Ezi-ROBO®

Precise Actuator System

CC-Link IE TSN

CLA

- Compact Linear Actuator with Hollow Shaft Motor & Ball Screw
- Repeatability (±0.01 mm), Lost Motion (≤ 0.05 mm)
- CiA402 Drive Profile
- CC-Link IE TSN-compatible Closed Loop Stepper System
- Tuning Not Required, No Hunting
- Low Heat Generation, High Torque, High Resolution, Fast Response



FASTECH

Fast Accurate Smooth Motion

Ezi-ROBO®

Precise Actuator System

CC-LinkIE TSN

CLA

*CLA : Compact Linear Actuator



Compact / Lightweight

The Compact Linear Actuator (CLA) is an integrated product that combines a hollow-shaft motor (Ezi-SERVO HS) with a ball screw. By applying the Ezi-ROBO CLA, equipment can be downsized and lightweight, achieving significant space savings.

Installation Dimensions
20 mm
CLAT-20-25R1



Installation Dimensions
28 mm
CLAT-28-30R2



Installation Dimensions
42 mm
CLAT-42-40R2/R8

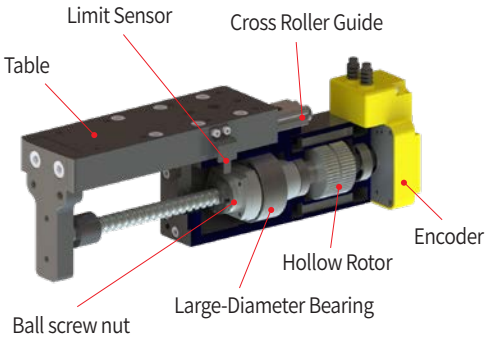


Installation Dimensions
56 mm
CLAT-56-50R4



Minimizing Backlash Effect

Ezi-ROBO CLA minimizes the impact of backlash by integrating the hollow rotor and ball screw nut without using coupling or other connecting components.



High Rigidity and Long Service Life

The compact linear actuator utilizes a cross roller guide on its table, ensuring smooth operation, high rigidity, and extended product lifespan.



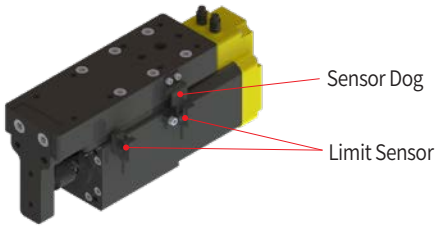


Cross Roller Guide

Simple Homing

A limit sensor set is provided as an option to simplify homing. This set includes all the parts necessary for homing, This set includes all required parts, allowing the limit sensors to be easily installed.

* The sensor is applicable only to the table type.

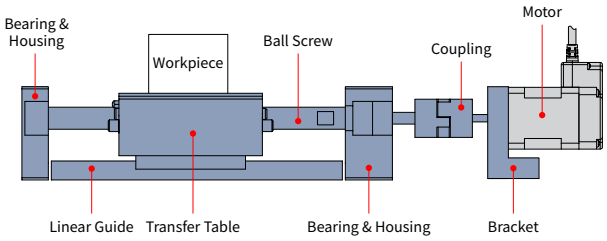


Reduced Equipment Setup Time

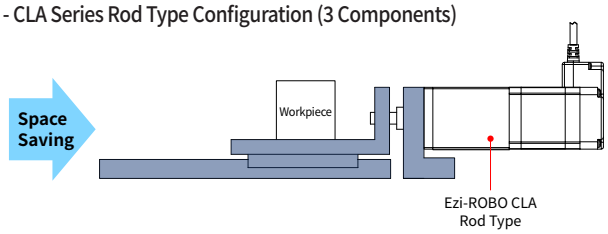
Since there is no need to manufacture components used for workpiece transportation, the time required for equipment design, component selection, assembly, and precision adjustments is significantly reduced, leading to a shorter setup time.

- General Configuration (9 components)

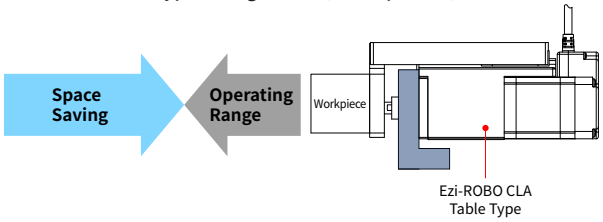
Additional Components



- CLA Series Rod Type Configuration (3 Components)



- CLA Series Table Type Configuration (1 Component)



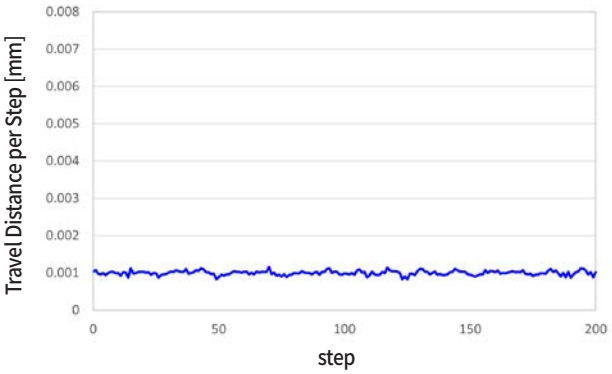
Enhanced Customer Convenience

Ezi-ROBO CLA comes equipped with a standard adjustment knob, allowing for easy and convenient operation.



Micro-step Movement

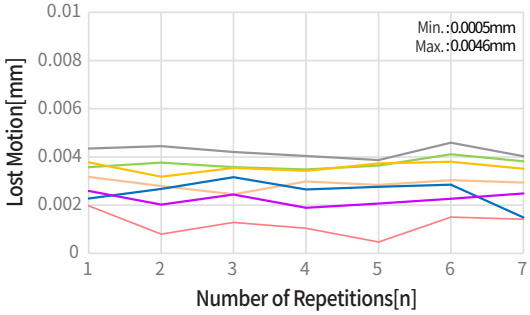
Ezi-SERVO HS is capable of consistently repeating fine movements step by step, making it ideal for precise adjustments of cameras or lenses.



Actual Travel Distance for a Commanded Travel of 0.001 mm
Product Name : Ezi-ROBO-CLAT-28-30R1-28UD-PE
Transfer Weight : 0.5 kg
Operating Current : 100 %
Minimum Travel Distance : 0.001 mm
Number of Repetitions : 200 times

High-Precision Positioning

Ezi-ROBO CLA utilizes the Ezi-SERVO HS motor equipped with a high-resolution encoder, minimizing lost motion and enabling high-precision positioning.

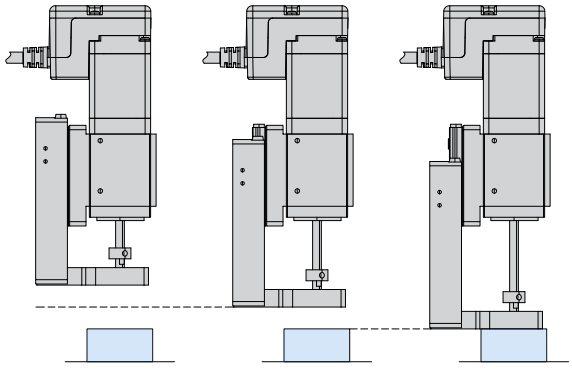


Product Name : Ezi-ROBO-CLAT-28-30R1-28UD-PE
Transfer Weight : 0.5 kg
Operating Current : 100 %

Push Motion Function

The push motion time can be easily adjusted, allowing high-speed movement toward the workpiece followed by deceleration just before contact to initiate the push motion at a lower speed.

[Advantages]
- Nearly no impact occurs when pressing, eliminating the need for additional cushioning mechanisms.
- High-speed approach is maintained until just before the push motion begins, reducing the tact time.



① Move at high speed near the workpiece

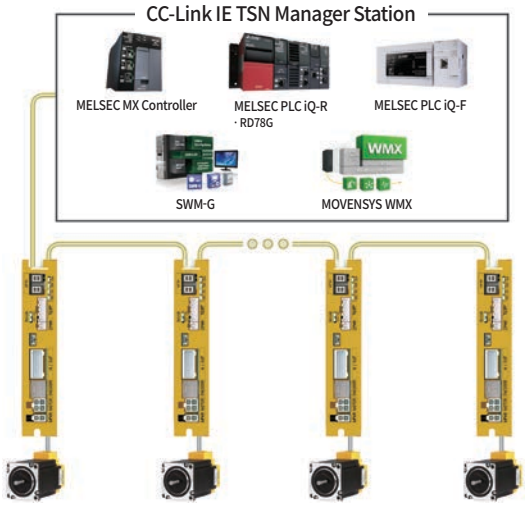
② Decelerate just before contact and approach at low speed

③ Initiate the push motion after reaching the workpiece

※ Ezi-SERVO ST does not support the Push Motion function.

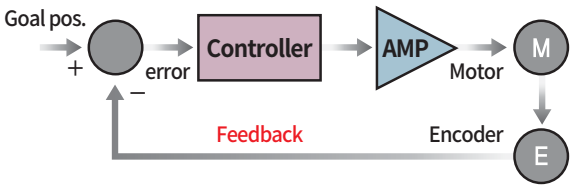
CC-Link IE TSN-compatible Motion Control

Ezi-SERVO CC-Link IE TSN is stepper motor control system that supports CC-Link IE TSN, an industrial network based on high-speed Ethernet (1 Gbps, full-duplex communication).
Ezi-SERVO CC-Link IE TSN employs CiA402 drive profile and supports Profile Position Mode (PP Mode), Homing Mode (HM Mode) and Cyclic Synchronous Position Mode (CSP Mode).



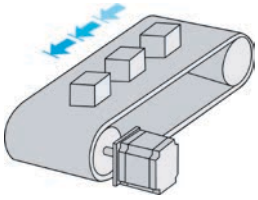
Closed-Loop System

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 50 µs. 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 stepper motor and drive could lose a step but Ezi-SERVO automatically correct the position by encoder feedback.



Tuning Not Required

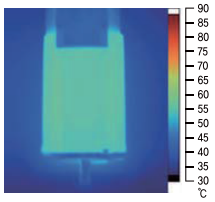
To ensure machine performance, conventional servo systems require the adjustment of its servo's gains as an initial crucial step. Even systems that employ auto-tuning require manual tuning after the system is installed.
Ezi-SERVO employs the best characteristics of the stepper motor to eliminate the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



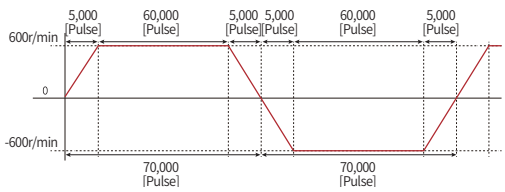
Low Heat Generation / Energy Savings

(Motor Current Control according to load)

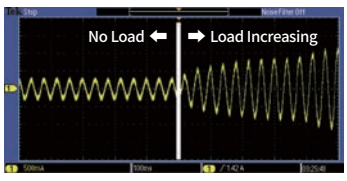
Ezi-SERVO automatically controls motor current according to load.
Ezi-SERVO reduces motor current when motor load is low and increases motor current when load is high. By optimizing the motor current, motor heat can be minimized and energy can be saved.



Motor temperature [Measured by Thermal Imaging Camera]



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

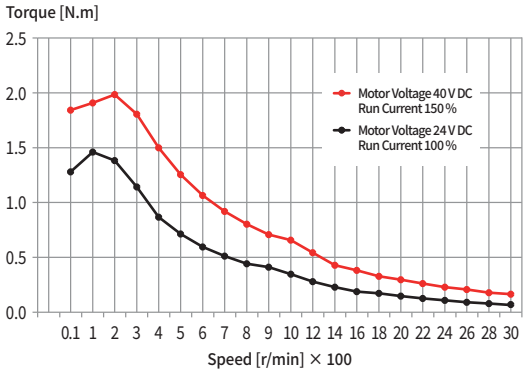


Motor Current
[Motor Current Waveform Measured by Oscilloscope Showing Variations in Motor Current According to Load]

High Torque

(Motor Voltage Increasing and Motor Current Setting)

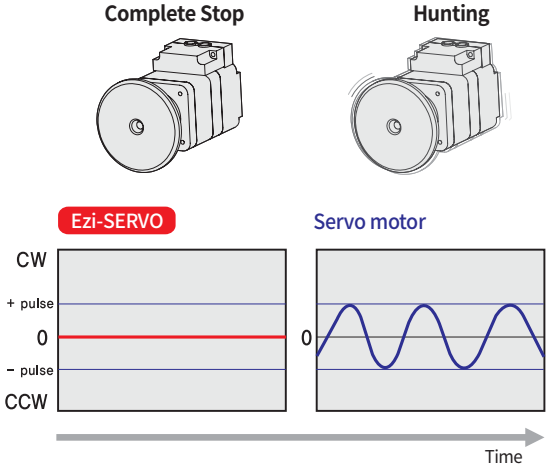
Ezi-SERVO features an internal voltage boosting circuit that increases the motor supply voltage above the drive's input voltage. This elevated motor voltage enhances torque at high speeds and allows the run current to be set up to 150 %. As a result, torque is also improved at low speeds. Ezi-SERVO can achieve approximately 30 % torque improvement across the entire speed range.



※ The torque at low speed and high speed is improved about 30 %.
Measured Condition: Drive = Ezi-SERVO-CT-56L
· Motor Voltage = 40 V DC
· Input Voltage = 24 V DC

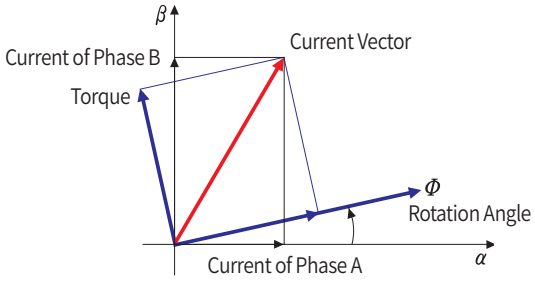
No Hunting

Ezi-SERVO utilizes the unique characteristics of stepper 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.



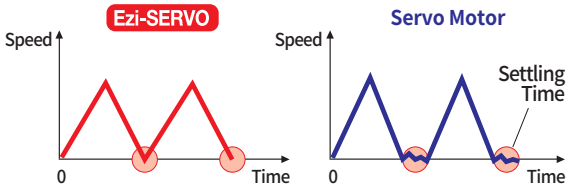
Smooth and Accurate Operation

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



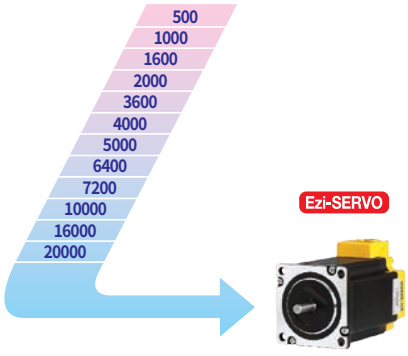
Fast Response

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



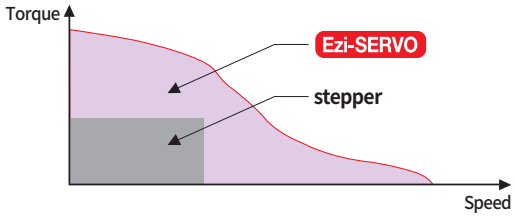
High Resolution

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



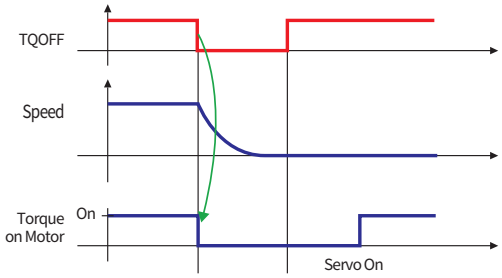
High Torque / Continuous Operation

Compared with common stepper 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.



Torque-Off Function

Ezi-SERVO CC-Link IE TSN has an input connector (TQ OFF) that can Servo OFF through an external signal, regardless of CC-Link IE TSN communication, to stop and protect the motor in an emergency. When the TQOFF signal is detected, the drive immediately turns off the servo, and the motor stops.

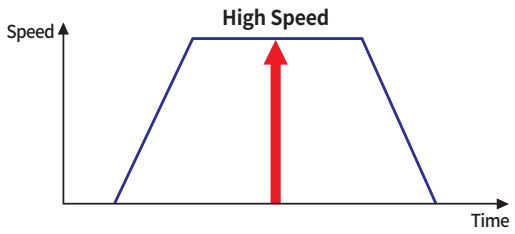


CAUTION

DO NOT use the Torque-Off function to stop or decelerate motors.

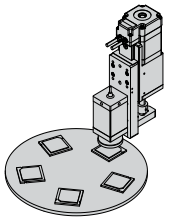
High Speed

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 stepper motor to generate high torque, even under a 100 % load condition.

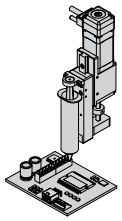


Examples

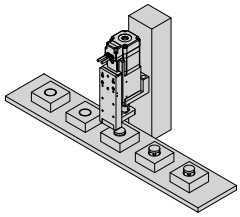
CCD Camera Focusing



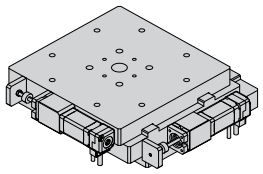
Dispenser Operation



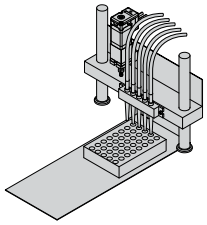
Pin Press-Fitting



XY Stage Operation



Automatic Dispensing



Ezi-ROBO CLA Part Numbering

Ezi-ROBO-CLAT-28-30 R 1-28 U D-CT-Option

- **Series Name**
- **Model Name**
  - CLAT : Table Type
  - CLAR : Rod Type
- **Installation Dimensions**
  - 20 : 20 mm 28 : 28 mm
  - 42 : 42 mm 56 : 56 mm
- **Stroke**
  - 25 : 25 mm 30 : 30 mm
  - 40 : 40 mm 50 : 50 mm
- **Ball Screw Grade**
  - R : Standard
- **Lead**
  - 01 : 1 mm 02 : 2 mm
  - 04 : 4 mm 08 : 8 mm
- **Motor Size**
  - 20 : 20 mm 28 : 28 mm
  - 42 : 42 mm 56 : 56 mm
- **Cable Direction**
  - U : Up D : Down
  - L : Left R : Right
- **Encoder Resolution**
  - B : 20,000 P/R
  - D : 16,000 P/R
  - F : 4,000 P/R
- **Drive Series**
  - CT : CC-Link IE TSN
- **Option**
  - Sensor

Applicable Product Series

Product	Specifications
Ezi-SERVO CC-Link IE TSN	CC-Link IE TSN Compatible, Built-in Torque-Off Function



Ezi-SERVO CC-Link IE TSN

Actuator and Drive Combination

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-ROBO-CLAR-20-25R1-20□F-CT	HSE-RBP20L-F	EzS2-CT-20L-F
Ezi-ROBO-CLAR-28-30R1-28□D-CT	HSE-RBP28MM-D	EzS2-CT-28M-D
Ezi-ROBO-CLAR-42-40R2-42□B-CT	HSE-RBP42L-B	EzS2-CT-42L-B
Ezi-ROBO-CLAR-42-40R8-42□B-CT	HSE-RBP42L-B	EzS2-CT-42L-B
Ezi-ROBO-CLAR-56-50R4-56□B-CT	HSE-RBP56M-B	EzS2-CT-56M-B
Ezi-ROBO-CLAT-20-25R1-20□F-CT	HSE-RBP20L-F	EzS2-CT-20L-F
Ezi-ROBO-CLAT-28-30R1-28□D-CT	HSE-RBP28MM-D	EzS2-CT-28M-D
Ezi-ROBO-CLAT-42-40R2-42□B-CT	HSE-RBP42L-B	EzS2-CT-42L-B
Ezi-ROBO-CLAT-42-40R8-42□B-CT	HSE-RBP42L-B	EzS2-CT-42L-B
Ezi-ROBO-CLAT-56-50R4-56□B-CT	HSE-RBP56M-B	EzS2-CT-56M-B

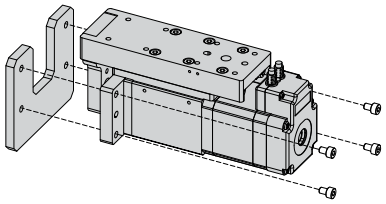
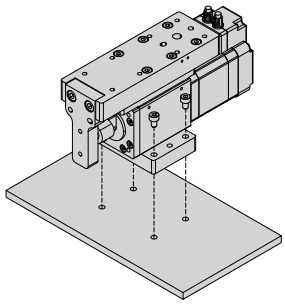
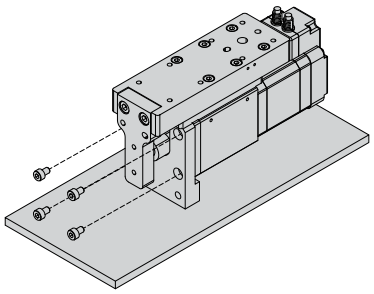
※ □ is the assembly direction of the motor.

Actuator Combination

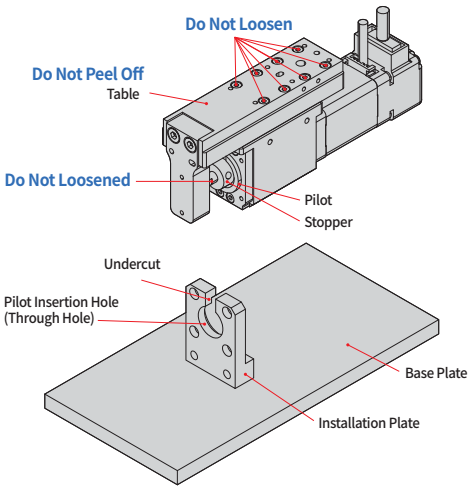
Actuator Type	CLA 20 Type	CLA 28 Type	CLA 42 Type	CLA 56 Type
Lead [mm]	1	1	2,8	4
Stroke [mm]	25	30	40	50
Resolution [P/R]	F (4,000)	D(16,000)	B(20,000)	B(20,000)

Product Installation

1-1. Table Type Installation Method

Rear Installation	Side Installation	Front Installation
		

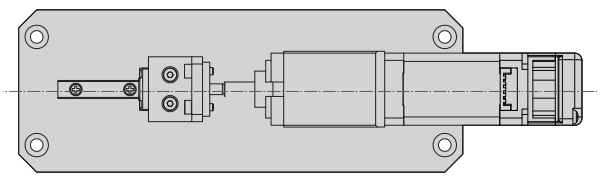
1-2. Precautions for Table Type Installation

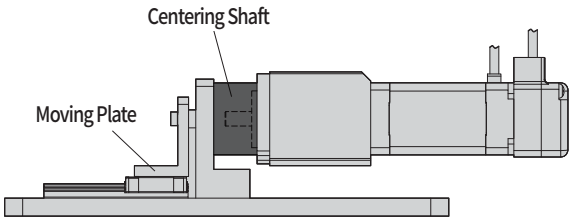


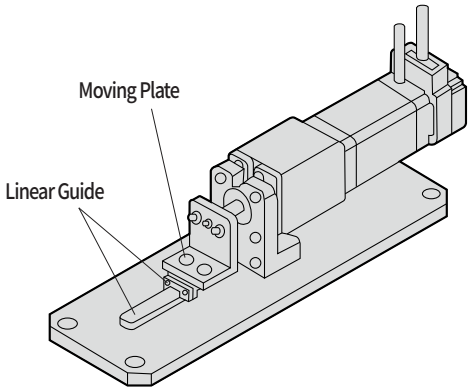
2. Rod Type Installation Method

For the rod type, ensure that the ball screw axis is aligned with the center of the load movement axis.
Please manufacture the centering shaft according to the installation method.

The rod type cannot operate without a ball screw rotation prevention mechanism. Be sure to install rotation prevention devices such as linear guides and moving plates.





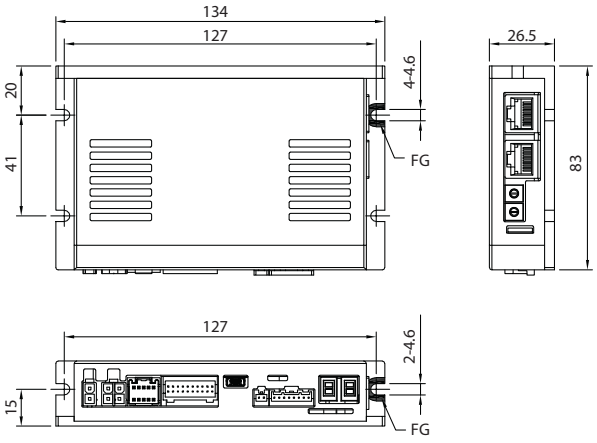


Specifications of Drive

Motor Model		HSE-RBP20 series	HSE-RBP28 series	HSE-RBP42 series	HSE-RBP56 series
Drive Model		EzS2-CT-20 series	EzS2-CT-28 series	EzS2-CT-42 series	EzS2-CT-56 series
Input Voltage		24 V DC ± 10 %			
Control Method		Closed loop control with 32 bit MCU			
Current Consumption		Max. 500 mA/axis (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.	0.5 g			
Function	Rotation Speed	0 ~ 3,000 r/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 Type	Over Current Error, Over Speed Error, Position Tracking Error, Over Load Error, Over Temperature Error, Over Regenerative Voltage Error, Motor Connection Error, Encoder Connection Error, Main Power Voltage Error, In-Position Error, ROM Error, Position Overflow Error, Torque-Off Circuit Error			
	LED Display	Power status, In-Position status, Servo On status, Alarm status			
CC-Link IE TSN	Communication Protocol	CC-Link IE TSN Class B			
	Operation Mode	CiA402 Drive Profile: Cyclic Synchronous Position Mode, Profile Position Mode, Homing Mode			
	Synchronization	Minimum Cycle Time: 250 µs / Synchronous Comm. (CSP, PP, HM) / Asynchronous Comm. (PP, HM)			
I/O Signal	Input Signals	3 dedicated inputs (LIMIT+, LIMIT-, ORIGIN), 6 user inputs (photocoupler inputs), 2 Torque-Off signal inputs (TQOFF)			
	Output Signals	5 user outputs (photocoupler outputs), 1 brake signal output, 1 Torque-Off status output (TQMON)			

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

Dimensions of Drive [mm]



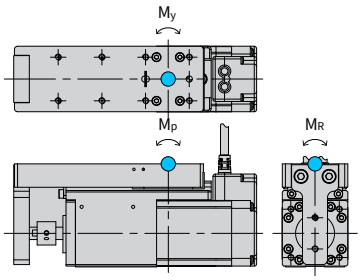
How to Read Specifications

Model			Ezi-ROBO-CLAT-42-40R2-42UB-□*1
① Lead		[mm]	2
② Stroke		[mm]	40
③ Repeatability		[mm]	±0.01
④ Lost Motion		[mm]	0.05 or less
⑤ Maximum Speed*2		[mm/s]	50
⑥ Maximum Acceleration		[m/s²]	0.4
⑦ Thrust		[N]	100
⑧ Permissible Load*3	Horizontal	[kg]	8
	Vertical	[kg]	4
⑨ Permissible Moment*4	Static	[N·m]	M_P : 1.30 M_Y : 1.00 M_R : 2.5
	Dynamic	[N·m]	
⑩ Weight		[kg]	1.11

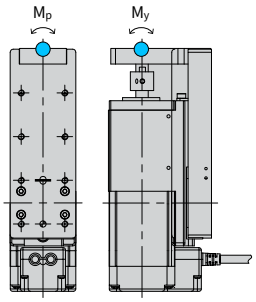
*1: □ includes options and drive type.
*2: The maximum speed is limited by the motor's maximum speed and permissible rotational speed of ball screw.
*3: The load attachment standards for permissible load in the horizontal and vertical directions are as follows:
*4: The direction definitions for permissible moments are as follows.

Direction of Permissible Moment

[Horizontal Direction]

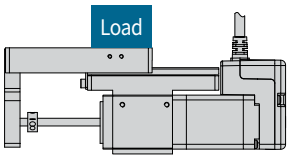


[Vertical Direction]

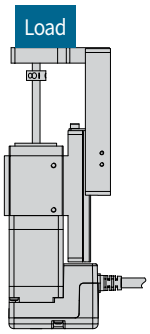


Load Attachment Standards for Permissible Load

[Horizontal Direction]



[Vertical Direction]



Description of Specification Items

No.	Item	Descriptions
①	Lead	The distance that the ball screw travels in the linear direction when the motor rotates once.
②	Stroke	This is the maximum distance that the load can be reciprocated.
③	Repeatability	This value indicates the amount of error that occurs when the same position is commanded repeatedly in the same direction. (The accuracy is the value when the temperature and load are constant.)
④	Lost Motion	This value indicates the error when executing positioning to the same position but in a different direction. (The accuracy value is given under constant temperature and load conditions.)
⑤	Maximum Speed	This is the maximum speed at which the load can be reciprocated.
⑥	Maximum Acceleration	This is the maximum acceleration at which the load can be reciprocated.
⑦	Thrust	The force that can push the load during constant-speed operation.
⑧	Permissible Load	The maximum load that can be transported when the compact linear actuator is used in the horizontal or vertical direction.
⑨	Permissible Moment	When a workpiece is placed off-center relative to the compact linear actuator's guide, a force is applied that attempts to rotate the guide. This represents the maximum force the guide can handle. Dynamic permissible moment refers to the moment that can be allowed during operation, and static permissible moment refers to the moment that can be allowed when the system is stationary.
⑩	Weight	The weight of the actuator (measured with the motor installed).

Specifications [CLA20 Type]

Model			Ezi-ROBO-CLAT-20-25R1-□*1	Ezi-ROBO-CLAR-20-25R1-□*1
Actuator Type			Table	Rod
Lead		[mm]	1	1
Stroke		[mm]	25	25
Repeatability		[mm]	±0.01	±0.01
Lost Motion		[mm]	0.05 or less	0.05 or less
Maximum Speed*2		[mm/s]	20	20
Maximum Acceleration		[m/s²]	0.2	0.2
Thrust		[N]	5	5
Permissible Load*3	Horizontal	[kg]	1	1
	Vertical	[kg]	0.5	0.5
Permissible Moment*4	Static	[N·m]	M_P : 0.10 M_Y : 0.05 M_R : 0.15	-
	Dynamic	[N·m]		
Weight		[kg]	0.23	0.16

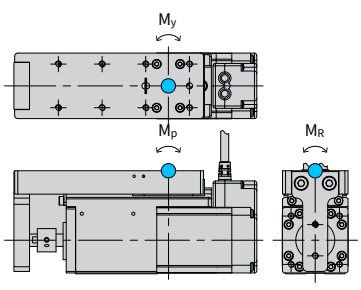
Specifications [CLA28 Type]

Model			Ezi-ROBO-CLAT-28-30R1-□*1	Ezi-ROBO-CLAR-28-30R1-□*1
Actuator Type			Table	Rod
Lead		[mm]	1	1
Stroke		[mm]	30	30
Repeatability		[mm]	±0.01	±0.01
Lost Motion		[mm]	0.05 or less	0.05 or less
Maximum Speed*2		[mm/s]	20	20
Maximum Acceleration		[m/s²]	0.2	0.2
Thrust		[N]	40	40
Permissible Load*3	Horizontal	[kg]	4	4
	Vertical	[kg]	2	2
Permissible Moment*4	Static	[N·m]	M_P : 0.3 M_Y : 0.24 M_R : 1.5	-
	Dynamic	[N·m]		
Weight		[kg]	0.48	0.32

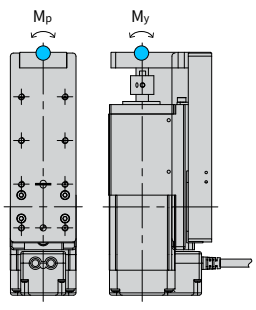
*1: □ includes options and drive type.
*2: The maximum speed is limited by the motor's maximum speed and permissible rotational speed of ball screw.
*3: The load attachment standards for permissible load in the horizontal and vertical directions are as follows:
*4: The direction definitions for permissible moments are as follows.

Direction of Permissible Moment

[Horizontal Direction]

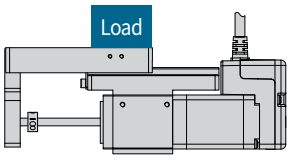


[Vertical Direction]

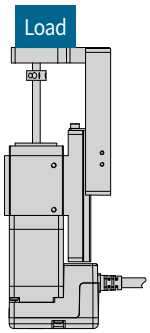


Load Attachment Standards for Permissible Load

[Horizontal Direction]



[Vertical Direction]



Specifications [CLA42 Type]

Model			Ezi-ROBO-CLAT-42-40R2-□*1 Ezi-ROBO-CLAT-42-40R8-□*1	Ezi-ROBO-CLAR-42-40R2-□*1 Ezi-ROBO-CLAR-42-40R8-□*1
Actuator Type			Table	Rod
Lead		[mm]	2,8	2,8
Stroke		[mm]	40	40
Repeatability		[mm]	±0.01	±0.01
Lost Motion		[mm]	0.05 or less	0.05 or less
Maximum Speed*2		[mm/s]	Lead 2 : 50, Lead 8 : 150	Lead 2 : 50, Lead 8 : 150
Maximum Acceleration		[m/s²]	0.4	0.4
Thrust		[N]	Lead 2 : 100, Lead 8 : 50	Lead 2 : 100, Lead 8 : 50
Permissible Load*3	Horizontal	[kg]	Lead 2 : 8, Lead 8 : 5	Lead 2 : 8, Lead 8 : 5
	Vertical	[kg]	Lead 2 : 4, Lead 8 : 3	Lead 2 : 4, Lead 8 : 3
Permissible Moment*4	Static	[N·m]	M_P : 1.30 M_Y : 1.00 M_R : 2.50	-
	Dynamic	[N·m]		
Weight		[kg]	1.11	0.75

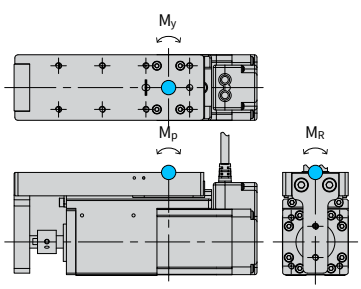
Specifications [CLA56 Type]

Model			Ezi-ROBO-CLAT-56-50R4-□*1	Ezi-ROBO-CLAR-56-50R4-□*1
Actuator Type			Table	Rod
Lead		[mm]	4	4
Stroke		[mm]	50	50
Repeatability		[mm]	±0.01	±0.01
Lost Motion		[mm]	0.05 or less	0.05 or less
Maximum Speed*2		[mm/s]	50	50
Maximum Acceleration		[m/s²]	0.26	0.26
Thrust		[N]	300	300
Permissible Load*3	Horizontal	[kg]	10	10
	Vertical	[kg]	5	5
Permissible Moment*4	Static	[N·m]	M_P : 2.50 M_Y : 2.00 M_R : 5.00	-
	Dynamic	[N·m]		
Weight		[kg]	2.43	1.70

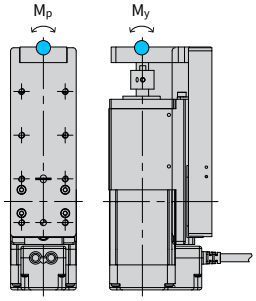
*1: □ includes options and drive type.
*2: The maximum speed is limited by the motor's maximum speed and permissible rotational speed of ball screw.
*3: The load attachment standards for permissible load in the horizontal and vertical directions are as follows:
*4: The direction definitions for permissible moments are as follows.

Direction of Permissible Moment

[Horizontal Direction]

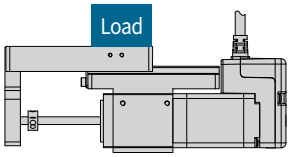


[Vertical Direction]

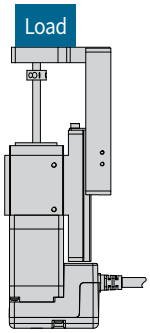


Load Attachment Standards for Permissible Load

[Horizontal Direction]

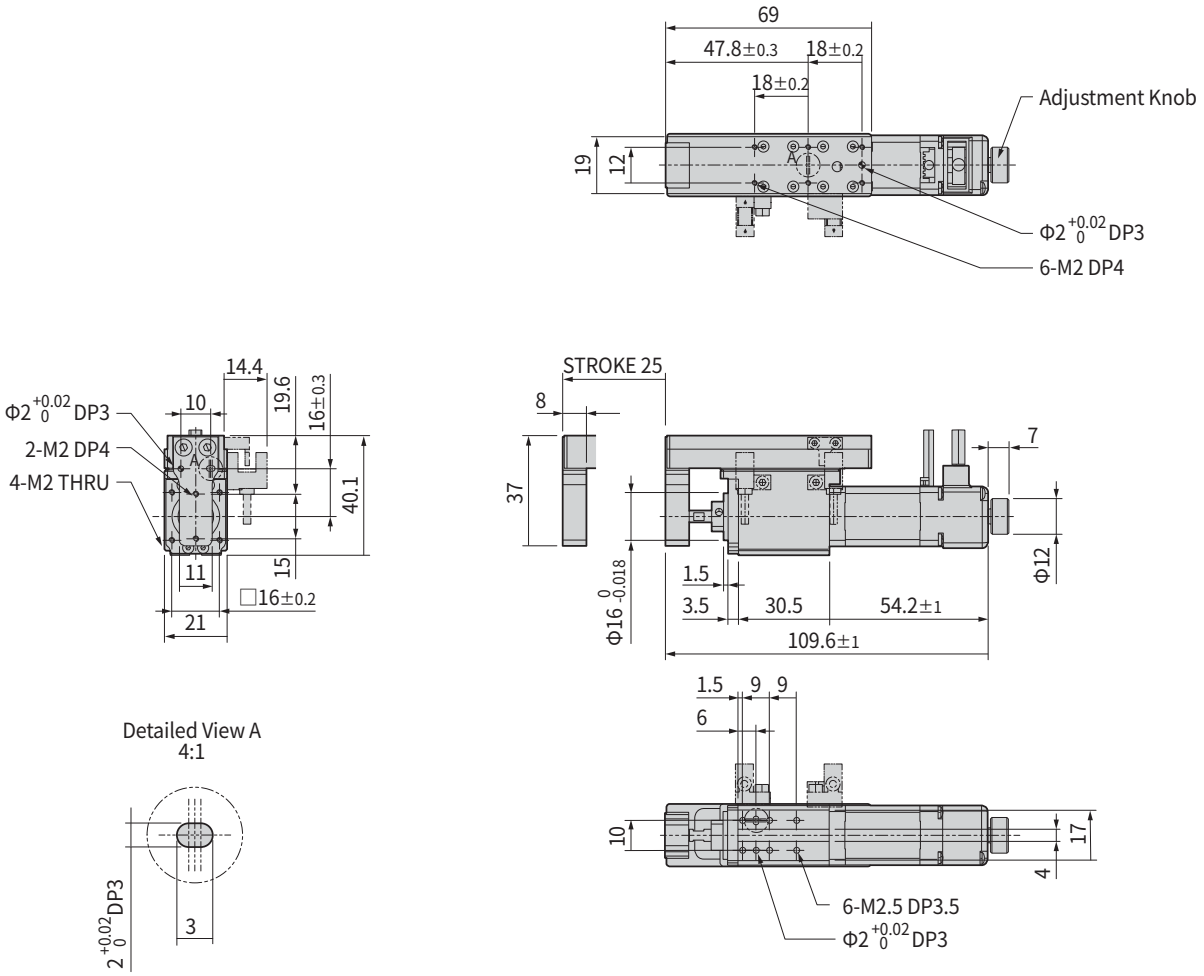


[Vertical Direction]

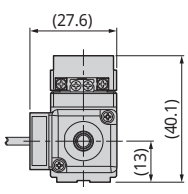
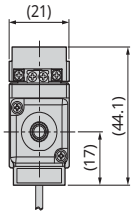
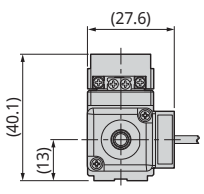
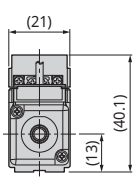


Dimensions of Product : Table Type [mm]

Ezi-ROBO-CLAT-20-25R1-□

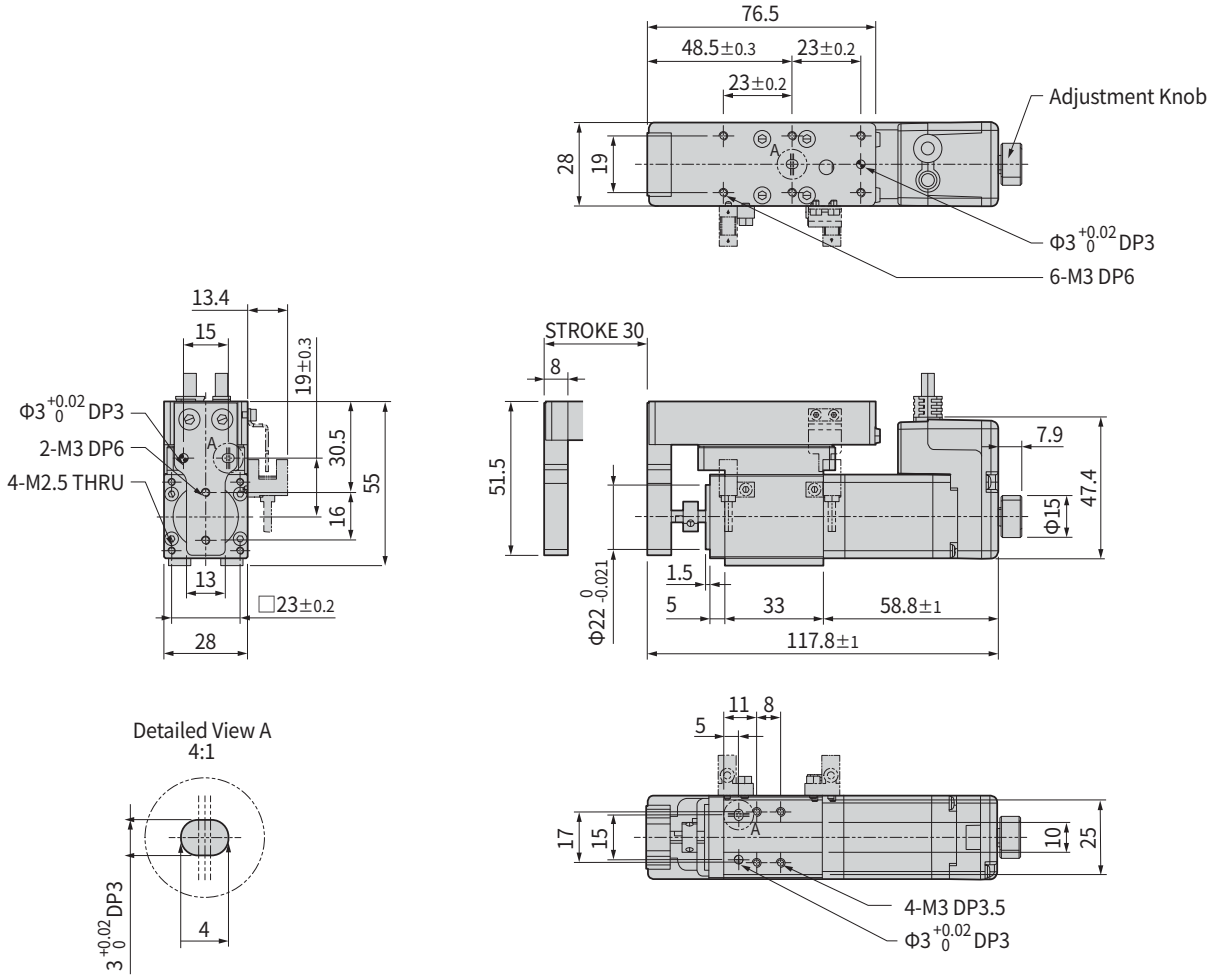


• Cable Direction

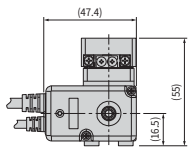
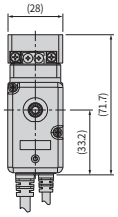
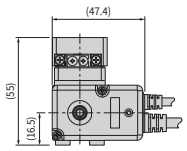
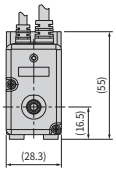
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAT-28-30R1-□

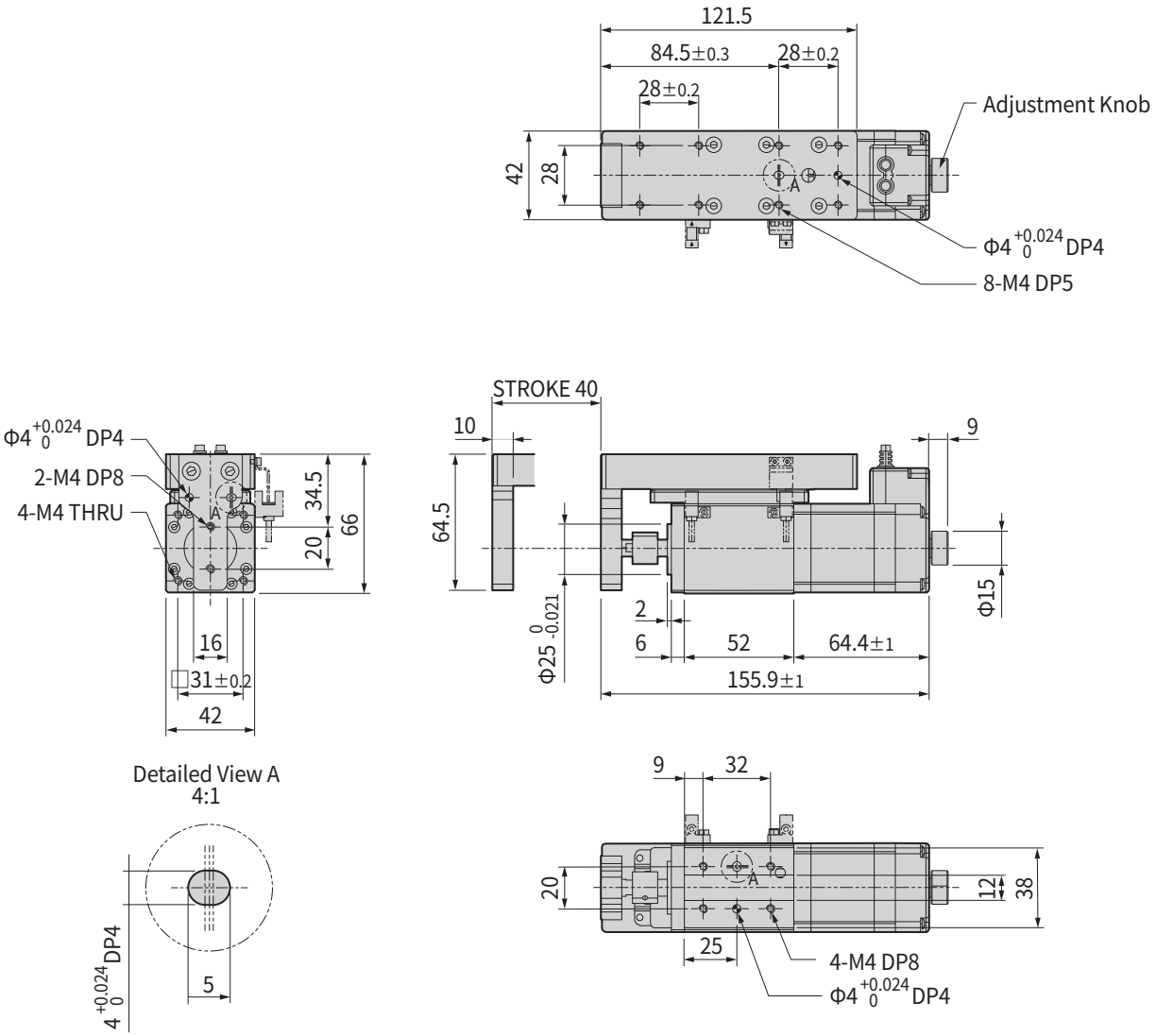


• Cable Direction

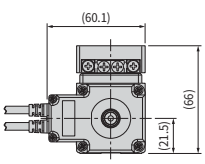
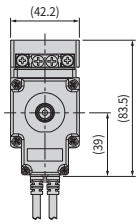
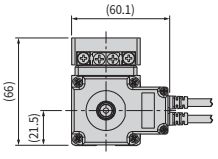
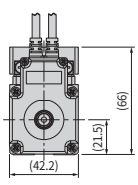
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAT-42-40R2-□
Ezi-ROBO-CLAT-42-40R8-□

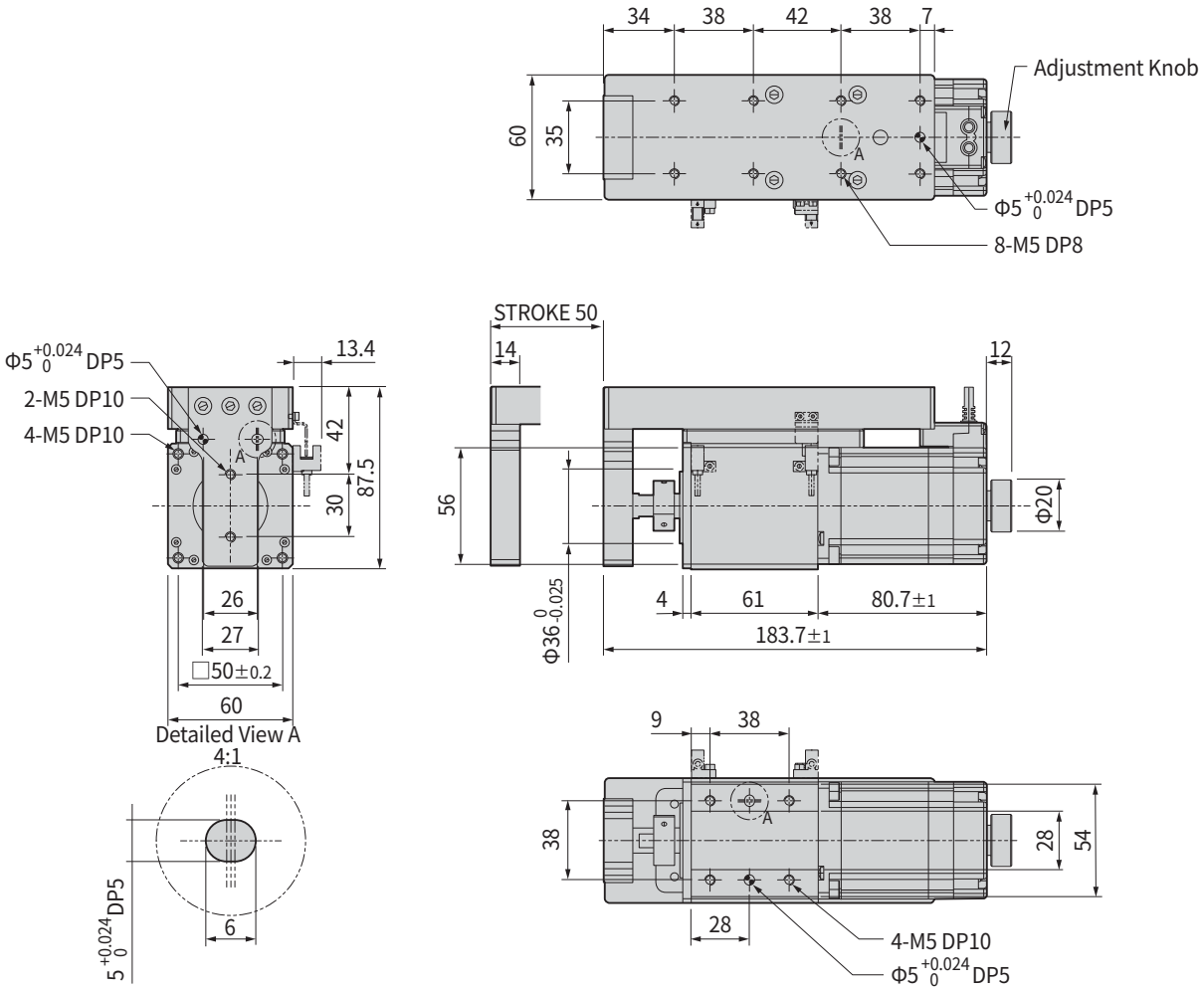


• Cable Direction

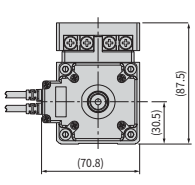
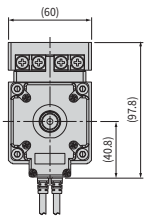
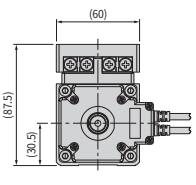
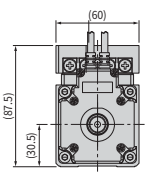
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAT-56-50R4-□



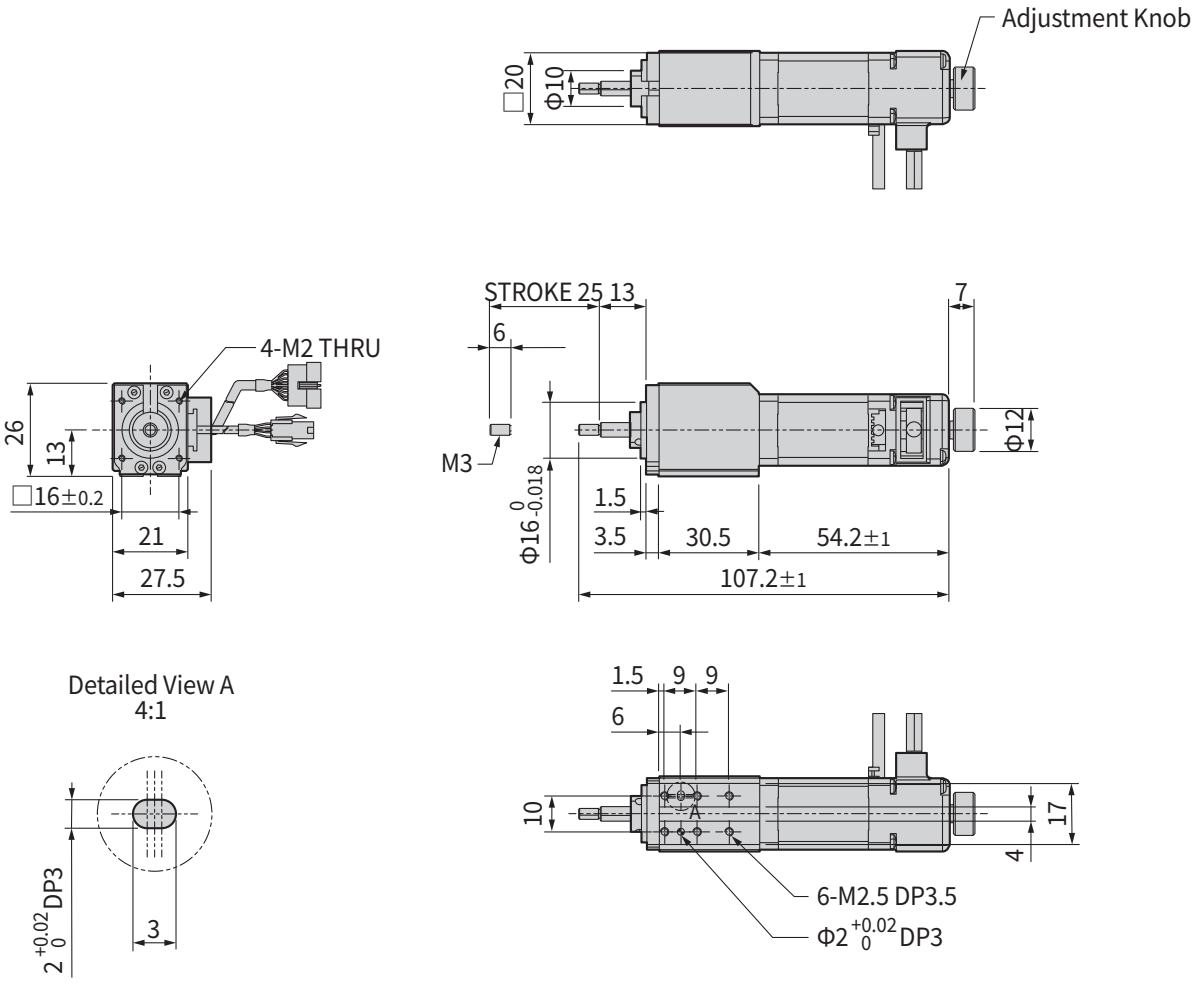
• Cable Direction

Left	Bottom	Right	Top
			

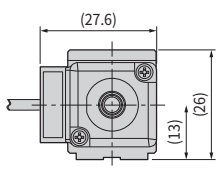
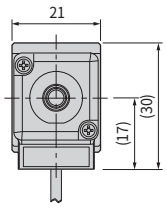
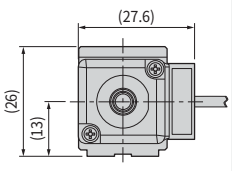
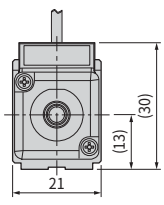
※ □ includes options and drive types.

Dimensions of Product : Rod Type [mm]

Ezi-ROBO-CLAR-20-25R1-□

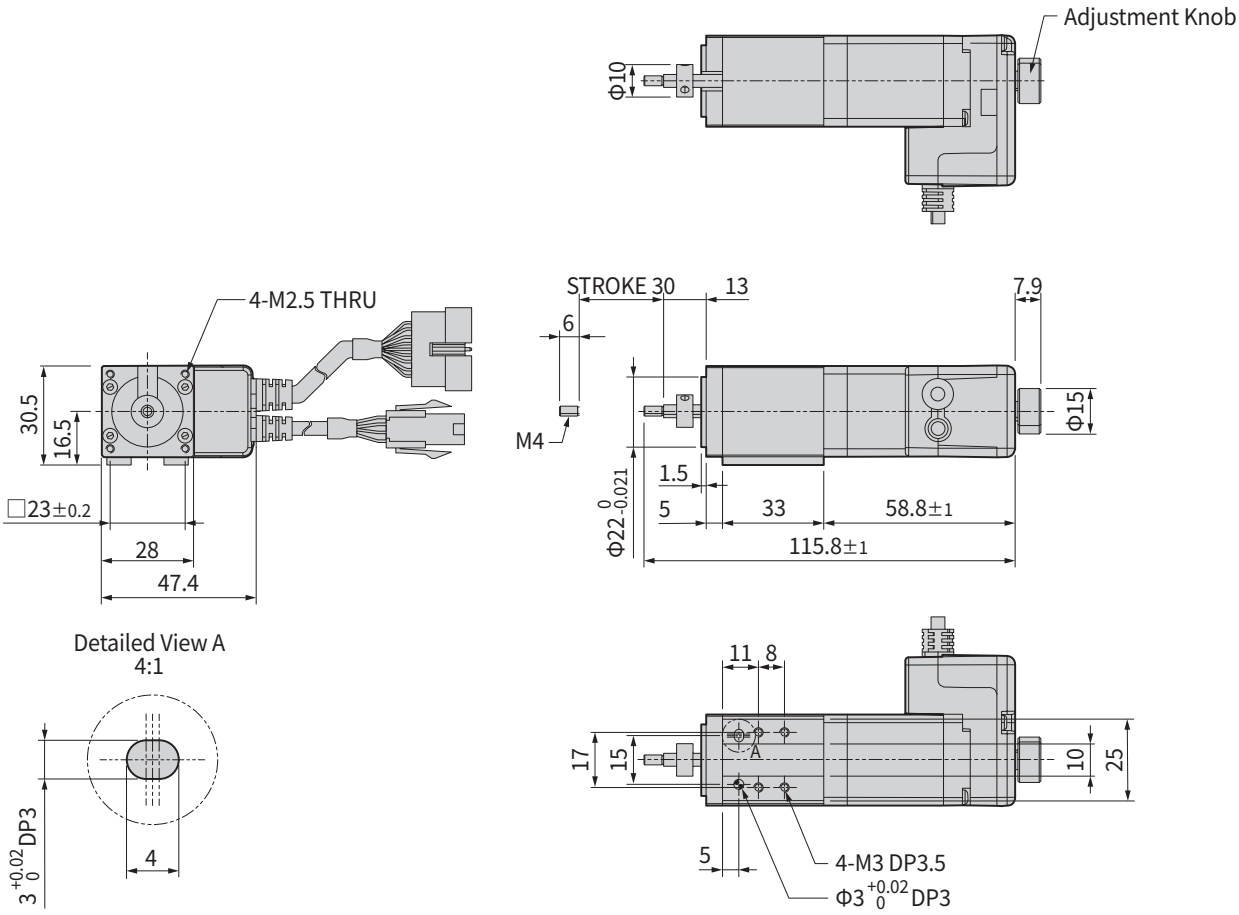


• Cable Direction

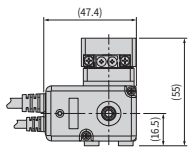
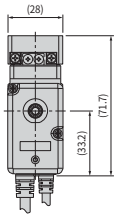
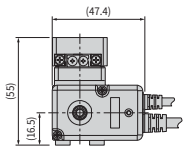
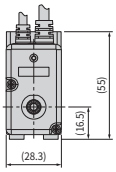
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAR-28-30R1-□

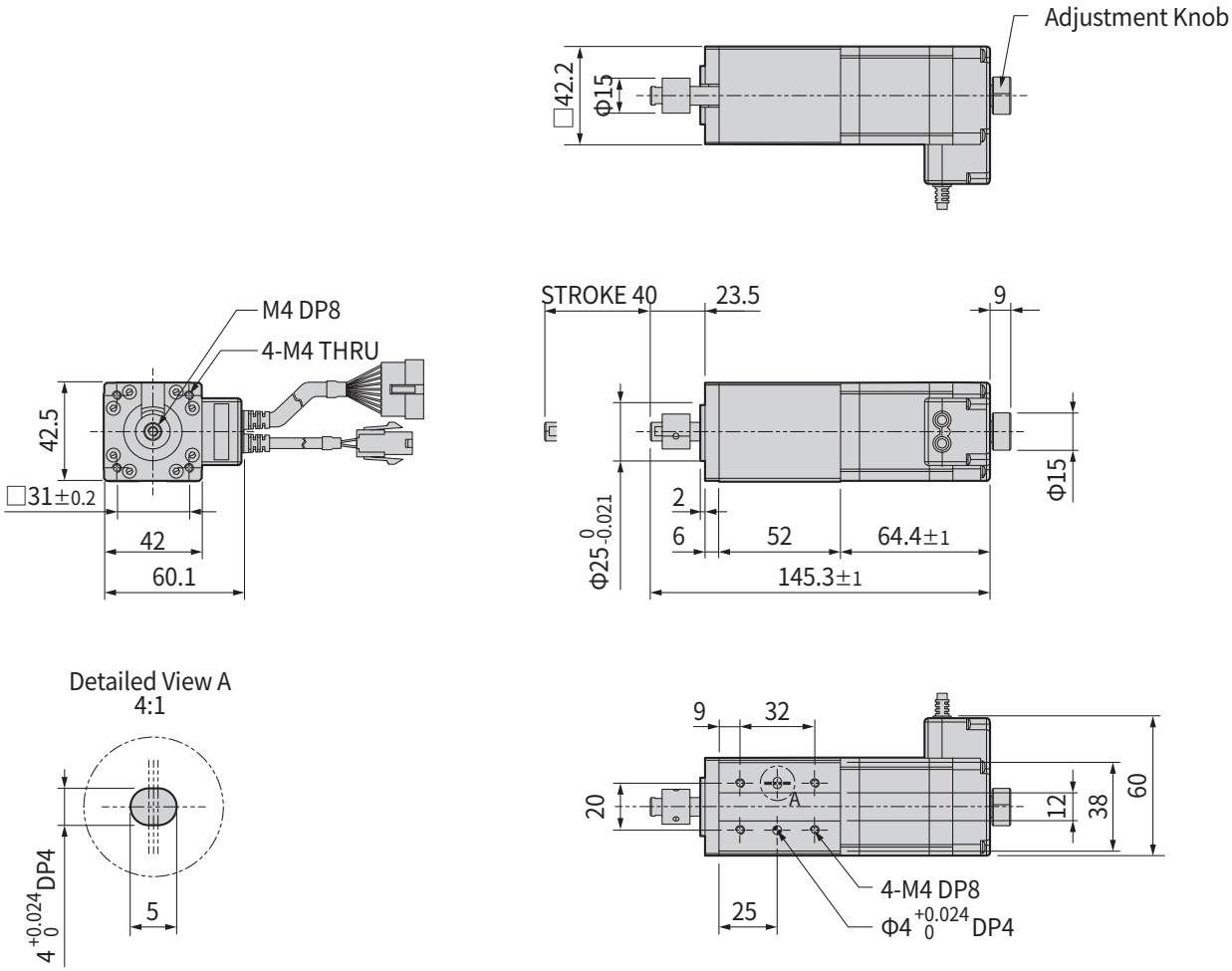


• Cable Direction

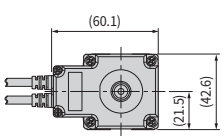
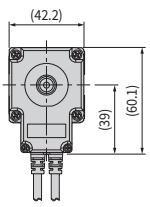
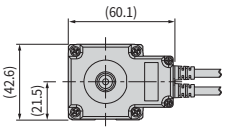
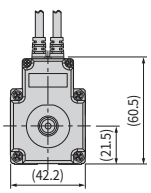
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAR-42-40R2-□
Ezi-ROBO-CLAR-42-40R8-□

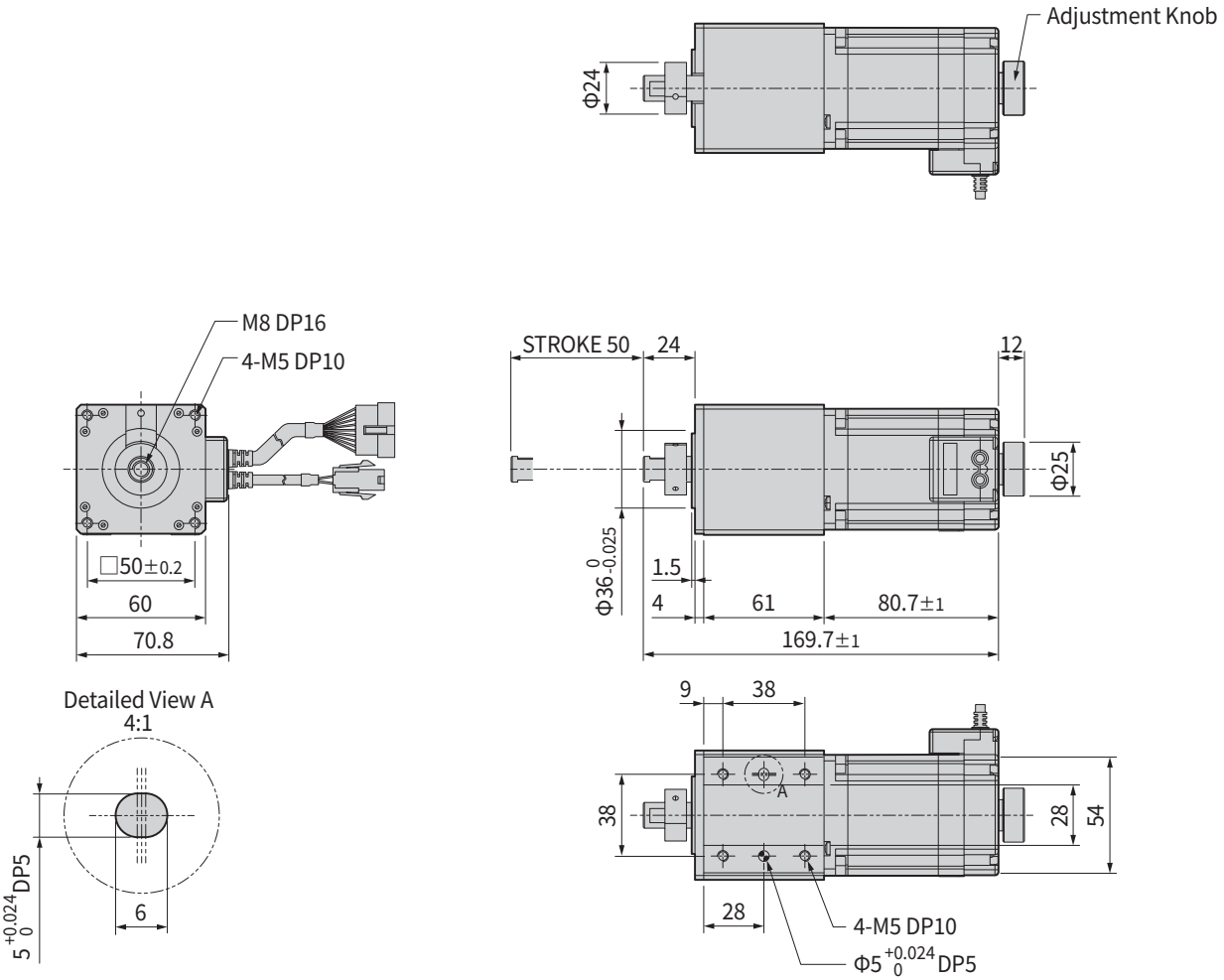


• Cable Direction

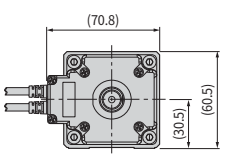
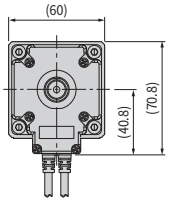
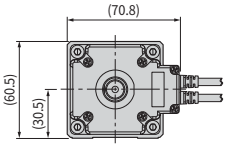
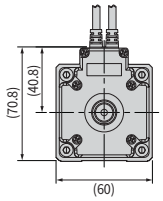
Left	Bottom	Right	Top
			

※ □ includes options and drive types.

Ezi-ROBO-CLAR-56-50R4-□

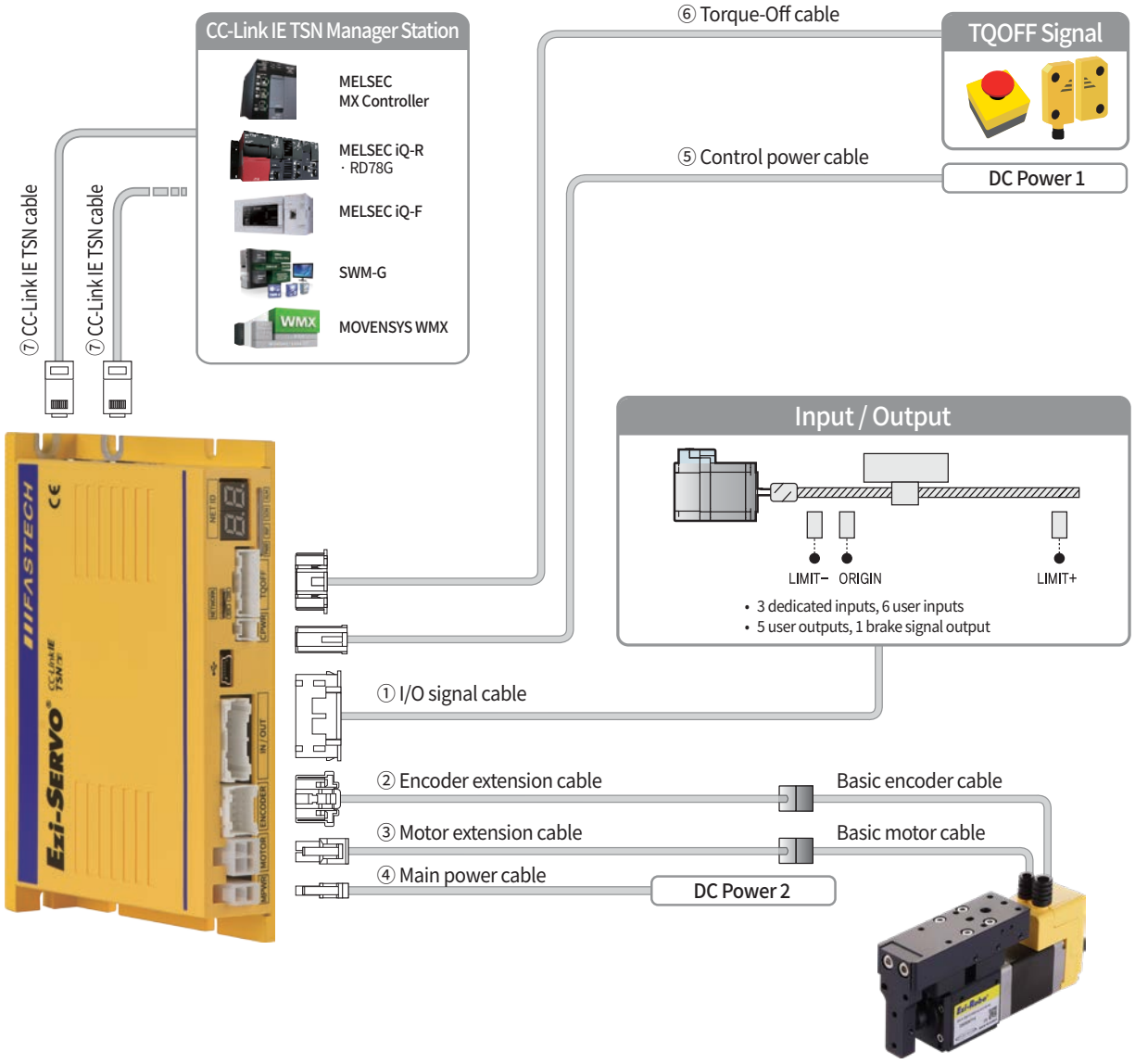


• Cable Direction

Left	Bottom	Right	Top
			

※ □ includes options and drive types.

System Configuration [Standard type Drive]

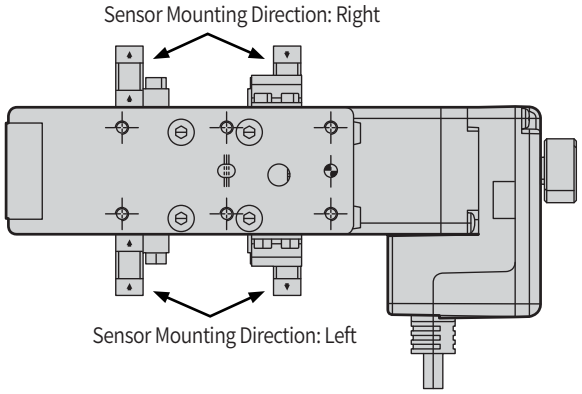


Cable Type	Max. Cable Length	Remarks
① I/O Signal Cable	20 m	Options (Sold separately)
② Encoder Extension Cable	20 m	
③ Motor Extension Cable	20 m	
④ Main Power Cable	2 m	
⑤ Control Power Cable	2 m	
⑥ Torque-Off Cable	20 m	
⑦ CC-Link IE TSN Cable	100 m	
Basic Encoder Cable	0.3 m (Basic length)	Basic cables are attached to motors.
Basic Motor Cable	0.3 m (Basic length)	

Option Model Names and Combinations

Option : P - LT
① ②

①	Sensor Type	**No Mark** : No Sensor **N** : NPN Type Sensor	**P** : PNP Type Sensor
②	Sensor Mounting Direction	**LT** : Left Mounting	**RT** : Right Mounting



• Reference: Cable Direction – Left

		CLA-20	CLA-28	CLA-42	CLA-56
①	Sensor	○	○	○	○
②	Sensor Mounting Direction	LT/RT			

• The sensor is applicable only to the table type.

Limit Sensor Set

1. Type

Part Number	Sensor Output	Applicable Products
PM-R25	NPN	Ezi-ROBO-CLAT-20/28/42/56
PM-R25-P	PNP	

2. Components (PM-R25, PM-F25)



PM-R25



PM-F25

3. Specifications

Category	NPN Type	PNP Type
Sensor Part Number	PM-R25, PM-F25 (Panasonic)	PM-R25-P, PM-F25-P (Panasonic)
Power Supply Voltage	5 ~ 24 V DC ± 10 % Ripple(P-P) 10 % or less	5 ~ 24 V DC ± 10 % Ripple(P-P) 10 % or less
Current Consumption	15 mA or less	15 mA or less
Control Output	NPN Open Collector Output 5 ~ 24 V DC 50 mA or less Residual Voltage 2 V or less (at 100 mA load current)	PNP Open Collector Output 5 ~ 24 V DC 50 mA or less Residual Voltage 2 V or less (at 50 mA load current)
Indicator LED	Detection Display (Red)	Detection Display (Red)
Sensor Logic	Normally Open / Normally Closed (Selectable depending on connection)	Normally Open / Normally Closed (Selectable depending on connection)

4. Precautions for Limit Sensor Set Installation

- Use the limit sensor set in environments where the installation surface temperature does not exceed 55 °C.
- Do not install the limit sensor while power is applied, as this may cause injury or equipment damage.
- After exposure to vibration or impact, check the sensor to ensure it remains properly mounted and functional.
- Accumulated dust on the sensor may cause malfunctions. Regular cleaning or replacement is recommended.

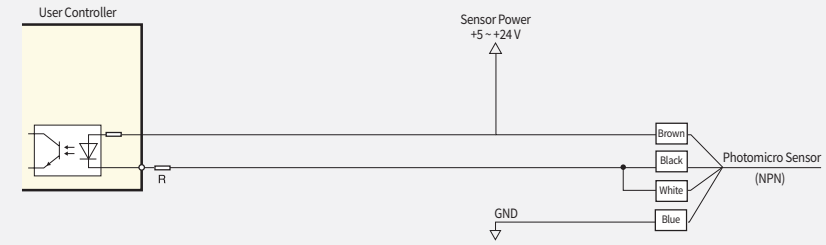
5. Precautions for Sensor Cable Extension

- The cable can be extended up to a maximum of 100 meters using a cable with a cross-sectional area of at least 0.3 mm^2. However, as the cable length increases, voltage drop may occur. Therefore, ensure that the voltage supplied at the end of the sensor's accessory cable remains within the rated range.

Limit Sensor Cable Installation

1. NPN Type

• With User's Controller



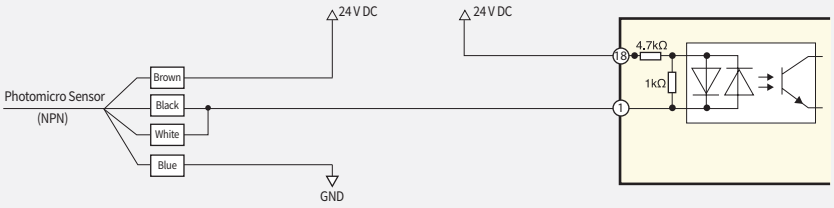
When applying N.C (Normally Closed), connect the black lead wire.

When applying N.O (Normally Open), connect the white lead wire.

Unused output wires must be properly insulated.

The power supply voltage for the sensor is 5 ~ 24 V DC, and the signal current of the sensor can be used up to 50 mA. For details, refer to the controller specifications for wiring. If the signal current of the sensor exceeds the current range of the controller or sensor, connect a current limiting resistor (R).

• With Embedded Motion Controller Type Products (e.g., Ezi-SERVO CC-Link IE TSN)



When applying N.C (Normally Closed), connect the black lead wire.

When applying N.O (Normally Open), connect the white lead wire.

Unused output wires must be properly insulated.

2. PNP Type

• With User's Controller



When applying N.C (Normally Closed), connect the black lead wire.

When applying N.O (Normally Open), connect the white lead wire.

Unused output wires must be properly insulated.

The power supply voltage for the sensor is 5 ~ 24 V DC, and the signal current of the sensor can be used up to 50 mA. For details, refer to the controller specifications for wiring. If the signal current of the sensor exceeds the current range of the controller or sensor, connect a current limiting resistor (R).

• With Embedded Motion Controller Type Products (e.g., Ezi-SERVO CC-Link IE TSN)



When applying N.C (Normally Closed), connect the black lead wire.

When applying N.O (Normally Open), connect the white lead wire.

Unused output wires must be properly insulated.

Supported FASTECH Drive Types

Built-in Torque-Off Function Drive



Multi-Axis Drive (Max. 4-Axis)



- Further details on the products shown in the image above are available on our website.
- If you have questions regarding products not included in this catalog, or any other inquiries, please feel free to contact us.

Homepage cltsn.fastech-motions.com
E-mail sales@fastech-motions.com

MEMO

FASTECH

Fast Accurate Smooth Motion

FASTECH Co., Ltd.

FASTECH Headquarters : (Postal Code:14502) Rm#1201 ~ 1202, 401-dong, Bucheon Techno-Park, 655 Pyeongcheon-ro, Wonmi-gu, Bucheon-si, Gyeonggi-do, Republic of Korea
TEL : +82-32-234-6317 FAX : +82-32-234-6302 E-mail : sales@fastech-motions.com

FASTECH JAPAN : (〒 450-0001 Aichi) Nagoya, Nakamura Ward, Nagono, 1-Chome 47-1
Nagoya International Center Bldg. 18th Floor
TEL : +81-70-6588-5905 E-Mail : sales_japan@fastech-motions.com

Homepage : cltsn.fastech-motions.com/en | www.fastech-motions.com

※ Please note that the color and size of the products in this catalog may differ depending on the measurement method and the specifications can be changed without prior notice for quality improvement.

ⓒ Copyright 2025-2026 FASTECH Co., Ltd.
All Rights Reserved.
2026-10-27 Rev.2.5