

Ezi-SERVO[®]

Closed Loop Stepping System

- Closed-Loop Stepping System
- Tuning Not Required / No Hunting
- Low Heat Generation / High Torque
- High Resolution / High Response

ST



CE **RoHS**
COMPLIANT

FASTTECH

Fast, Accurate, Smooth Motion



Fast, Accurate, Smooth Motion

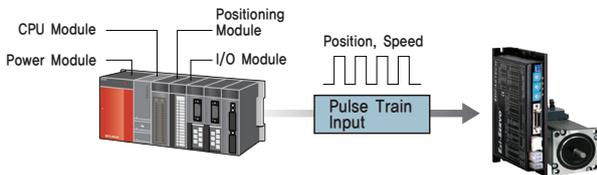
Ezi-SERVO[®] ST

Closed Loop Stepping System



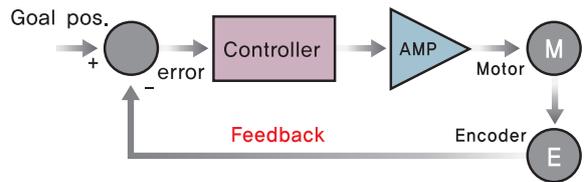
1 Standalone Motion Control

Ezi-SERVO ST is a standalone stepping motor control system that drives the motor by receiving pulse signals from the positioning module (pulse oscillator).



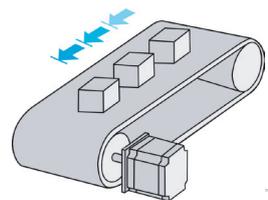
2 Closed-Loop System

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.



3 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.

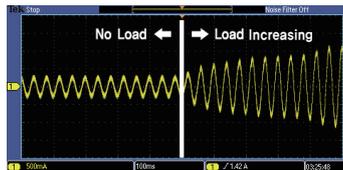
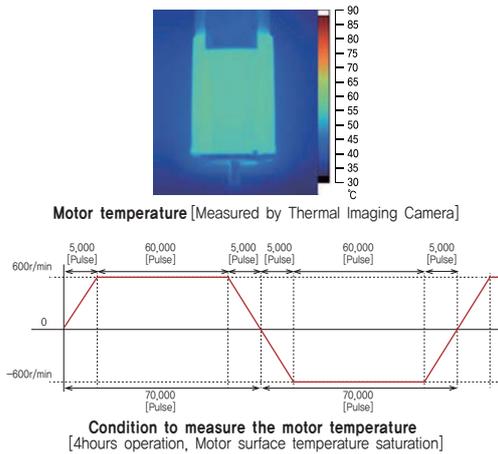


4 Low Heat Generation / Energy Savings

(Motor Current Control according to load)

Ezi-SERVO automatically controls motor current according to load.

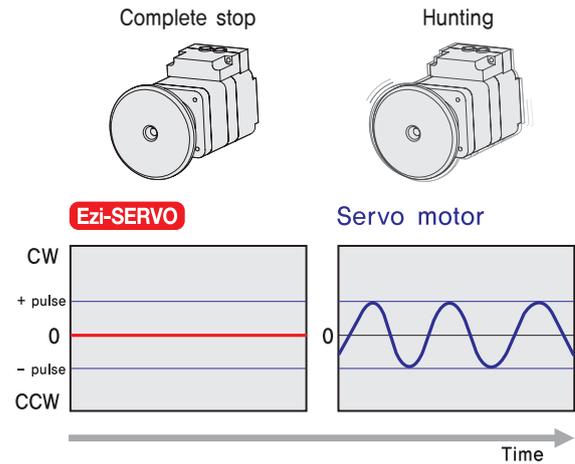
Ezi-SERVO reduces motor current when motor load is low and increases motor current when load is high. By optimizing the motor current, motor heat can be minimized and energy can be saved.



6 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.

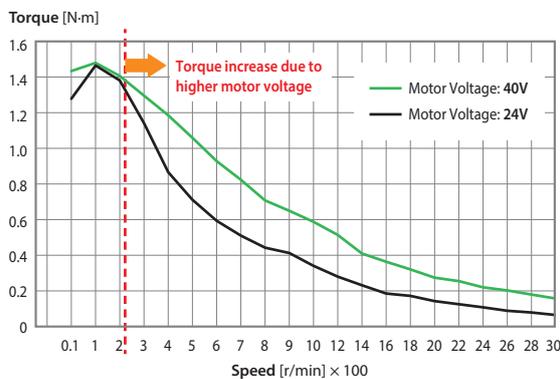
This feature is especially useful in applications such as vision systems in which system oscillation and vibration could be a problem.



5 High Torque

(Motor Voltage Increasing)

Ezi-SERVO boosts the voltage supplied to the motor to increase the torque at high speed. Since Ezi-SERVO has the function to increase the voltage supplied to the motor to compensate the torque reduction, the torque of motor at high speed can be improved about 30%.

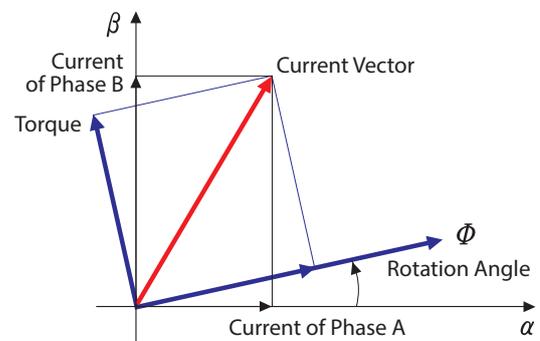


※ The torque at high speed is improved about 30%

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

7 Smooth and Accurate Operation

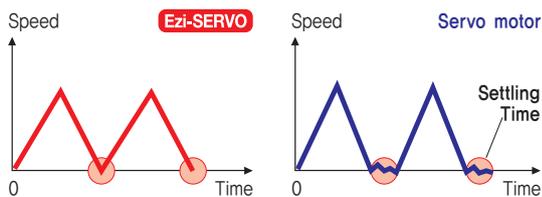
Ezi-SERVO is a high-precision servo drive, using a high-resolution encoder with 32,000 pulses/revolution. Unlike a conventional Microstep drive, the on-board high performance MCU (Micro Controller Unit) performs vector control and filtering, producing a smooth rotational control with minimum ripples.



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High Response

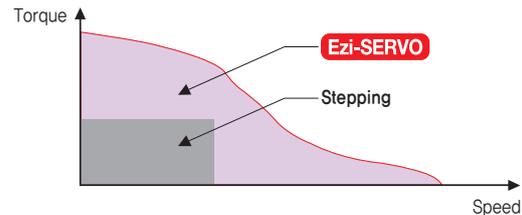
Similar to conventional stepping motors, Ezi-SERVO instantly synchronizes with command pulses providing fast positional response. Ezi-SERVO is the optimal choice when zero-speed stability and rapid motions within a short distance are required. Traditional servo motor systems have a natural delay called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



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High Torque/Continuous Operation

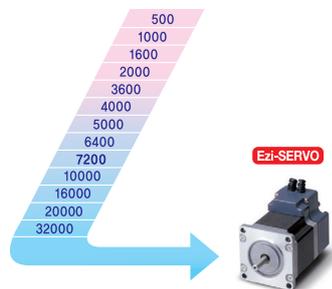
Compared with common step motors and drives, Ezi-SERVO motion control systems can maintain a high torque state over relatively long period of time. This means that Ezi-SERVO continuously operates without loss of position under 100% of the load. Unlike conventional Microstep drives, Ezi-SERVO exploits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



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High Resolution

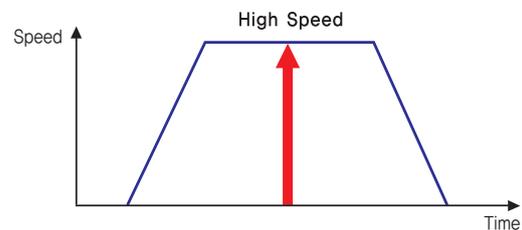
The unit of the position command can be divided precisely. (Max. 32,000 pulses/revolution)



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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

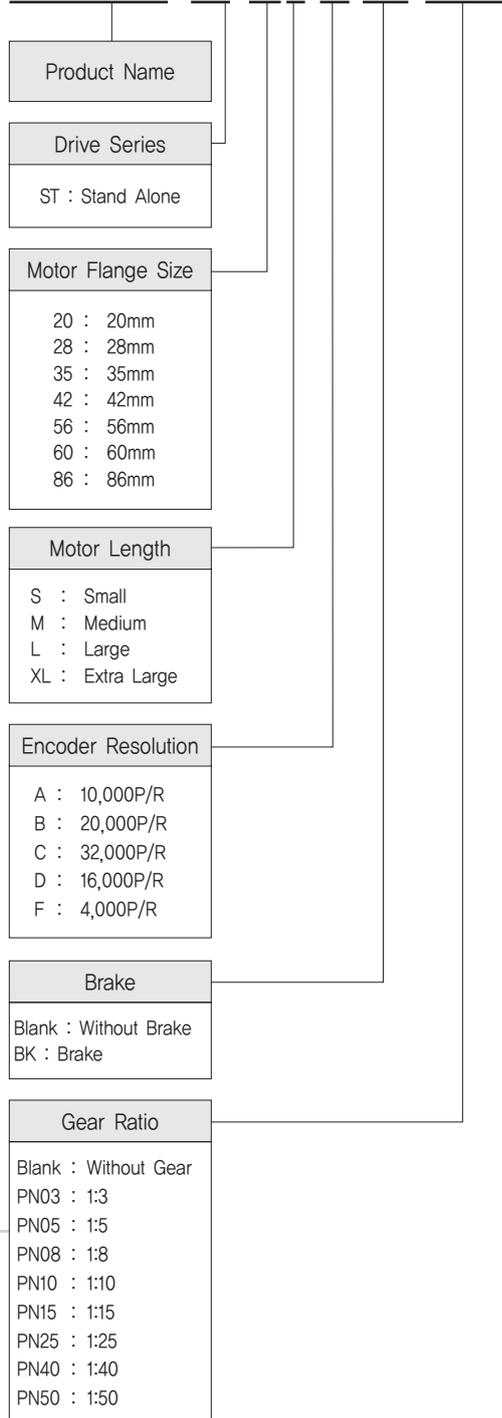
1. Positioning is reliable without loss of synchronism.
2. It can hold stable position and automatically recover to the original position even after experiencing positioning error due to external forces, such as mechanical vibration or vertical positional holding.
3. Ezi-SERVO utilizes 100% of rated 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.

● Ezi-SERVO ST Part Numbering

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



FASTECH Ezi-SERVO ST

● Standard Combination

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

● Combination with Brake

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

● Combination with Gearbox

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

● Combination with Gearbox

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

● Combination with Gearbox

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

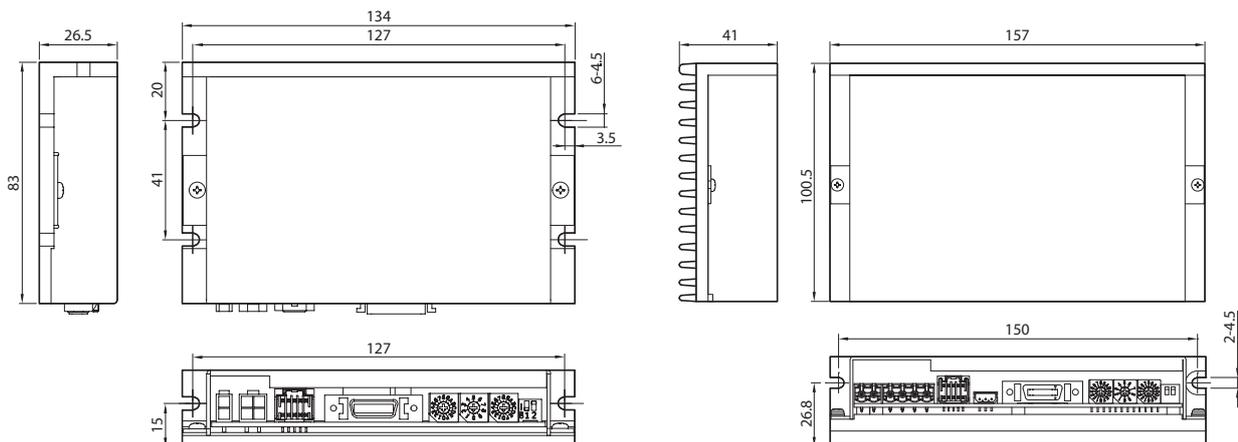
Unit Part Number	Motor Model Number	Drive Model Number	Gear Ratio
Ezi-SERVO-ST-86M-A-PN3	EzM-86M-A-PN3	EzS-PD-86M-A	1:3
Ezi-SERVO-ST-86M-B-PN3	EzM-86M-B-PN3	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN5	EzM-86M-A-PN5	EzS-PD-86M-A	1:5
Ezi-SERVO-ST-86M-B-PN5	EzM-86M-B-PN5	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN8	EzM-86M-A-PN8	EzS-PD-86M-A	1:8
Ezi-SERVO-ST-86M-B-PN8	EzM-86M-B-PN8	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN10	EzM-86M-A-PN10	EzS-PD-86M-A	1:10
Ezi-SERVO-ST-86M-B-PN10	EzM-86M-B-PN10	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN15	EzM-86M-A-PN15	EzS-PD-86M-A	1:15
Ezi-SERVO-ST-86M-B-PN15	EzM-86M-B-PN15	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN25	EzM-86M-A-PN25	EzS-PD-86M-A	1:25
Ezi-SERVO-ST-86M-B-PN25	EzM-86M-B-PN25	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN40	EzM-86M-A-PN40	EzS-PD-86M-A	1:40
Ezi-SERVO-ST-86M-B-PN40	EzM-86M-B-PN40	EzS-PD-86M-B	
Ezi-SERVO-ST-86M-A-PN50	EzM-86M-A-PN50	EzS-PD-86M-A	1:50
Ezi-SERVO-ST-86M-B-PN50	EzM-86M-B-PN50	EzS-PD-86M-B	
Ezi-SERVO-ST-86L-A-PN3	EzM-86L-A-PN3	EzS-PD-86L-A	1:3
Ezi-SERVO-ST-86L-B-PN3	EzM-86L-B-PN3	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN5	EzM-86L-A-PN5	EzS-PD-86L-A	1:5
Ezi-SERVO-ST-86L-B-PN5	EzM-86L-B-PN5	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN8	EzM-86L-A-PN8	EzS-PD-86L-A	1:8
Ezi-SERVO-ST-86L-B-PN8	EzM-86L-B-PN8	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN10	EzM-86L-A-PN10	EzS-PD-86L-A	1:10
Ezi-SERVO-ST-86L-B-PN10	EzM-86L-B-PN10	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN15	EzM-86L-A-PN15	EzS-PD-86L-A	1:15
Ezi-SERVO-ST-86L-B-PN15	EzM-86L-B-PN15	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN25	EzM-86L-A-PN25	EzS-PD-86L-A	1:25
Ezi-SERVO-ST-86L-B-PN25	EzM-86L-B-PN25	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN40	EzM-86L-A-PN40	EzS-PD-86L-A	1:40
Ezi-SERVO-ST-86L-B-PN40	EzM-86L-B-PN40	EzS-PD-86L-B	
Ezi-SERVO-ST-86L-A-PN50	EzM-86L-A-PN50	EzS-PD-86L-A	1:50
Ezi-SERVO-ST-86L-B-PN50	EzM-86L-B-PN50	EzS-PD-86L-B	
Ezi-SERVO-ST-86XL-A-PN3	EzM-86XL-A-PN3	EzS-PD-86XL-A	1:3
Ezi-SERVO-ST-86XL-B-PN3	EzM-86XL-B-PN3	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN5	EzM-86XL-A-PN5	EzS-PD-86XL-A	1:5
Ezi-SERVO-ST-86XL-B-PN5	EzM-86XL-B-PN5	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN8	EzM-86XL-A-PN8	EzS-PD-86XL-A	1:8
Ezi-SERVO-ST-86XL-B-PN8	EzM-86XL-B-PN8	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN10	EzM-86XL-A-PN10	EzS-PD-86XL-A	1:10
Ezi-SERVO-ST-86XL-B-PN10	EzM-86XL-B-PN10	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN15	EzM-86XL-A-PN15	EzS-PD-86XL-A	1:15
Ezi-SERVO-ST-86XL-B-PN15	EzM-86XL-B-PN15	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN25	EzM-86XL-A-PN25	EzS-PD-86XL-A	1:25
Ezi-SERVO-ST-86XL-B-PN25	EzM-86XL-B-PN25	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN40	EzM-86XL-A-PN40	EzS-PD-86XL-A	1:40
Ezi-SERVO-ST-86XL-B-PN40	EzM-86XL-B-PN40	EzS-PD-86XL-B	
Ezi-SERVO-ST-86XL-A-PN50	EzM-86XL-A-PN50	EzS-PD-86XL-A	1:50
Ezi-SERVO-ST-86XL-B-PN50	EzM-86XL-B-PN50	EzS-PD-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-PD-20 series	EzS-PD-28 series	EzS-PD-35 series	EzS-PD-42 series	EzS-PD-56 series	EzS-PD-60 series	EzS-PD-86 series					
Input Voltage	DC24V ±10%						DC40~70V					
Control Method	Closed-loop control with 32 bit MCU											
Current Consumption	Max, 500mA (Except motor current)											
Operating Condition	Ambient Temperature	· In Use: 0~50°C · In Storage: -20~70°C										
	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	
	(Set by Rotary Switch)											
	Max. Input Frequency	500kHz (Duty 50%)										
	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~F (Set by Rotary Switch)											
Position Gain Selection	0~F (Set by Rotary Switch)											
Pulse Input Mode	1-Pulse / 2-Pulse (Set by DIP Switch)											
Rotation Direction	CW/CCW (Set by DIP Switch)											
Speed/Position Control Command	Pulse Train Input											
I/O Signal	Input Signals	Position Command Pulse, Servo On/Off, Alarm Reset (Photocoupler Input)										
	Output Signals	In-Position, Alarm (Photocoupler Output) Encoder Signal (A+, A-, B+, B-, Z+, Z-, Line Driver Output Equivalent to 26C31), Brake Output										

*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-PD-86 series)

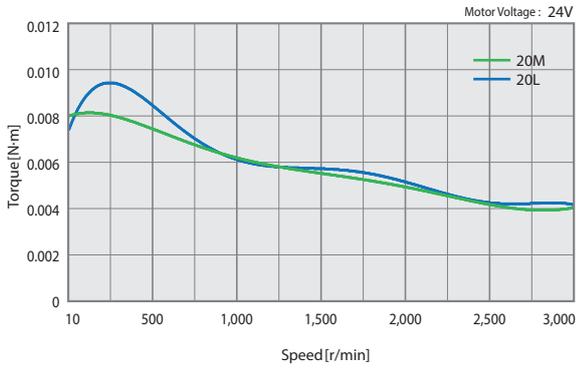
● Specifications of Motor

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	33
		18mm		-	-	-	-	-	46	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°C)											
OPERATING TEMPERATURE			°C	0 ~ 55											

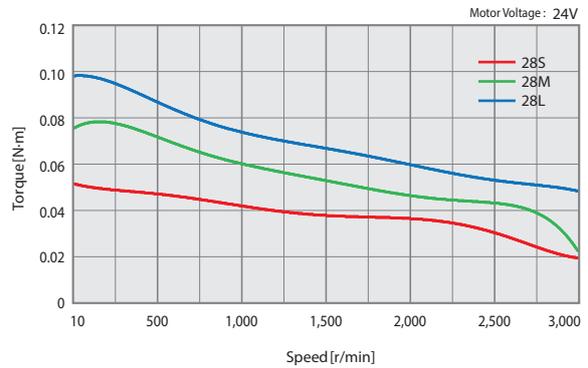
MODEL			EzM-56 series			EzM-60 series			EzM-86 series				
			UNIT	56S	56M	56L	60S	60M	60L	86M	86L	86XL	
DRIVE METHOD			-		Bipolar								
NUMBER OF PHASES			-		2 Phase								
CURRENT per PHASE			A/Phase	3.0	3.0	3.0	4.0	4.0	4.0	6.0	6.0	6.0	
MAXIMUM HOLDING TORQUE			N·m	0.64	1.0	1.5	0.88	1.28	2.4	4.5	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°C)									
OPERATING TEMPERATURE			°C	0 ~ 55									

Torque Characteristics of Motor

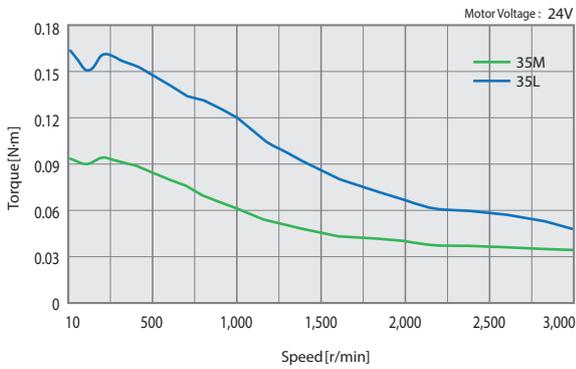
Ezi-SERVO-ST-20 series



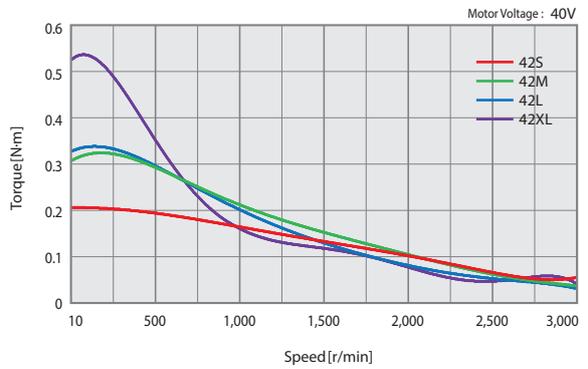
Ezi-SERVO-ST-28 series



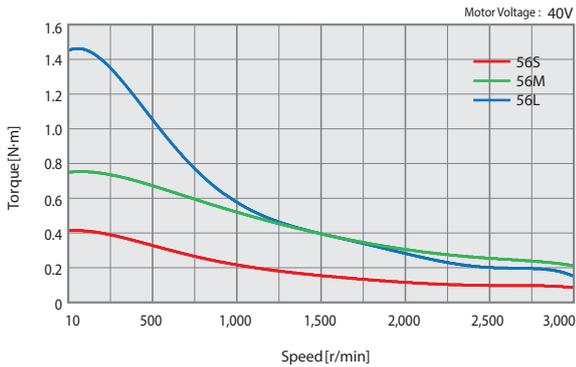
Ezi-SERVO-ST-35 series



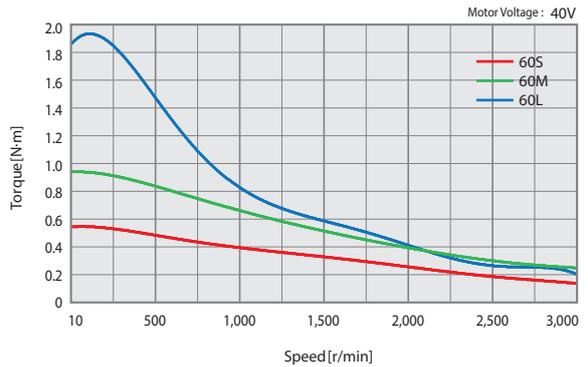
Ezi-SERVO-ST-42 series



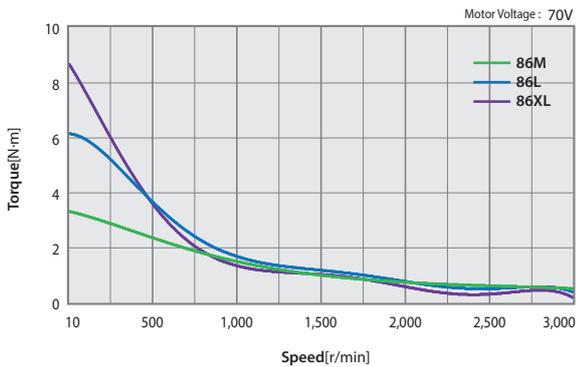
Ezi-SERVO-ST-56 series



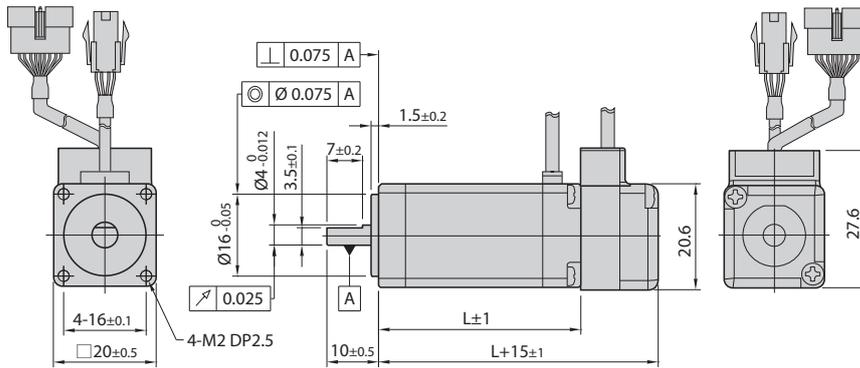
Ezi-SERVO-ST-60 series



Ezi-SERVO-ST-86 series

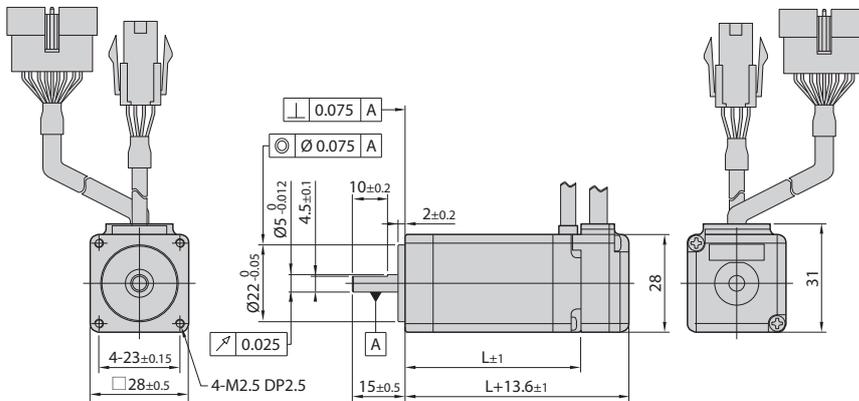


● Dimensions of Motor [mm]



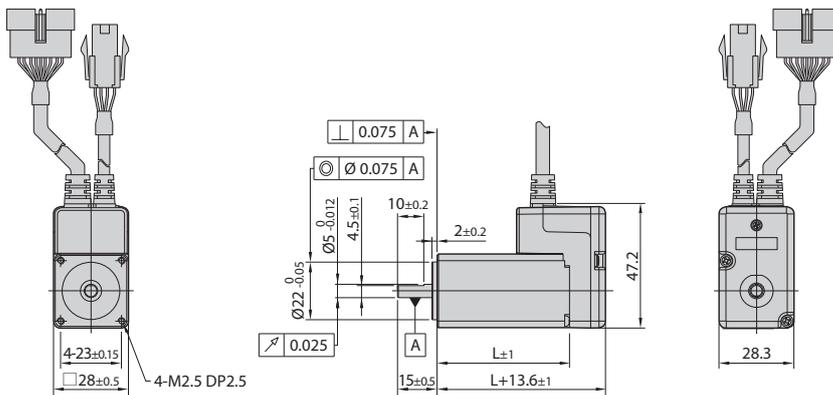
20mm

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



28mm

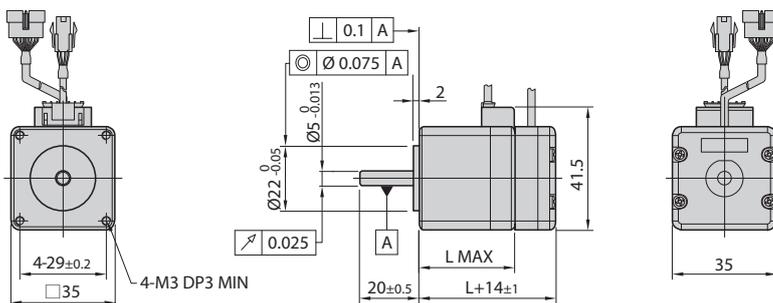
Model name	Length(L)
EzM-28S	32
EzM-28M	45
EzM-28L	50



28mm (Stopper type)

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

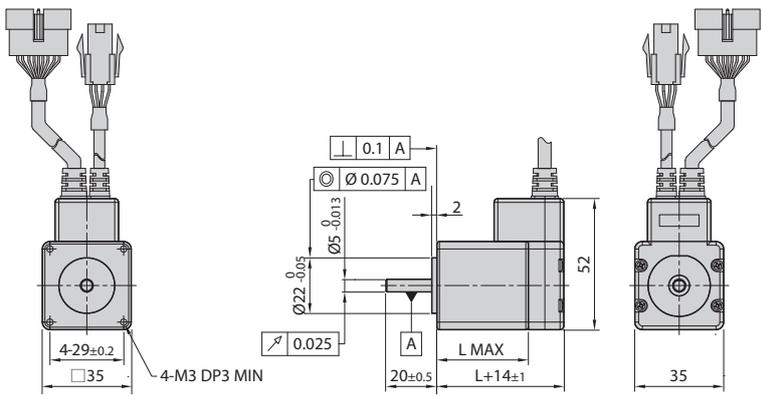
※ When ordering 28mm Stopper type of motor, please add "M" after standard motor model number.



35mm

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

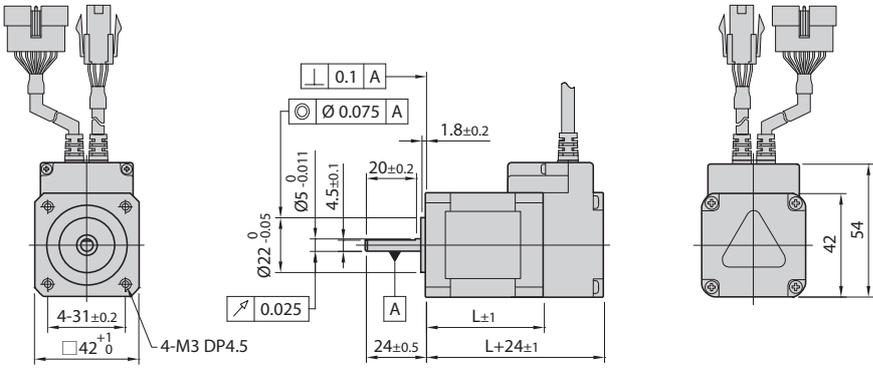
● Dimensions of Motor [mm]



35mm (Stopper type)

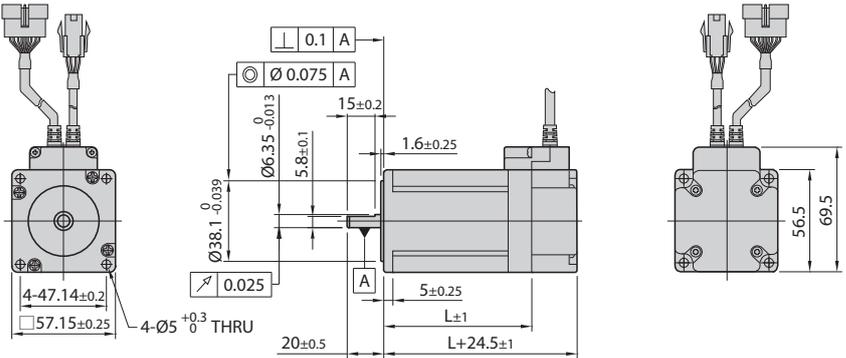
Model name	Length(L)
EzM-35MM	32
EzM-35LM	36

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



42mm

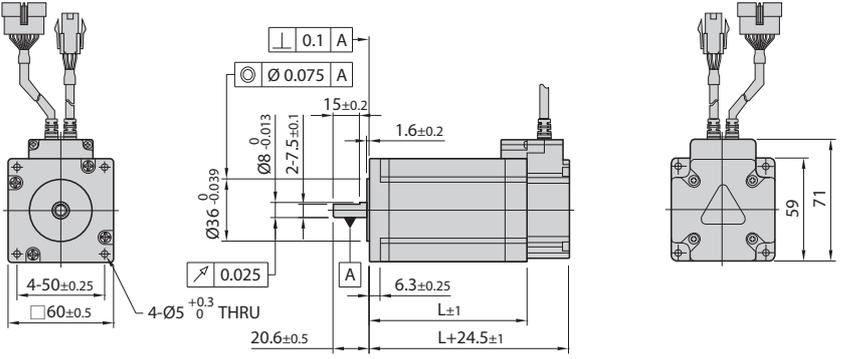
Model name	Length(L)
EzM-42S	34
EzM-42M	40
EzM-42L	48
EzM-42XL	60



56mm

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

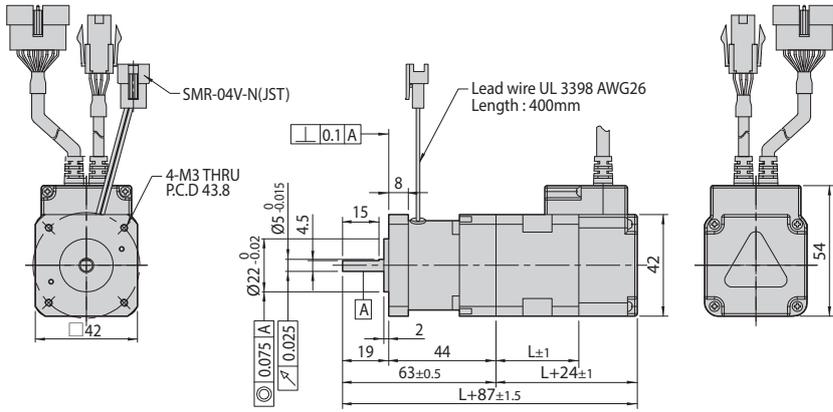
※ There are 2 kinds size of front shaft diameter for EzM2-56 series as Ø6,35 and Ø8,0.



60mm

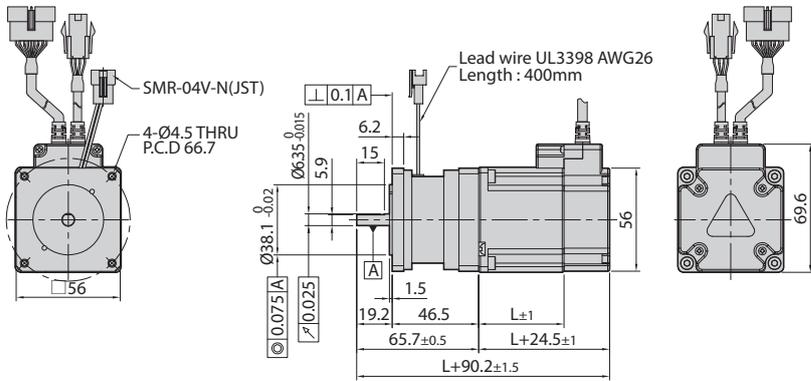
Model name	Length(L)
EzM-60S	47
EzM-60M	56
EzM-60L	85

● Dimensions of Motor with Brake [mm]



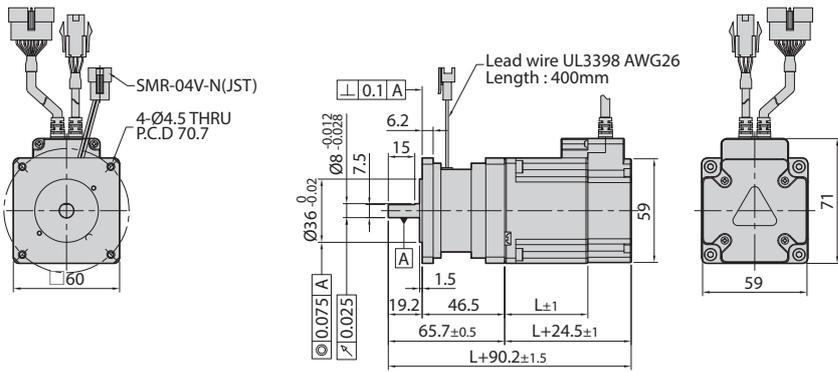
42mm

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



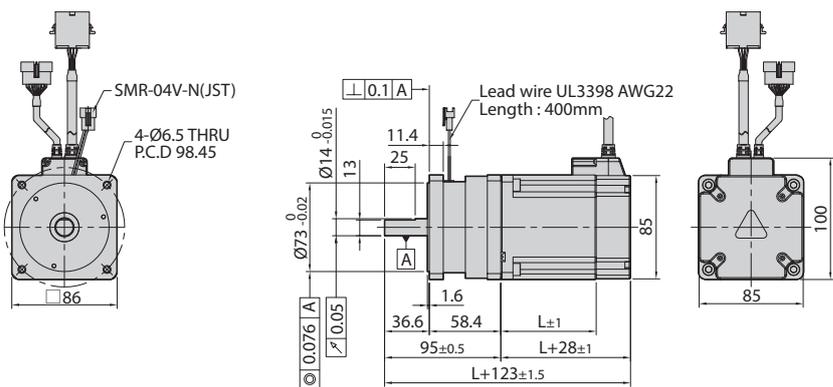
56mm

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 Backlash [arcmin]	④ Angle Transmission Error [arcmin]	⑤ Gear Ratio	⑥ Resolution (10,000 P/R Standard)	⑦ Permissible Torque [N·m]	⑧ Instantaneous Maximum Torque [N·m]	⑨ Permissible Speed Range [r/min]	⑩ Unit Weight [kg]	⑪ Permissible Radial Load (At Center of Axis) [N]	⑫ Permissible Axial Load [N]
Ezi-SERVO-ST-42S-■-PN3	0.57	35×10 ⁻⁷	3	5	3	0.012°	6	12	0~1000	0.76	240	270
Ezi-SERVO-ST-42S-■-PN5	0.95				5	0.0072°	9	18	0~600		290	330
Ezi-SERVO-ST-42S-■-PN8	1.52				8	0.0045°	9	18	0~375		340	410
Ezi-SERVO-ST-42S-■-PN10	1.90				10	0.0036°	6	12	0~300		360	450
Ezi-SERVO-ST-42S-■-PN15	2.76		5	7	15	0.0024°	6	12	0~200	0.92	410	540
Ezi-SERVO-ST-42S-■-PN25	4.60				25	0.00144°	9	18	0~120		490	640
Ezi-SERVO-ST-42S-■-PN40	7.36				40	0.0009°	9	18	0~75		570	640
Ezi-SERVO-ST-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

42mm

Unit Part Number	Maximum Holding Torque [N·m]	Rotor Inertia Moment [kg·m ²]	Backlash [arcmin]	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-ST-42S-■-PN3	0,57	35x10 ⁻⁷	3	5	3	0,012°	6	12	0~1000	0,76	240	270
Ezi-SERVO-ST-42S-■-PN5	0,95				5	0,0072°	9	18	0~600		290	330
Ezi-SERVO-ST-42S-■-PN8	1,52				8	0,0045°	9	18	0~375		340	410
Ezi-SERVO-ST-42S-■-PN10	1,90				10	0,0036°	6	12	0~300		360	450
Ezi-SERVO-ST-42S-■-PN15	2,76		5	7	15	0,0024°	6	12	0~200	0,92	410	540
Ezi-SERVO-ST-42S-■-PN25	4,60				25	0,00144°	9	18	0~120		490	640
Ezi-SERVO-ST-42S-■-PN40	7,36				40	0,0009°	9	18	0~75		570	640
Ezi-SERVO-ST-42S-■-PN50	9,00				50	0,00072°	9	18	0~60		620	640
Ezi-SERVO-ST-42M-■-PN3	0,85	54x10 ⁻⁷	3	5	3	0,012°	6	12	0~1000	0,83	240	270
Ezi-SERVO-ST-42M-■-PN5	1,42				5	0,0072°	9	18	0~600		290	330
Ezi-SERVO-ST-42M-■-PN8	2,28				8	0,0045°	9	18	0~375		340	410
Ezi-SERVO-ST-42M-■-PN10	2,85				10	0,0036°	6	12	0~300		360	450
Ezi-SERVO-ST-42M-■-PN15	4,14		5	7	15	0,0024°	6	12	0~200	0,98	410	540
Ezi-SERVO-ST-42M-■-PN25	6,90				25	0,00144°	9	18	0~120		490	640
Ezi-SERVO-ST-42M-■-PN40	9,00				40	0,0009°	9	18	0~75		570	640
Ezi-SERVO-ST-42M-■-PN50	9,00				50	0,00072°	9	18	0~60		620	640
Ezi-SERVO-ST-42L-■-PN3	0,92	77x10 ⁻⁷	3	5	3	0,012°	6	12	0~1000	0,89	240	270
Ezi-SERVO-ST-42L-■-PN5	1,54				5	0,0072°	9	18	0~600		290	330
Ezi-SERVO-ST-42L-■-PN8	2,47				8	0,0045°	9	18	0~375		340	410
Ezi-SERVO-ST-42L-■-PN10	3,09				10	0,0036°	6	12	0~300		360	450
Ezi-SERVO-ST-42L-■-PN15	4,49		5	7	15	0,0024°	6	12	0~200	1,05	410	540
Ezi-SERVO-ST-42L-■-PN25	7,49				25	0,00144°	9	18	0~120		490	640
Ezi-SERVO-ST-42L-■-PN40	9,00				40	0,0009°	9	18	0~75		570	640
Ezi-SERVO-ST-42L-■-PN50	9,00				50	0,00072°	9	18	0~60		620	640
Ezi-SERVO-ST-42XL-■-PN3	1,45	114x10 ⁻⁷	3	5	3	0,012°	6	12	0~1000	1,03	240	270
Ezi-SERVO-ST-42XL-■-PN5	2,42				5	0,0072°	9	18	0~600		290	330
Ezi-SERVO-ST-42XL-■-PN8	3,87				8	0,0045°	9	18	0~375		340	410
Ezi-SERVO-ST-42XL-■-PN10	4,84				10	0,0036°	6	12	0~300		360	450
Ezi-SERVO-ST-42XL-■-PN15	6,00		5	7	15	0,0024°	6	12	0~200	1,18	410	540
Ezi-SERVO-ST-42XL-■-PN25	9,00				25	0,00144°	9	18	0~120		490	640
Ezi-SERVO-ST-42XL-■-PN40	9,00				40	0,0009°	9	18	0~75		570	640
Ezi-SERVO-ST-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]	Backlash [arcmin]	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-ST-56S-■-PN3	1,1	180x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,75	430	310
Ezi-SERVO-ST-56S-■-PN5	1,9				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-56S-■-PN8	3,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-56S-■-PN10	3,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-56S-■-PN15	5,5				15	0,0024°	18	35	0~200	2,06	740	630
Ezi-SERVO-ST-56S-■-PN25	9,3				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-56S-■-PN40	14,9				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-56S-■-PN50	18,6				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-ST-56M-■-PN3	2,0	280x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,93	430	310
Ezi-SERVO-ST-56M-■-PN5	3,4				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-56M-■-PN8	5,4				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-56M-■-PN10	6,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-56M-■-PN15	9,9				15	0,0024°	18	35	0~200	2,23	740	630
Ezi-SERVO-ST-56M-■-PN25	16,6				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-56M-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-56M-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-ST-56L-■-PN3	4,0	520x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,37	430	310
Ezi-SERVO-ST-56L-■-PN5	6,8				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-56L-■-PN8	10,8				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-56L-■-PN10	13,6				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-56L-■-PN15	18,0				15	0,0024°	18	35	0~200	2,67	740	630
Ezi-SERVO-ST-56L-■-PN25	27,0				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-56L-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-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 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-ST-60S-■-PN3	1,5	240x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	1,84	430	310
Ezi-SERVO-ST-60S-■-PN5	2,5				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-60S-■-PN8	4,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-60S-■-PN10	5,1				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-60S-■-PN15	7,4				15	0,0024°	18	35	0~200	2,14	740	630
Ezi-SERVO-ST-60S-■-PN25	12,3				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-60S-■-PN40	19,8				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-60S-■-PN50	24,7				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-ST-60M-■-PN3	2,6	490x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,00	430	310
Ezi-SERVO-ST-60M-■-PN5	4,4				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-60M-■-PN8	7,0				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-60M-■-PN10	8,8				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-60M-■-PN15	12,8				15	0,0024°	18	35	0~200	2,30	740	630
Ezi-SERVO-ST-60M-■-PN25	21,4				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-60M-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-60M-■-PN50	27,0				50	0,00072°	27	50	0~60		1100	1100
Ezi-SERVO-ST-60L-■-PN3	5,2	690x10 ⁻⁷	3	5	3	0,012°	18	35	0~1000	2,56	430	310
Ezi-SERVO-ST-60L-■-PN5	8,7				5	0,0072°	27	50	0~600		510	390
Ezi-SERVO-ST-60L-■-PN8	13,9				8	0,0045°	27	50	0~375		600	480
Ezi-SERVO-ST-60L-■-PN10	18,0				10	0,0036°	18	35	0~300		640	530
Ezi-SERVO-ST-60L-■-PN15	18,0				15	0,0024°	18	35	0~200	2,86	740	630
Ezi-SERVO-ST-60L-■-PN25	27,0				25	0,00144°	27	50	0~120		870	790
Ezi-SERVO-ST-60L-■-PN40	27,0				40	0,0009°	27	50	0~75		1000	970
Ezi-SERVO-ST-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 [arcmin]	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-ST-86M-■-PN3	9,6	1800x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	5,80	810	930
Ezi-SERVO-ST-86M-■-PN5	16,0				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-ST-86M-■-PN8	25,7				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-ST-86M-■-PN10	32,1				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-ST-86M-■-PN15	46,6				15	0,0024°	50	80	0~200	6,60	1200	1900
Ezi-SERVO-ST-86M-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-ST-86M-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-ST-86M-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200
Ezi-SERVO-ST-86L-■-PN3	17,1	3600x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	7,34	810	930
Ezi-SERVO-ST-86L-■-PN5	28,5				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-ST-86L-■-PN8	45,6				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-ST-86L-■-PN10	50,0				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-ST-86L-■-PN15	50,0				15	0,0024°	50	80	0~200	8,14	1200	1900
Ezi-SERVO-ST-86L-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-ST-86L-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-ST-86L-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200
Ezi-SERVO-ST-86XL-■-PN3	23,6	5400x10 ⁻⁷	3	5	3	0,012°	50	80	0~1000	8,87	810	930
Ezi-SERVO-ST-86XL-■-PN5	39,4				5	0,0072°	75	125	0~600		960	1200
Ezi-SERVO-ST-86XL-■-PN8	63,0				8	0,0045°	75	125	0~375		1100	1400
Ezi-SERVO-ST-86XL-■-PN10	50,0				10	0,0036°	50	80	0~300		1200	1600
Ezi-SERVO-ST-86XL-■-PN15	50,0				15	0,0024°	50	80	0~200	9,67	1200	1900
Ezi-SERVO-ST-86XL-■-PN25	75,0				25	0,00144°	75	125	0~120		1600	2200
Ezi-SERVO-ST-86XL-■-PN40	75,0				40	0,0009°	75	125	0~75		1900	2200
Ezi-SERVO-ST-86XL-■-PN50	75,0				50	0,00072°	75	125	0~60		2100	2200

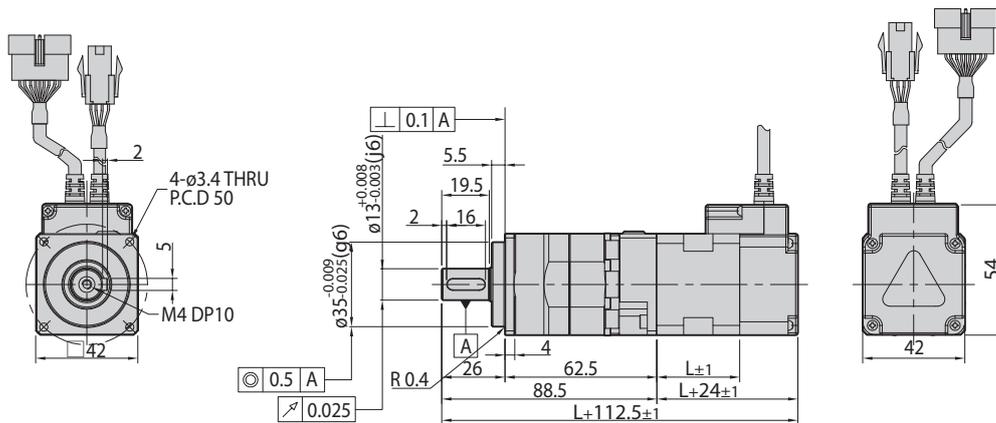
* The code of encoder resolution will be marked in "■"

● Dimensions of Motor with Gearbox [mm]

42mm

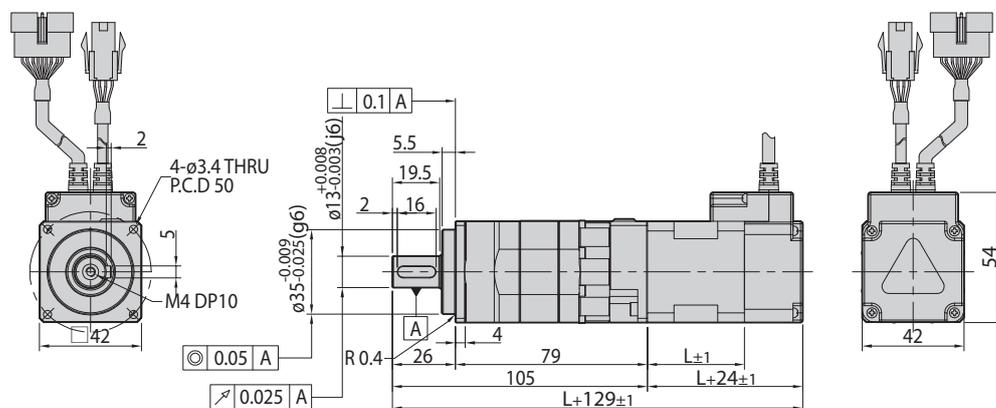
Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-42S-■-PN□	EzM-42S-■-PN□	Single Stage	3, 5, 8, 10	34
Ezi-SERVO-ST-42M-■-PN□	EzM-42M-■-PN□		3, 5, 8, 10	40
Ezi-SERVO-ST-42L-■-PN□	EzM-42L-■-PN□		3, 5, 8, 10	48
Ezi-SERVO-ST-42XL-■-PN□	EzM-42XL-■-PN□		3, 5, 8, 10	60

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



Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-42S-■-PN□	EzM-42S-■-PN□	Double Stage	15, 25, 40, 50	34
Ezi-SERVO-ST-42M-■-PN□	EzM-42M-■-PN□		15, 25, 40, 50	40
Ezi-SERVO-ST-42L-■-PN□	EzM-42L-■-PN□		15, 25, 40, 50	48
Ezi-SERVO-ST-42XL-■-PN□	EzM-42XL-■-PN□		15, 25, 40, 50	60

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

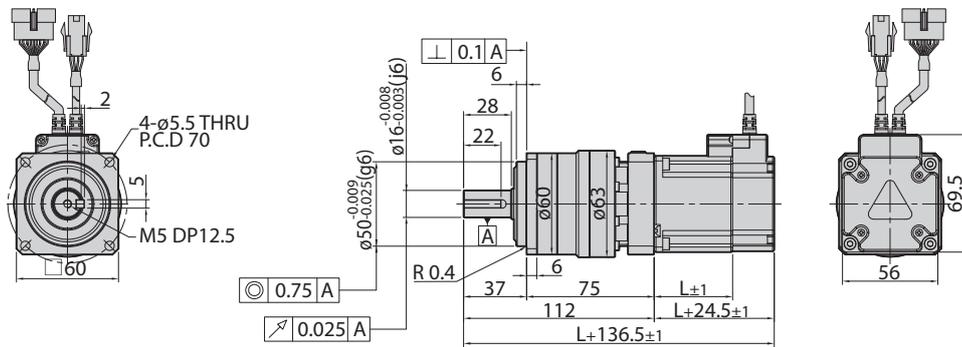


● Dimensions of Motor with Gearbox [mm]

56mm

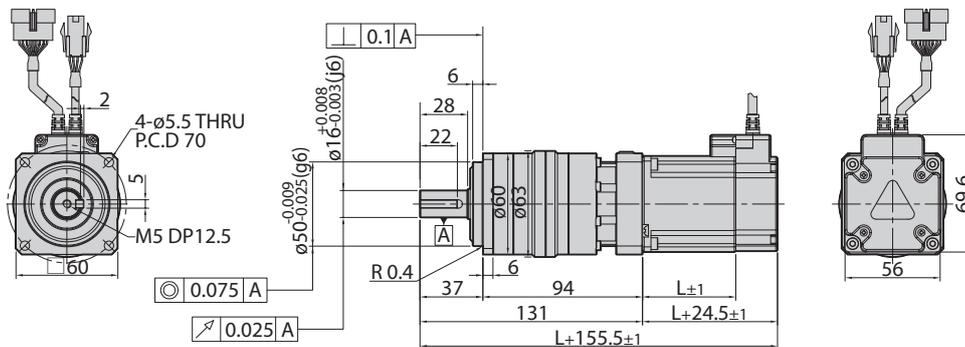
Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-56S-■-PN□	EzM-56S-■-PN□	Single Stage	3, 5, 8, 10	46
Ezi-SERVO-ST-56M-■-PN□	EzM-56M-■-PN□		3, 5, 8, 10	55
Ezi-SERVO-ST-56L-■-PN□	EzM-56L-■-PN□		3, 5, 8, 10	80

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



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

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

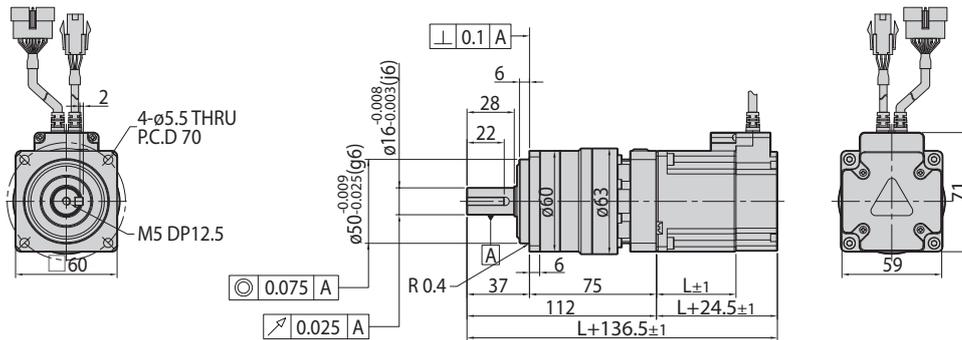


● Dimensions of Motor with Gearbox [mm]

60mm

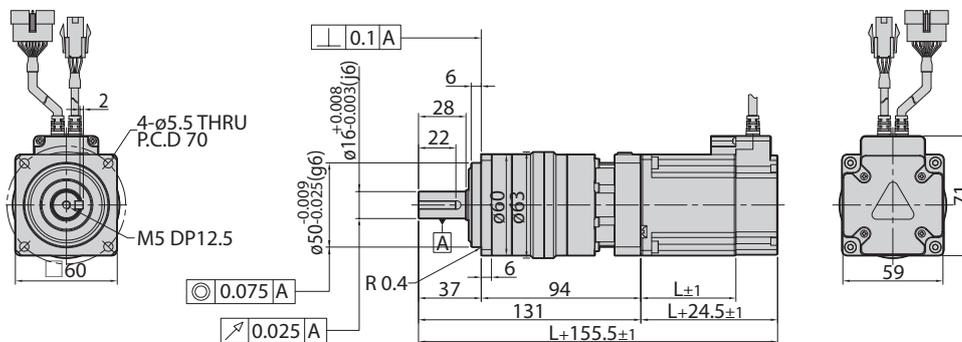
Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-60S-■-PN□	EzM-60S-■-PN□	Single Stage	3, 5, 8, 10	47
Ezi-SERVO-ST-60M-■-PN□	EzM-60M-■-PN□		3, 5, 8, 10	56
Ezi-SERVO-ST-60L-■-PN□	EzM-60L-■-PN□		3, 5, 8, 10	85

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



Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-60S-■-PN□	EzM-60S-■-PN□	Double Stage	15, 25, 40, 50	47
Ezi-SERVO-ST-60M-■-PN□	EzM-60M-■-PN□		15, 25, 40, 50	56
Ezi-SERVO-ST-60L-■-PN□	EzM-60L-■-PN□		15, 25, 40, 50	85

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

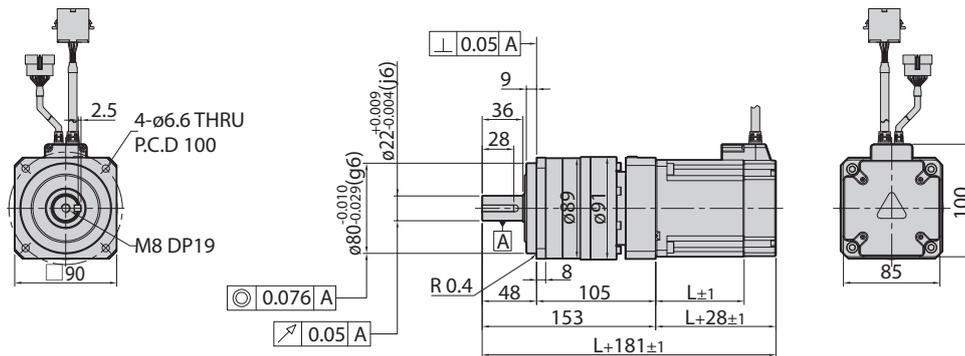


● Dimensions of Motor with Gearbox [mm]

86_{mm}

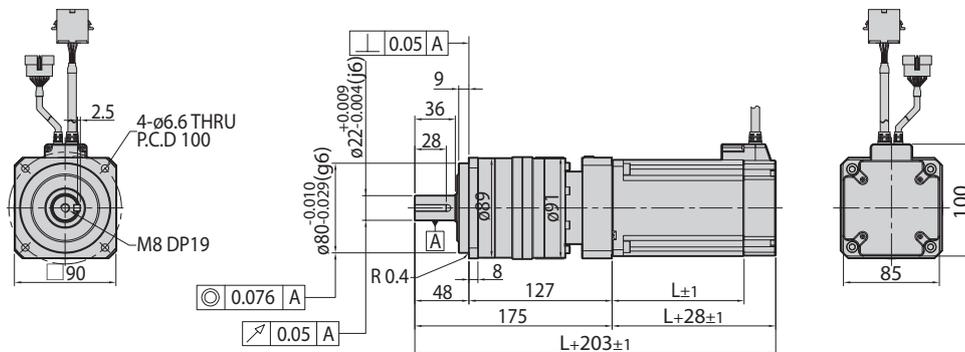
Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-86M-■-PN □	EzM-86M-■-PN □	Single Stage	3, 5, 8, 10	78
Ezi-SERVO-ST-86L-■-PN □	EzM-86L-■-PN □		3, 5, 8, 10	117
Ezi-SERVO-ST-86XL-■-PN □	EzM-86XL-■-PN □		3, 5, 8, 10	155

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

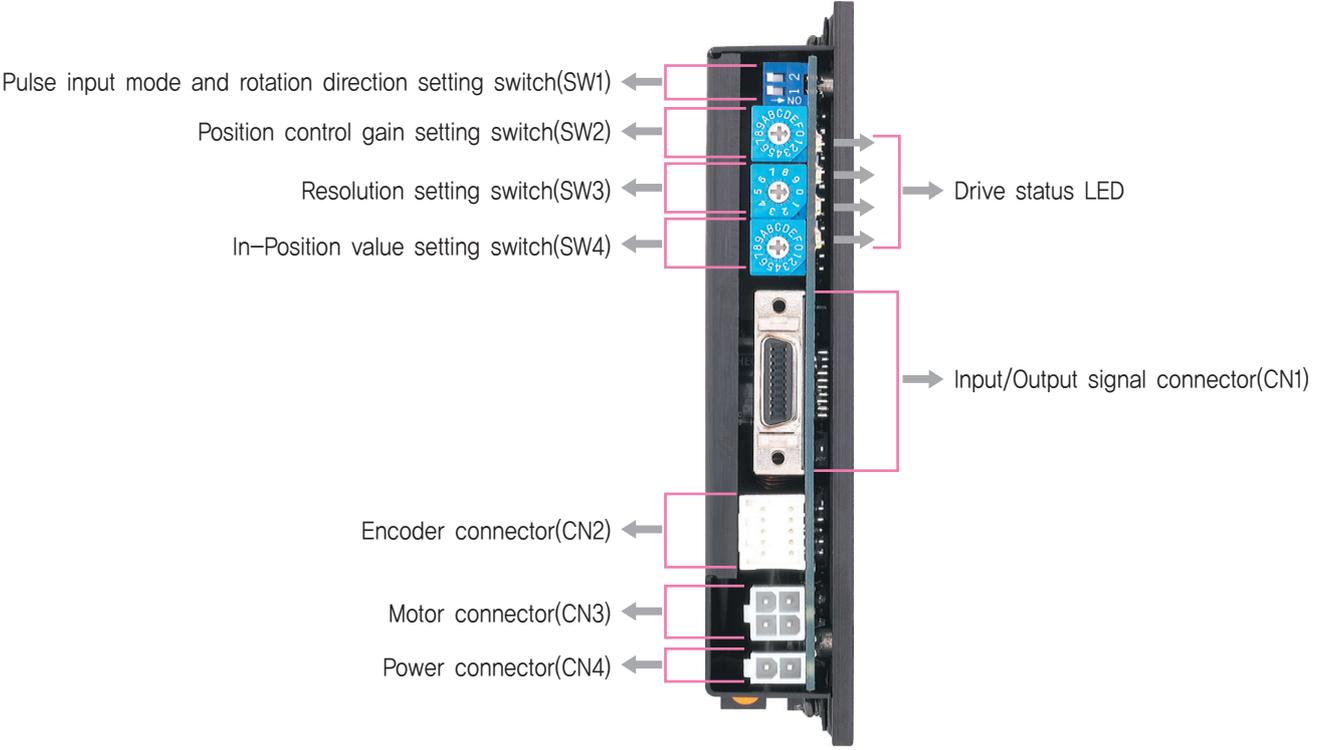


Unit Part Number	Motor	Stage	□ Gear Ratio	L [mm]
Ezi-SERVO-ST-86M-■-PN □	EzM-86M-■-PN □	Double Stage	15, 25, 40, 50	78
Ezi-SERVO-ST-86L-■-PN □	EzM-86L-■-PN □		15, 25, 40, 50	117
Ezi-SERVO-ST-86XL-■-PN □	EzM-86XL-■-PN □		15, 25, 40, 50	155

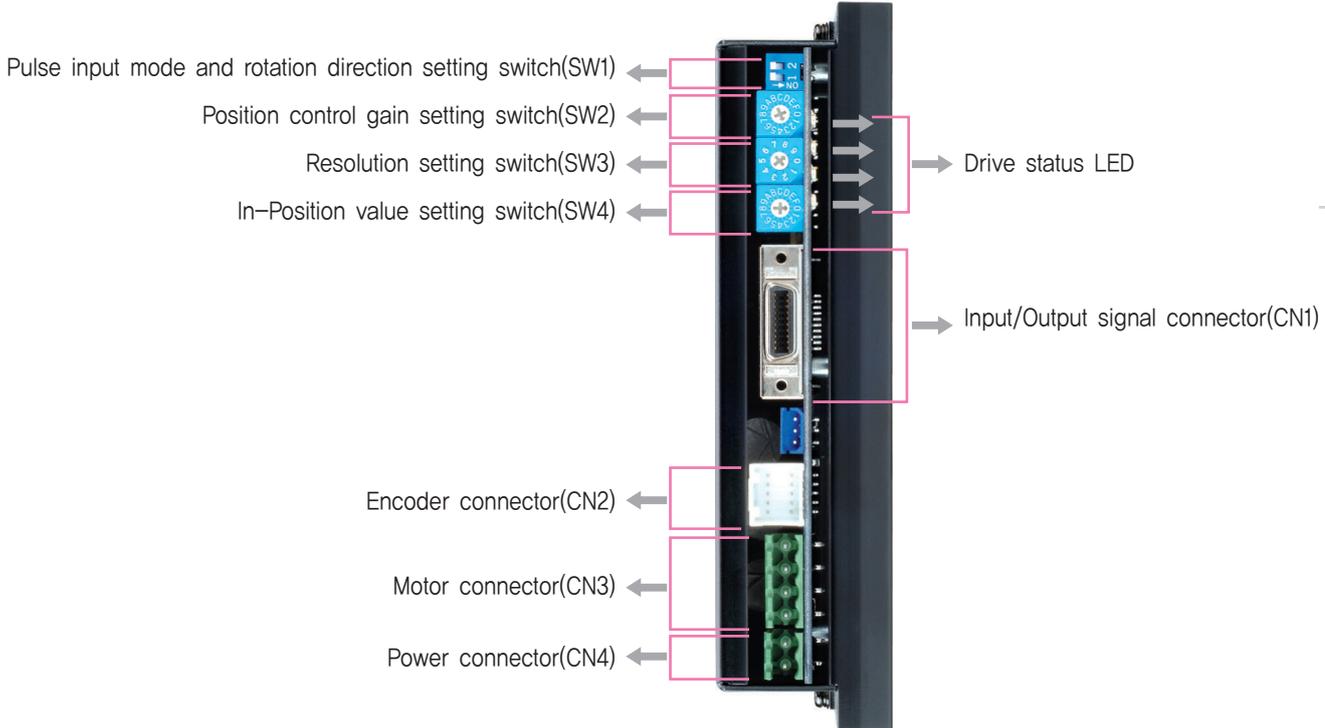
* The code of encoder resolution will be marked in "■"



● Settings and Operation



◆ 86mm Motor Drive(EzS-PD-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 180° value while the motor is running.
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.*2
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 180° while the motor is stopped.

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

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

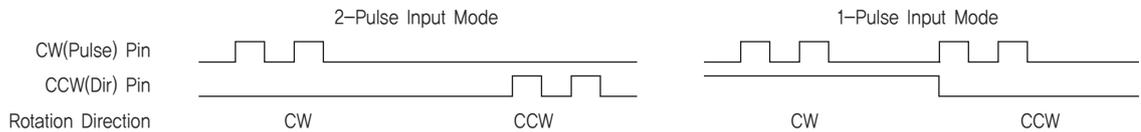
※ Please refer to user Manual for the details of protection functions.



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

2. Pulse Input Mode Setting Switch(SW1.1)

Name	Function	Description
2P/1P	Pulse Input Mode Setting	1-Pulse Input Mode or 2-Pulse Input Mode can be selected. ON: 1-Pulse Mode OFF: 2-Pulse Mode



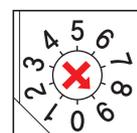
3. Rotation Direction Setting Switch(SW1.2)

Name	Function	Description
DIR	Motor Rotation Direction Setting	It determines the rotation direction of the motor. The rotation direction indicated in the catalog is based on CW input. ON: CCW(-Direction) OFF: CW(+Direction)



4. Resolution Setting Switch(SW3)

Value	P/R	Value	P/R
0	500 *1	5	3,600
1	500	6	5,000
2	1,000	7	6,400
3	1,600	8	7,200
4	2,000	9	10,000



*1 : When the switch value is '0', the resolution differs depending on the encoder resolution.
If the encoder resolution is 10,000 P/R, the resolution is set to 500 P/R.

5. Position Control Gain Setting Switch(SW2)

This switch is used to adjust the position control gain so that the load connected to the motor can respond safely and quickly when the motor is stopped.

Value	Integral Time Constant	Proportional Gain*1
0	1	1
1	1	2
2	1	3
3	1	4
4	1	5
5	2	1
6	2	2
7	2	3
8	2	4
9	2	5
A	3	1
B	3	2
C	3	3
D	3	4
E	3	5
F	3	6

*1 : The gain values in the table above are relative values, not actual values used inside the drive.



6. In-Position Value Setting Switch(SW4)

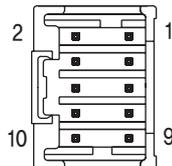
It sets the condition of the In-Position signal. If the position error is less than the set In-Position value after the position command pulse is completed, the In-Position signal is output.

Value	Inposition Value[Pulse] Fast Response	Value	Inposition Value[Pulse] Accurate Response
0	0	8	0
1	1	9	1
2	2	A	2
3	3	B	3
4	4	C	4
5	5	D	5
6	6	E	6
7	7	F	7



7. Encoder Connector(CN2)

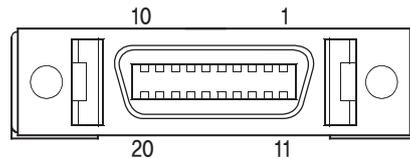
No.	Function	I/O
1	A+	Input
2	A-	Input
3	B+	Input
4	B-	Input
5	Z+	Input
6	Z-	Input
7	DC5V	Output
8	GND	Output
9	F.GND	----
10	F.GND	----



8. Input/Output Signal Connector

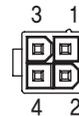
No.	Function	I/O
1	CW+(Pulse+)	Input
2	CW-(Pulse-)	Input
3	CCW+(Dir+)	Input
4	CCW-(Dir-)	Input
5	A+	Output
6	A-	Output
7	B+	Output
8	B-	Output
9	Z+	Output
10	Z-	Output
11	Alarm	Output
12	In-Position	Output
13	Servo On/Off	Input
14	Alarm Reset	Input
15	Open Collector Input*2	Input
16	BRAKE+	Output
17	BRAKE-	Output
18	S-GND	Output
19	EXT_GND	Input
20	EXT_DC24V	Input

*2 : Available for products manufactured after April 2021.

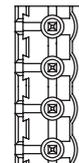


9. Motor Connector(CN3)

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

10. Power Connector(CN4)

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

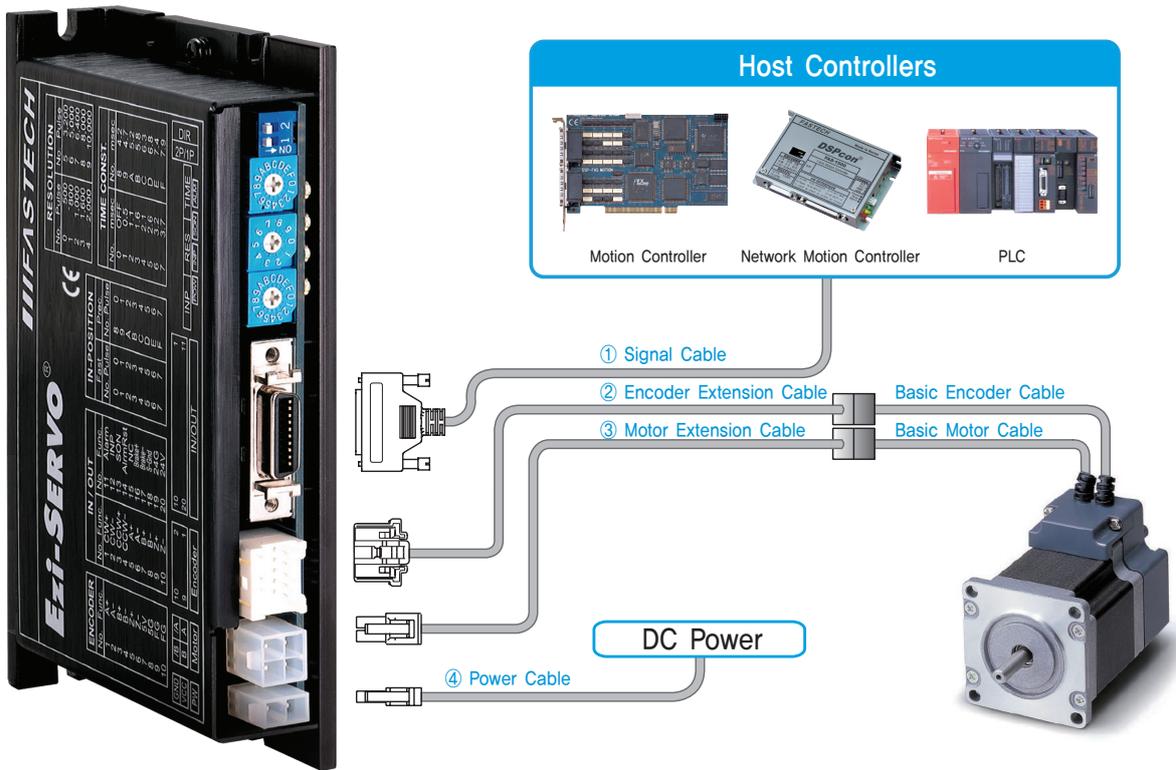


No.	Function	I/O
1	GND	Input
2	DC40~70V	Input



※ 86mm Motor Drive

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	
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	
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	10320-52A0-008		

※ 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 ST drive and other input/output devices.

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

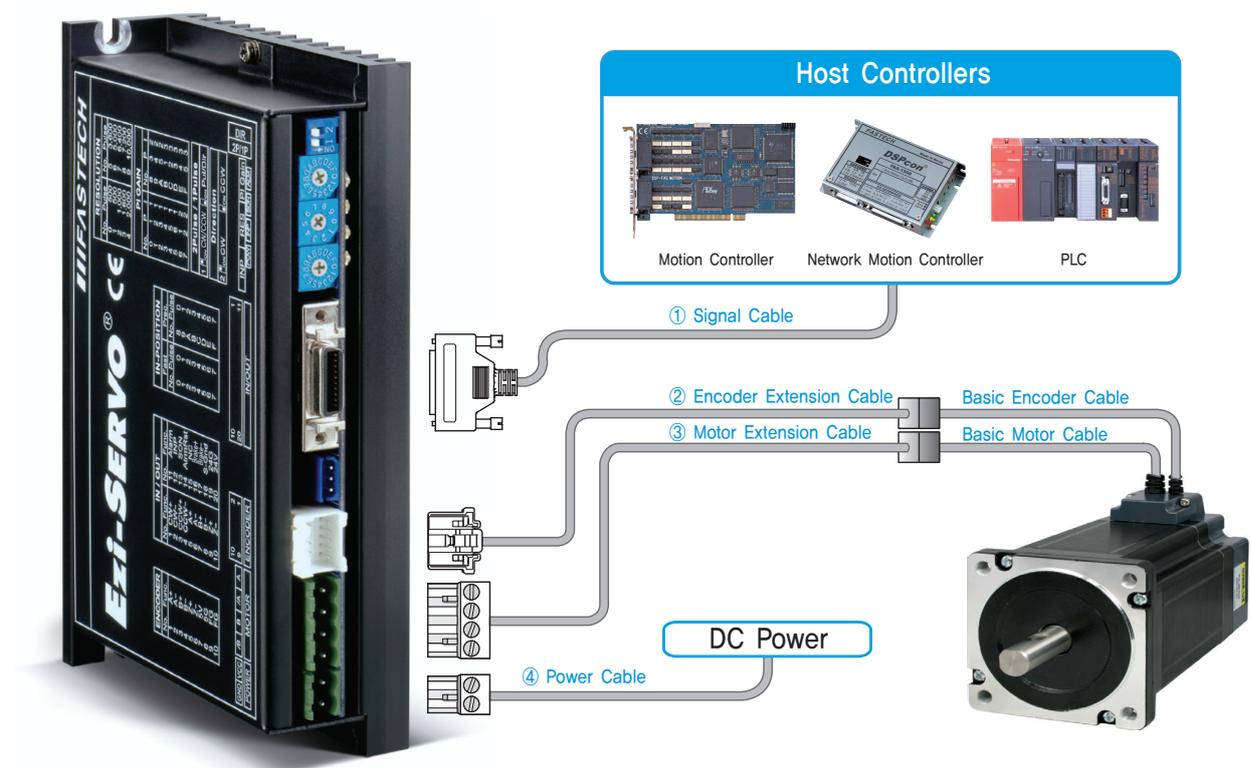
* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

④ Drive Power Cable

These are the cables to connect Ezi-SERVO ST 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		

● 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	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	PTR	
	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	10320-52A0-008		

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

2. Options

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

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Drive – I/O Device Connection	CSVO-S-001F	1	Normal Cable	Maximum Length: 20m
	CSVO-S-002F	2		
	CSVO-S-003F	3		
	CSVO-S-005F	5		
	CSVO-S-001M	1	Robot Cable	
	CSVO-S-002M	2		
	CSVO-S-003M	3		
	CSVO-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 ST drive and the encoder.

Purpose	Part Number	Length [m]	Cable Type	Remarks
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	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 ST 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		

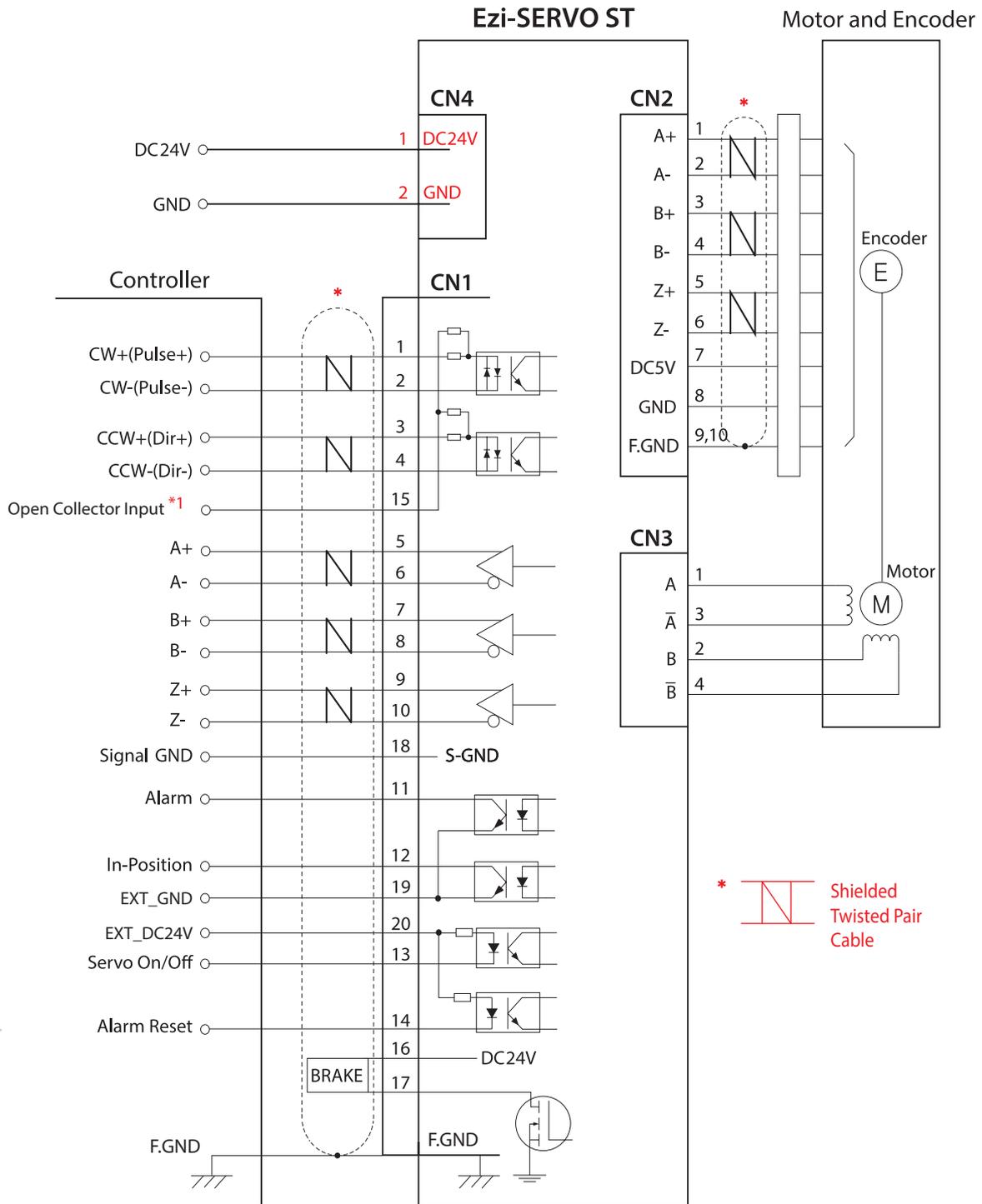
* If you need cables with length(in units of 1m) not listed on the table, please contact FASTECH for more information.

④ Drive Power Cable

These are the cables to connect Ezi-SERVO ST 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		

External Wiring Diagram



FASTECH Ezi-SERVO ST

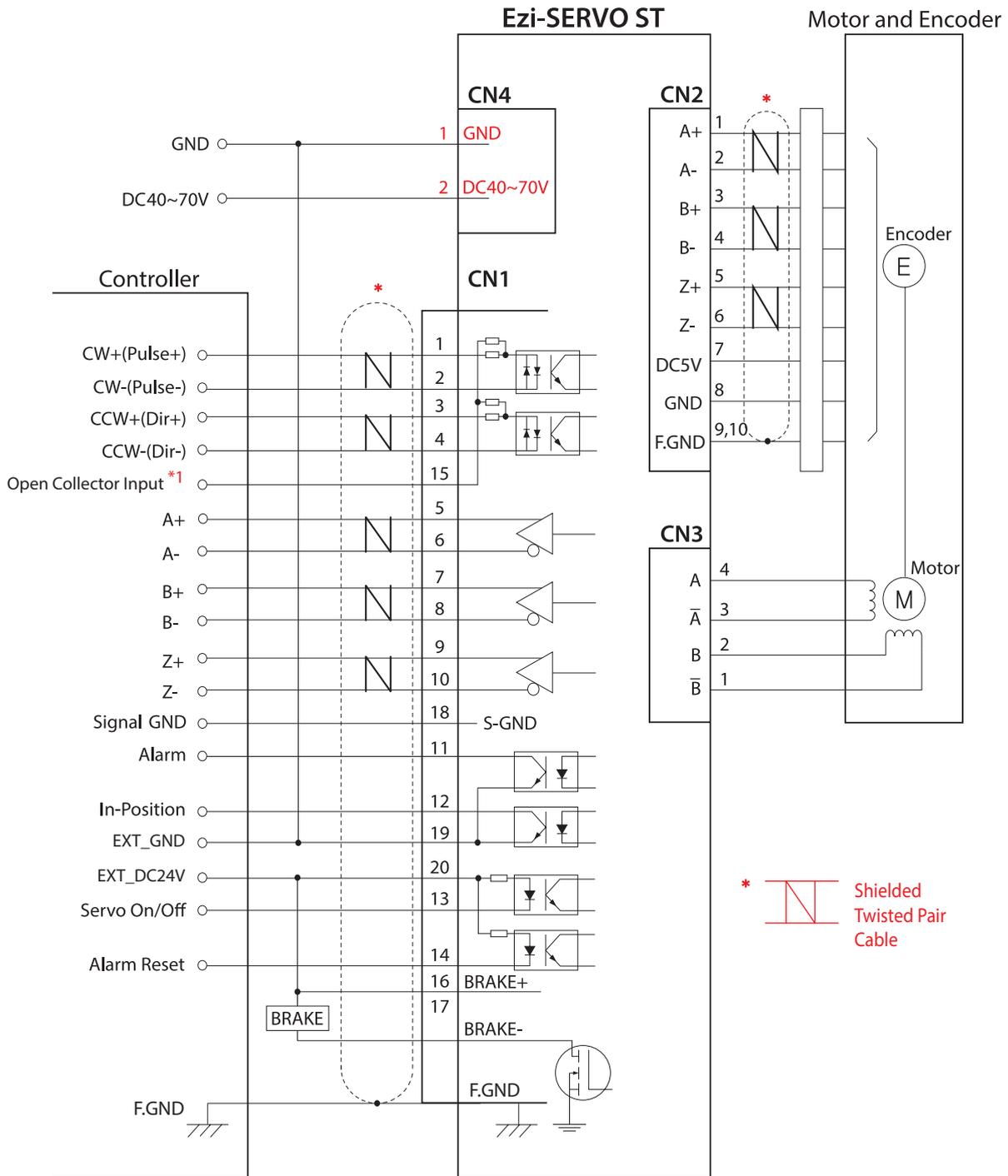
*1 : Available for products manufactured after April 2021.

※ When connecting I/O cable between controller and drive, please turn of 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]



FASTECH Ezi-SERVO ST

*1 : Available for products manufactured after April 2021.

※ When connecting I/O cable between controller and drive, please turn of 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.

MEMO

MEMO



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