

Ezi-Robo[®]

Actuator series Driven by Ezi-SERVO

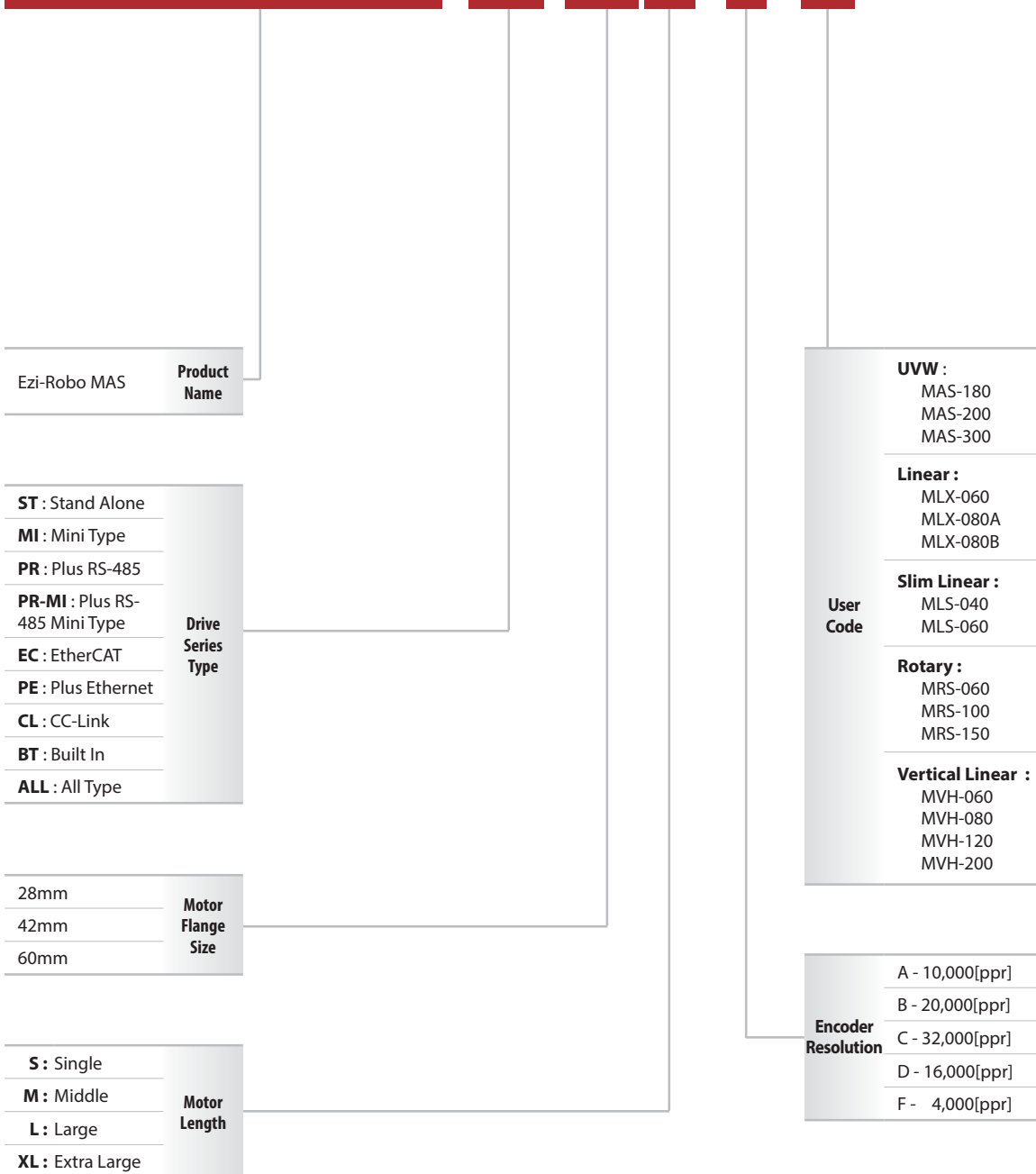
- Unit solution of Ezi-SERVO + Precision Stage
- High precision, high rigidity of economic solution(MENTOR)
- Supporting various field networks such as EtherCAT, Ethernet, RS-485, CC-Link and so on

MAS



Part Numbering Method

Ezi-Robo-MAS-ST-28M-D-□



Applicable Products and Combinations

Applicable Drive Type

Ezi-SERVO ST
(Pulse Input / Standard)



Ezi-SERVO MINI
(Pulse Input / Mini type)



Ezi-SERVO Plus-R
(RS-485 / Standard)



Ezi-SERVO Plus-R MINI
(RS-485 / Mini type)



Ezi-SERVO II EtherCAT
(EtherCAT / Standard)



Ezi-SERVO II Plus-E
(Ethernet / Standard)



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



Motor, Drive Combination

Ezi-Robo MAS	MOTOR	DRIVE				
		Ezi-SERVO ST	Ezi-SERVO Plus-R	Ezi-SERVO II EtherCAT	Ezi-SERVO II Plus-E	Ezi-SERVO II CC-Link
Applicable Network		Pulse Input	RS-485	EtherCAT	Ethernet	CC-Link
MAS-180	EzM-42S-A	○	○	○	○	○
MAS-200	EzM-42L-A	○	○	○	○	○
MAS-300	EzM-42XL-A	○	○	○	○	○
MLX-060	EzM-28L-D	○	○	○	○	○
MLX-080A	EzM-42XL-A	○	○	○	○	○
MLX-080B	EzM-42XL-A	○	○	○	○	○
MLS-040	EzM-28L-D	○	○	○	○	○
MLS-060	EzM-28L-D	○	○	○	○	○
MRS-060	EzM-28L-D	○	○	○	○	○
MRS-100	EzM-42XL-A	○	○	○	○	○
MRS-150	EzM-42XL-A	○	○	○	○	○
MVH-060	EzM-42XL-A	○	○	○	○	○
MVH-080	EzM-42XL-A	○	○	○	○	○
MVH-120	EzM-42XL-A	○	○	○	○	○
MVH-200	EzM-60L-A	○	○	○	○	○

※ Ezi-SERVO II series motors are applied to EzM2 series motors

MAS Series Product Specifications



Standard UVW Alignment Stage _ MAS-180, MAS-200, MAS-300

Table Size(mm)

- 180 × 180
- 200 × 200
- 300 × 300

1. Specification

Model Number	42S-A	42L-A	42XL-A
	MAS-180	MAS-200	MAS-300
Surface Size	180 × 180mm	200 × 200mm	300 × 300mm
Travel Range X, Y, θ	±10mm, ±10mm, ±5°	±5mm, ±5mm, ±2.5°	±5mm, ±5mm, ±2.5°
Travel Guide	Cross Roller Guide		
Mechanism	Ball Screw, Lead 1mm		
Resolution *1	2μm		
Applicable Ball Screw	Ball Screw, Φ8mm Lead 1mm		
Max. Speed *2	20mm/sec		
Accuracy	5μm		
Repeatability	±2μm	±2μm	±3μm
Load Capacity	30kgf	30kgf	30kgf
Parallelism	30μm	30μm	30μm
Straightness	10μm	10μm	10μm
Weight	13kg	15kg	20kg
Material	Aluminum		
Motor	EzM-42S-A (Encoder Resolution 10,000[ppr])	EzM-42L-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])

*1 : Specification based on EzM-42S-A, EzM-42L-A, EzM-42XL-A Motor resolution as 500[Step/rev].

*2 : Max. speed is 10kpps under EzM-42S-A, EzM-42L-A, EzM-42XL-A Motor resolution as 500[Step/rev].
Please be careful not to set operation speed over Max. speed 10kpps.

2. Main Features

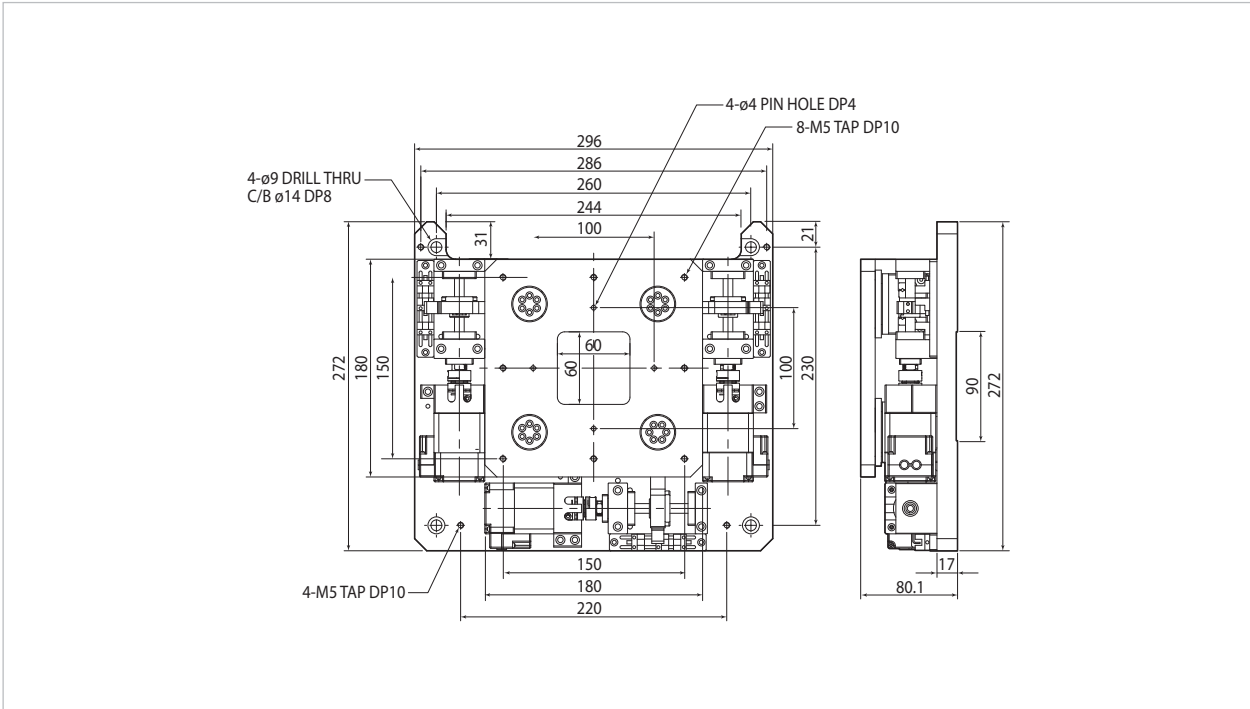
- Linear and Rotary Motion available alignment stage
- Cross-Roller Guide
- High precision and high rigidity structure
- Supports various size
- Closed Loop Stepping System

3. Applications

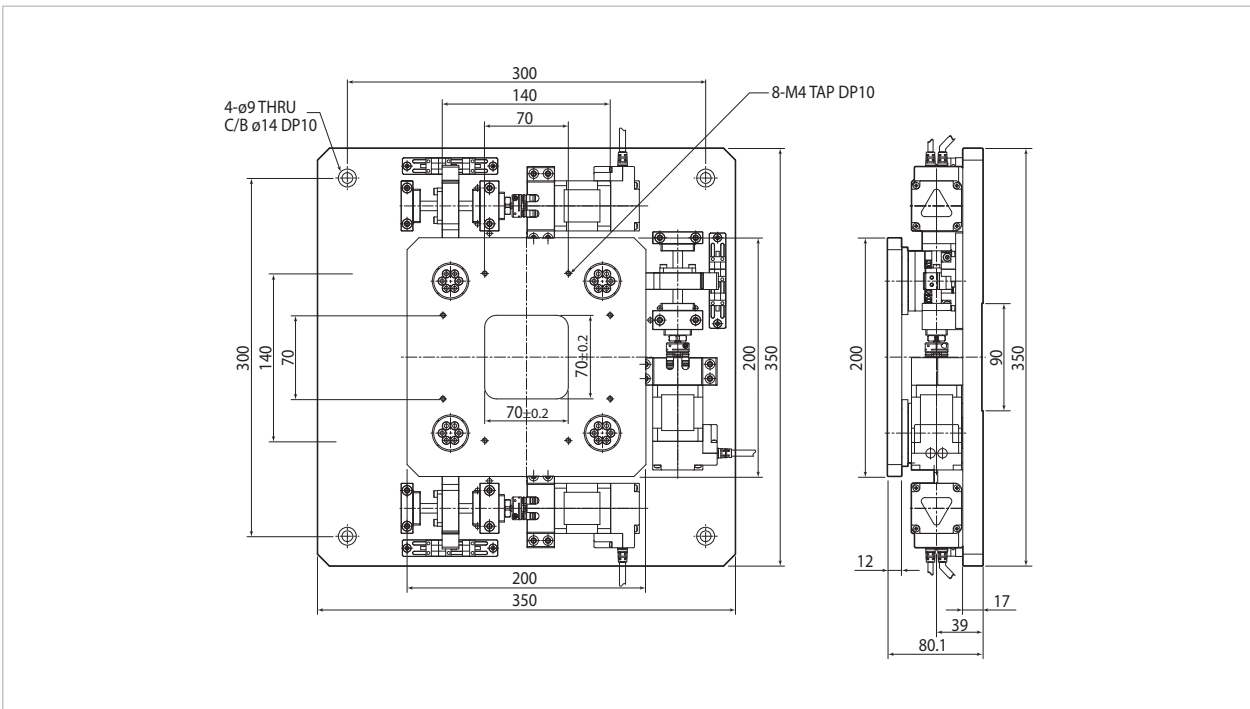
- Mini substrate alignment measurement and bonding for LCD or OLED etc
- Mark Alignment of Screen printing
- Probe Inspection Machine
- Circular Glass Cutting Process
- Optical equipment, Medical Instrument, Bio Device Alignment and Evaluation

Drawings for MAS Series

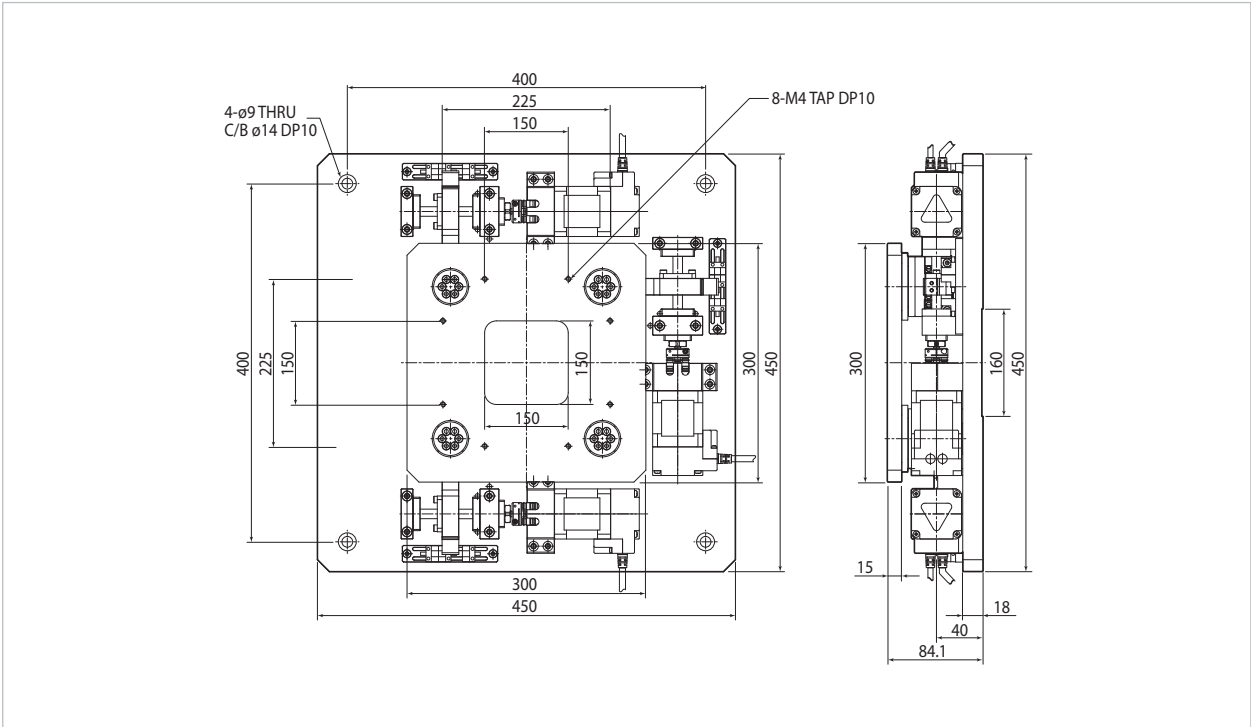
Ezi-Robo-MAS-PR-42S-A-MAS-180



Ezi-Robo-MAS-PR-42L-A-MAS-200



Ezi-Robo-MAS-PR-42XL-A-MAS-300



MLX Series Product Specifications



Standard Linear Stage

_ MLX-060, MLX-080A, MLX-080B

Table Size(mm)

- 60 × 60
- 80 × 80
- 80 × 130

1. Specification

Model Number	28L-D	42XL-A	
	MLX-060	MLX-080A	MLX-080B
Surface Size	60 × 60mm	80 × 80mm	80 × 130mm
Travel Range	20mm	30mm	60mm
Travel Guide	Cross Roller Guide		
Resolution *1	2 μ m		
Applicable Ball Screw	Ball Screw, Φ 6mm Lead 1mm	Ball Screw, Φ 8mm Lead 1mm	Ball Screw, Φ 8mm Lead 1mm
Max. Speed *2	10mm/sec		
Accuracy	5 μ m		
Bi-Repeatability	\pm 2 μ m		
Load Capacity	5kgf	10kgf	15kgf
Parallelism	20 μ m	30 μ m	30 μ m
Straightness	10 μ m	10 μ m	10 μ m
Weight	0.45kg	1.4kg	1.8kg
Material	Aluminum		
Motor	EzM-28L-D (Encoder Resolution 16,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])

*1 : Specification based on EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev].

*2 : Max. speed is 5kpps under EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev].
Please be careful not to set operation speed over Max. speed 5kpps.

2. Main Features

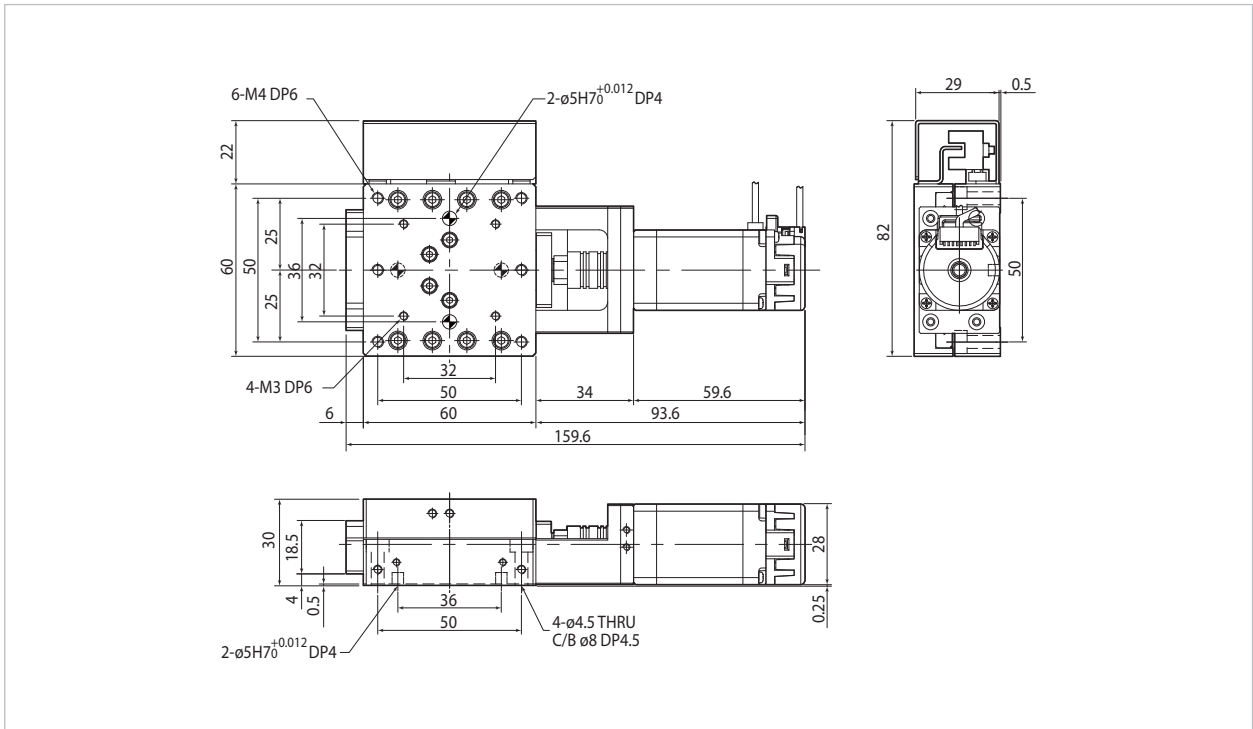
- Linear Stage
- High precision and high rigidity structure
- Cross-Roller Guide
- Closed Loop Stepping System

3. Applications

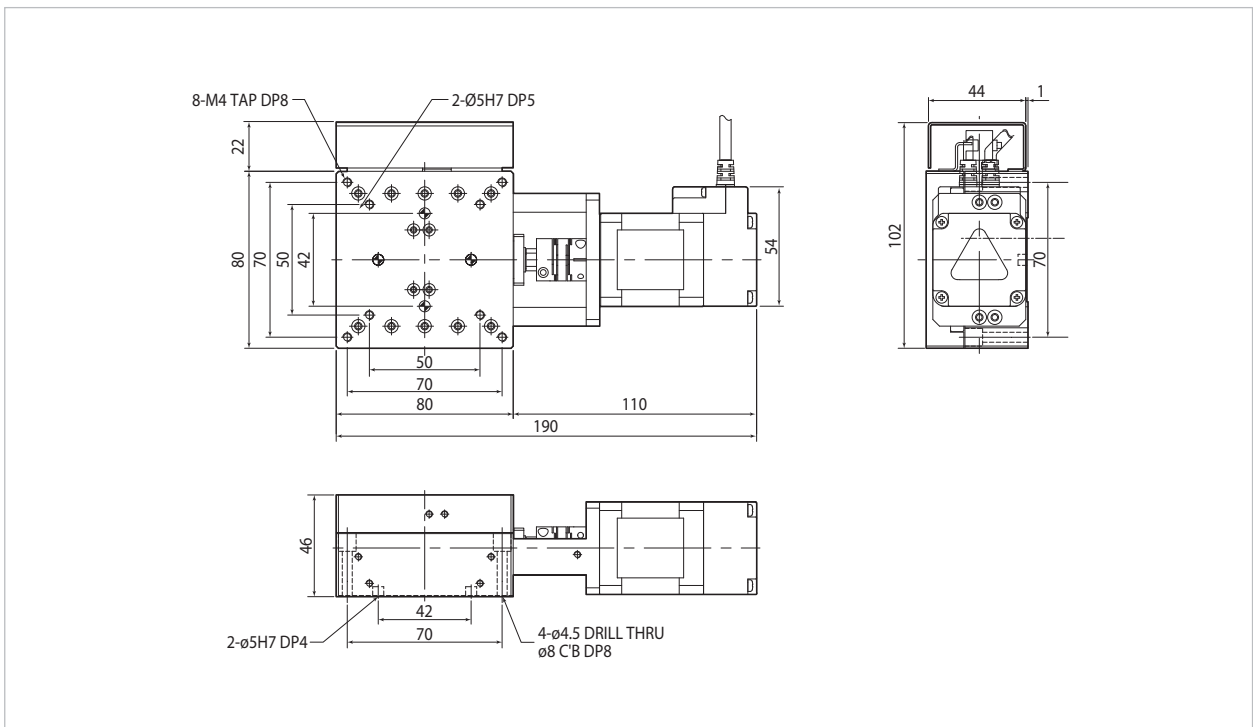
- Linear Stage
- High precision and high rigidity structure
- Cross-Roller Guide
- Closed Loop Stepping System

Drawings for MLX Series

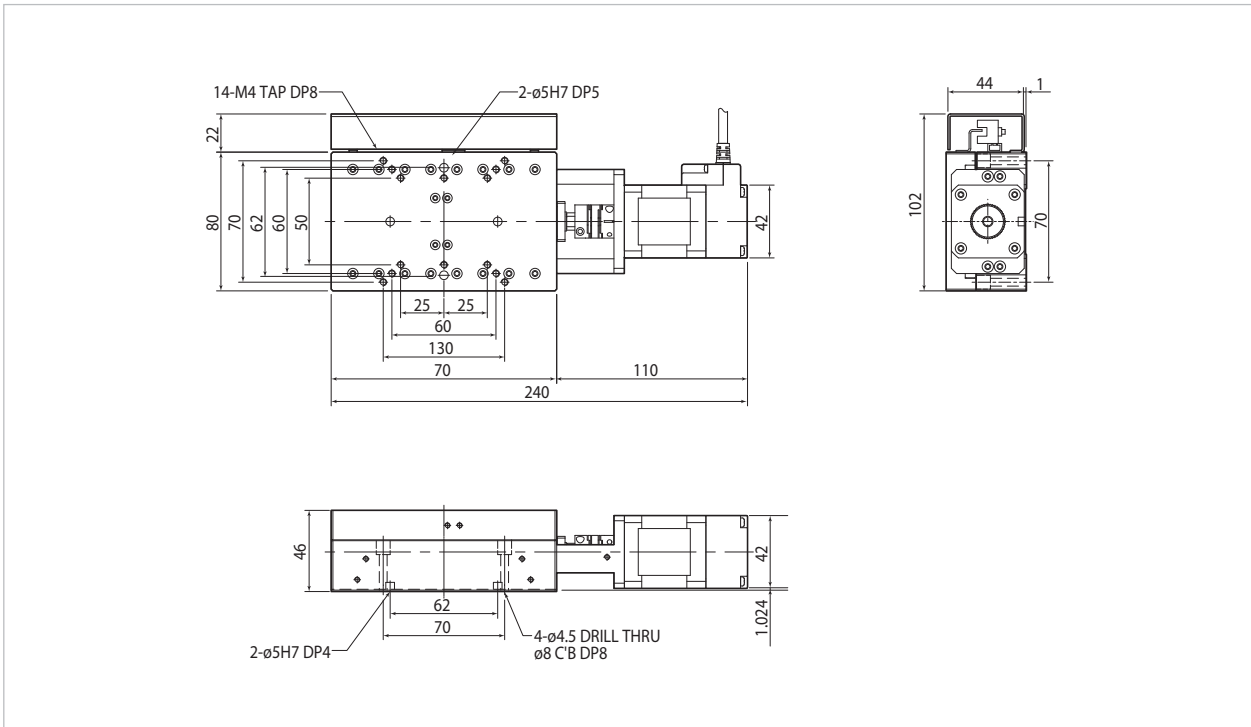
Ezi-Robo-MAS-PR-28L-D-MLX-060



Ezi-Robo-MAS-PR-42XL-A-MLX-080A



Ezi-Robo-MAS-PR-42XL-A-MLX-080B



MLS Series Product Specifications



Slim Type Linear Stage

_ MLS-040, MLS-060

Table Size(mm)

- 40 × 40
- 60 × 60

1. Specification

Model Number	28L-D	
	MLS-040	MLS-060
Surface Size	40 × 40mm	60 × 60mm
Travel Range	14mm	20mm
Travel Guide	Linear Ball Guide	
Resolution *1	2μm	2μm
Applicable Ball Screw	Cross Roller	
Max. Speed *2	10mm/sec	10mm/sec
Accuracy	8μm	8μm
Bi-Repeatability	2μm	2μm
Load Capacity	7kgf	10kgf
Parallelism	20μm	20μm
Straightness	5μm	5μm
Weight	0.5kg	0.7kg
Material	Aluminum	
Motor	EzM-28L-D(Encoder Resolution 16,000[ppr])	

*1 : Specification based on EzM-28L-D Motor resolution as 500[Step/rev].

*2 : Max. speed is 5kpps under EzM-28L-D Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 5kpps.

2. Main Features

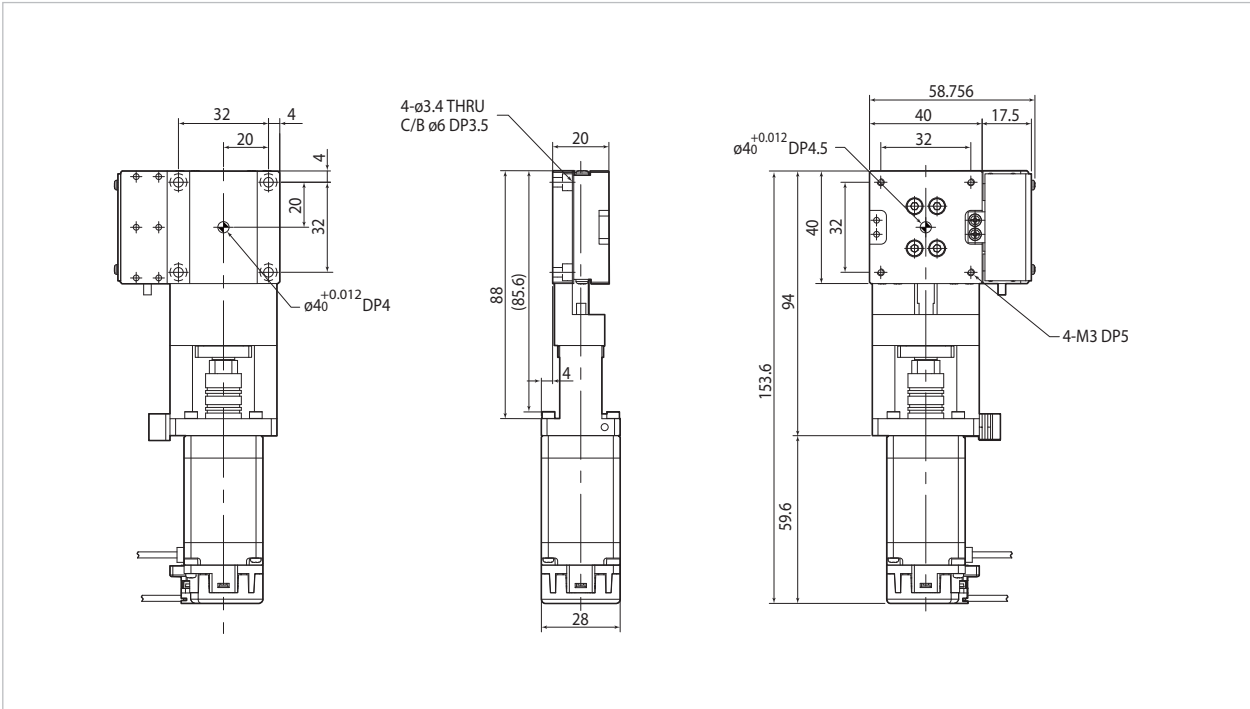
- Slim Type Linear Stage
- High precision and high rigidity structure
- Linear Ball Guide
- Closed Loop Stepping System

3. Applications

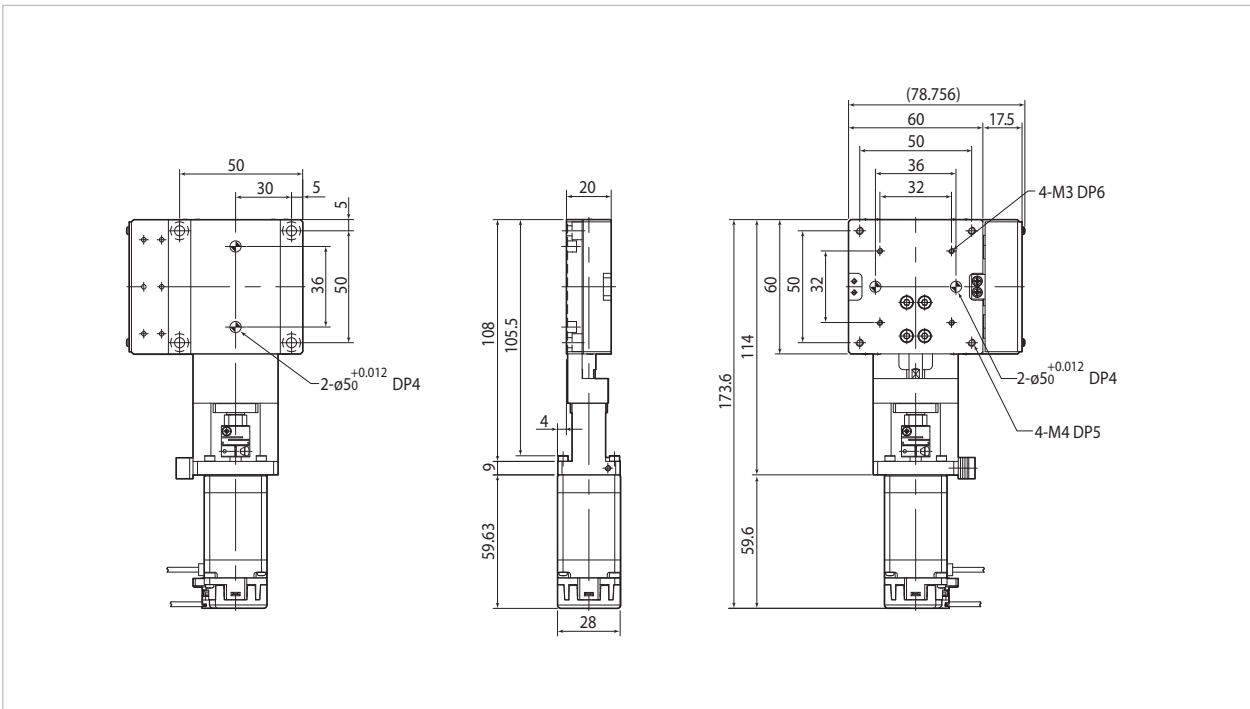
- Imaging Inspection Device(Microscope Up Down Movement)
- Extra fine(Laser diode and etc) Alignment and Inspection
- Viscosity liquid dispensing
- Roll / Laser Cutting
- Fine Laser Machining
- Laser Welding

Drawings for *MLS Series*

Ezi-Robo-MAS-PR-28L-D-MLS-040



Ezi-Robo-MAS-PR-28L-D-MLS-060



MRS Series Product Specifications



Standard Rotary Stage

_ MRS-060, MRS-100, MRS-150

Table Size(mm)

- Ø60
- Ø100
- Ø150

1. Specification

Model Number	28L-D	42XL-A	
	MRS-060	MRS-100	MRS-150
Surface Size	Φ60mm	Φ90mm	Φ140mm
Angular Range	±3°	±6°	±15°
Travel Guide	Thrust & Ball Bearing, Linear Guide		
Resolution *1	0.00162°	0.00136°	0.00106°
Applicable Ball Screw	Ball Screw, Φ8mm Lead 1mm		
Moving Distance / Rotation	0.87°	0.68°	0.53°
Max. Speed *2	8.2°/sec	6.3°/sec	4.8°/sec
Accuracy	0.005°		
Bi-Repeatability	0.003°		
Load Capacity	8.0°/sec	6.3°/sec	4.8°/sec
	5kgf	10kgf	20kgf
Parallelism	30μm	50μm	50μm
Weight	1.6kg	2.2kg	3kg
Material	Aluminum		
Motor	EzM-28L-D (Encoder Resolution 16,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])	EzM-42XL-A (Encoder Resolution 10,000[ppr])

*1 : Specification based on EzM-28L-D, EzM-42XL-A Motor resolution as 500[Step/rev].

*2 : Max. speed is 5,061[pps] under EzM-28L-D Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 5,061[pps].
Max. speed is 4,528[pps] under EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 4,528[pps].

2. Main Features

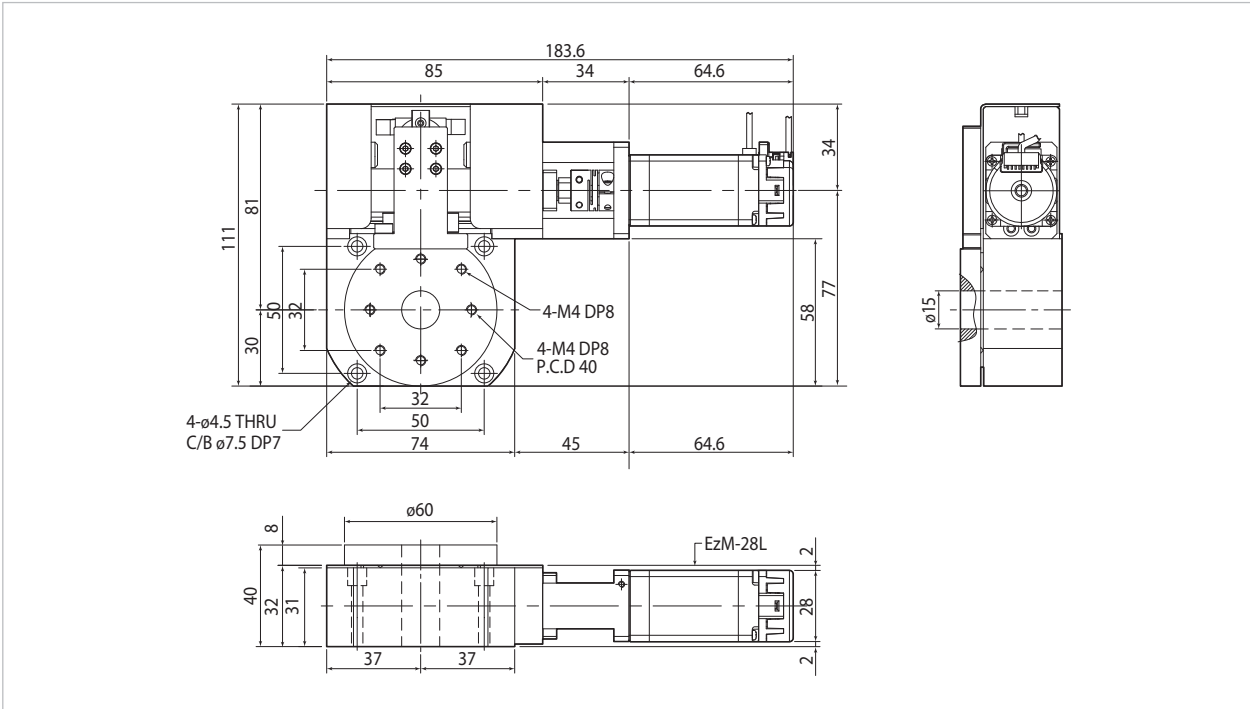
- Rotary Axis Automatic Stage
- Ball Bearing Rotary Stage
- Thrust & Ball Bearing Guide
- Closed Loop Stepping System

3. Applications

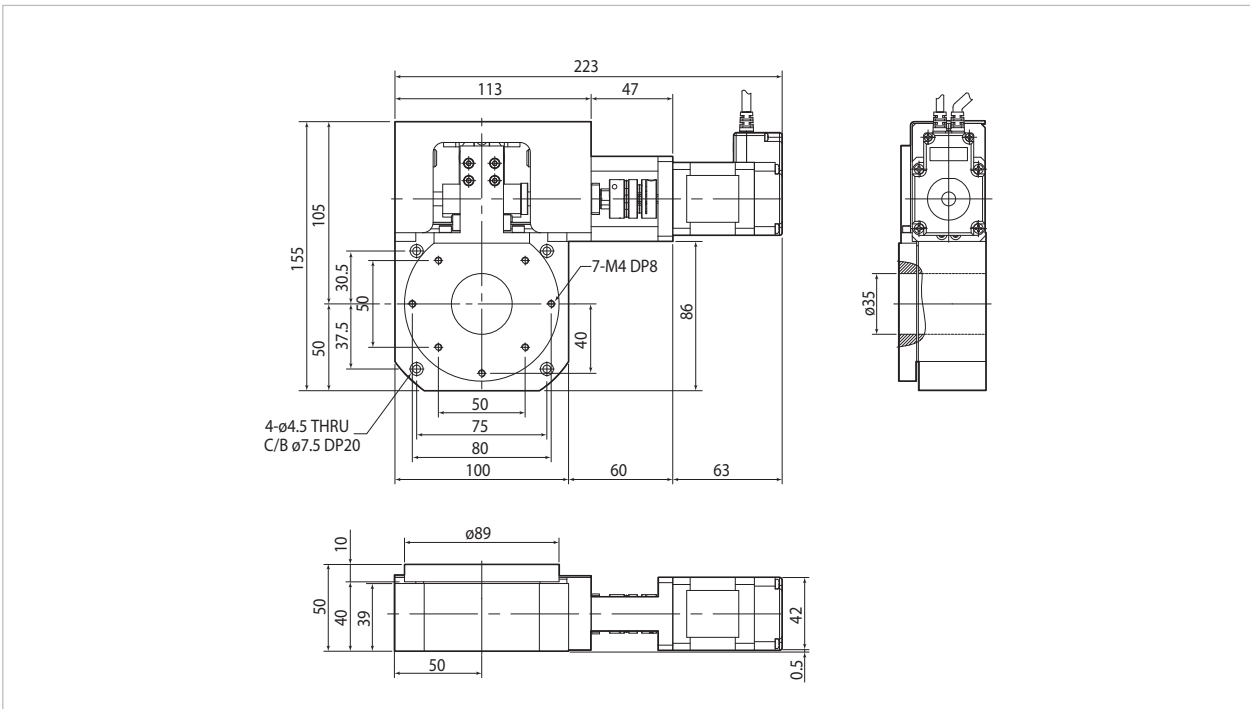
- Polarization Filter
- Laser spectrum Mirror angle control
- Pan Tilt Camera Mount
- Bio slice cutting
- Wafer Inspection
- Antenna Position Control
- Laser Welding

Drawings for MRS Series

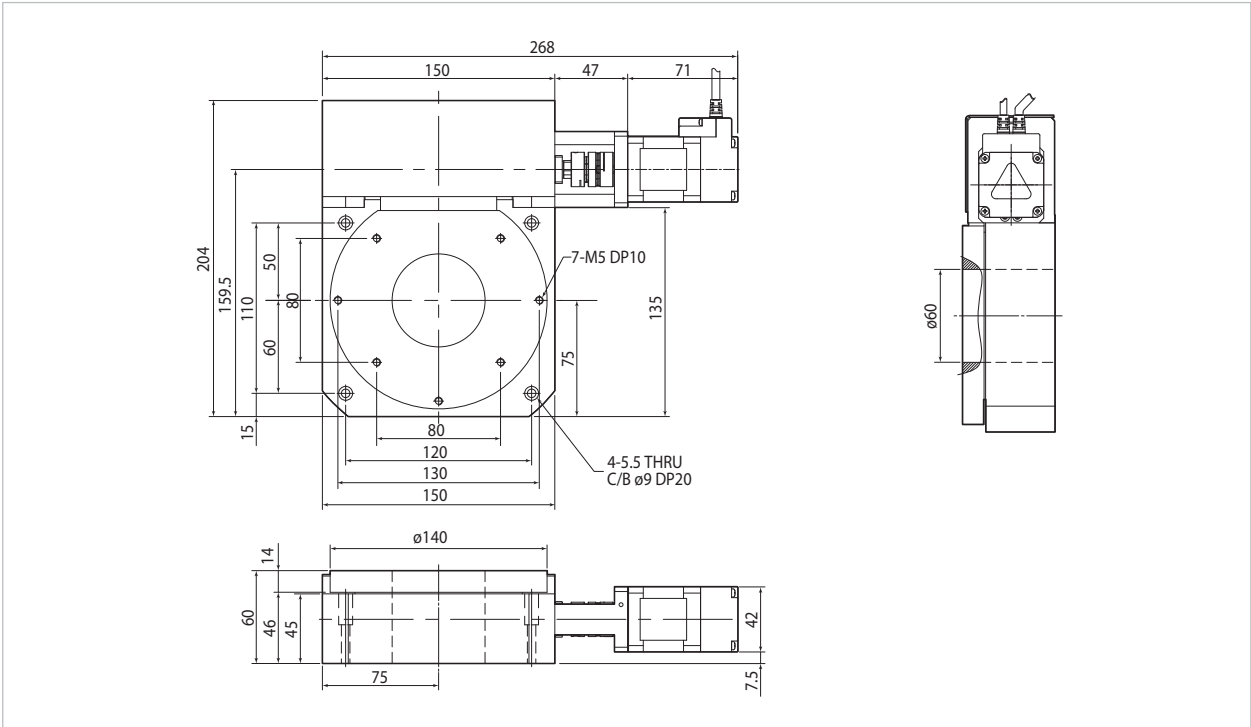
Ezi-Robo-MAS-PR-28L-D-MRS-060



Ezi-Robo-MAS-PR-42XL-A-MRS-100



Ezi-Robo-MAS-PR-42XL-A-MRS-150



MVH Series Product Specifications



Vertical Linear Stage

_ MVH-060, MVH-080, MVH-120, MVH-200

Table Size(mm)

- 60 × 88
- 80 × 100
- 120 × 120
- 200 × 200

1. Specification

Model Number	42XL-A			60L-A
	MVH-060	MVH-080	MVH-120	MVH-200
Surface Size	60 × 88mm	80 × 100mm	120 × 120mm	200 × 200mm
Travel Range	4mm	8mm	12mm	20mm
Travel Guide	Crossed Roller Guide			
Resolution *1	0.25 μ m/step	0.72 μ m/step	0.72 μ m/step	3.6 μ m/step
Applicable Ball Screw	Ball Screw Φ 6mm Lead 1mm	Ball Screw Φ 6mm Lead 1mm	Ball Screw Φ 8mm Lead 1mm	Ball Screw Φ 12mm Lead 5mm
Max. Speed *2	2.5mm/sec	7.2mm/sec	7.2mm/sec	36mm/sec
Accuracy	5 μ m			
Bi-Repeatability	2 μ m			
Load Capacity	5kgf	10kgf	15kgf	25kgf
Parallelism	30 μ m	30 μ m	40 μ m	50 μ m
Straightness	10 μ m	10 μ m	20 μ m	25 μ m
Weight	1.2kg	2kg	3.6kg	5.2kg
Material	Aluminum			
Motor	EzM-42XL-A(Encoder Resolution 10,000[ppr])			EzM-60L-A

*1 : Specification based on EzM-42XL-A Motor resolution as 500[Step/rev].

*2 : Max. speed is 10kpps under EzM-42XL-A Motor resolution as 500[Step/rev]. Please be careful not to set operation speed over Max. speed 10[pps].

2. Main Features

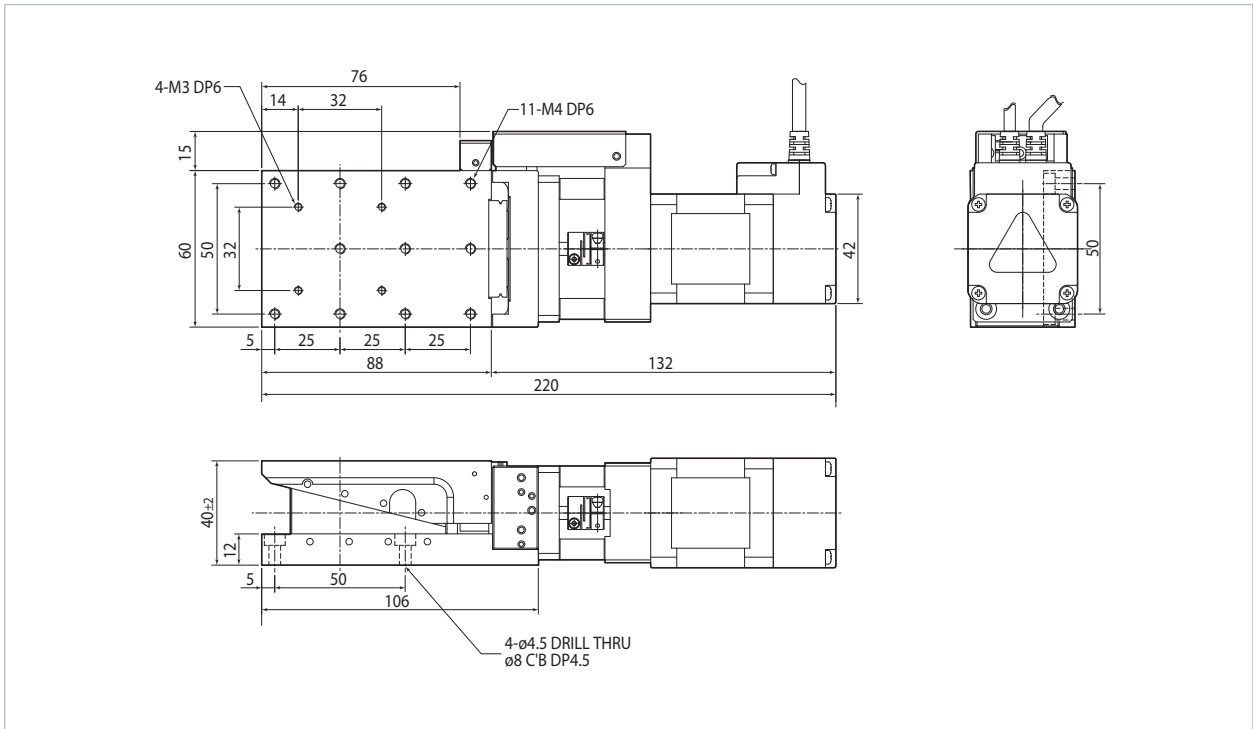
- Z Axis Horizontal Automatic Stage
- Cross-Roller Guide
- Compatible with XY θ Alignment Stage
- Closed Loop Stepping System

3. Applications

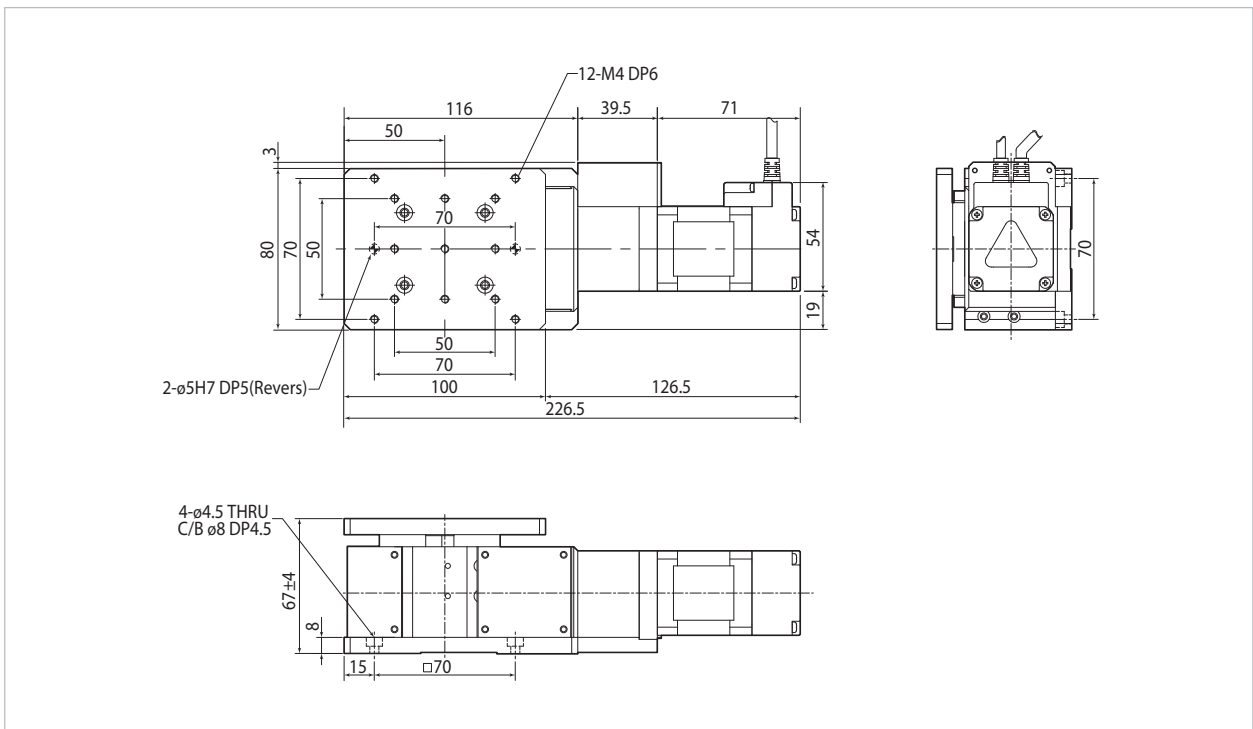
- Roll Cutting / Laser Cutting
- Viscosity liquid dispensing
- Bio slice cutting
- Film Punching Unit
- Imaging Inspection Device
(Microscope Up Down Movement)
- Laser Welding
- Focusing

Drawings for MVH Series

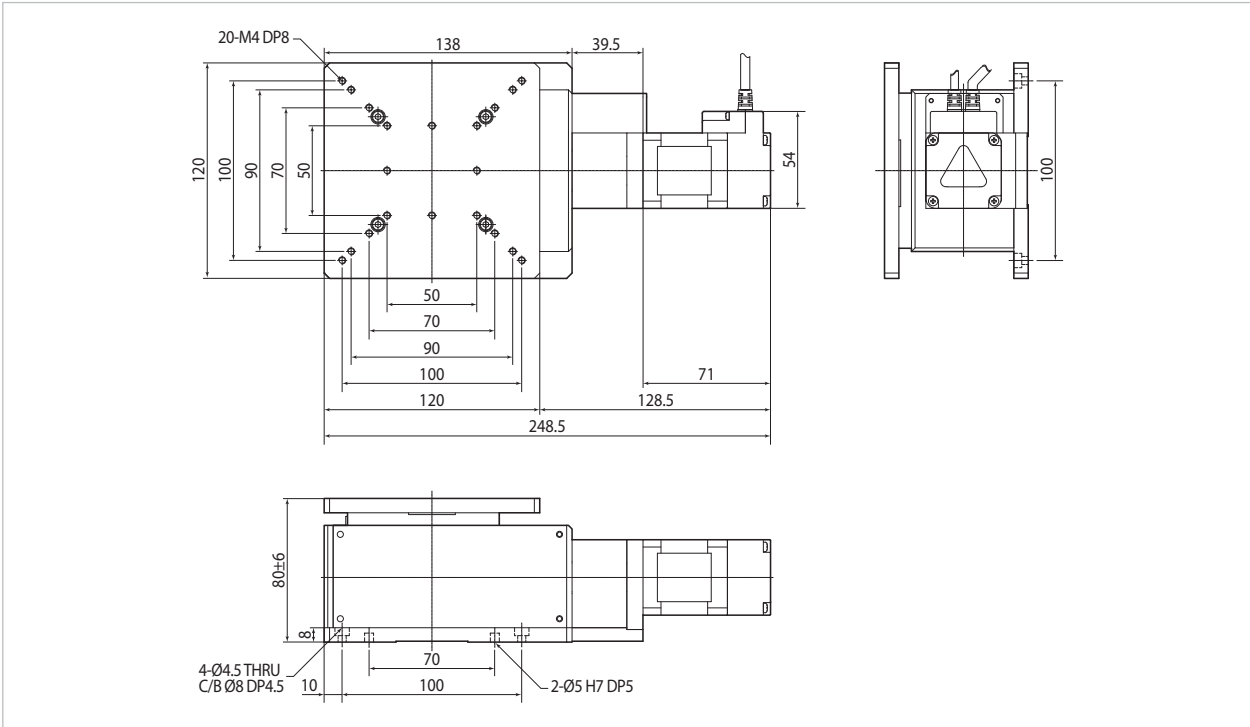
Ezi-Robo-MAS-PR-42XL-A-MVH-060



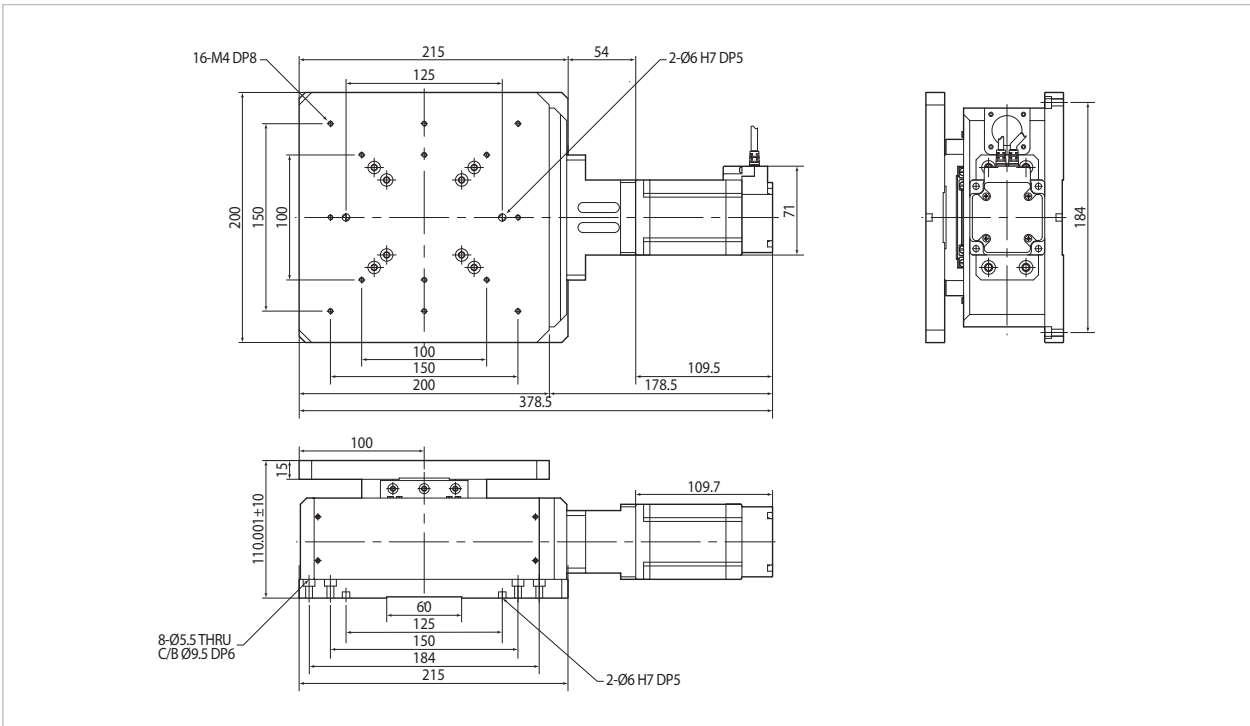
Ezi-Robo-MAS-PR-42XL-A-MVH-080



Ezi-Robo-MAS-PR-42XL-A-MVH-120



Ezi-Robo-MAS-PR-60L-A-M200-MVH-200



Extra Information

1. Optimized Ezi-SERVO Plus R series for PC based Alignment System Structure



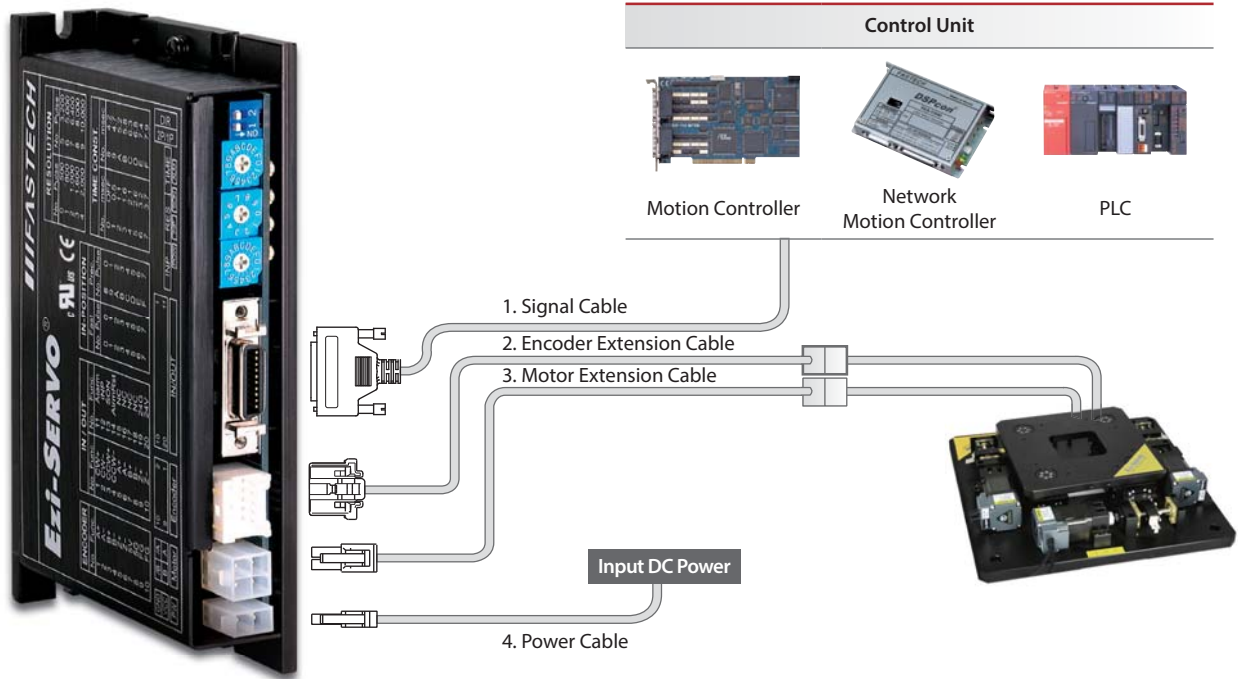
- Provide DLL Library for PC(Windows) Interface
- Positioning Control by RS-485 Network(Controller embedded)
- Plus-R MINI Type(Controller embedded, Mini type) and ST-MI Type(Pulse Input type, Mini type) is selectable
- Non-use of Motion Board simplify operation, reduce cost and wiring

2. Parts

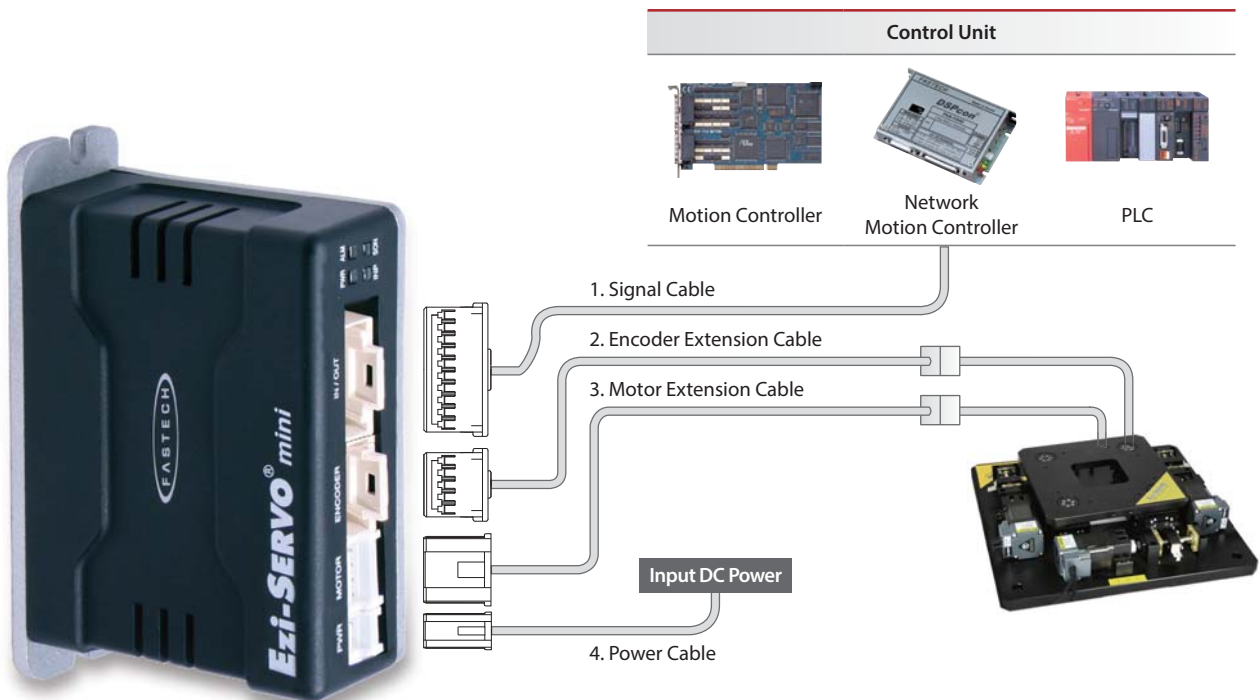
- Power Connector
- Signal Connector
- Encoer Connector
- Motor Connector

System Configuration

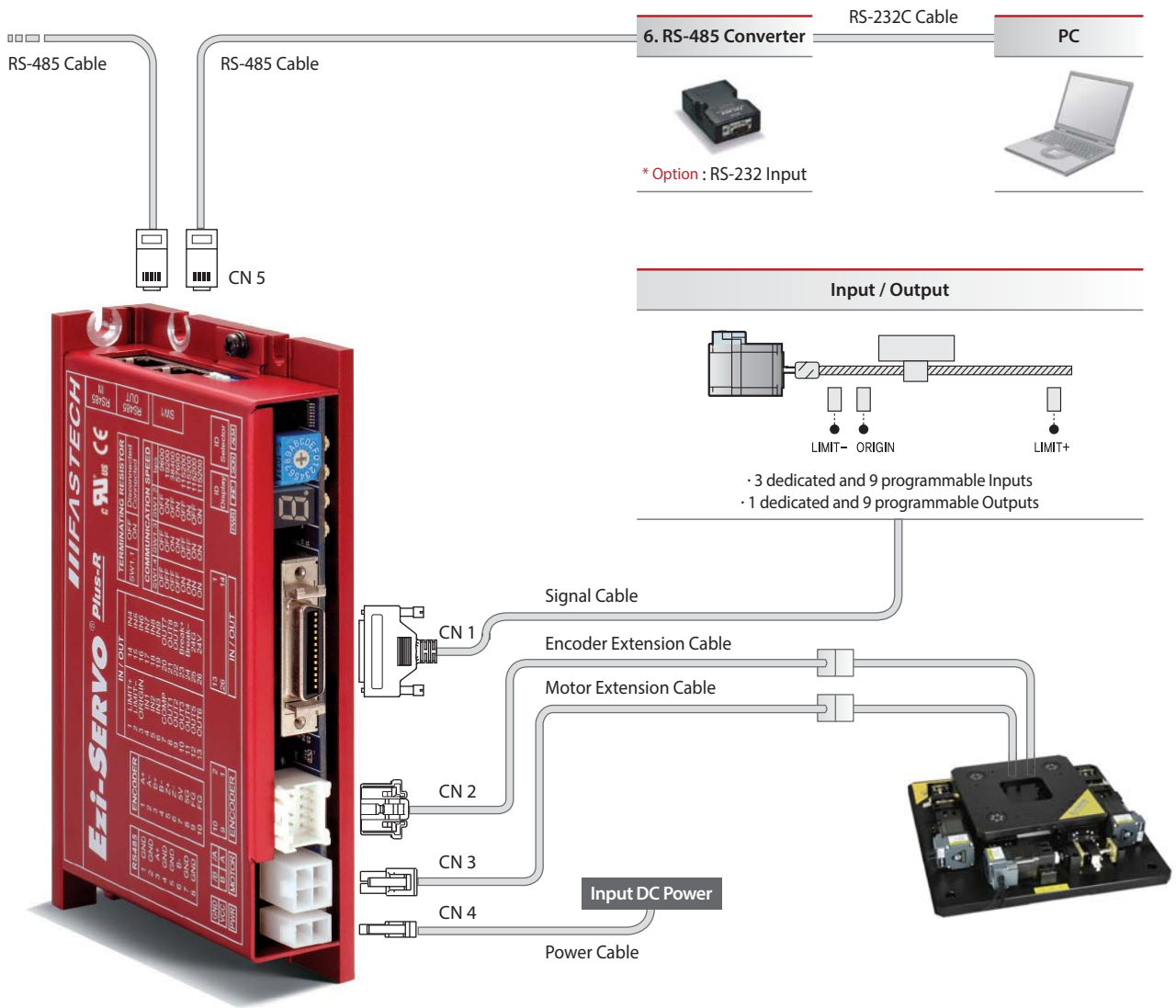
Ezi-SERVO ST



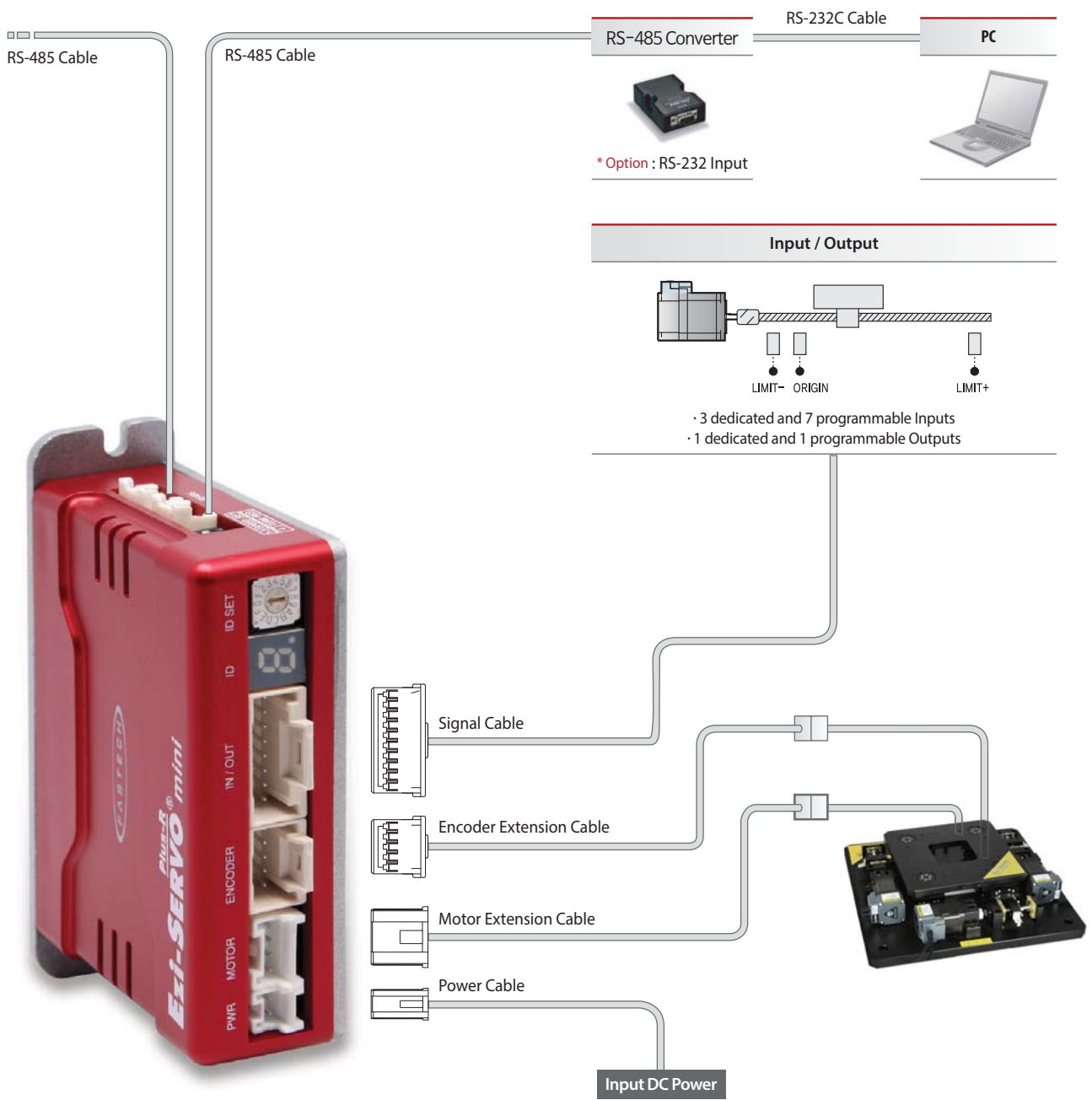
Ezi-SERVO MINI



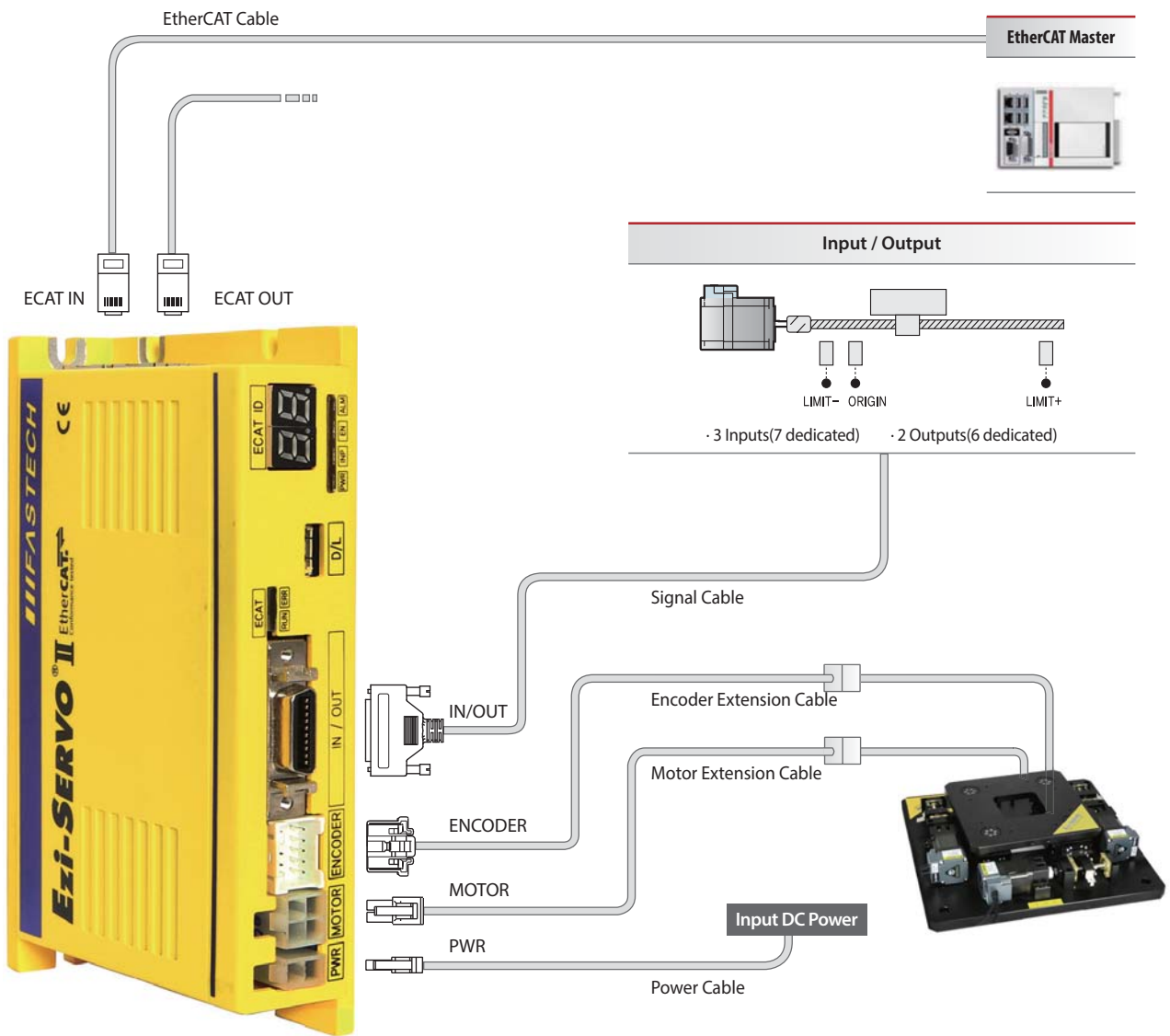
Controller Integrated Drive(RS-485)



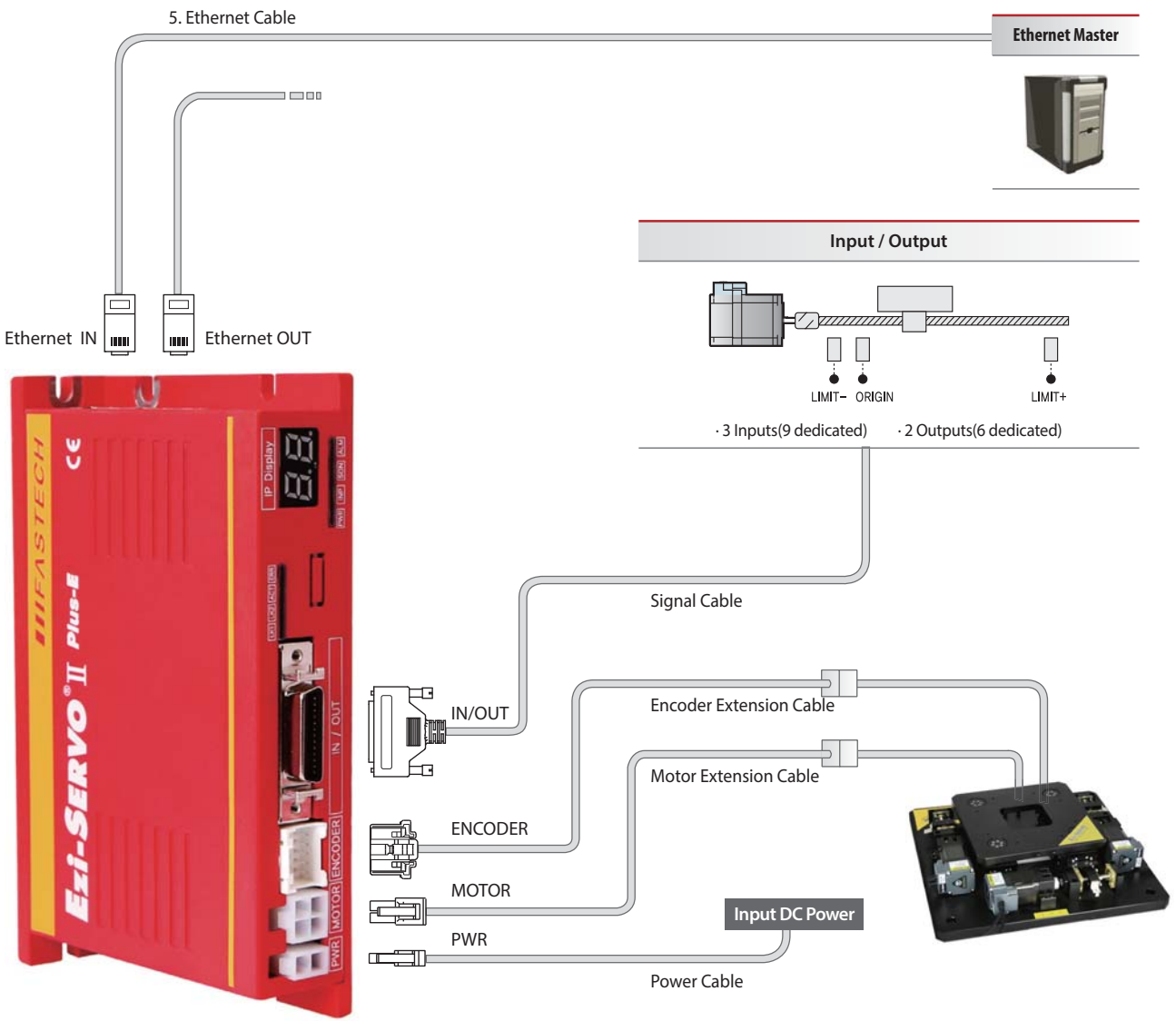
Ezi-SERVO Plus-R MINI



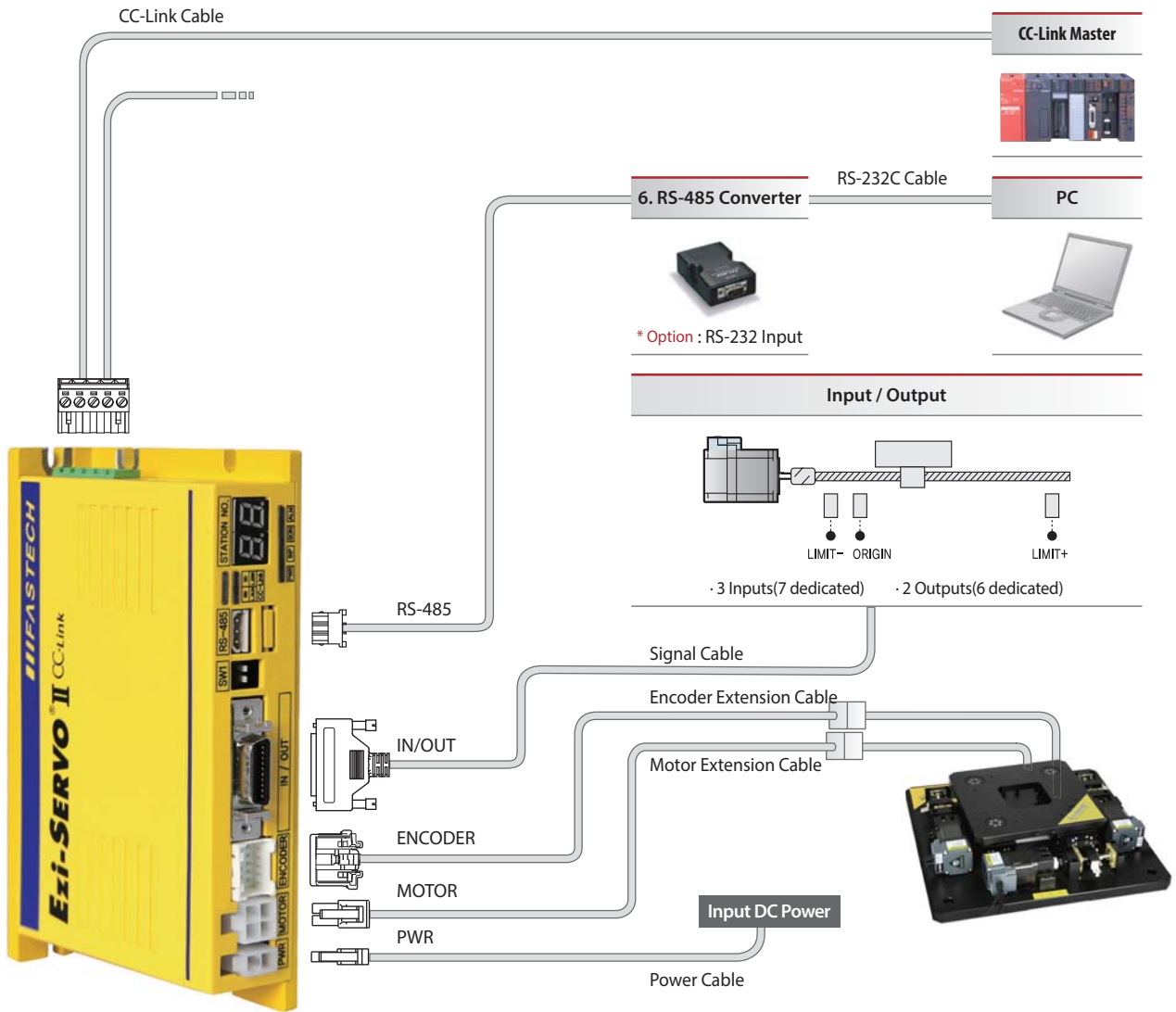
EtherCAT



Ethernet



CC-Link





Fast, Accurate, Smooth Motion

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