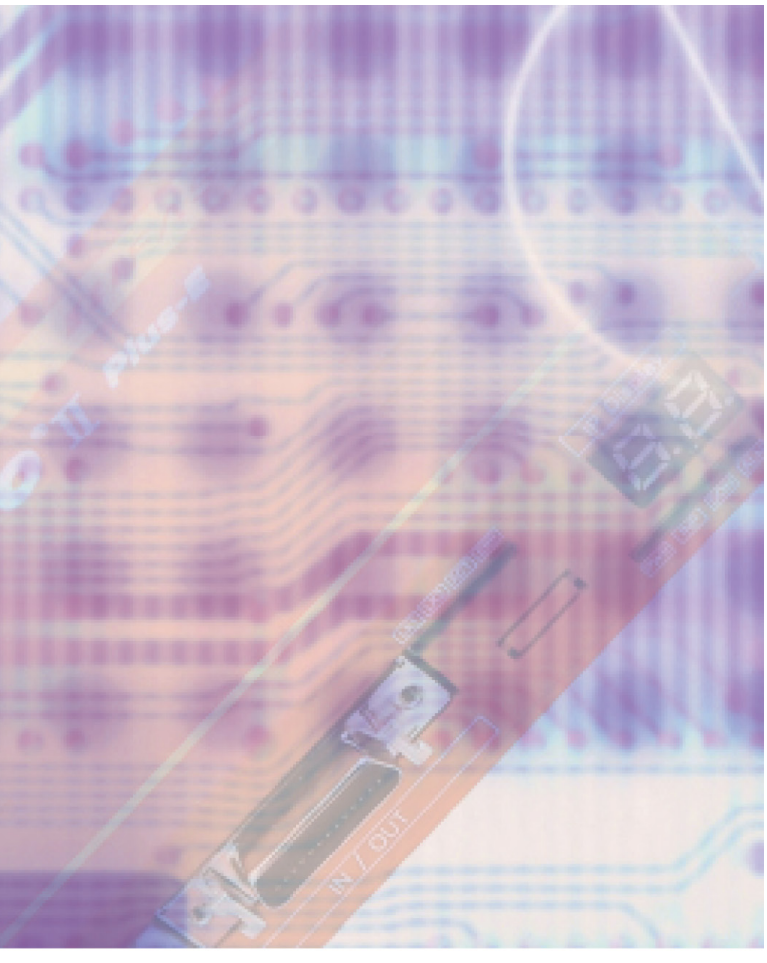
- Embedded Motion Controller
- Ethernet Interface
- Position Table
- Closed-Loop Stepping System
- Tuning Not Required / No Hunting
- High Resolution / High Response
- Low Heat Generation / High Torque

FASTECH

Fast, Accurate, Smooth Motion

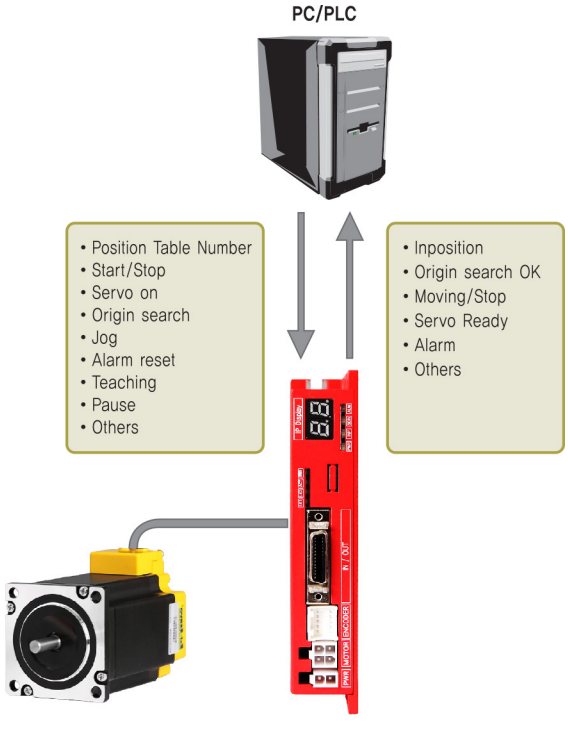
Ezi-SERVO® II Plus-E

Closed Loop Stepping System



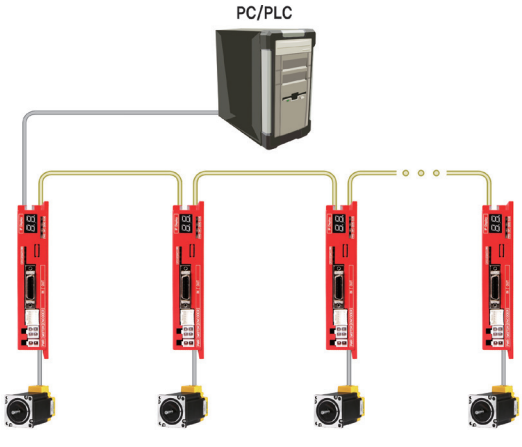
2 Position Table Function

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.



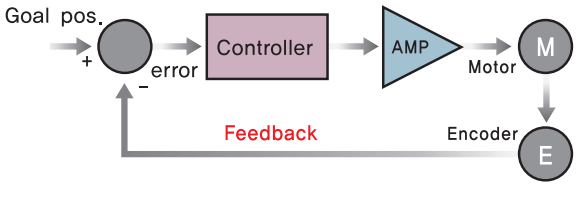
1 Network Based Motion Control

A maximum of 254 axis can be operated from a PC through Ethernet communications. And daisy-chain connection is available thru internally equipped Ethernet HUB. 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.



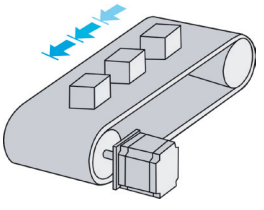
3 Closed-Loop System

Ezi-SERVO II 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 II to update the current position every 50μs. It allows the Ezi-SERVO II 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 II automatically correct the position by encoder feedback.



4 Tuning Not Required

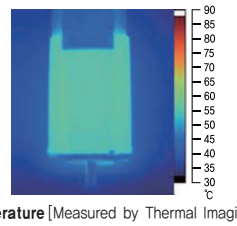
To ensure machine performance, conventional servo systems require the adjustment of its servo's gains as an initial crucial step. Even systems that employ auto-tuning require manual tuning after the system is installed.
Ezi-SERVO II employs the best characteristics of the stepping motor to eliminate the need of tedious gain tuning required for conventional closed-loop servo systems. Ezi-SERVO II 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.



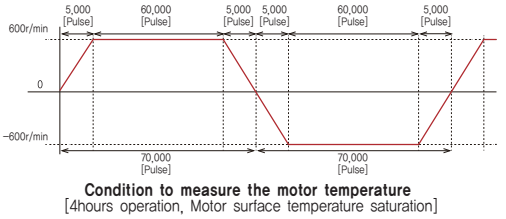
5 Low Heat Generation / Energy Savings

(Motor Current Control according to load)

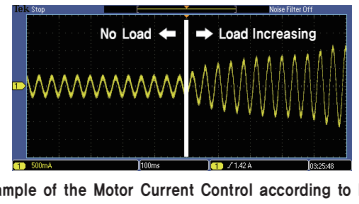
Ezi-SERVO II automatically controls motor current according to load.
Ezi-SERVO II reduces motor current when motor load is low and increases motor current when load is high. By optimizing the motor current, motor heat can be minimized and energy can be saved.



Motor temperature [Measured by Thermal Imaging Camera]



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

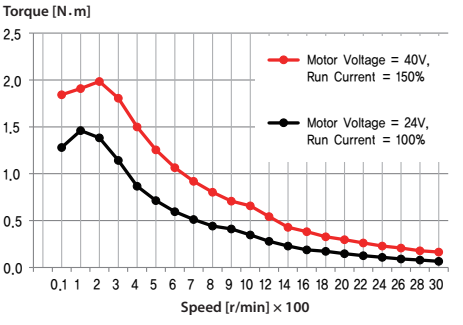


Example of the Motor Current Control according to load

6 High Torque

(Motor Voltage Increasing and Motor Current Setting)

Ezi-SERVO II 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.

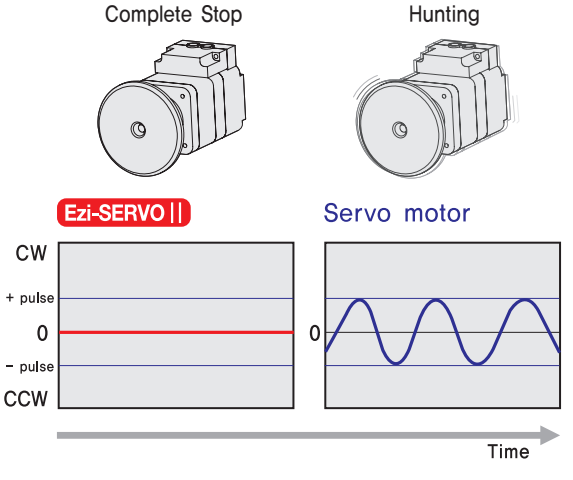


※ The torque at low speed and high speed is improved about 30%.

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

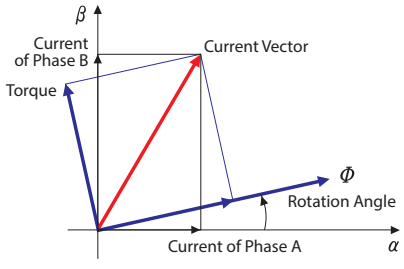
7 No Hunting

Ezi-SERVO II 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.



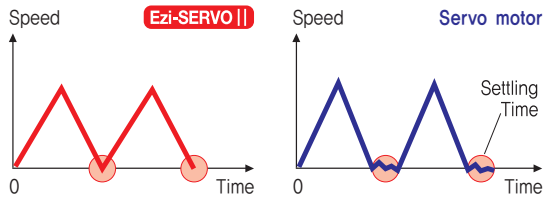
8 Smooth and Accurate Operation

Ezi-SERVO II is a high-precision servo drive, using a high-resolution encoder with 20,000 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.



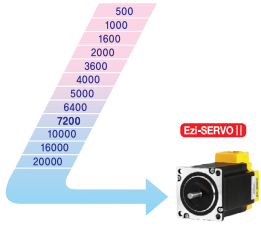
9 High Response

Similar to conventional stepping motors, Ezi-SERVO II instantly synchronizes with command pulses providing fast positional response. Ezi-SERVOII 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.



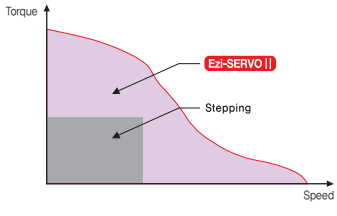
10 High Resolution

The unit of the position command can be divided precisely. (Max. 20,000 pulses/revolution)



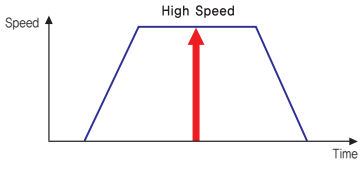
11 High Torque / Continuous Operation

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



12 High Speed

The Ezi-SERVO II operates well at high speed without the loss of synchronism or positioning error. Ezi-SERVO II'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 II 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 II 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)

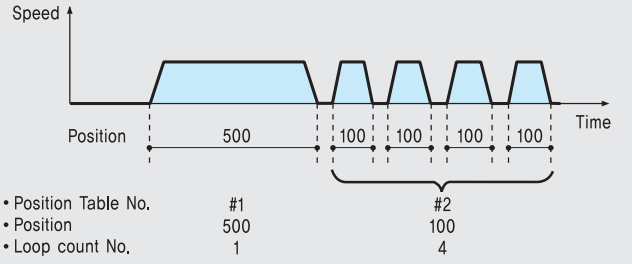
● Advantages over Servo Motor Controller

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

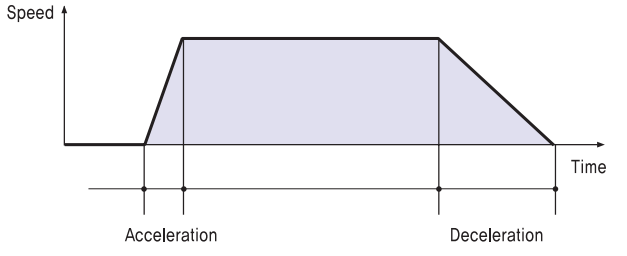
1. Loop Count

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



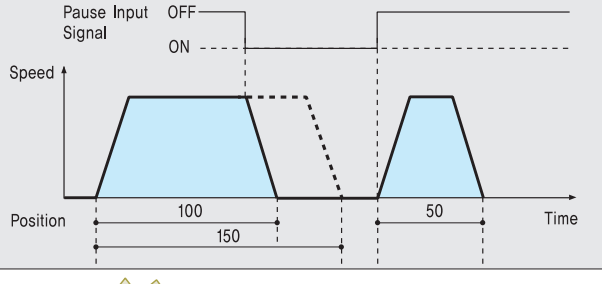
2. Acceleration/Deceleration

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



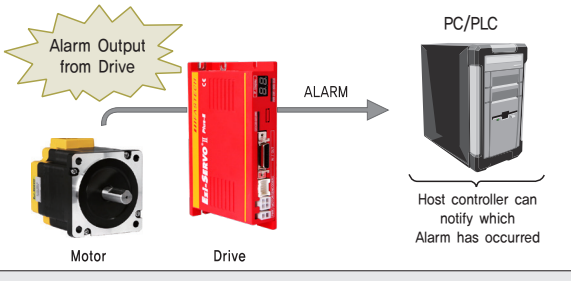
3. Pause

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.



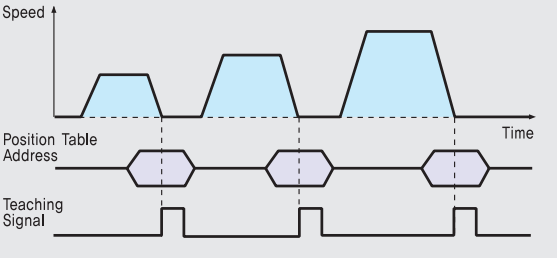
4. Alarm

The number of LED flashing time and information displayed on the 7-segment LED display indicates which Alarm has occurred.



5. Teaching

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

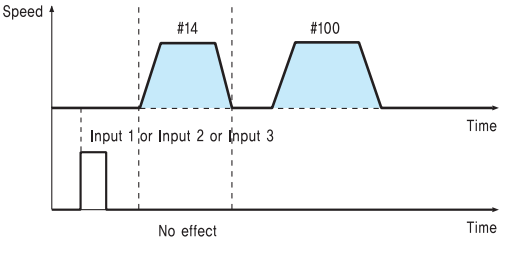


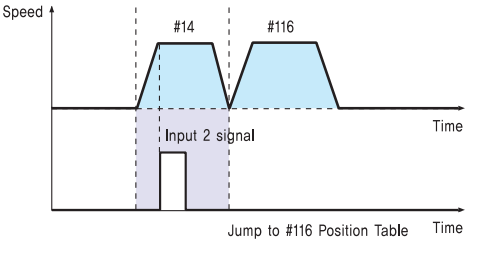
6. Jump

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 II Plus-E Part Numbering

Ezi-SERVO II -PE-42S-A-BK-PN10

Series Name

Type Name

PE : Plus Ethernet

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
D : 16,000P/R
F : 4,000P/R

Brake

Blank : Without Brake
BK : Brake

Gear Ratio

Blank : Without Gear
PN3 : 1:3
PN5 : 1:5
PN8 : 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 II -PE-20M-F	EzM2-20M-F	EzS2-PE-20M-F
Ezi-SERVO II -PE-20L-F	EzM2-20L-F	EzS2-PE-20L-F
Ezi-SERVO II -PE-28S-D	EzM2-28S-D	EzS2-PE-28S-D
Ezi-SERVO II -PE-28SM-D	EzM2-28SM-D	EzS2-PE-28S-D
Ezi-SERVO II -PE-28M-D	EzM2-28M-D	EzS2-PE-28M-D
Ezi-SERVO II -PE-28MM-D	EzM2-28MM-D	EzS2-PE-28M-D
Ezi-SERVO II -PE-28L-D	EzM2-28L-D	EzS2-PE-28L-D
Ezi-SERVO II -PE-28LM-D	EzM2-28LM-D	EzS2-PE-28L-D
Ezi-SERVO II -PE-35M-D	EzM2-35M-D	EzS2-PE-35M-D
Ezi-SERVO II -PE-35MM-D	EzM2-35MM-D	EzS2-PE-35M-D
Ezi-SERVO II -PE-35L-D	EzM2-35L-D	EzS2-PE-35L-D
Ezi-SERVO II -PE-35LM-D	EzM2-35LM-D	EzS2-PE-35L-D
Ezi-SERVO II -PE-42S-A	EzM2-42S-A	EzS2-PE-42S-A
Ezi-SERVO II -PE-42S-B	EzM2-42S-B	EzS2-PE-42S-B
Ezi-SERVO II -PE-42M-A	EzM2-42M-A	EzS2-PE-42M-A
Ezi-SERVO II -PE-42M-B	EzM2-42M-B	EzS2-PE-42M-B
Ezi-SERVO II -PE-42L-A	EzM2-42L-A	EzS2-PE-42L-A
Ezi-SERVO II -PE-42L-B	EzM2-42L-B	EzS2-PE-42L-B
Ezi-SERVO II -PE-42XL-A	EzM2-42XL-A	EzS2-PE-42XL-A
Ezi-SERVO II -PE-42XL-B	EzM2-42XL-B	EzS2-PE-42XL-B
Ezi-SERVO II -PE-56S-A	EzM2-56S-A	EzS2-PE-56S-A
Ezi-SERVO II -PE-56S-B	EzM2-56S-B	EzS2-PE-56S-B
Ezi-SERVO II -PE-56M-A	EzM2-56M-A	EzS2-PE-56M-A
Ezi-SERVO II -PE-56M-B	EzM2-56M-B	EzS2-PE-56M-B
Ezi-SERVO II -PE-56L-A	EzM2-56L-A	EzS2-PE-56L-A
Ezi-SERVO II -PE-56L-B	EzM2-56L-B	EzS2-PE-56L-B
Ezi-SERVO II -PE-60S-A	EzM2-60S-A	EzS2-PE-60S-A
Ezi-SERVO II -PE-60S-B	EzM2-60S-B	EzS2-PE-60S-B
Ezi-SERVO II -PE-60M-A	EzM2-60M-A	EzS2-PE-60M-A
Ezi-SERVO II -PE-60M-B	EzM2-60M-B	EzS2-PE-60M-B
Ezi-SERVO II -PE-60L-A	EzM2-60L-A	EzS2-PE-60L-A
Ezi-SERVO II -PE-60L-B	EzM2-60L-B	EzS2-PE-60L-B
Ezi-SERVO II -PE-86M-A	EzM2-86M-A	EzS2-PE-86M-A
Ezi-SERVO II -PE-86M-B	EzM2-86M-B	EzS2-PE-86M-B
Ezi-SERVO II -PE-86L-A	EzM2-86L-A	EzS2-PE-86L-A
Ezi-SERVO II -PE-86L-B	EzM2-86L-B	EzS2-PE-86L-B
Ezi-SERVO II -PE-86XL-A	EzM2-86XL-A	EzS2-PE-86XL-A
Ezi-SERVO II -PE-86XL-B	EzM2-86XL-B	EzS2-PE-86XL-B

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

Combination with Brake

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-SERVO II-PE-42S-A-BK	EzM2-42S-A-BK	EzS2-PE-42S-A
Ezi-SERVO II-PE-42S-B-BK	EzM2-42S-B-BK	EzS2-PE-42S-B
Ezi-SERVO II-PE-42M-A-BK	EzM2-42M-A-BK	EzS2-PE-42M-A
Ezi-SERVO II-PE-42M-B-BK	EzM2-42M-B-BK	EzS2-PE-42M-B
Ezi-SERVO II-PE-42L-A-BK	EzM2-42L-A-BK	EzS2-PE-42L-A
Ezi-SERVO II-PE-42L-B-BK	EzM2-42L-B-BK	EzS2-PE-42L-B
Ezi-SERVO II-PE-42XL-A-BK	EzM2-42XL-A-BK	EzS2-PE-42XL-A
Ezi-SERVO II-PE-42XL-B-BK	EzM2-42XL-B-BK	EzS2-PE-42XL-B
Ezi-SERVO II-PE-56S-A-BK	EzM2-56S-A-BK	EzS2-PE-56S-A
Ezi-SERVO II-PE-56S-B-BK	EzM2-56S-B-BK	EzS2-PE-56S-B
Ezi-SERVO II-PE-56M-A-BK	EzM2-56M-A-BK	EzS2-PE-56M-A
Ezi-SERVO II-PE-56M-B-BK	EzM2-56M-B-BK	EzS2-PE-56M-B
Ezi-SERVO II-PE-56L-A-BK	EzM2-56L-A-BK	EzS2-PE-56L-A
Ezi-SERVO II-PE-56L-B-BK	EzM2-56L-B-BK	EzS2-PE-56L-B
Ezi-SERVO II-PE-60S-A-BK	EzM2-60S-A-BK	EzS2-PE-60S-A
Ezi-SERVO II-PE-60S-B-BK	EzM2-60S-B-BK	EzS2-PE-60S-B
Ezi-SERVO II-PE-60M-A-BK	EzM2-60M-A-BK	EzS2-PE-60M-A
Ezi-SERVO II-PE-60M-B-BK	EzM2-60M-B-BK	EzS2-PE-60M-B
Ezi-SERVO II-PE-60L-A-BK	EzM2-60L-A-BK	EzS2-PE-60L-A
Ezi-SERVO II-PE-60L-B-BK	EzM2-60L-B-BK	EzS2-PE-60L-B
Ezi-SERVO II-PE-86M-A-BK	EzM2-86M-A-BK	EzS2-PE-86M-A
Ezi-SERVO II-PE-86M-B-BK	EzM2-86M-B-BK	EzS2-PE-86M-B
Ezi-SERVO II-PE-86L-A-BK	EzM2-86L-A-BK	EzS2-PE-86L-A
Ezi-SERVO II-PE-86L-B-BK	EzM2-86L-B-BK	EzS2-PE-86L-B
Ezi-SERVO II-PE-86XL-A-BK	EzM2-86XL-A-BK	EzS2-PE-86XL-A
Ezi-SERVO II-PE-86XL-B-BK	EzM2-86XL-B-BK	EzS2-PE-86XL-B

Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO II-PE-42S-A-PN3	EzM2-42S-A-PN3	EzS2-PE-42S-A	1:3
Ezi-SERVO II-PE-42S-B-PN3	EzM2-42S-B-PN3	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN5	EzM2-42S-A-PN5	EzS2-PE-42S-A	1:5
Ezi-SERVO II-PE-42S-B-PN5	EzM2-42S-B-PN5	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN8	EzM2-42S-A-PN8	EzS2-PE-42S-A	1:8
Ezi-SERVO II-PE-42S-B-PN8	EzM2-42S-B-PN8	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN10	EzM2-42S-A-PN10	EzS2-PE-42S-A	1:10
Ezi-SERVO II-PE-42S-B-PN10	EzM2-42S-B-PN10	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN15	EzM2-42S-A-PN15	EzS2-PE-42S-A	1:15
Ezi-SERVO II-PE-42S-B-PN15	EzM2-42S-B-PN15	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN25	EzM2-42S-A-PN25	EzS2-PE-42S-A	1:25
Ezi-SERVO II-PE-42S-B-PN25	EzM2-42S-B-PN25	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN40	EzM2-42S-A-PN40	EzS2-PE-42S-A	1:40
Ezi-SERVO II-PE-42S-B-PN40	EzM2-42S-B-PN40	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42S-A-PN50	EzM2-42S-A-PN50	EzS2-PE-42S-A	1:50
Ezi-SERVO II-PE-42S-B-PN50	EzM2-42S-B-PN50	EzS2-PE-42S-B	
Ezi-SERVO II-PE-42M-A-PN3	EzM2-42M-A-PN3	EzS2-PE-42M-A	1:3
Ezi-SERVO II-PE-42M-B-PN3	EzM2-42M-B-PN3	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN5	EzM2-42M-A-PN5	EzS2-PE-42M-A	1:5
Ezi-SERVO II-PE-42M-B-PN5	EzM2-42M-B-PN5	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN8	EzM2-42M-A-PN8	EzS2-PE-42M-A	1:8
Ezi-SERVO II-PE-42M-B-PN8	EzM2-42M-B-PN8	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN10	EzM2-42M-A-PN10	EzS2-PE-42M-A	1:10
Ezi-SERVO II-PE-42M-B-PN10	EzM2-42M-B-PN10	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN15	EzM2-42M-A-PN15	EzS2-PE-42M-A	1:15
Ezi-SERVO II-PE-42M-B-PN15	EzM2-42M-B-PN15	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN25	EzM2-42M-A-PN25	EzS2-PE-42M-A	1:25
Ezi-SERVO II-PE-42M-B-PN25	EzM2-42M-B-PN25	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN40	EzM2-42M-A-PN40	EzS2-PE-42M-A	1:40
Ezi-SERVO II-PE-42M-B-PN40	EzM2-42M-B-PN40	EzS2-PE-42M-B	
Ezi-SERVO II-PE-42M-A-PN50	EzM2-42M-A-PN50	EzS2-PE-42M-A	1:50
Ezi-SERVO II-PE-42M-B-PN50	EzM2-42M-B-PN50	EzS2-PE-42M-B	

Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO II-PE-42L-A-PN3	EzM2-42L-A-PN3	EzS2-PE-42L-A	1:3
Ezi-SERVO II-PE-42L-B-PN3	EzM2-42L-B-PN3	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN5	EzM2-42L-A-PN5	EzS2-PE-42L-A	1:5
Ezi-SERVO II-PE-42L-B-PN5	EzM2-42L-B-PN5	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN8	EzM2-42L-A-PN8	EzS2-PE-42L-A	1:8
Ezi-SERVO II-PE-42L-B-PN8	EzM2-42L-B-PN8	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN10	EzM2-42L-A-PN10	EzS2-PE-42L-A	1:10
Ezi-SERVO II-PE-42L-B-PN10	EzM2-42L-B-PN10	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN15	EzM2-42L-A-PN15	EzS2-PE-42L-A	1:15
Ezi-SERVO II-PE-42L-B-PN15	EzM2-42L-B-PN15	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN25	EzM2-42L-A-PN25	EzS2-PE-42L-A	1:25
Ezi-SERVO II-PE-42L-B-PN25	EzM2-42L-B-PN25	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN40	EzM2-42L-A-PN40	EzS2-PE-42L-A	1:40
Ezi-SERVO II-PE-42L-B-PN40	EzM2-42L-B-PN40	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42L-A-PN50	EzM2-42L-A-PN50	EzS2-PE-42L-A	1:50
Ezi-SERVO II-PE-42L-B-PN50	EzM2-42L-B-PN50	EzS2-PE-42L-B	
Ezi-SERVO II-PE-42XL-A-PN3	EzM2-42XL-A-PN3	EzS2-PE-42XL-A	1:3
Ezi-SERVO II-PE-42XL-B-PN3	EzM2-42XL-B-PN3	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN5	EzM2-42XL-A-PN5	EzS2-PE-42XL-A	1:5
Ezi-SERVO II-PE-42XL-B-PN5	EzM2-42XL-B-PN5	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN8	EzM2-42XL-A-PN8	EzS2-PE-42XL-A	1:8
Ezi-SERVO II-PE-42XL-B-PN8	EzM2-42XL-B-PN8	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN10	EzM2-42XL-A-PN10	EzS2-PE-42XL-A	1:10
Ezi-SERVO II-PE-42XL-B-PN10	EzM2-42XL-B-PN10	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN15	EzM2-42XL-A-PN15	EzS2-PE-42XL-A	1:15
Ezi-SERVO II-PE-42XL-B-PN15	EzM2-42XL-B-PN15	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN25	EzM2-42XL-A-PN25	EzS2-PE-42XL-A	1:25
Ezi-SERVO II-PE-42XL-B-PN25	EzM2-42XL-B-PN25	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN40	EzM2-42XL-A-PN40	EzS2-PE-42XL-A	1:40
Ezi-SERVO II-PE-42XL-B-PN40	EzM2-42XL-B-PN40	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-42XL-A-PN50	EzM2-42XL-A-PN50	EzS2-PE-42XL-A	1:50
Ezi-SERVO II-PE-42XL-B-PN50	EzM2-42XL-B-PN50	EzS2-PE-42XL-B	
Ezi-SERVO II-PE-56S-A-PN3	EzM2-56S-A-PN3	EzS2-PE-56S-A	1:3
Ezi-SERVO II-PE-56S-B-PN3	EzM2-56S-B-PN3	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN5	EzM2-56S-A-PN5	EzS2-PE-56S-A	1:5
Ezi-SERVO II-PE-56S-B-PN5	EzM2-56S-B-PN5	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN8	EzM2-56S-A-PN8	EzS2-PE-56S-A	1:8
Ezi-SERVO II-PE-56S-B-PN8	EzM2-56S-B-PN8	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN10	EzM2-56S-A-PN10	EzS2-PE-56S-A	1:10
Ezi-SERVO II-PE-56S-B-PN10	EzM2-56S-B-PN10	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN15	EzM2-56S-A-PN15	EzS2-PE-56S-A	1:15
Ezi-SERVO II-PE-56S-B-PN15	EzM2-56S-B-PN15	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN25	EzM2-56S-A-PN25	EzS2-PE-56S-A	1:25
Ezi-SERVO II-PE-56S-B-PN25	EzM2-56S-B-PN25	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN40	EzM2-56S-A-PN40	EzS2-PE-56S-A	1:40
Ezi-SERVO II-PE-56S-B-PN40	EzM2-56S-B-PN40	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56S-A-PN50	EzM2-56S-A-PN50	EzS2-PE-56S-A	1:50
Ezi-SERVO II-PE-56S-B-PN50	EzM2-56S-B-PN50	EzS2-PE-56S-B	
Ezi-SERVO II-PE-56M-A-PN3	EzM2-56M-A-PN3	EzS2-PE-56M-A	1:3
Ezi-SERVO II-PE-56M-B-PN3	EzM2-56M-B-PN3	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN5	EzM2-56M-A-PN5	EzS2-PE-56M-A	1:5
Ezi-SERVO II-PE-56M-B-PN5	EzM2-56M-B-PN5	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN8	EzM2-56M-A-PN8	EzS2-PE-56M-A	1:8
Ezi-SERVO II-PE-56M-B-PN8	EzM2-56M-B-PN8	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN10	EzM2-56M-A-PN10	EzS2-PE-56M-A	1:10
Ezi-SERVO II-PE-56M-B-PN10	EzM2-56M-B-PN10	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN15	EzM2-56M-A-PN15	EzS2-PE-56M-A	1:15
Ezi-SERVO II-PE-56M-B-PN15	EzM2-56M-B-PN15	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN25	EzM2-56M-A-PN25	EzS2-PE-56M-A	1:25
Ezi-SERVO II-PE-56M-B-PN25	EzM2-56M-B-PN25	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN40	EzM2-56M-A-PN40	EzS2-PE-56M-A	1:40
Ezi-SERVO II-PE-56M-B-PN40	EzM2-56M-B-PN40	EzS2-PE-56M-B	
Ezi-SERVO II-PE-56M-A-PN50	EzM2-56M-A-PN50	EzS2-PE-56M-A	1:50
Ezi-SERVO II-PE-56M-B-PN50	EzM2-56M-B-PN50	EzS2-PE-56M-B	

Combination with Gearbox

Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO II-PE-56L-A-PN3	EzM2-56L-A-PN3	EzS2-PE-56L-A	1:3
Ezi-SERVO II-PE-56L-B-PN3	EzM2-56L-B-PN3	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN5	EzM2-56L-A-PN5	EzS2-PE-56L-A	1:5
Ezi-SERVO II-PE-56L-B-PN5	EzM2-56L-B-PN5	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN8	EzM2-56L-A-PN8	EzS2-PE-56L-A	1:8
Ezi-SERVO II-PE-56L-B-PN8	EzM2-56L-B-PN8	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN10	EzM2-56L-A-PN10	EzS2-PE-56L-A	1:10
Ezi-SERVO II-PE-56L-B-PN10	EzM2-56L-B-PN10	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN15	EzM2-56L-A-PN15	EzS2-PE-56L-A	1:15
Ezi-SERVO II-PE-56L-B-PN15	EzM2-56L-B-PN15	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN25	EzM2-56L-A-PN25	EzS2-PE-56L-A	1:25
Ezi-SERVO II-PE-56L-B-PN25	EzM2-56L-B-PN25	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN40	EzM2-56L-A-PN40	EzS2-PE-56L-A	1:40
Ezi-SERVO II-PE-56L-B-PN40	EzM2-56L-B-PN40	EzS2-PE-56L-B	
Ezi-SERVO II-PE-56L-A-PN50	EzM2-56L-A-PN50	EzS2-PE-56L-A	1:50
Ezi-SERVO II-PE-56L-B-PN50	EzM2-56L-B-PN50	EzS2-PE-56L-B	
Ezi-SERVO II-PE-60S-A-PN3	EzM2-60S-A-PN3	EzS2-PE-60S-A	1:3
Ezi-SERVO II-PE-60S-B-PN3	EzM2-60S-B-PN3	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN5	EzM2-60S-A-PN5	EzS2-PE-60S-A	1:5
Ezi-SERVO II-PE-60S-B-PN5	EzM2-60S-B-PN5	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN8	EzM2-60S-A-PN8	EzS2-PE-60S-A	1:8
Ezi-SERVO II-PE-60S-B-PN8	EzM2-60S-B-PN8	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN10	EzM2-60S-A-PN10	EzS2-PE-60S-A	1:10
Ezi-SERVO II-PE-60S-B-PN10	EzM2-60S-B-PN10	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN15	EzM2-60S-A-PN15	EzS2-PE-60S-A	1:15
Ezi-SERVO II-PE-60S-B-PN15	EzM2-60S-B-PN15	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN25	EzM2-60S-A-PN25	EzS2-PE-60S-A	1:25
Ezi-SERVO II-PE-60S-B-PN25	EzM2-60S-B-PN25	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN40	EzM2-60S-A-PN40	EzS2-PE-60S-A	1:40
Ezi-SERVO II-PE-60S-B-PN40	EzM2-60S-B-PN40	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60S-A-PN50	EzM2-60S-A-PN50	EzS2-PE-60S-A	1:50
Ezi-SERVO II-PE-60S-B-PN50	EzM2-60S-B-PN50	EzS2-PE-60S-B	
Ezi-SERVO II-PE-60M-A-PN3	EzM2-60M-A-PN3	EzS2-PE-60M-A	1:3
Ezi-SERVO II-PE-60M-B-PN3	EzM2-60M-B-PN3	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN5	EzM2-60M-A-PN5	EzS2-PE-60M-A	1:5
Ezi-SERVO II-PE-60M-B-PN5	EzM2-60M-B-PN5	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN8	EzM2-60M-A-PN8	EzS2-PE-60M-A	1:8
Ezi-SERVO II-PE-60M-B-PN8	EzM2-60M-B-PN8	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN10	EzM2-60M-A-PN10	EzS2-PE-60M-A	1:10
Ezi-SERVO II-PE-60M-B-PN10	EzM2-60M-B-PN10	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN15	EzM2-60M-A-PN15	EzS2-PE-60M-A	1:15
Ezi-SERVO II-PE-60M-B-PN15	EzM2-60M-B-PN15	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN25	EzM2-60M-A-PN25	EzS2-PE-60M-A	1:25
Ezi-SERVO II-PE-60M-B-PN25	EzM2-60M-B-PN25	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN40	EzM2-60M-A-PN40	EzS2-PE-60M-A	1:40
Ezi-SERVO II-PE-60M-B-PN40	EzM2-60M-B-PN40	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60M-A-PN50	EzM2-60M-A-PN50	EzS2-PE-60M-A	1:50
Ezi-SERVO II-PE-60M-B-PN50	EzM2-60M-B-PN50	EzS2-PE-60M-B	
Ezi-SERVO II-PE-60L-A-PN3	EzM2-60L-A-PN3	EzS2-PE-60L-A	1:3
Ezi-SERVO II-PE-60L-B-PN3	EzM2-60L-B-PN3	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN5	EzM2-60L-A-PN5	EzS2-PE-60L-A	1:5
Ezi-SERVO II-PE-60L-B-PN5	EzM2-60L-B-PN5	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN8	EzM2-60L-A-PN8	EzS2-PE-60L-A	1:8
Ezi-SERVO II-PE-60L-B-PN8	EzM2-60L-B-PN8	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN10	EzM2-60L-A-PN10	EzS2-PE-60L-A	1:10
Ezi-SERVO II-PE-60L-B-PN10	EzM2-60L-B-PN10	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN15	EzM2-60L-A-PN15	EzS2-PE-60L-A	1:15
Ezi-SERVO II-PE-60L-B-PN15	EzM2-60L-B-PN15	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN25	EzM2-60L-A-PN25	EzS2-PE-60L-A	1:25
Ezi-SERVO II-PE-60L-B-PN25	EzM2-60L-B-PN25	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN40	EzM2-60L-A-PN40	EzS2-PE-60L-A	1:40
Ezi-SERVO II-PE-60L-B-PN40	EzM2-60L-B-PN40	EzS2-PE-60L-B	
Ezi-SERVO II-PE-60L-A-PN50	EzM2-60L-A-PN50	EzS2-PE-60L-A	1:50
Ezi-SERVO II-PE-60L-B-PN50	EzM2-60L-B-PN50	EzS2-PE-60L-B	

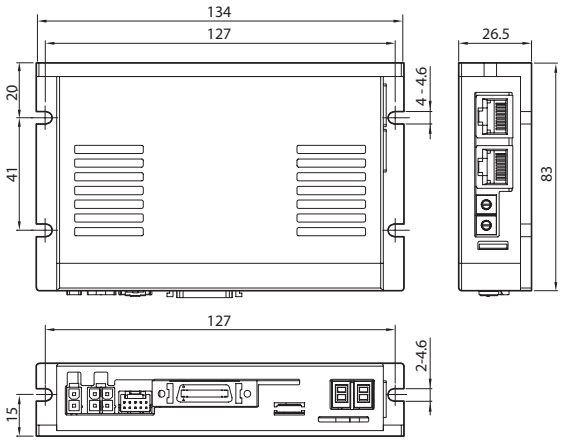
Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO II-PE-86M-A-PN3	EzM2-86M-A-PN3	EzS2-PE-86M-A	1:3
Ezi-SERVO II-PE-86M-B-PN3	EzM2-86M-B-PN3	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN5	EzM2-86M-A-PN5	EzS2-PE-86M-A	1:5
Ezi-SERVO II-PE-86M-B-PN5	EzM2-86M-B-PN5	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN8	EzM2-86M-A-PN8	EzS2-PE-86M-A	1:8
Ezi-SERVO II-PE-86M-B-PN8	EzM2-86M-B-PN8	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN10	EzM2-86M-A-PN10	EzS2-PE-86M-A	1:10
Ezi-SERVO II-PE-86M-B-PN10	EzM2-86M-B-PN10	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN15	EzM2-86M-A-PN15	EzS2-PE-86M-A	1:15
Ezi-SERVO II-PE-86M-B-PN15	EzM2-86M-B-PN15	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN25	EzM2-86M-A-PN25	EzS2-PE-86M-A	1:25
Ezi-SERVO II-PE-86M-B-PN25	EzM2-86M-B-PN25	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN40	EzM2-86M-A-PN40	EzS2-PE-86M-A	1:40
Ezi-SERVO II-PE-86M-B-PN40	EzM2-86M-B-PN40	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86M-A-PN50	EzM2-86M-A-PN50	EzS2-PE-86M-A	1:50
Ezi-SERVO II-PE-86M-B-PN50	EzM2-86M-B-PN50	EzS2-PE-86M-B	
Ezi-SERVO II-PE-86L-A-PN3	EzM2-86L-A-PN3	EzS2-PE-86L-A	1:3
Ezi-SERVO II-PE-86L-B-PN3	EzM2-86L-B-PN3	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN5	EzM2-86L-A-PN5	EzS2-PE-86L-A	1:5
Ezi-SERVO II-PE-86L-B-PN5	EzM2-86L-B-PN5	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN8	EzM2-86L-A-PN8	EzS2-PE-86L-A	1:8
Ezi-SERVO II-PE-86L-B-PN8	EzM2-86L-B-PN8	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN10	EzM2-86L-A-PN10	EzS2-PE-86L-A	1:10
Ezi-SERVO II-PE-86L-B-PN10	EzM2-86L-B-PN10	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN15	EzM2-86L-A-PN15	EzS2-PE-86L-A	1:15
Ezi-SERVO II-PE-86L-B-PN15	EzM2-86L-B-PN15	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN25	EzM2-86L-A-PN25	EzS2-PE-86L-A	1:25
Ezi-SERVO II-PE-86L-B-PN25	EzM2-86L-B-PN25	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN40	EzM2-86L-A-PN40	EzS2-PE-86L-A	1:40
Ezi-SERVO II-PE-86L-B-PN40	EzM2-86L-B-PN40	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86L-A-PN50	EzM2-86L-A-PN50	EzS2-PE-86L-A	1:50
Ezi-SERVO II-PE-86L-B-PN50	EzM2-86L-B-PN50	EzS2-PE-86L-B	
Ezi-SERVO II-PE-86XL-A-PN3	EzM2-86XL-A-PN3	EzS2-PE-86XL-A	1:3
Ezi-SERVO II-PE-86XL-B-PN3	EzM2-86XL-B-PN3	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN5	EzM2-86XL-A-PN5	EzS2-PE-86XL-A	1:5
Ezi-SERVO II-PE-86XL-B-PN5	EzM2-86XL-B-PN5	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN8	EzM2-86XL-A-PN8	EzS2-PE-86XL-A	1:8
Ezi-SERVO II-PE-86XL-B-PN8	EzM2-86XL-B-PN8	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN10	EzM2-86XL-A-PN10	EzS2-PE-86XL-A	1:10
Ezi-SERVO II-PE-86XL-B-PN10	EzM2-86XL-B-PN10	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN15	EzM2-86XL-A-PN15	EzS2-PE-86XL-A	1:15
Ezi-SERVO II-PE-86XL-B-PN15	EzM2-86XL-B-PN15	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN25	EzM2-86XL-A-PN25	EzS2-PE-86XL-A	1:25
Ezi-SERVO II-PE-86XL-B-PN25	EzM2-86XL-B-PN25	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN40	EzM2-86XL-A-PN40	EzS2-PE-86XL-A	1:40
Ezi-SERVO II-PE-86XL-B-PN40	EzM2-86XL-B-PN40	EzS2-PE-86XL-B	
Ezi-SERVO II-PE-86XL-A-PN50	EzM2-86XL-A-PN50	EzS2-PE-86XL-A	1:50
Ezi-SERVO II-PE-86XL-B-PN50	EzM2-86XL-B-PN50	EzS2-PE-86XL-B	

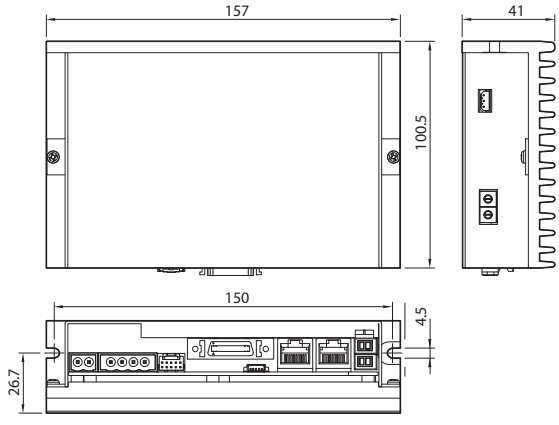
Specifications of Drive

Motor Model		EzM2-20 series	EzM2-28 series	EzM2-35 series	EzM2-42 series	EzM2-56 series	EzM2-60 series	EzM2-86 series
Driver Model		EzS2-PE-20 series	EzS2-PE-28 series	EzS2-PE-35 series	EzS2-PE-42 series	EzS2-PE-56 series	EzS2-PE-60 series	EzS2-PE-86 series
Input Voltage		DC24V±10%						DC40~70V
Control Method		Closed-loop control with 32 bit MCU						
Multi Axis Drive		Maximum 254 axis operating (Selectable IP: 1~254)						
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 (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, ROM Error, Position Overflow Error						
	LED Display	Power status, In-Position status, Servo ON status, Alarm status						
	In-Position Selection	0~63 (Set by parameter)						
	Position Gain Selection	0~63 (Set by parameter)						
	Rotational 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		· Ethernet standard: 10BASE-T, 100BASE-TX · Full-Duplex · Dual port Ethernet switch embedded						
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 (EzS2-PE-86 series)

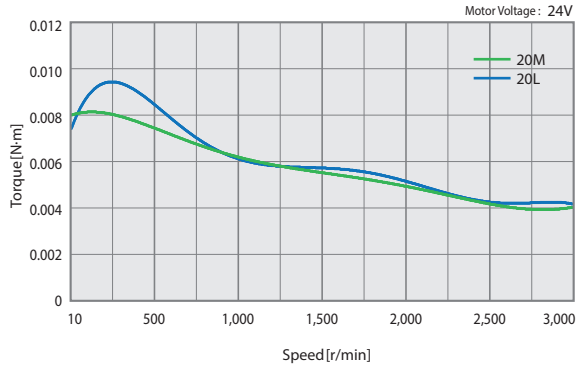
Specifications of Motor

MODEL				EzM2-20 series		EzM2-28 series			EzM2-35 series		EzM2-42 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			$g \cdot cm^2$	2.5	3.3	9.0	13	18	15	20	35	54	77	114
WEIGHTS			kg	0.080	0.104	0.147	0.204	0.232	0.194	0.226	0.294	0.357	0.426	0.564
LENGTH(L)			mm	28	38	32	45	50	32	36	34	40	48	60
PERMISSIBLE RADIAL LOAD	DISTANCE 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										

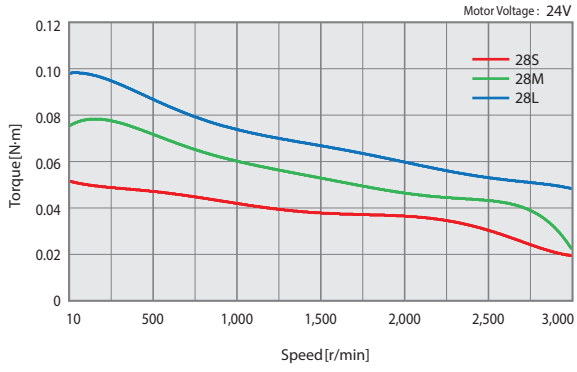
MODEL				EzM2-56 series			EzM2-60 series			EzM2-86 series		
			UNIT	56S	56M	56L	60S	60M	60L	86M	86L	86XL
DRIVE METHOD			–	Bipolar								
NUMBER OF PHASES			–	2 Phase								
CURRENT per PHASE			A/Phase	3.0	3.0	3.0	4.0	4.0	4.0	6.0	6.0	6.0
MAXIMUM HOLDING TORQUE			N·m	0.64	1.0	1.5	0.88	1.28	2.4	4.5	8.5	12
ROTOR INERTIA			$g \cdot cm^2$	180	280	520	240	490	690	1800	3600	5400
WEIGHTS			kg	0.608	0.784	1.230	0.693	0.856	1.419	2.355	3.941	5.453
LENGTH(L)			mm	46	55	80	47	56	85	78	117	155
PERMISSIBLE RADIAL LOAD	DISTANCE 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

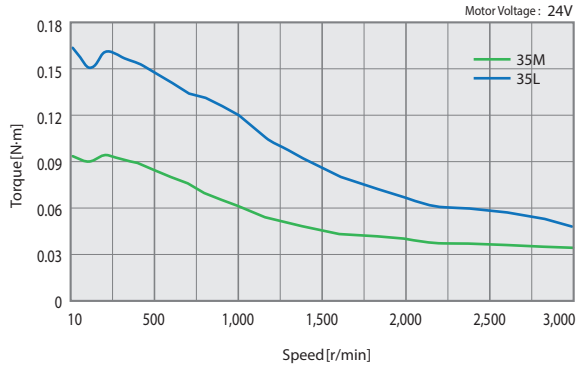
Ezi-SERVO II-PE-20 series



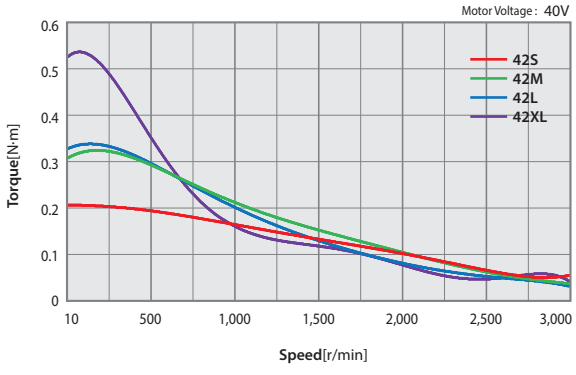
Ezi-SERVO II-PE-28 series



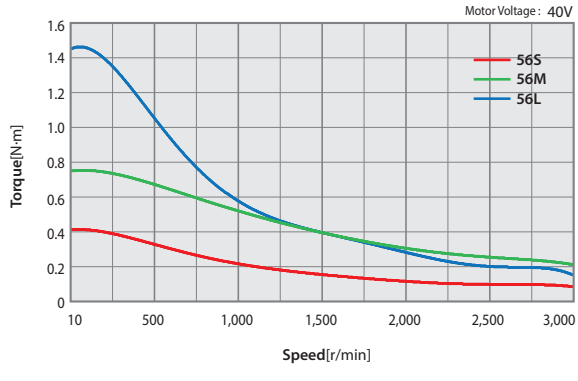
Ezi-SERVO II-PE-35 series



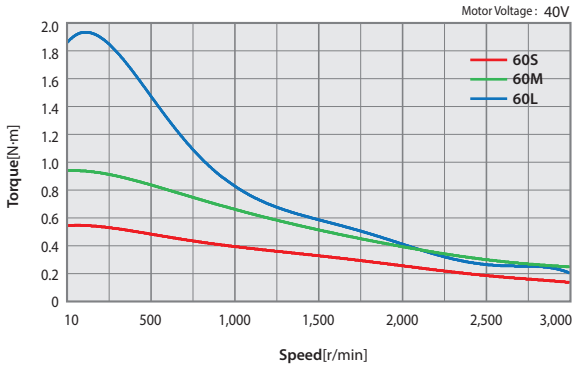
Ezi-SERVO II-PE-42 series



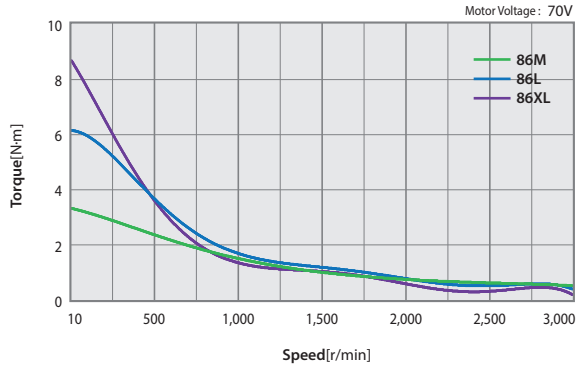
Ezi-SERVO II-PE-56 series



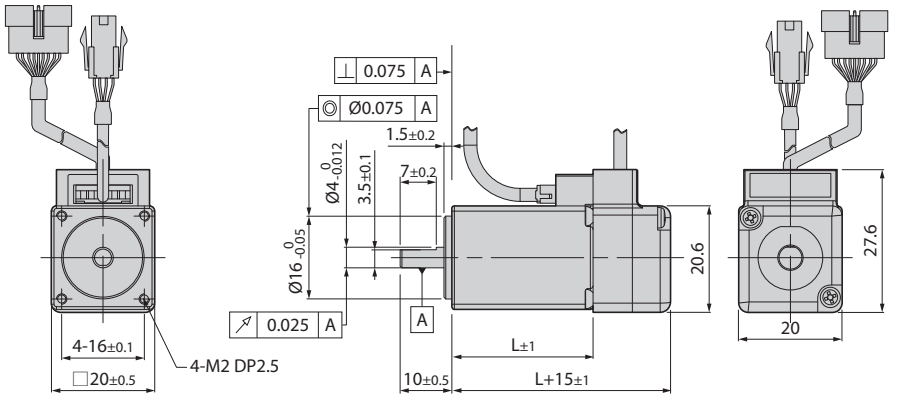
Ezi-SERVO II-PE-60 series



Ezi-SERVO II-PE-86 series

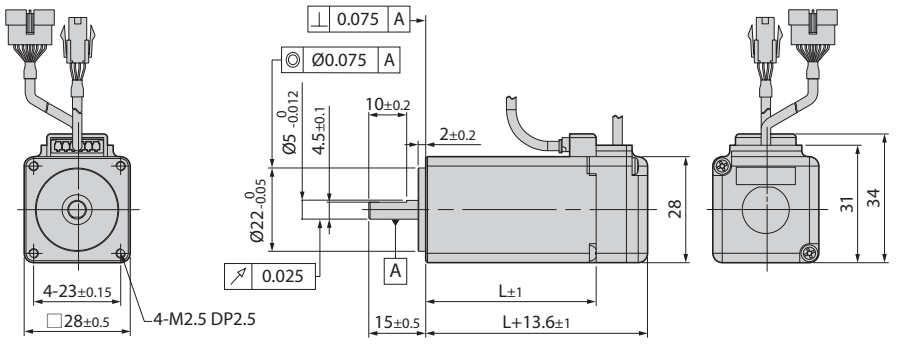


● Dimensions of Motor [mm]



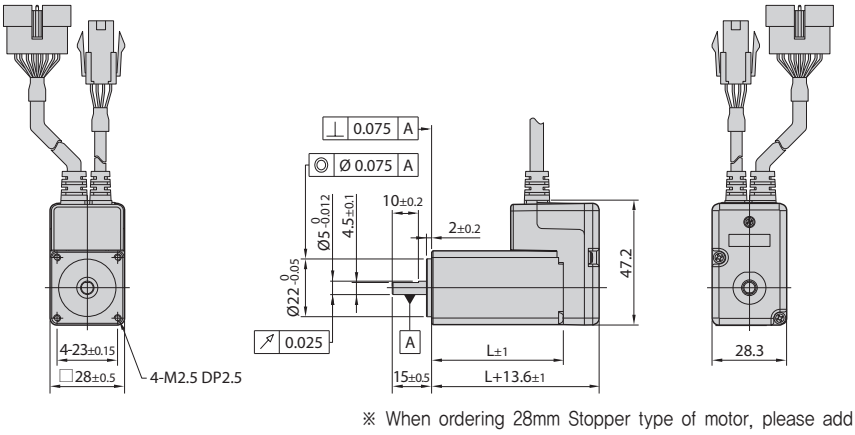
20mm

Model name	Length(L)
EzM2-20M	28
EzM2-20L	38



28mm

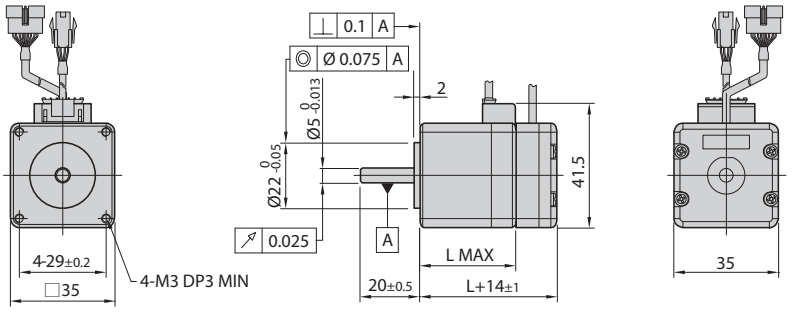
Model name	Length(L)
EzM2-28S	32
EzM2-28M	45
EzM2-28L	50



28mm *(Stopper type)*

Model name	Length(L)
EzM2-28SM	32
EzM2-28MM	45
EzM2-28LM	50

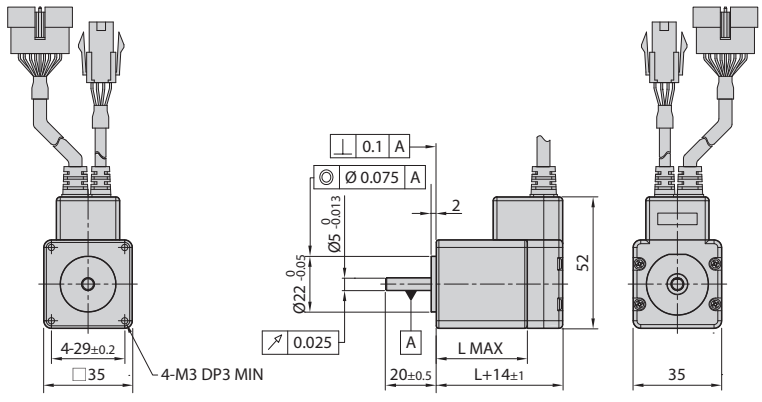
※ When ordering 28mm Stopper type of motor, please add "M" after standard motor model number.



35mm

Model name	Length(L)
EzM2-35M	32
EzM2-35L	36

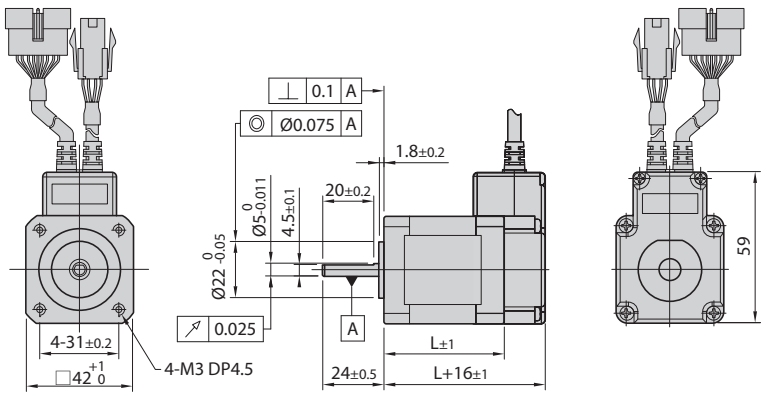
● Dimensions of Motor [mm]



35mm (Stopper type)

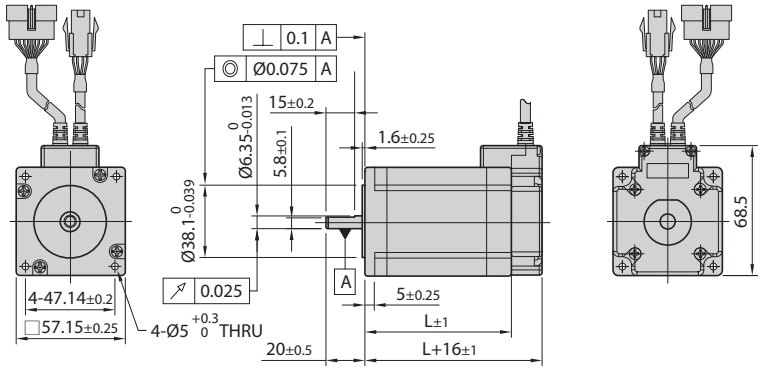
Model name	Length(L)
EzM2-35MM	32
EzM2-35LM	36

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



42mm

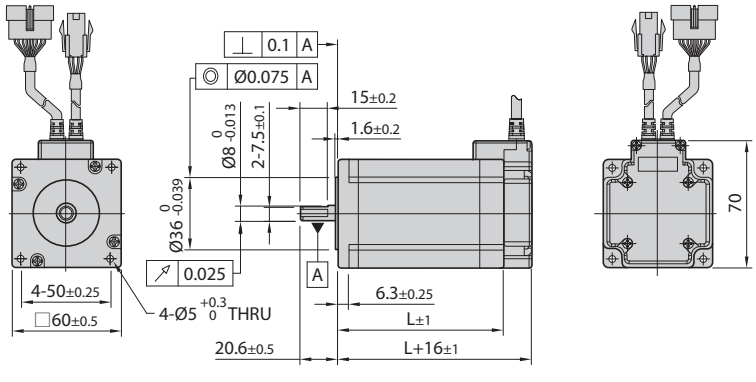
Model name	Length(L)
EzM2-42S	34
EzM2-42M	40
EzM2-42L	48
EzM2-42XL	60



56mm

Model name	Length(L)
EzM2-56S	46
EzM2-56M	55
EzM2-56L	80

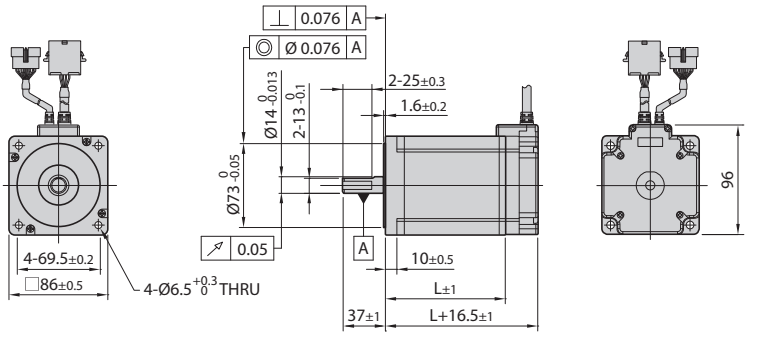
※ There are 2 kinds size of front shaft diameter for EzM2-56 series as Ø6.35 and Ø8.0.



60mm

Model name	Length(L)
EzM2-60S	47
EzM2-60M	56
EzM2-60L	85

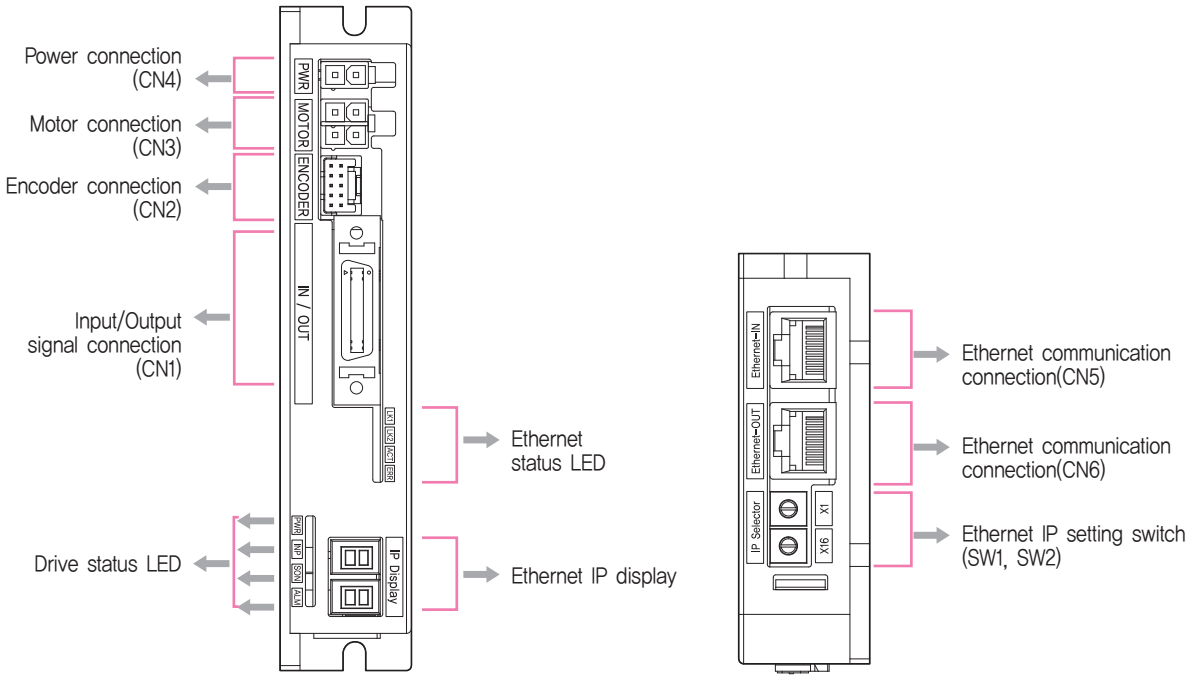
● Dimensions of Motor [mm]



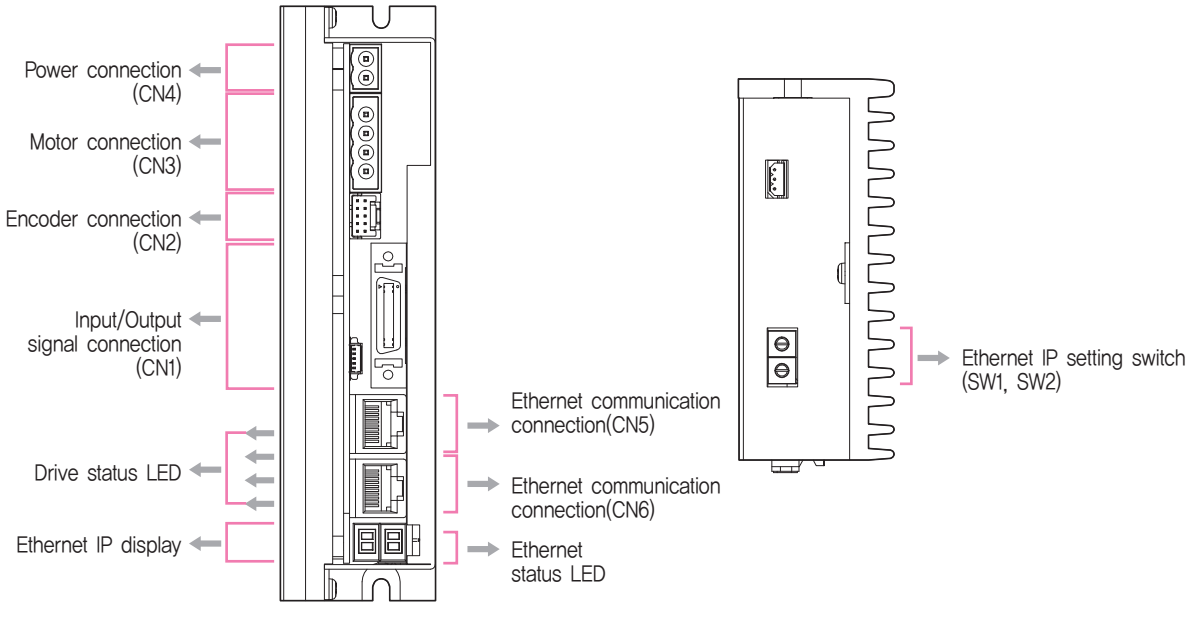
86mm

Model name	Length(L)
EzM2-86M	78
EzM2-86L	117
EzM2-86XL	155

Settings and Operation

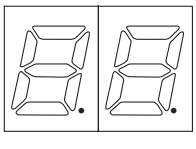


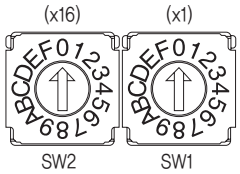
◆ 86mm Motor Drive (EzS2-PE-86 Series)



1. Ethernet IP Display and Setting Switch(SW1, SW2)

These switches set the 4th octet of Ethernet IP, and the value is shown in 7-segment LED display. The 1st octet, the 2nd octet, and the 3rd octet are set by GUI. If the switches are set to 255(FF), DHCP function is activated, and IP is automatically set, ignoring the set value. (Please refer to the manual for details.)





e.g.,) In case of SW2 : **5** and SW1 : **7**
(5×16) + (7×1)= **87**
IP is to be set as 192.168.0.**87**

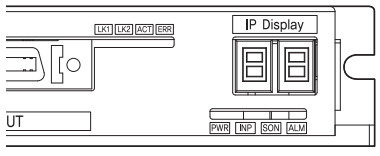
2. Ethernet Status LED

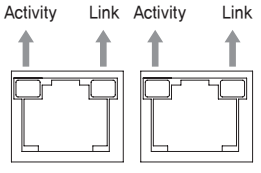
LED indicates communication status of Ethernet. Link/Activity LED exists on each port of Ethernet.

Name	Color	Status	Description
Error	Red	OFF	No Error status
		ON	Communication Data Error

Name	Color	Status	Description
LK1/ LK2	Green	OFF	Link deactivated
		ON	Link activated

Name	Color	Status	Description
Activity	Yellow	OFF	Stand-by
		Flickering	In operation





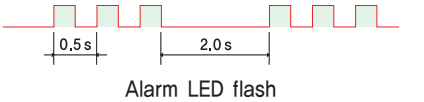
3. Drive Status LED

Name	Color	Function	Description
PWR	Green	Power input indication	LED is turned ON when power is applied
INP	Yellow	Complete Positioning Motion	LED is turned ON when Positioning error reaches within the preset pulse selected by parameter 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 Code *4	Error Type	Causes
1	E-001	Over Current Error	The current through power devices in drive exceeds the limit. *1
2	E-002	Over Speed Error	The motor speed exceeds 3,000r/min
3	E-003	Position Tracking Error	Position error value is greater than the reference value while the motor is running *2
4	E-004	Over Load Error	The motor is continuously operated more than 5 seconds under a load exceeding the max. torque.
5	E-005	Over Temperature Error	Internal temperature of the drive exceeds 85℃
6	E-006	Over Regenerative Voltage Error	Back-EMF is higher than limit value *3
7	E-007	Motor Connect Error	There is a problem with the connection between the drive and the motor
8	E-008	Encoder Connect Error	There is a problem with the connection between the drive and the encoder
10	E-010	In-Position Error	After operation is finished, position error larger than 1 pulse is continued for more than 3 seconds
12	E-012	ROM Error	Error occurs in parameter storage device(ROM)
15	E-015	Position Overflow Error	Position error value is greater than the reference value while the motor is stopped *2

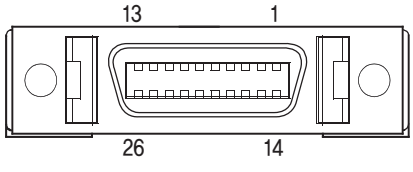
*1 : Limit value depends on motor model. (Refer to the Manual)
*2 : The default reference value is 180 ° , and it can be changed by parameter. (Refer to the Manual)
*3 : Voltage limit of Back-EMF depends on motor model. (Refer to the Manual)
*4 : When an alarm occurs, error code is displayed on the 7-segment LED display instead of Ethernet IP.
※ Please refer to uer Manual for the details of protection functions.



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

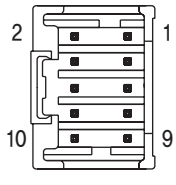
4. Input/Output Signal Connector(CN1)

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	-----

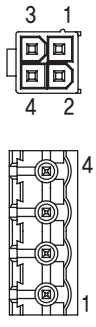


6. Motor Connector(CN3)

No.	Function	I/O
1	A Phase	Output
2	B Phase	Output
3	$\overline{A}$ Phase	Output
4	$\overline{B}$ Phase	Output

No.	Function	I/O
1	$\overline{B}$ Phase	Output
2	B Phase	Output
3	$\overline{A}$ Phase	Output
4	A Phase	Output

※ 86mm motor drive.

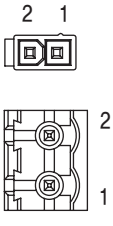


7. Power Connector(CN4)

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

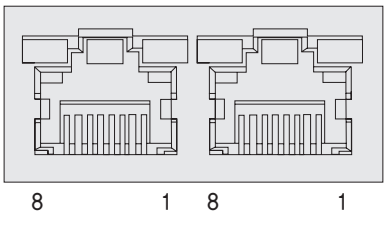
No.	Function	I/O
1	GND	Input
2	DC40~70V	Input

※ 86mm motor drive.

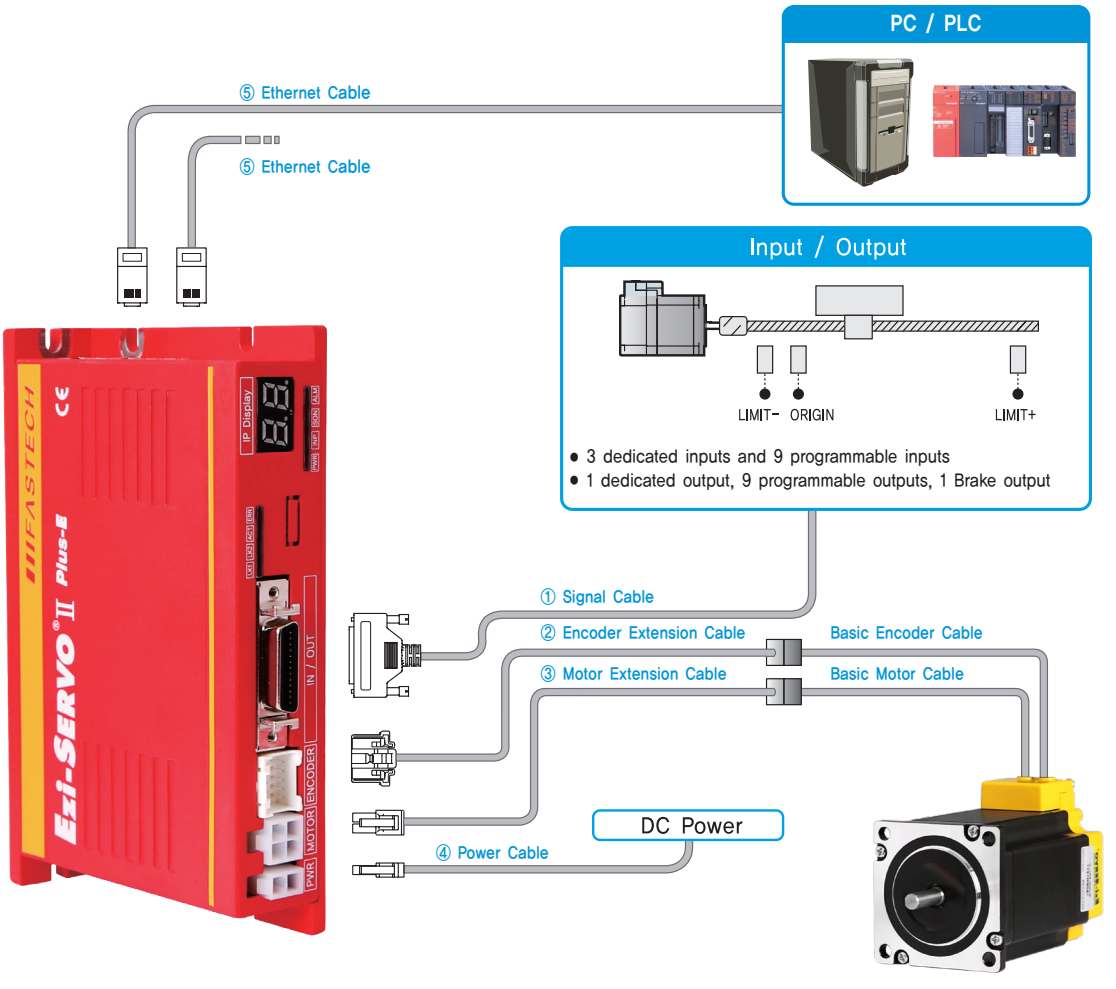


8. Ethernet Communication Connector(CN5, CN6)

No.	Function	No.	Function
1	TD+	6	RD−
2	TD−	7	-----
3	RD+	8	-----
4	-----	Connection hood	F.GND
5	-----		



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 Ethernet Cable	100m	
Basic Encoder Cable	0.3m (Basic length)	Basic cables are attached to motors.
Basic Motor Cable	0.3m (Basic length)	

1. Accessories

Connectors

These are connector specifications for drive cabling.

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

※ 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 II Plus-E 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 II Plus-E 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 II Plus-E 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 II Plus-E 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		

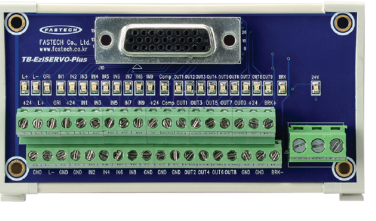
⑤ Ethernet Cable

Purpose	Part Number	Length [m]	Remarks
Ethernet Connection	CGNR-EC-001F	1	· STP(Shielded Twisted Pair) Cable · Category 5e or higher · Maximum Length: 100m · Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

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

[Option] TB-Plus Interface Board

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

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

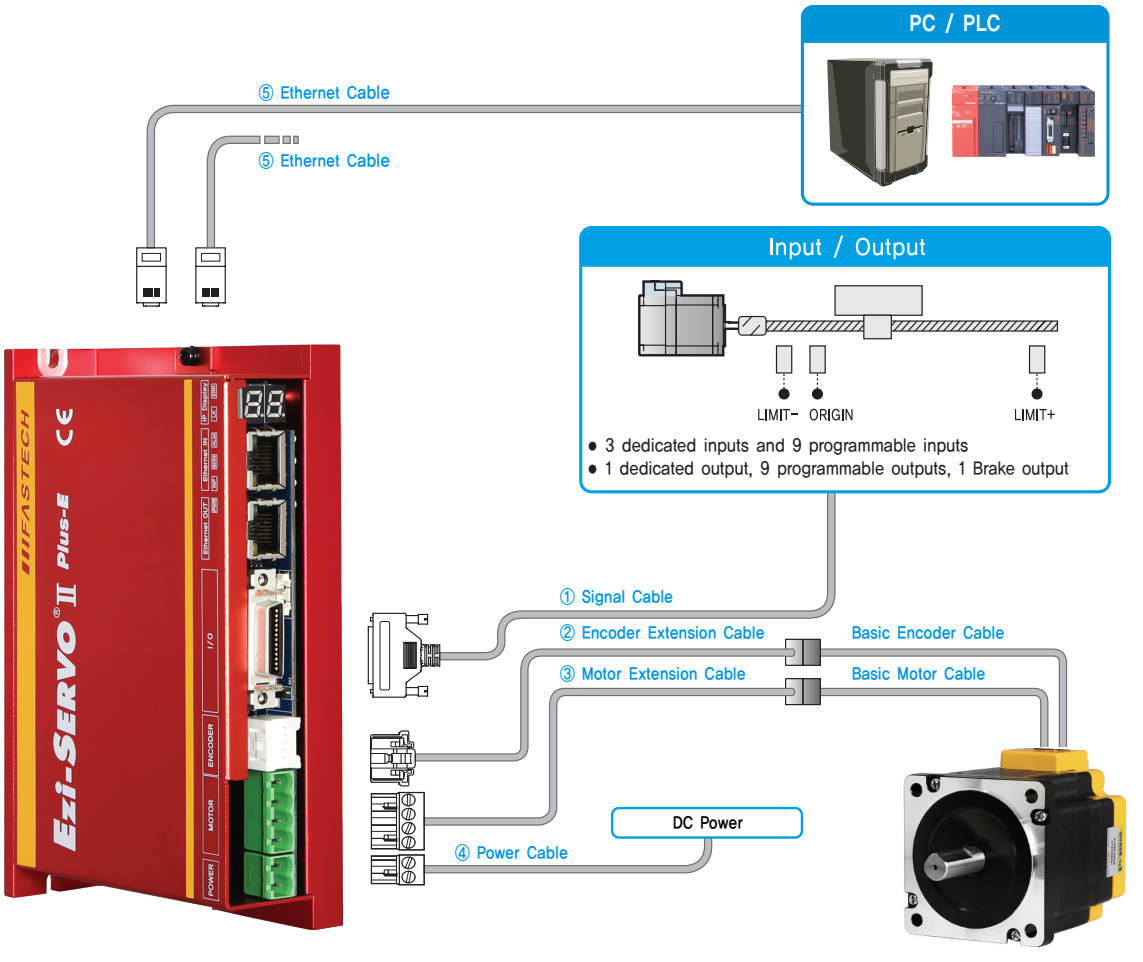
[Option] TB-Plus Interface Cable

These are the cables to connect Ezi-SERVO II Plus-E 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 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 Ethernet Cable	100m	
Basic Encoder Cable	0.3m (Basic length)	Basic cables are attached to motors.
Basic Motor Cable	0.3m (Basic length)	

1. Accessories

Connectors

These are connector specifications for drive cabling.

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

※ 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 II Plus-E [86mm motor] 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 II Plus-E [86mm motor] 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 II Plus-E [86mm motor] 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 II Plus-E [86mm motor] 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		

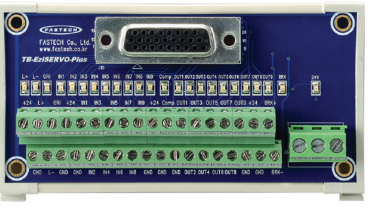
⑤ Ethernet Cable

Purpose	Part Number	Length [m]	Remarks
Ethernet Connection	CGNR-EC-001F	1	· STP(Shielded Twisted Pair) Cable · Category 5e or higher · Maximum Length: 100m · Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

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

[Option] TB-Plus Interface Board

This is an interface board to connect Ezi-SERVO II Plus-E [86mm motor] drive and I/O signals more conveniently.

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

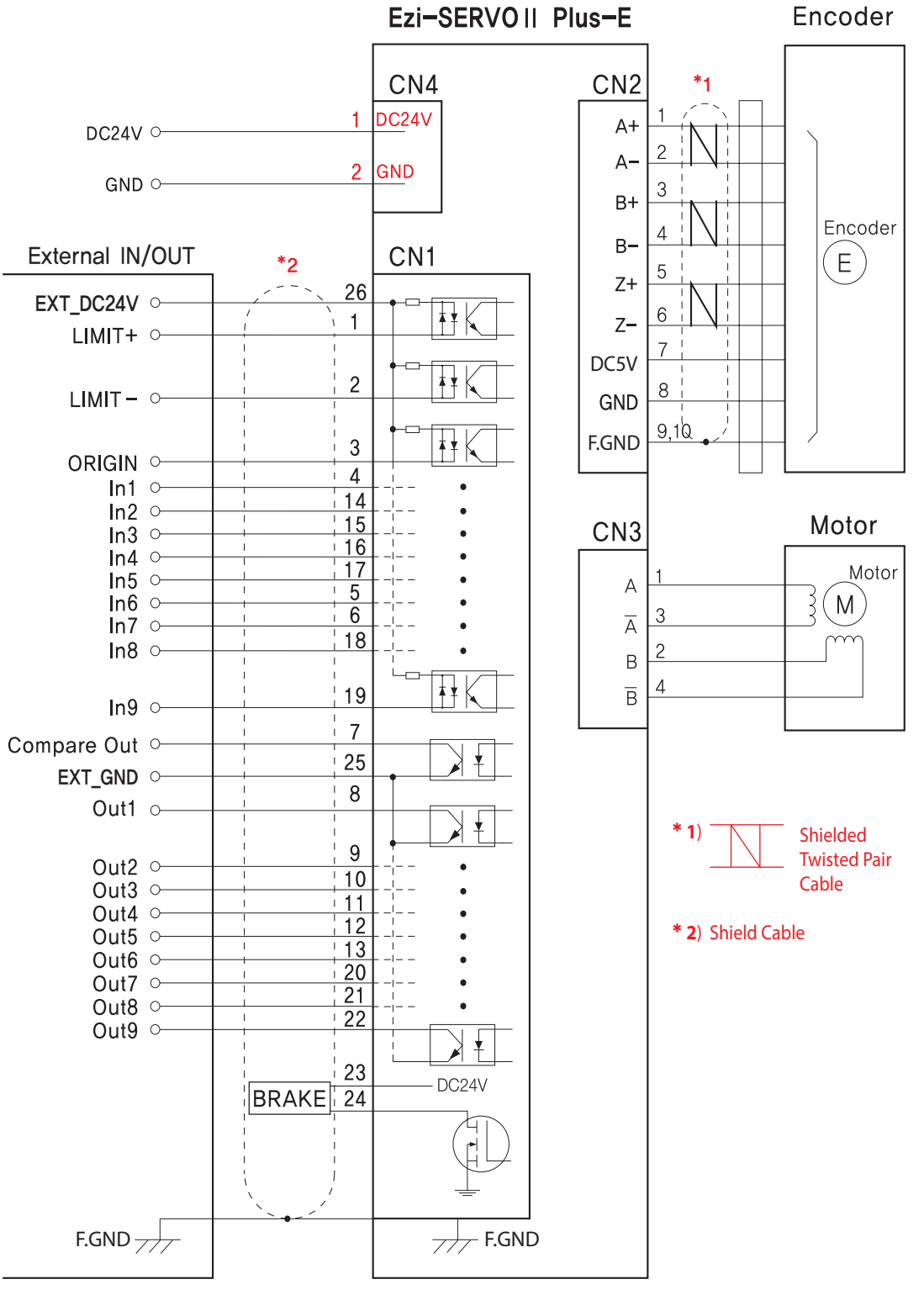
[Option] TB-Plus Interface Cable

These are the cables to connect Ezi-SERVO II Plus-E [86mm motor] 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 not listed on the table, please contact FASTECH for more information.

External Wiring Diagram



※ When connects 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.