

Ezi-STEP[®]

Micro Stepping System

- Embedded Motion Controller
- RS-485 Interface
- Position Table
- Microstepping
- Software Damping
- Run/Stop Signal Output

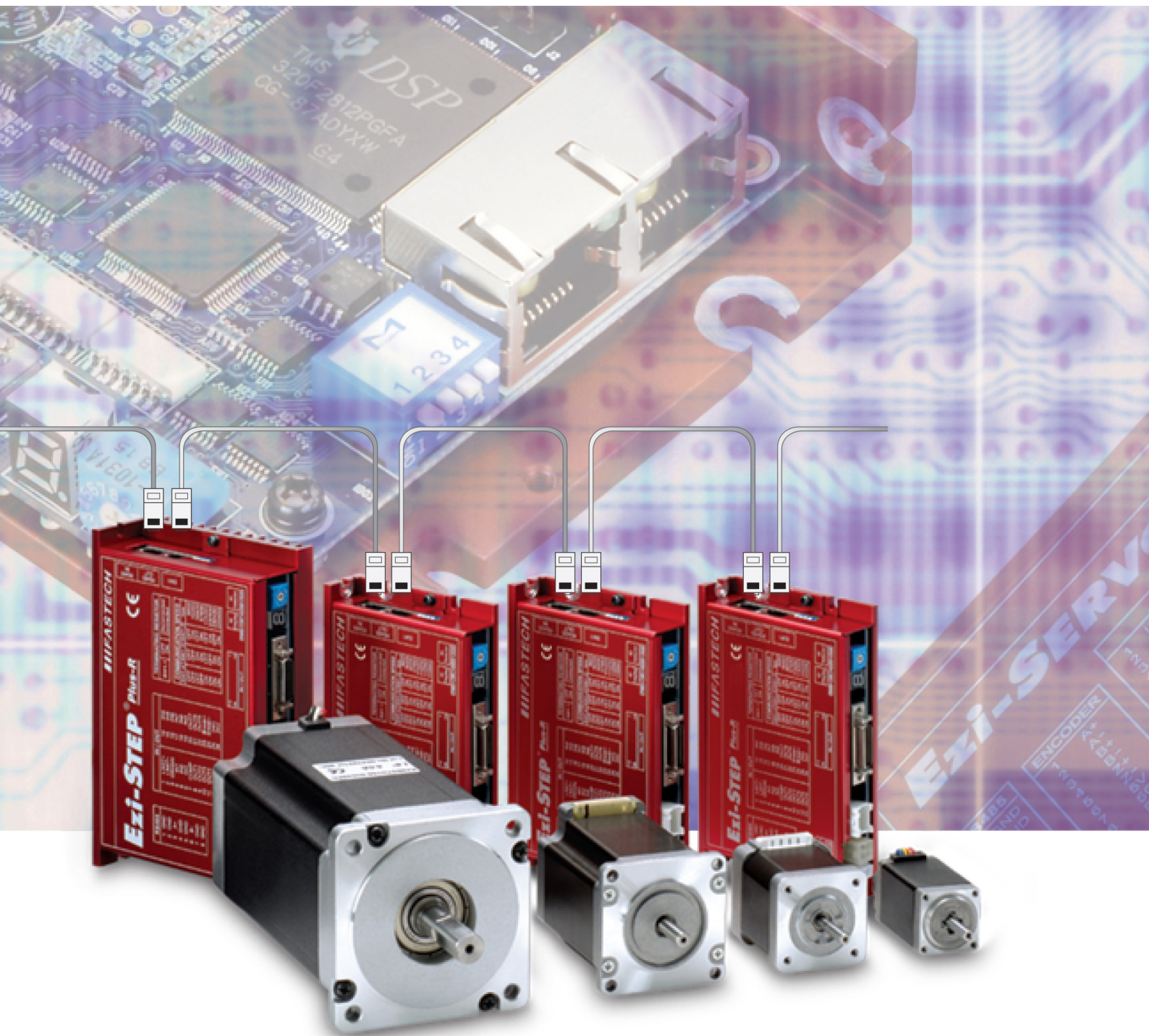
Plus-R



CE

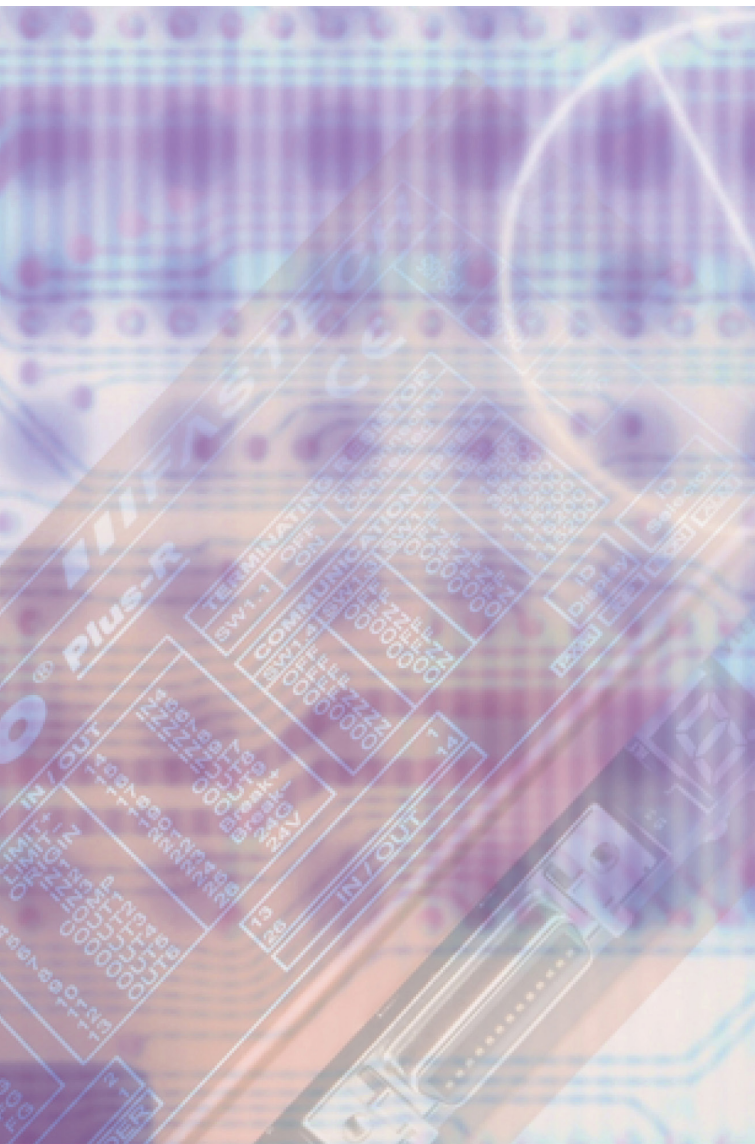


Fast, Accurate, Smooth Motion



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Ezi-STEP[®] Plus-R
Micro Stepping System



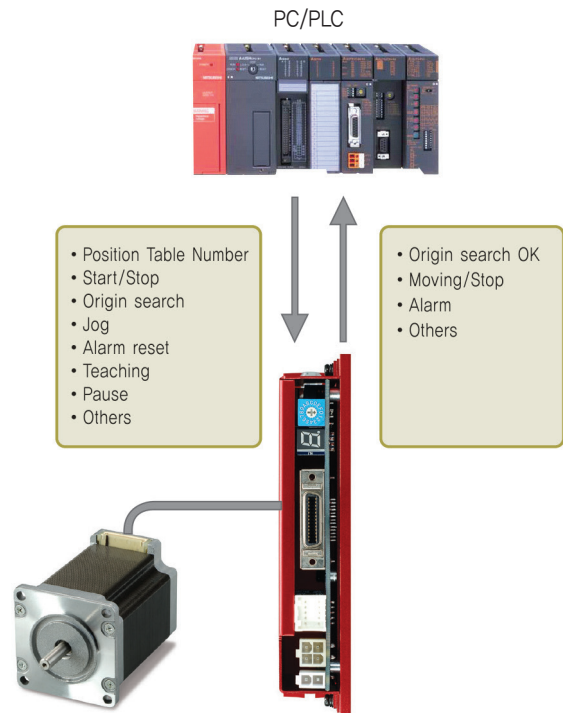
2

Position Table Function

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

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

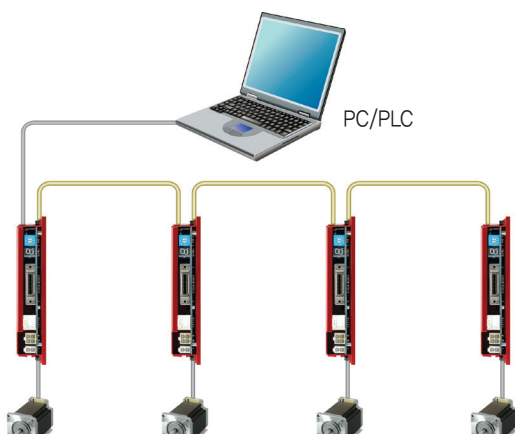
The PC can monitor the In-Position, origin search, moving/stop, servo ready and other digital output signals from a drive. A maximum of 256 positioning points can be set from PC.



1

RS-485 Based Motion Control

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



3

Microstep and Filtering

The high-performance MCU operates at step resolutions of 1.8° up to maximum 0.0072° (1/250 steps) and Ezi-STEP adjusts PWM control signal in every 25μsec, which makes it possible for more precise current control, resulting in high-precision Microstep operation. In addition, Ezi-STEP applies filtering control to enable smooth operation even at very low-speed.

4

Signal Output for Motion Monitoring

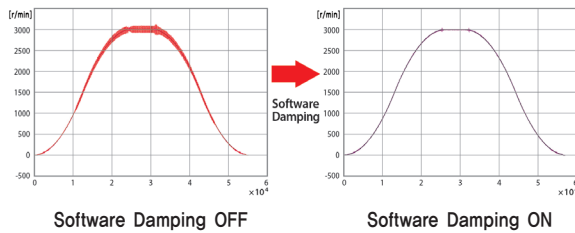
Ezi-STEP outputs the Run/Stop signal during operation, so you can check whether the motor is operating normally through the host controller.

5

Software Damping

Motor vibration is created by magnetic flux variations of the motor, lower current from the drive due to back-emf from the motor at high speeds and lowering of phase voltages from the drive.

Ezi-STEP drive detects these problems and the MCU adjusts the phase of the current according to the pole position of the motor, drastically suppressing vibration. This allows the smooth operation of the motor at high speeds.



※ This is real measured speed that using 100,000 P/R encoder.

6

Improved high-speed operation performance

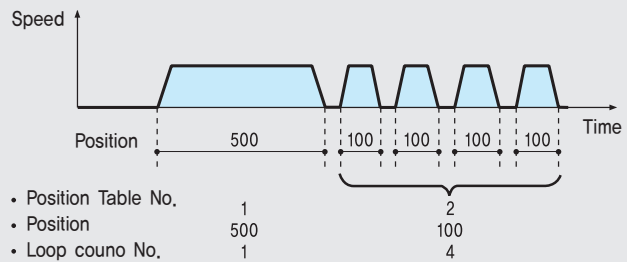
Depending on the speed of a stepping motor, Ezi-STEP automatically increases the supply voltage and prevents the torque lowering due to the low operating voltage to the motor caused by back-emf voltage, this enables high-speed operation. Additionally, the software damping algorithm minimizes the vibration and prevents the loss-of-synchronization at high-speed.

※ Applicable model : Ezi-STEP-PR-42 Series
Ezi-STEP-PR-56 Series
Ezi-STEP-PR-60 Series

● Motion Controller Features of Ezi-STEP

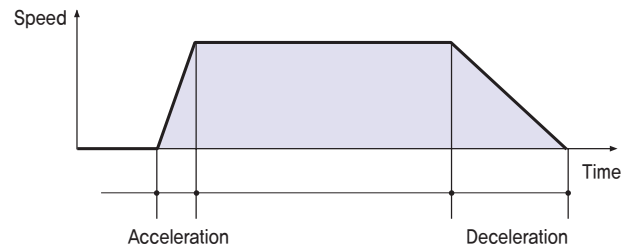
1. Loop Count

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



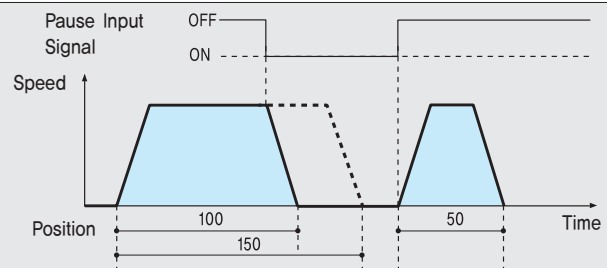
2. Acceleration/Deceleration

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



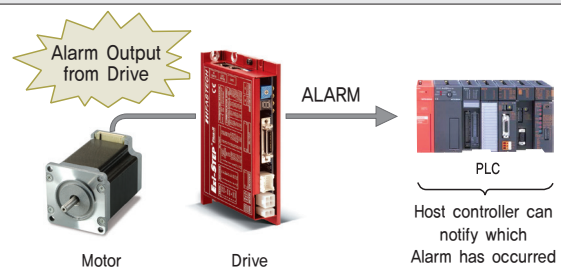
3. Pause

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



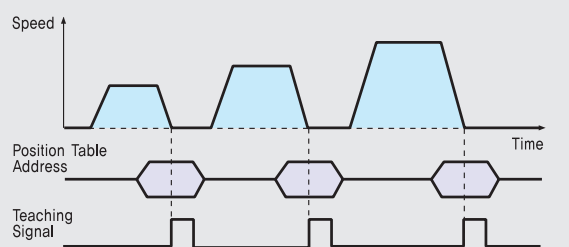
4. Alarm

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



5. Teaching

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

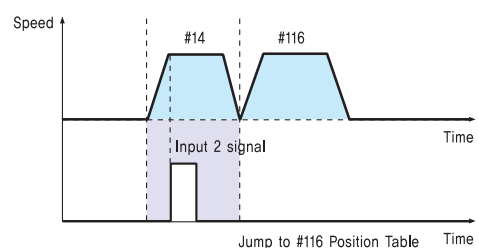
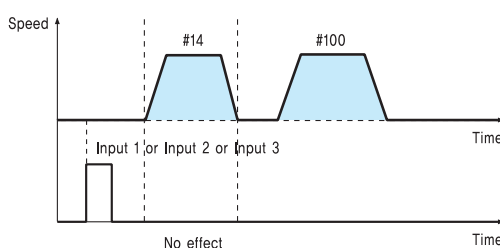


6. Jump

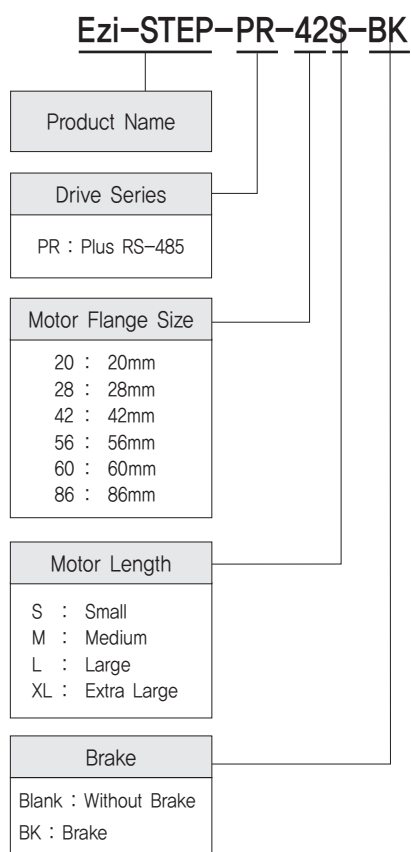
Within one Position Table, you can select various Position Table numbers that you want to jump. With three external input signal during movement, the next jump Position Table number can be select.

◆ Position Table #14

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



● Ezi-STEP Plus-R Part Numbering



● Standard Combination

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-STEP-PR-20M	BM-20M	EzT-NDR-20M
Ezi-STEP-PR-20L	BM-20L	EzT-NDR-20L
Ezi-STEP-PR-28S	BM-28S	EzT-NDR-28S
Ezi-STEP-PR-28M	BM-28M	EzT-NDR-28M
Ezi-STEP-PR-28L	BM-28L	EzT-NDR-28L
Ezi-STEP-PR-42S	BM-42S	EzT-NDR-42S
Ezi-STEP-PR-42M	BM-42M	EzT-NDR-42M
Ezi-STEP-PR-42L	BM-42L	EzT-NDR-42L
Ezi-STEP-PR-42XL	BM-42XL	EzT-NDR-42XL
Ezi-STEP-PR-56S	BM-56S	EzT-NDR-56S
Ezi-STEP-PR-56M	BM-56M	EzT-NDR-56M
Ezi-STEP-PR-56L	BM-56L	EzT-NDR-56L
Ezi-STEP-PR-60S	BM-60S	EzT-NDR-60S
Ezi-STEP-PR-60M	BM-60M	EzT-NDR-60M
Ezi-STEP-PR-60L	BM-60L	EzT-NDR-60L
Ezi-STEP-PR-86M	BM-86M	EzT-NDR-86M
Ezi-STEP-PR-86L	BM-86L	EzT-NDR-86L
Ezi-STEP-PR-86XL	BM-86XL	EzT-NDR-86XL

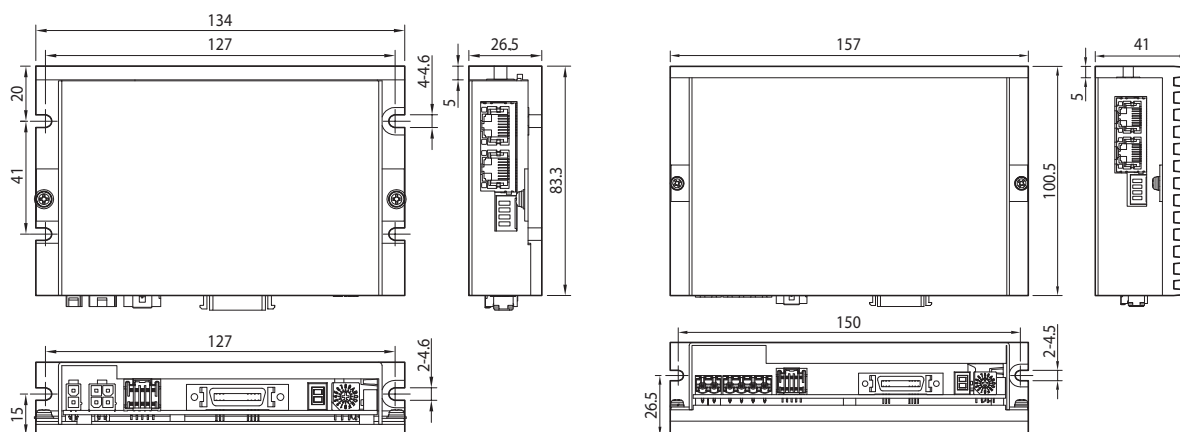
● Combination with Brake

Unit Part Number	Motor Model Number	Drive Model Number
Ezi-STEP-PR-42S-BK	BM-42S-BK	EzT-NDR-42S
Ezi-STEP-PR-42M-BK	BM-42M-BK	EzT-NDR-42M
Ezi-STEP-PR-42L-BK	BM-42L-BK	EzT-NDR-42L
Ezi-STEP-PR-42XL-BK	BM-42XL-BK	EzT-NDR-42XL
Ezi-STEP-PR-56S-BK	BM-56S-BK	EzT-NDR-56S
Ezi-STEP-PR-56M-BK	BM-56M-BK	EzT-NDR-56M
Ezi-STEP-PR-56L-BK	BM-56L-BK	EzT-NDR-56L
Ezi-STEP-PR-60S-BK	BM-60S-BK	EzT-NDR-60S
Ezi-STEP-PR-60M-BK	BM-60M-BK	EzT-NDR-60M
Ezi-STEP-PR-60L-BK	BM-60L-BK	EzT-NDR-60L
Ezi-STEP-PR-86M-BK	BM-86M-BK	EzT-NDR-86M
Ezi-STEP-PR-86L-BK	BM-86L-BK	EzT-NDR-86L
Ezi-STEP-PR-86XL-BK	BM-86XL-BK	EzT-NDR-86XL

● Specifications of Drive

Motor Model	BM-20 series	BM-28 series	BM-42 series	BM-56 series	BM-60 series	BM-86 series
Drive Model	EzT-NDR-20 series	EzT-NDR-28 series	EzT-NDR-42 series	EzT-NDR-56 series	EzT-NDR-60 series	EzT-NDR-86 series
Input Voltage	DC24V $\pm$ 10%					DC40~70V
Control Method	Bipolar PWM drive with 32bit MCU					
Multi Axis Drive	Max. 16 axis operating (Daisy Chain)					
Position Table	256 motion command steps					
Current Consumption	Max. 500mA (Except motor current)					
Operating Condition	Ambient Temperature	· In Use: 0~50°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				
	Resolution	Configurable Resolution [P/R] 500 1,000 1,600 2,000 3,200 3,600 4,000 5,000 6,400 8,000 10,000 20,000 25,000 36,000 40,000 50,000 (Selectable by parameter)				
	Error Types	Over Current Error, Over Speed Error, Step Out Error, Over Temperature Error, Over Regenerated Voltage Error, Motor Connect Error, Motor Voltage Error, System Error, ROM Error				
	LED Display	Power Status, Alarm Status, Motor Rotation Direction				
	STOP Current Selection	20~100% (Set by parameter)				
	Rotation Direction	CW/CCW (Set by parameter)				
I/O Signal	Input Signals	3 dedicated inputs (LIMIT+, LIMIT-, ORIGIN), 9 programmable inputs (Photocoupler Input)				
	Output Signals	1 dedicated output (Compare Out), 9 programmable outputs (Photocoupler Output), 1 Brake output				
Communication Interface		· RS-485 Communication · Baud Rate : 9,600~921,600bps				
Position Control		· Incremental mode / Absolute mode Data Range: -134,217,728 to +134,217,727 [pulse] · Operating speed: Max. 3,000 r/min				
Return to Origin		Origin Sensor, $\pm$ Limit sensor, Z phase(with external encoder)				
GUI		User Interface Program within Windows				
Library		Motion Library (API) for windows 7/8/10				

● Dimensions of Drive [mm]



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

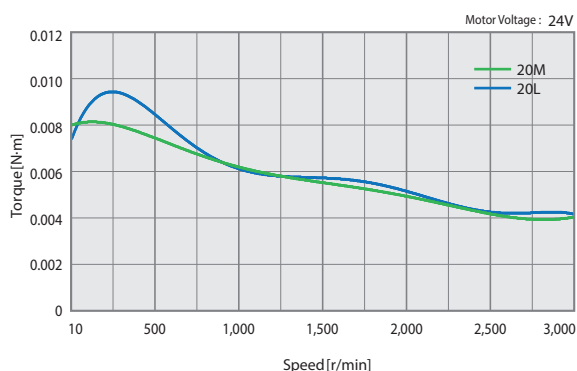
● Specifications of Motor

MODEL			BM-20 series		BM-28 series			BM-42 series				
			UNIT	20M	20L	28S	28M	28L	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	1,2	1,2	1,2	1,2
MAXIMUM HOLDING TORQUE			N·m	0,016	0,025	0,069	0,098	0,118	0,32	0,44	0,5	0,65
ROTOR INERTIA			g·cm ²	2,5	3,3	9,0	13	18	35	54	77	114
WEIGHTS			kg	0,053	0,078	0,115	0,174	0,202	0,238	0,303	0,374	0,508
LENGTH(L)			mm	28	38	32	45	50	34	40	48	60
PERMISSIBLE RADIAL LOAD	DIS- TANCE FROM END OF SHAFT	3mm	N	18	18	30	30	30	22	22	22	22
		8mm		30	30	38	38	38	26	26	26	26
		13mm		—	—	53	53	53	33	33	33	33
		18mm		—	—	—	—	—	46	46	46	46
PERMISSIBLE AXIAL LOAD			N	Lower than Motor Unit's Weight								
INSULATION RESISTANCE			MΩ	Min, 100(When measured with a DC500V insulation resistance meter)								
INSULATION CLASS			—	CLASS B(130℃)								
OPERATING TEMPERATURE			℃	0 ~ 55								

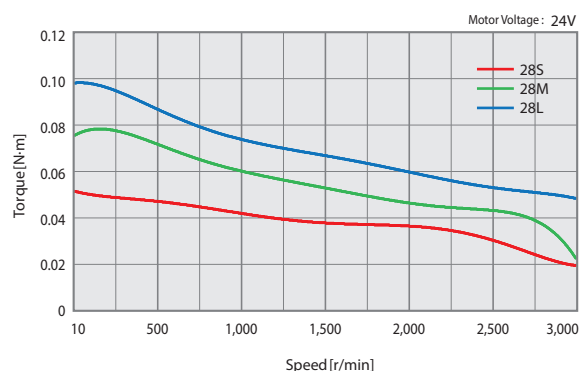
MODEL			BM-56 series			BM-60 series			BM-86 series			
			UNIT	56S	56M	56L	60S	60M	60L	86M	86L	86XL
DRIVE METHOD			—	Bipolar								
NUMBER OF PHASES			—	2 Phase								
CURRENT per PHASE			A/Phase	3.0	3.0	3.0	4.0	4.0	4.0	6.0	6.0	6.0
MAXIMUM HOLDING TORQUE			N·m	0.64	1.0	1.5	0.88	1.28	2.4	4.5	8.5	12
ROTOR INERTIA			g·cm ²	180	280	520	240	490	690	1800	3600	5400
WEIGHTS			kg	0.548	0.726	1.159	0.616	0.793	1.349	2.275	3.808	5.330
LENGTH(L)			mm	46	55	80	47	56	85	78	117	155
PERMISSIBLE RADIAL LOAD	DIS-TANCE FROM END OF SHAFT	3mm	N	52	52	52	70	70	70	270	270	270
		8mm		65	65	65	87	87	87	300	300	300
		13mm		85	85	85	114	114	114	350	350	350
		18mm		123	123	123	165	165	165	400	400	400
PERMISSIBLE AXIAL LOAD			N	Lower than Motor Unit's Weight								
INSULATION RESISTANCE			MΩ	Min, 100(When measured with a DC500V insulation resistance meter)								
INSULATION CLASS			—	CLASS B(130℃)								
OPERATING TEMPERATURE			℃	0 ~ 55								

● Torque Characteristics of Motor

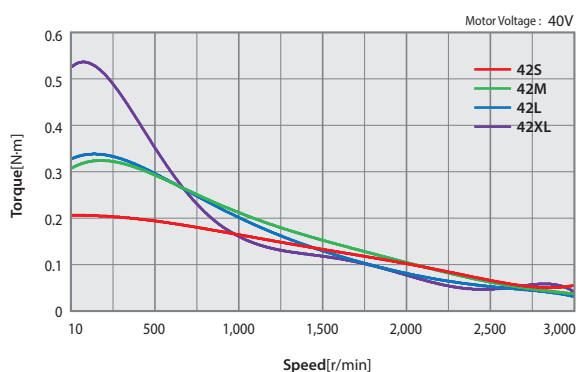
Ezi-STEP-PR-20 series



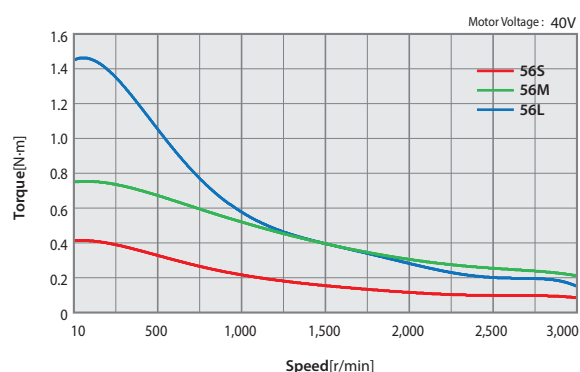
Ezi-STEP-PR-28 series



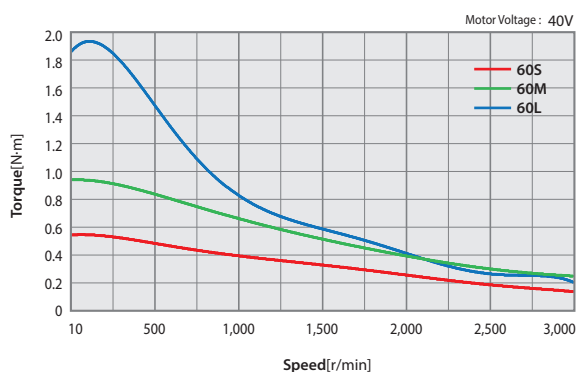
Ezi-STEP-PR-42 series



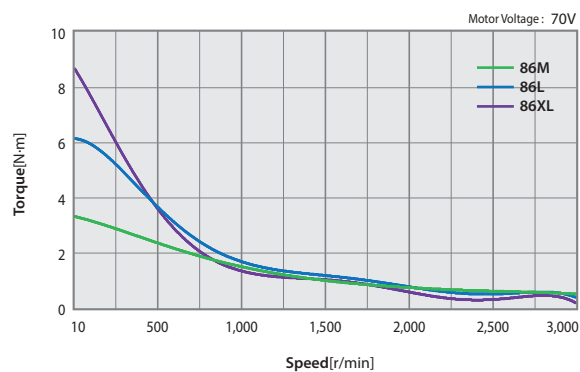
Ezi-STEP-PR-56 series



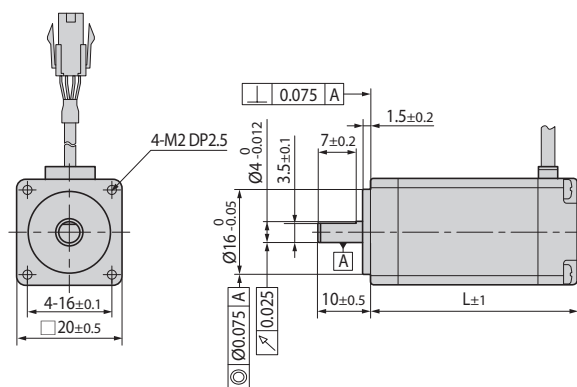
Ezi-STEP-PR-60 series



Ezi-STEP-PR-86 series

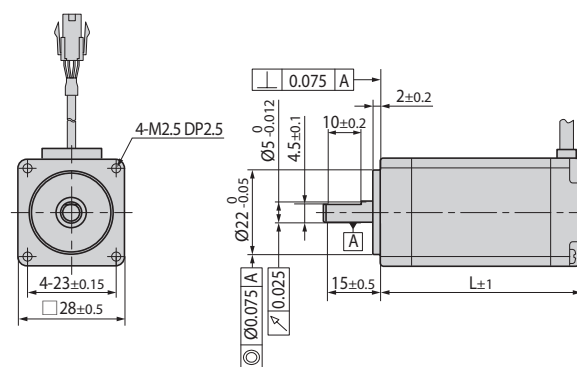


● Dimensions of Motor [mm]



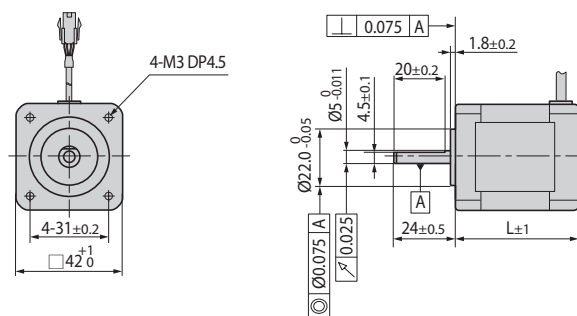
20mm

Model Name	Length(L)
BM-20M	28
BM-20L	38



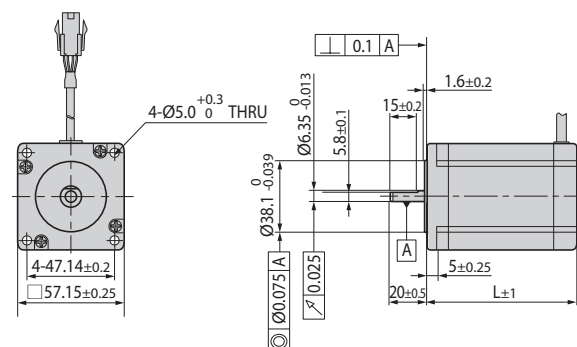
28mm

Model Name	Length(L)
BM-28S	32
BM-28M	45
BM-28L	50



42mm

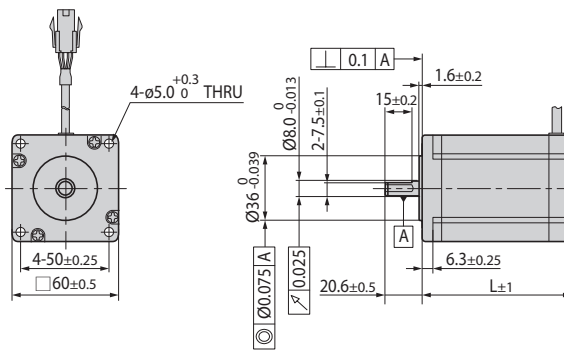
Model Name	Length(L)
BM-42S	34
BM-42M	40
BM-42L	48
BM-42XL	60



56mm

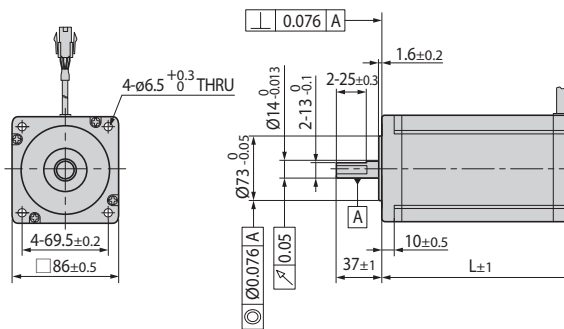
Model Name	Length(L)
BM-56S	46
BM-56M	55
BM-56L	80

● Dimensions of Motor [mm]



60_{mm}

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



86_{mm}

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

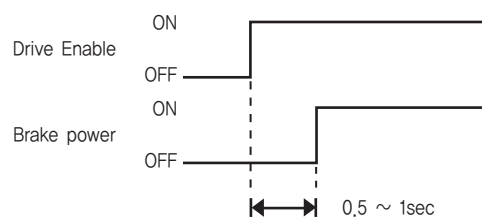
● Specifications of Motor with Brake

Unit Part Number	Motor Model Number	Electromagnetic Brake					Motor Unit Weight [kg]	Permissible Radial Load [N]				Permissible Axial Load [N]
		Type	Voltage Input [V]	Rated Current [A]	Power Consumption [W]	Static Friction Torque [N·m]		Distance from End of Shaft [mm]				
								3	8	13	18	
Ezi-STEP-PR-42S-BK	BM-42S-BK	Non-excitation run Type	DC24V ±10%	0.2	5	0.2	0,500	22	26	33	46	Must be Lower than Motor Unit Weight
Ezi-STEP-PR-42M-BK	BM-42M-BK						0,560					
Ezi-STEP-PR-42L-BK	BM-42L-BK						0,630					
Ezi-STEP-PR-42XL-BK	BM-42XL-BK						0,770					
Ezi-STEP-PR-56S-BK	BM-56S-BK			0.27	6.6	0.7	0,970	52	65	85	123	
Ezi-STEP-PR-56M-BK	BM-56M-BK						1,150					
Ezi-STEP-PR-56L-BK	BM-56L-BK						1,580					
Ezi-STEP-PR-60S-BK	BM-60S-BK						1,060	70	87	114	165	
Ezi-STEP-PR-60M-BK	BM-60M-BK						1,230					
Ezi-STEP-PR-60L-BK	BM-60L-BK						1,790					
Ezi-STEP-PR-86M-BK	BM-86M-BK			0,54	13	4	3,580	270	300	350	400	
Ezi-STEP-PR-86L-BK	BM-86L-BK						5,110					
Ezi-STEP-PR-86XL-BK	BM-86XL-BK						6,630					

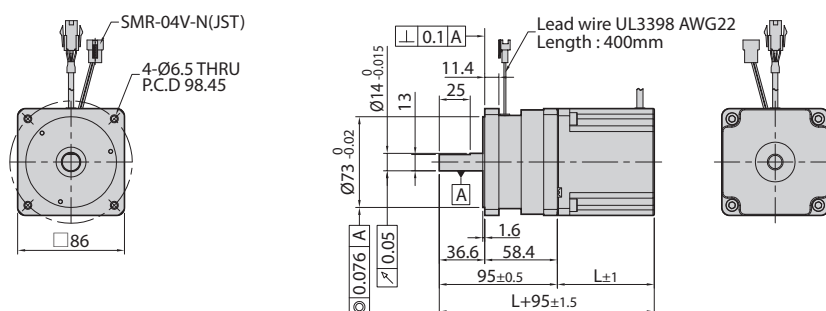
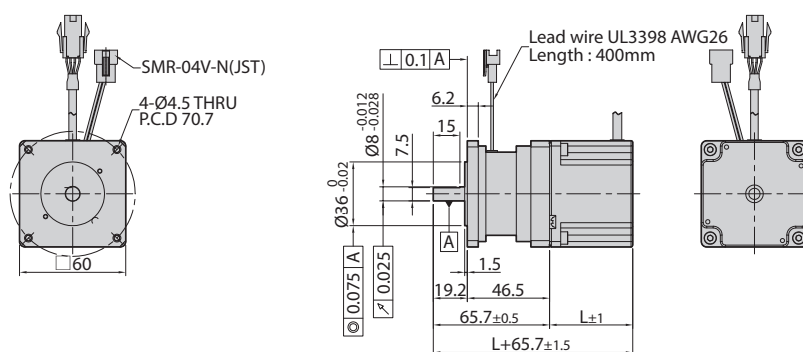
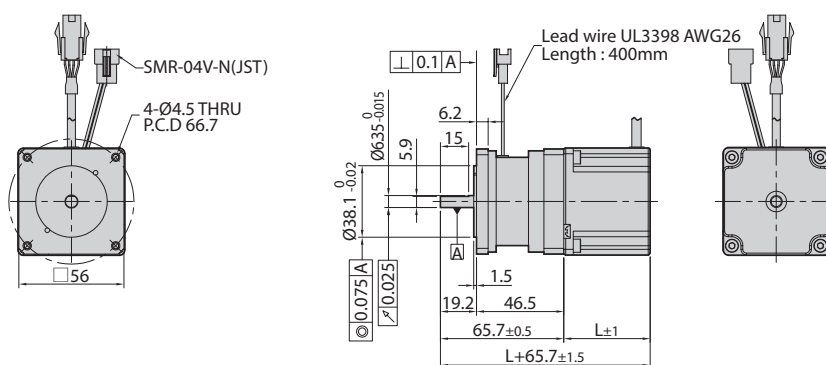
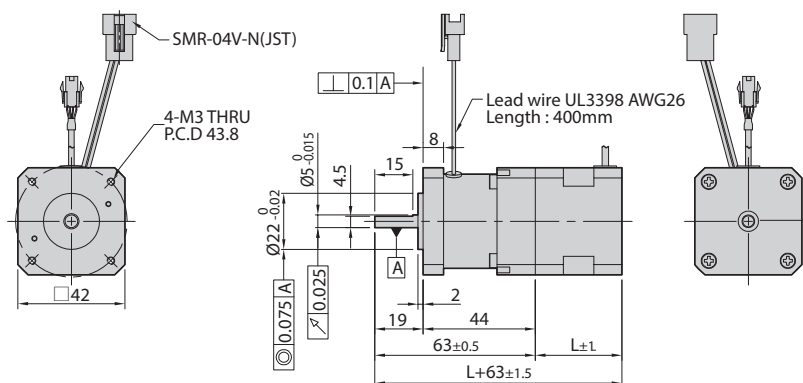
- * Electronic Brake cannot be used for braking. Position hold purpose only when power OFF.
- * The weight means Motor Unit Weight including Motor and Electronic Brake.
- * Motor Model Number is combined model name of Motor and Brake.
- * Motor specification and torque characteristic are same as Standard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

* Brake Operation Timing Chart

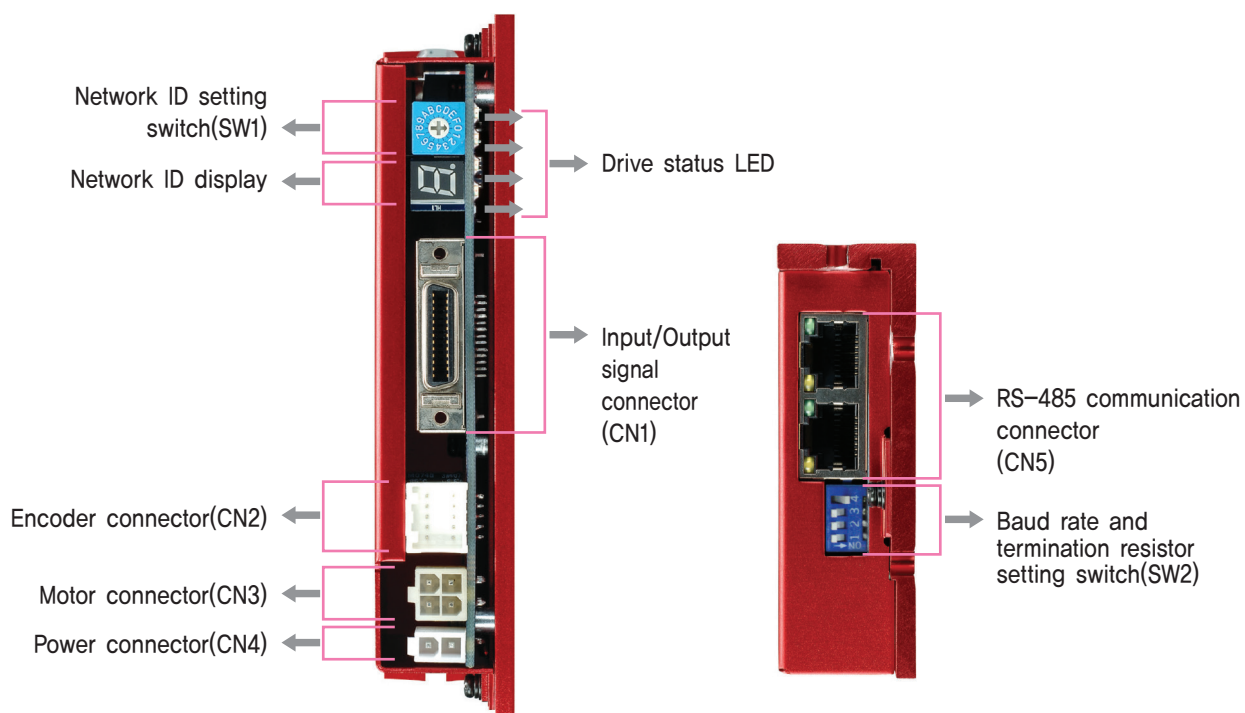
Ezi-STEP Plus-R controls Brake by Drive automatically.
Please refer to below Timing Chart when Brake is controlled by the upper controller other than using Ezi-STEP Plus-R Brake control.
Otherwise, Drive might malfunction and loads might fall down.
Also, please do not operate Brake during motor operation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



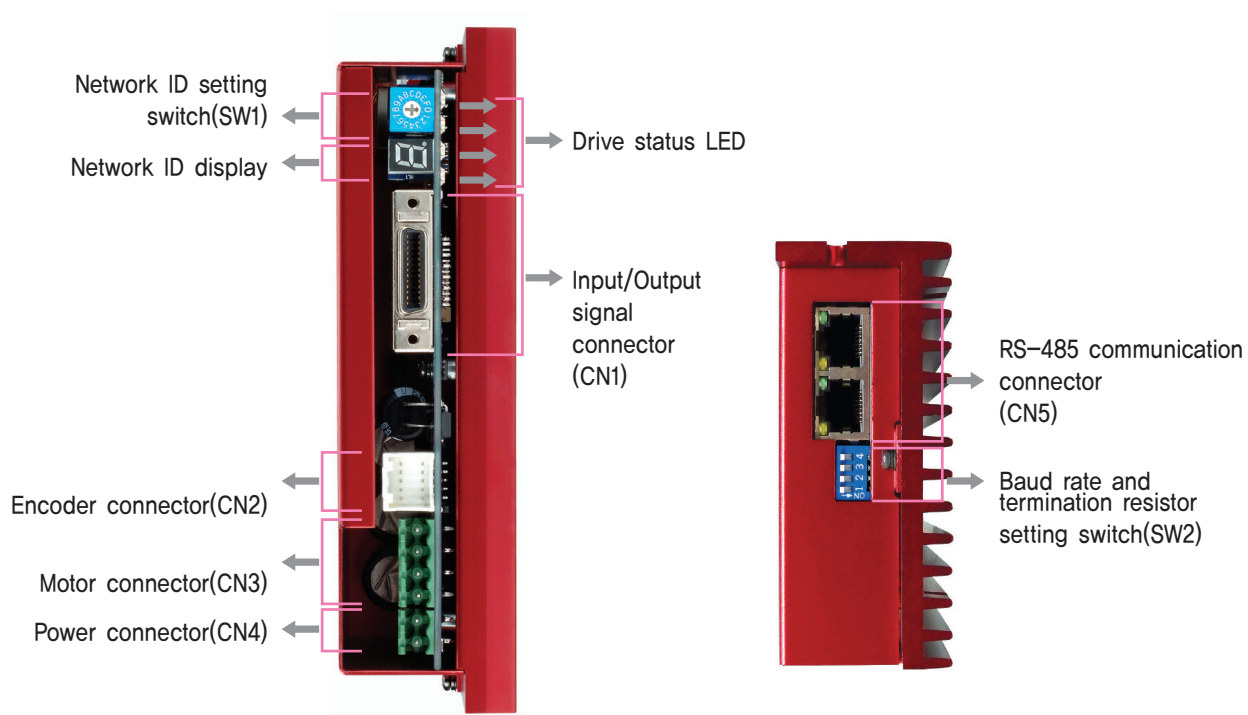
● Dimensions of Motor with Brake [mm]



● Settings and Operation



◆ 86mm Motor Drive(EzT-NDR-86 series)

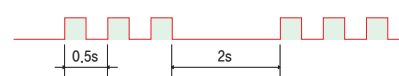


1. Drive Status LED

Name	Color	Function	Description
PWR	Green	Power Input Indication	LED is turned ON when power is applied.
ALM	Red	Alarm Indication	LED blinks when an error occurs.
CW	Yellow	Rotation Direction Indication	LED is turned on when the motor rotates CW.
CCW	Orange	Rotation Direction Indication	LED is turned on when the motor rotates CCW.

◆ List of error types by the number of 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	Step Out Error	The motor does not follow the pulse input normally
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 Power Error	There is a problem with the connection between the drive and the motor.
9	Motor Voltage Error	The voltage supplied to the motor is lower than the lower limit*3
11	System Error	There is a problem in the drive system (Watchdog Timer Out).
12	ROM Error	Error occurs in parameter storage device(ROM).



Alarm LED flash (e.g., Step Out Error)

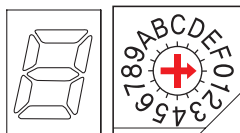
*1 : Limit value depends on motor model, (Refer to the Manual)

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

*3 : The lower limit of the voltage supplied to the motor depends on the drive and motor model, (Refer to the Manual)

2. Network ID Setting Switch(SW1)

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



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

3. Baud Rate and Termination Resistor

Setting Switch(SW2)

Termination Resistor Setting Switch(SW2.1)

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

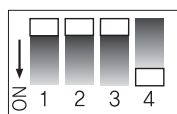
- SW2.1 ON: Termination resistor is set
- SW2.1 OFF: Termination resistor is not set

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

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

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

*1 : Default Value

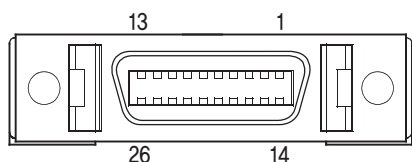


Baud Rate Setting Switch

Termination Resistor Setting Switch

4. Input/Output Signal Connector(CN1)

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

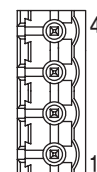
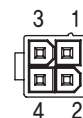


6. Motor Connector(CN3)

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

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

※ 86mm Motor Drive



7. Power Connector(CN4)

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

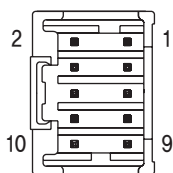
No.	Function	I/O
1	GND	Input
2	DC40~70V	Input

※ 86mm Motor Drive



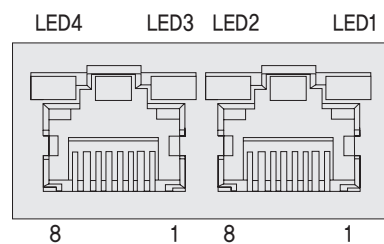
5. Encoder Connector(CN2)

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

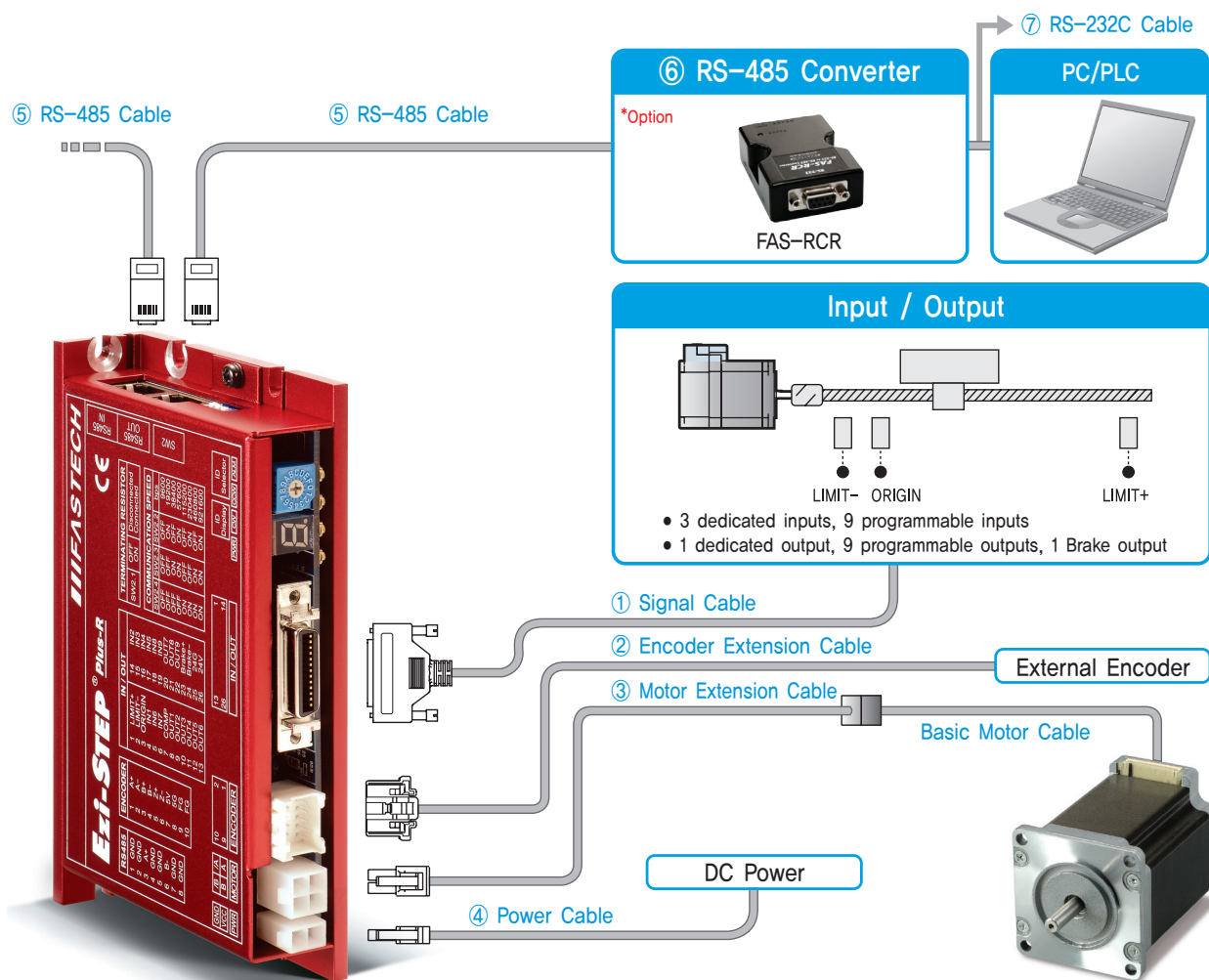


8. RS-485 Communication Connector(CN5)

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



● System Configuration



Cable Type	Max. Length	Remarks
① Signal Cable	20m	Options (Sold separately)
② Encoder Extension Cable	20m	
③ Motor Extension Cable	20m	
④ Power Cable	2m	
⑤ RS-485 Cable	30m	Basic cables are attached to motors.
Basic Motor Cable	0.3m (Basic length)	

1. Accessories

Connectors

These are connector specifications for drive cabling.

Purpose		Item	Part Number	Manufacturer
Power (CN4)		Housing	5557-05R	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	
Signal (CN1)		Connector	10126-3000PE	3M
		Connector Cover	10326-52F0-008	

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

2. Options

① Signal Cable

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

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

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

② Encoder Extension Cable

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

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – External Encoder Connection	CTPR-E-001F	1	Normal Cable	Maximum Length: 20m
	CTPR-E-002F	2		
	CTPR-E-003F	3		
	CTPR-E-005F	5		
	CTPR-E-001M	1	Robot Cable	
	CTPR-E-002M	2		
	CTPR-E-003M	3		
	CTPR-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-STEP Plus-R drive and the motor.

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

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

④ Drive Power Cable

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

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

⑤ RS-485 Cable

Purpose	Part Number	Length [m]	Cable Type
RS-485 Connection	CGNR-R-0R6F	0.6	Normal Cable
	CGNR-R-001F	1	
	CGNR-R-1R5F	1.5	
	CGNR-R-002F	2	
	CGNR-R-003F	3	
	CGNR-R-005F	5	

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

⑥ RS-485 Converter

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

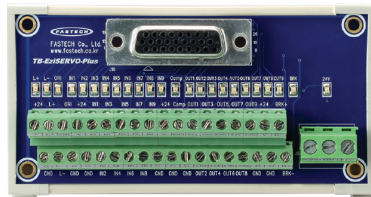
⑦ RS-232C Cable

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

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

[Option] TB-Plus Interface Board

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

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

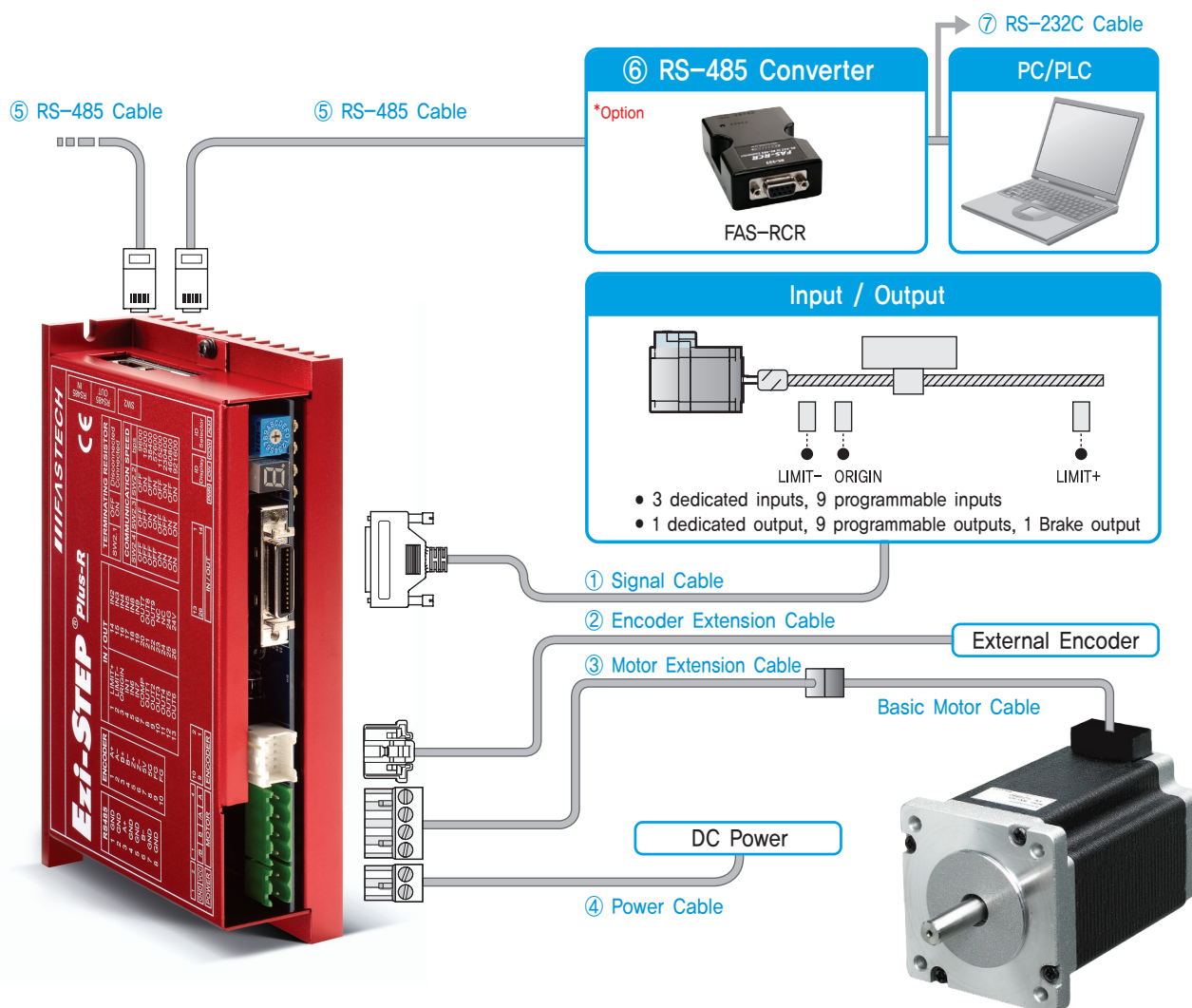
[Option] TB-Plus Interface Cable

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

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

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

● System Configuration [86mm Motor Drive]



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

1. Accessories

Connectors

These are connector specifications for drive cabling.

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

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

2. Options

① Signal Cable

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

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

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

② Encoder Extension Cable

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

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – External Encoder Connection	CTPR-E-001F	1	Normal Cable	Maximum Length: 20m
	CTPR-E-002F	2		
	CTPR-E-003F	3		
	CTPR-E-005F	5		
	CTPR-E-001M	1	Robot Cable	
	CTPR-E-002M	2		
	CTPR-E-003M	3		
	CTPR-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-STEP Plus-R drive and the motor.

Purpose	Part Number	Length [m]	Cable Type	Remarks
Drive – Basic Motor Cable Connection	CSVP-M-001F	1	Normal Cable	Maximum Length: 20m
	CSVP-M-002F	2		
	CSVP-M-003F	3		
	CSVP-M-005F	5		
	CSVP-M-001M	1	Normal 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-STEP Plus-R drive and the power.

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

⑤ RS-485 Cable

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

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

⑥ RS-485 Converter

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

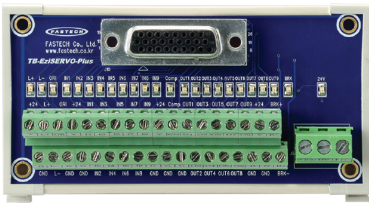
⑦ RS-232C Cable

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

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

[Option] TB-Plus Interface Board

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

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

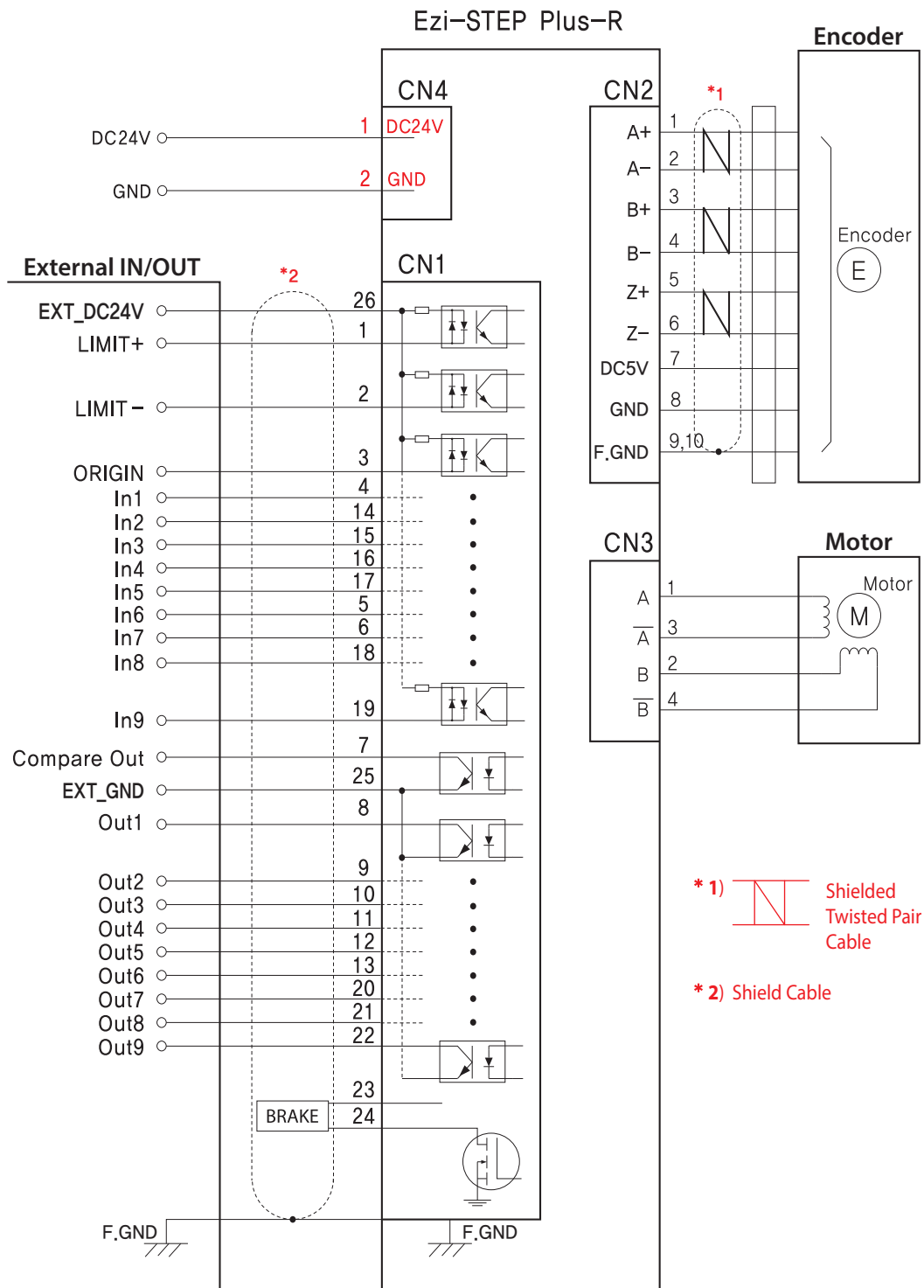
[Option] TB-Plus Interface Cable

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

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

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

● External Wiring Diagram

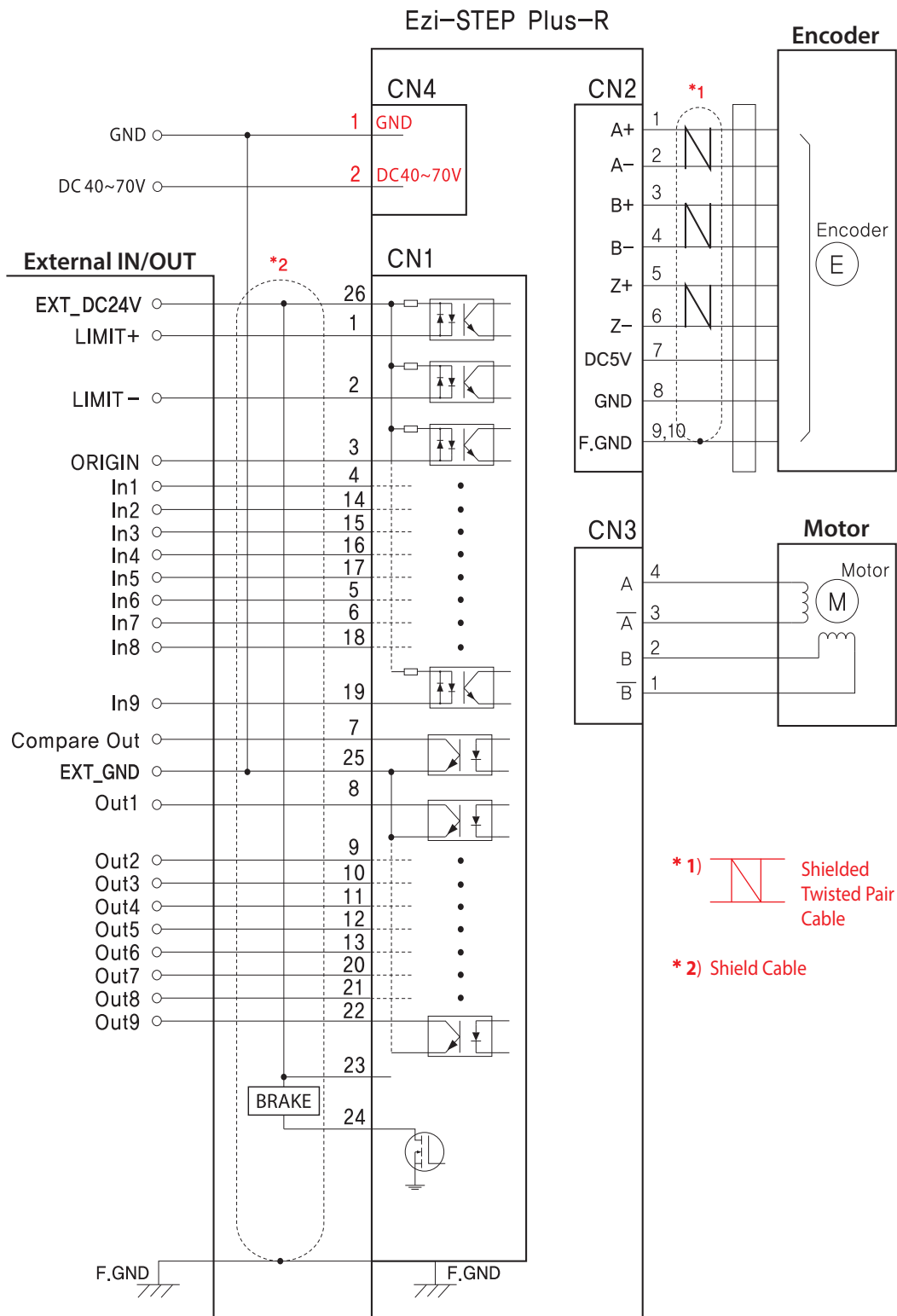


※ When connecting I/O cable between controller and drive, please turn off the power of both controller and drive to prevent electric shock or to protect the drive from any damage.

CAUTION

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

● External Wiring Diagram [86mm Motor Drive]

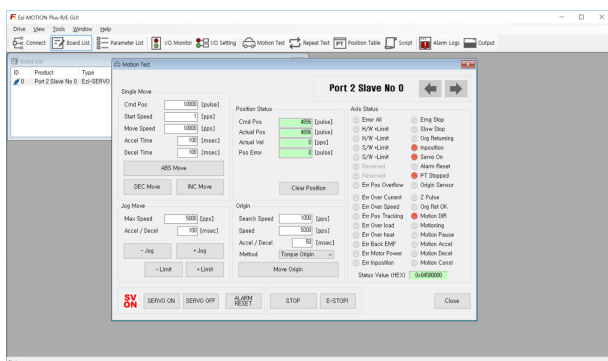


CAUTION

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

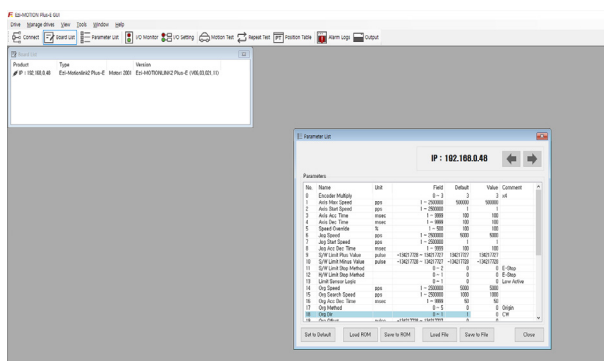
※ When connecting I/O cable between controller and drive, please turn off the power of both controller and drive to prevent electric shock or to protect the drive from any damage.

GUI(Graphic User Interface) Program



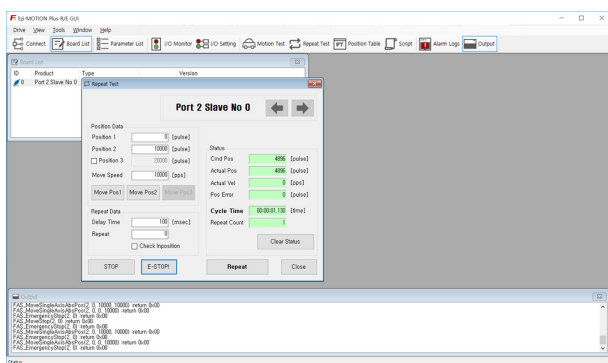
Product List and Motion Test

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



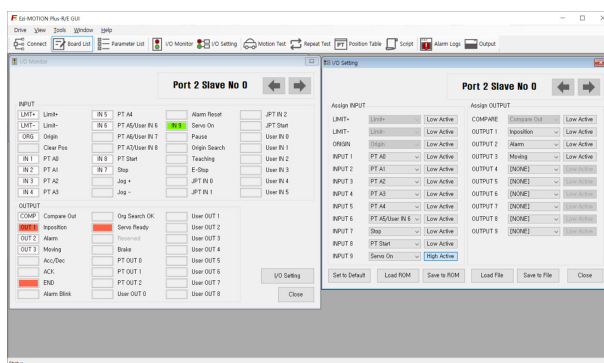
Parameter List

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



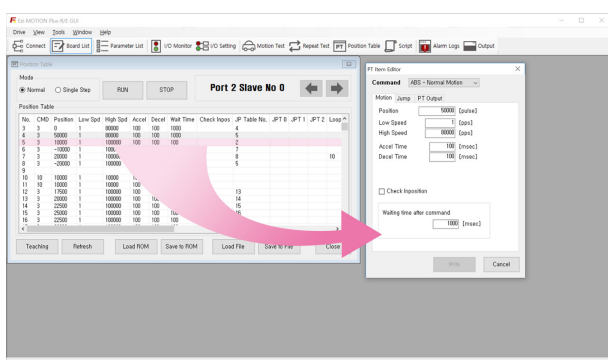
Motion Repeat and Status Monitoring

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



I/O Monitoring and Setting

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



Position Table

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

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



Fast, Accurate, Smooth Motion

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