

Ezi-STEP[®]

Micro Stepping System

- Embedded Controller
- Position Table
- Micro Stepping
- Software Damping
- Run/Stop Signal Output

Plus-R



CE



Fast, Accurate, Smooth Motion



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Ezi-STEP[®] Plus-R

Micro Stepping System

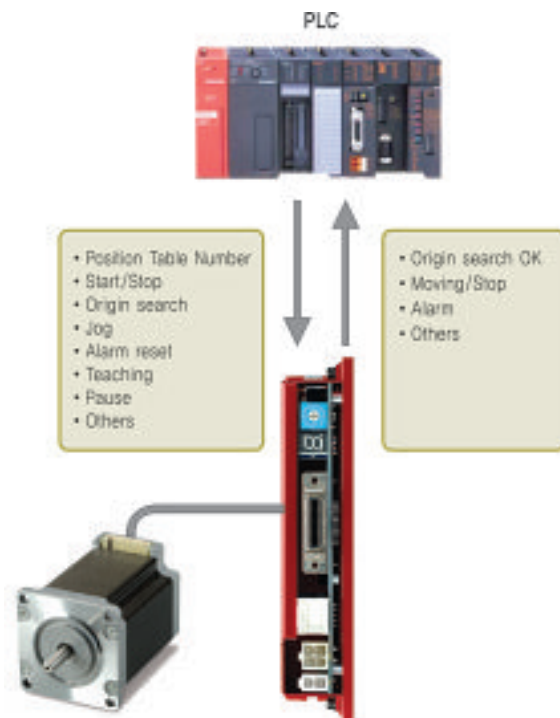


2 Position Table Function

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

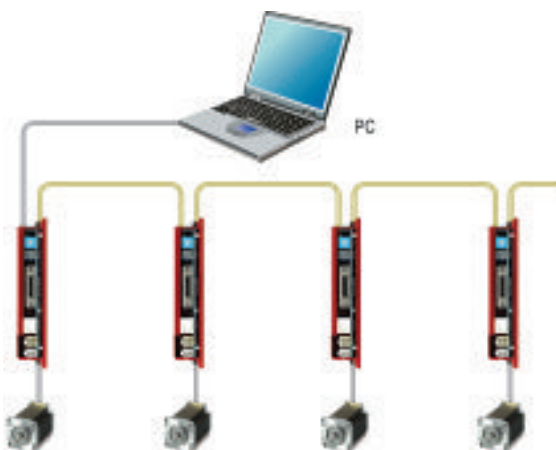
You can operate the motor directly by sending the position table number, start/stop, origin search and other digital input values from a PLC.

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



1 Network Based Motion Control

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



3 Microstep and Filtering

High precision Microstep function 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 $25 \mu\text{sec}$, which makes it possible for more precise current control, resulting in high-precision Microstep operation.

4 Drive Output Signal Monitoring

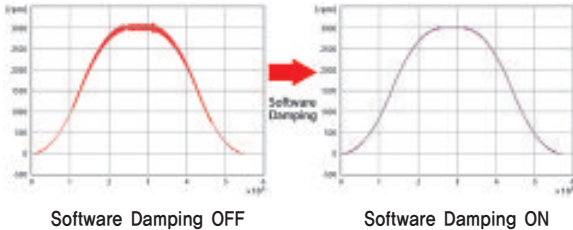
Ezi-STEP provides loss of step, run/stop, over-current, over-heat, over-voltage, power and motor connection alarms that can be monitored by the controller and visible by a motor-mounted flashing LED indicator.

5 Software Damping

Vibration suppression and high-speed operation

Vibration suppression and High-speed operation (Patent pending) 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 [pulse/rev] encoder.

6 Improvement of High-Speed Driving

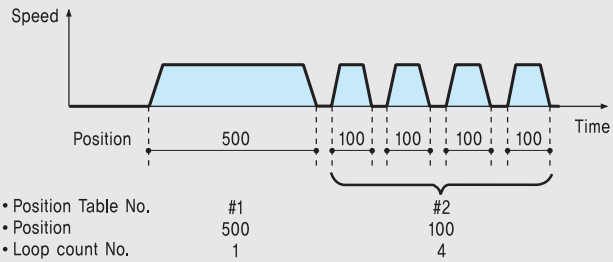
Depending on the speed of a stepping motor, Ezi-STEP automatically increases the supply voltage and prevents the torque lowering due to the low operating voltage to the motor caused by back-emf voltage, this enables high-speed operation. Additionally, the software damping algorithm minimizes the vibration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

● Features of Motion Controller

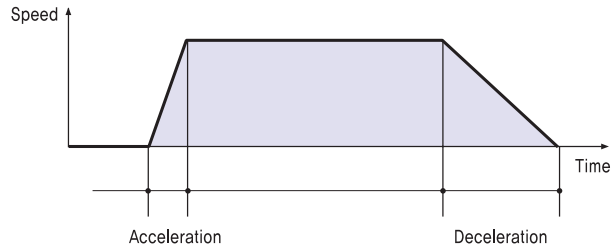
1. Loop Count

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



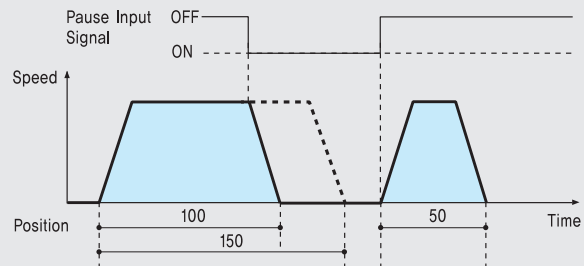
2. Acceleration/Deceleration

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



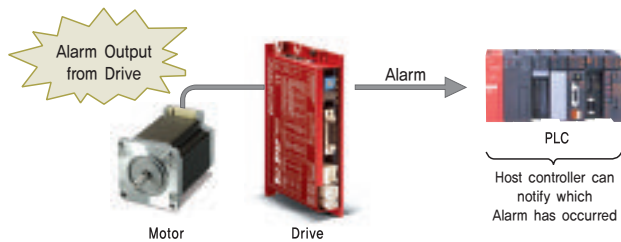
3. Pause

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.



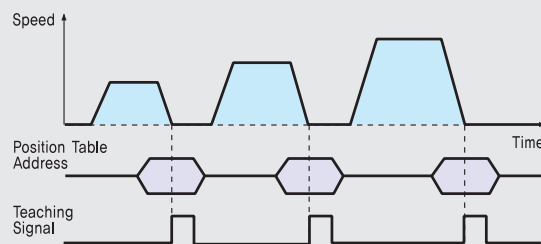
4. Alarm

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.

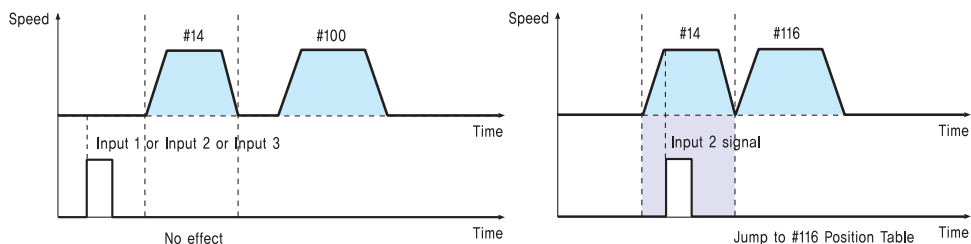


6. Jump

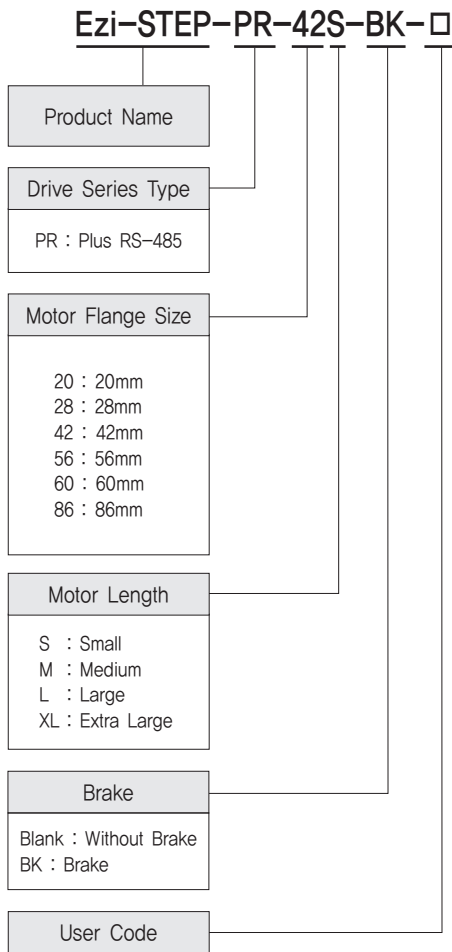
Within one Position Table, you can select various Position Table numbers that you want to jump. With three external input signal during movement, the next jump Position Table number can be select.

◆ 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

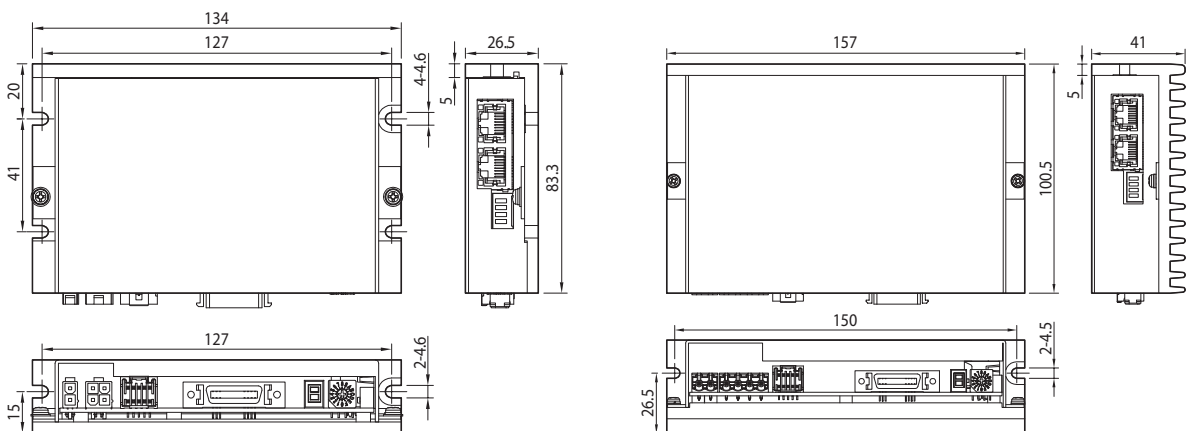
● Combination with Brake

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
Driver 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	24VDC \pm 10%					40~70VDC
Control Method	Bipolar PWM drive with 32bit MCU					
Multi Axes Drive	Maximum 16 axes through Daisy-Chain					
Position Table	256 motion command steps (Continuous, Wait, Loop, Jump and External start etc.)					
Current Consumption	Max 500mA (Except motor current)					
Operating Condition	Ambient Temperature	<ul style="list-style-type: none"> In Use: 0~50°C In Storage: -20~70°C 				
	Humidity	<ul style="list-style-type: none"> In Use: 35~85% RH (Non-Condensing) In Storage: 10~90% RH (Non-Condensing) 				
	Vib. Resist.	0.5g				
Function	Rotation Speed	0~3,000 [rpm]				
	Resolution[ppr]	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) * Default: 10,000				
	Protection Functions	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(Green), Alarm(Red), CW Rotation(Yellow), CCW Rotation(Orange)				
	STOP Current	10%~100% (Selectable by parameter) Current after 0.1 second after motor stop. * Default: 50%				
	Rotational Direction	CW/CCW (Selectable by parameter) Used when changing the direction of motor rotate. * Default: CW				
I/O Signal	Input Signals	3 dedicated inputs (LIMIT+, LIMIT-, ORIGIN), 9 programmable inputs (Photocoupler)				
	Output Signals	1 dedicated output (Compare Out), 9 programmable outputs (Photocoupler), Brake				
Communication Interface	RS-485 serial communication Communication speed: 9,600~921,600 [bps]					
Position Control	<ul style="list-style-type: none"> Incremental mode / Absolute mode Data Range: -134,217,728 to +134,217,727 [pulse] Operating speed: Max, 3,000 [rpm] 					
Return to Origin	Origin Sensor, \pm Limit sensor, Z phase (By external encoder)					
GUI	User Interface Program within Windows					
Software	Motion Library (DLL) for Windows 7/8/10					

● Dimensions of Drive [mm]



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

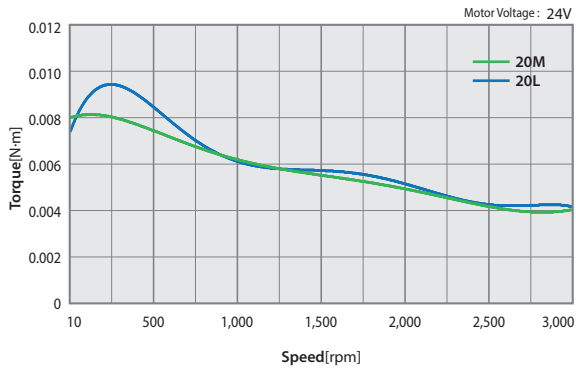
● Specifications of Motor

MODEL		BM-20 series		BM-28 series			BM-42 series				
		UNIT	20M	20L	28S	28M	28L	42S	42M	42L	42XL
DRIVE METHOD		-	BI-POLAR								
NUMBER OF PHASES		-	2	2	2	2	2	2	2	2	2
CURRENT per PHASE		A	0,5	0,5	0,95	0,95	0,95	1,2	1,2	1,2	1,2
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		g	53	78	115	174	202	238	303	374	508
LENGTH(L)		mm	28	38	32	45	50	34	40	48	60
PERMISSIBLE OVERHUNG LOAD (DISTANCE 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 THRUST LOAD		N	Lower than motor weight								
INSULATION RESISTANCE		Mohm	100 MIN,(at 500VDC)								
INSULATION CLASS		-	CLASS B(130°C)								
OPERATING TEMPERATURE		°C	0 to 55								

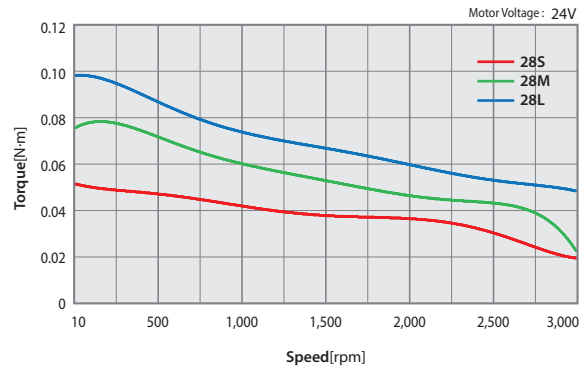
MODEL		BM-56 series			BM-60 series			BM-86 series			
		UNIT	56S	56M	56L	60S	60M	60L	86M	86L	86XL
DRIVE METHOD		-	BI-POLAR								
NUMBER OF PHASES		-	2	2	2	2	2	2	2	2	2
CURRENT per PHASE		A	3,0	3,0	3,0	4,0	4,0	4,0	6,0	6,0	6,0
HOLDING TORQUE		N·m	0,64	1,0	1,5	0,88	1,28	2,4	4,5	8,5	12
ROTOR INERTIA		g·cm ²	180	280	520	240	490	690	1800	3600	5400
WEIGHTS		g	548	726	1159	616	793	1349	2275	3808	5330
LENGTH(L)		mm	46	55	80	47	56	85	78	117	155
PERMISSIBLE OVERHUNG LOAD (DISTANCE FROM END OF SHAFT)	3mm	N	52	52	52	70	70	70	270	270	270
	8mm		65	65	65	87	87	87	300	300	300
	13mm		85	85	85	114	114	114	350	350	350
	18mm		123	123	123	165	165	165	400	400	400
PERMISSIBLE THRUST LOAD		N	Lower than motor weight								
INSULATION RESISTANCE		Mohm	100 MIN,(at 500VDC)								
INSULATION CLASS		-	CLASS B(130°C)								
OPERATING TEMPERATURE		°C	0 to 55								

Torque Characteristics of Motor

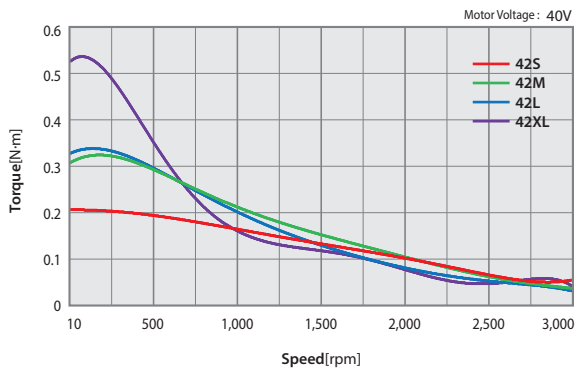
Ezi-STEP-PR-20 series



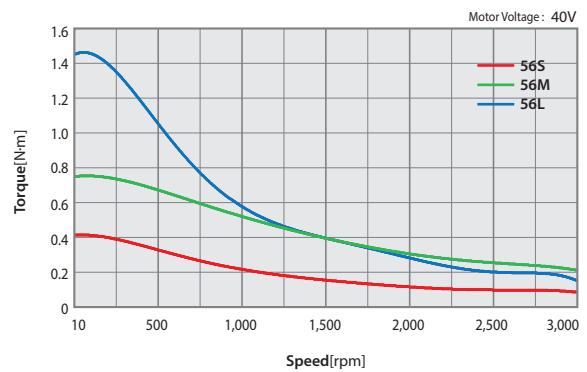
Ezi-STEP-PR-28 series



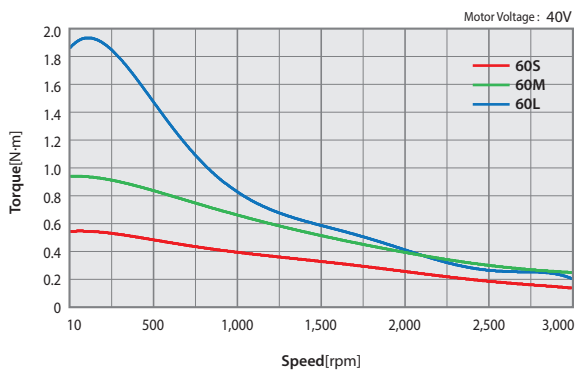
Ezi-STEP-PR-42 series



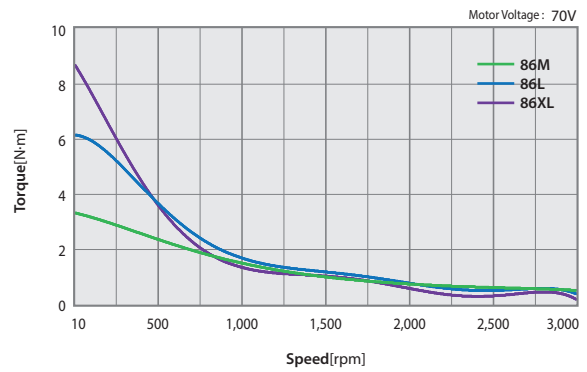
Ezi-STEP-PR-56 series



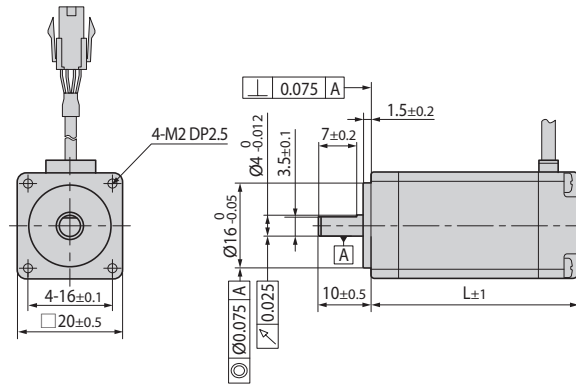
Ezi-STEP-PR-60 series



Ezi-STEP-PR-86 series

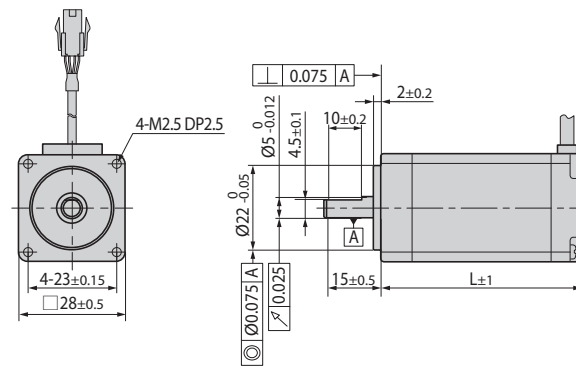


● Dimensions of Motor [mm]



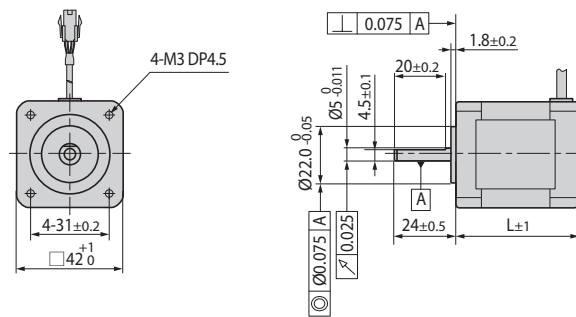
20mm

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



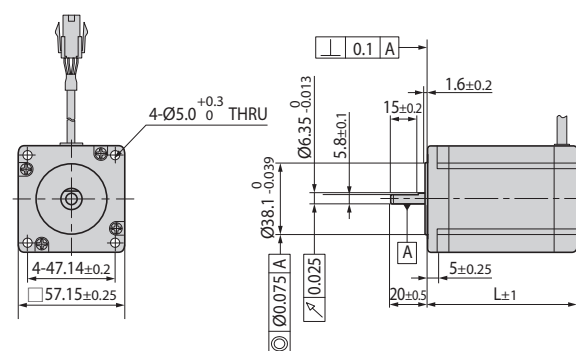
28mm

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



42mm

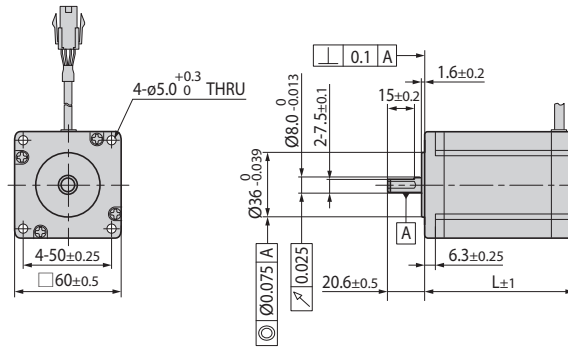
Model name	Length(L)
BM-42S	34
BM-42M	40
BM-42L	48
BM-42XL	60



56mm

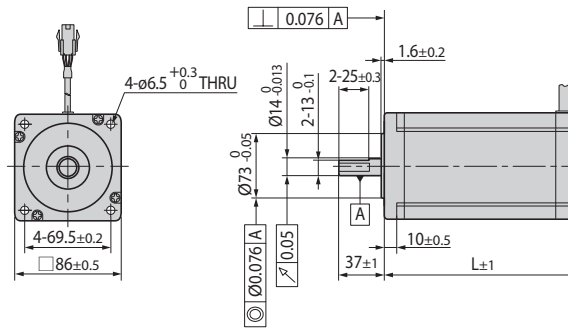
Model name	Length(L)
BM-56S	46
BM-56M	55
BM-56L	80

● Dimensions of Motor [mm]



60mm

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



86mm

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

● Specifications of Motor with Brake

Unit Part Number	Motor Model Number	Electronic Brake					Motor Unit Weight [g]	Permitted Overhung Load [N]				Permitted Thrust Load [N]
		Type	Voltage Input [V]	Rated Current [A]	Power Consumption [W]	Statical Friction Torque [N·m]		Length from Motor Point [mm]				
								3	8	13	18	
Ezi-STEP-PR-42S-BK	BM-42S-BK	Non-excitation run Type	24VDC ±10%	0.2	5	0.2	500	22	26	33	46	Must be Lower than Unit's Weight
Ezi-STEP-PR-42M-BK	BM-42M-BK						560					
Ezi-STEP-PR-42L-BK	BM-42L-BK						630					
Ezi-STEP-PR-42XL-BK	BM-42XL-BK						770					
Ezi-STEP-PR-56S-BK	BM-56S-BK			970	52	65	85	123				
Ezi-STEP-PR-56M-BK	BM-56M-BK			1150								
Ezi-STEP-PR-56L-BK	BM-56L-BK			1580								
Ezi-STEP-PR-60S-BK	BM-60S-BK			1060								
Ezi-STEP-PR-60M-BK	BM-60M-BK			1230	70	87	114	165				
Ezi-STEP-PR-60L-BK	BM-60L-BK			1790								
Ezi-STEP-PR-86M-BK	BM-86M-BK			3580	270	300	350	400				
Ezi-STEP-PR-86L-BK	BM-86L-BK			5110								
Ezi-STEP-PR-86XL-BK	BM-86XL-BK	6630										

- * 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.

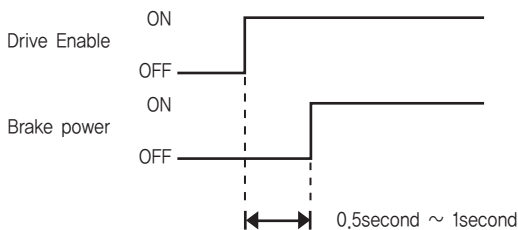
* Brake Operation Timing Chart

Ezi-STEP Plus-R control Brake by Drive automatically.

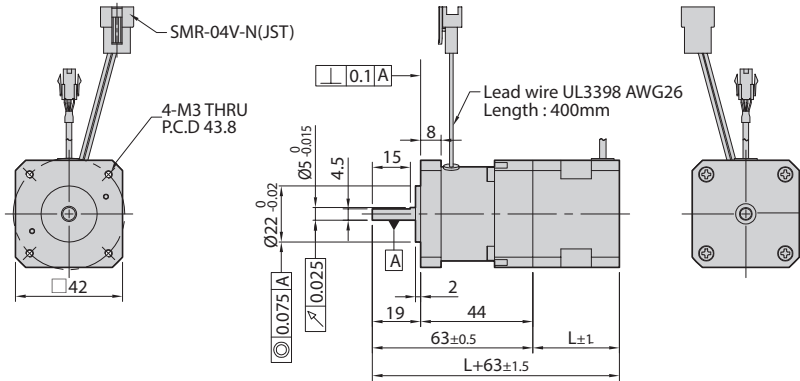
Please refer to below Timing Chart when control Brake from upper controller other than using Ezi-STEP Plus-R Brake control.

Otherwise, Drive malfunctioning and loads can be fall down.

Also, please do not operate Brake while motor operation to prevent damage.

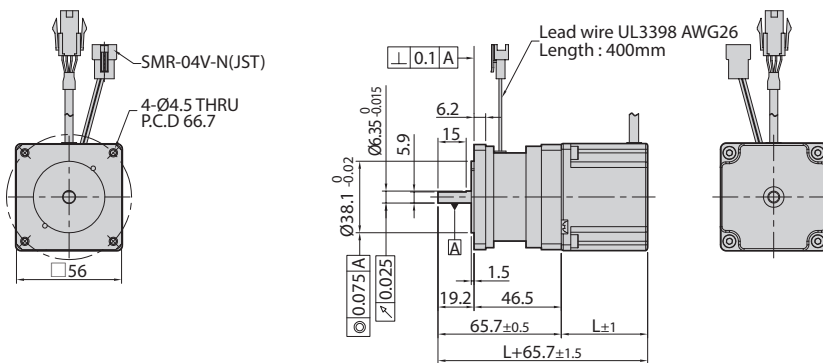


● Dimensions of Motor with Brake [mm]



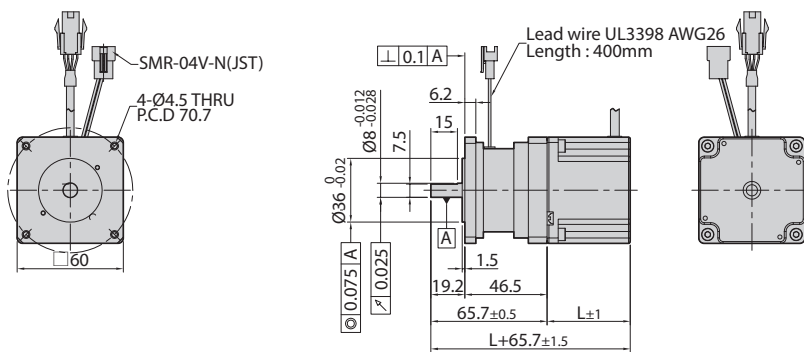
42mm

Model Name	Length(L)	Weight(kg)
BM-42S	34	0.50
BM-42M	40	0.56
BM-42L	48	0.63
BM-42XL	60	0.77



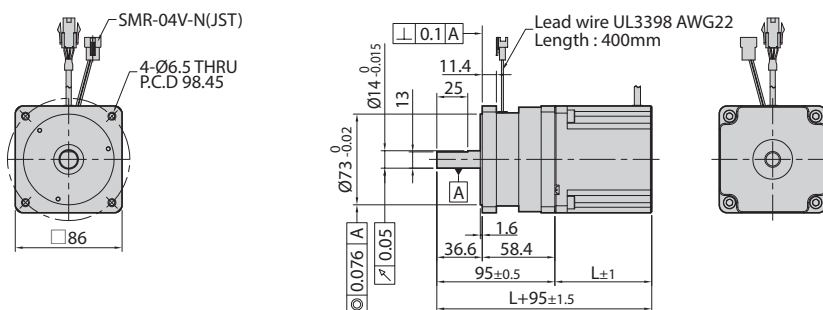
56mm

Model Name	Length(L)	Weight(kg)
BM-56S	46	0.97
BM-56M	55	1.15
BM-56L	80	1.58



60mm

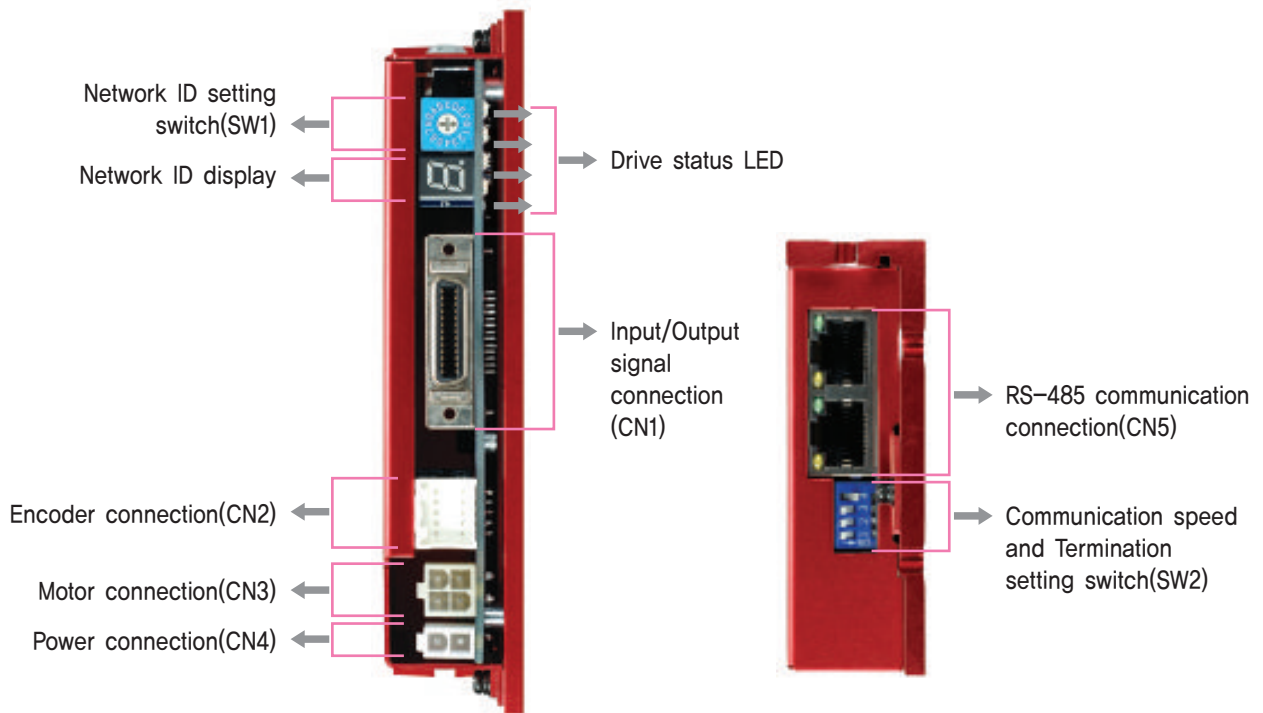
Model Name	Length(L)	Weight(kg)
BM-60S	47	1.06
BM-60M	56	1.23
BM-60L	85	1.79



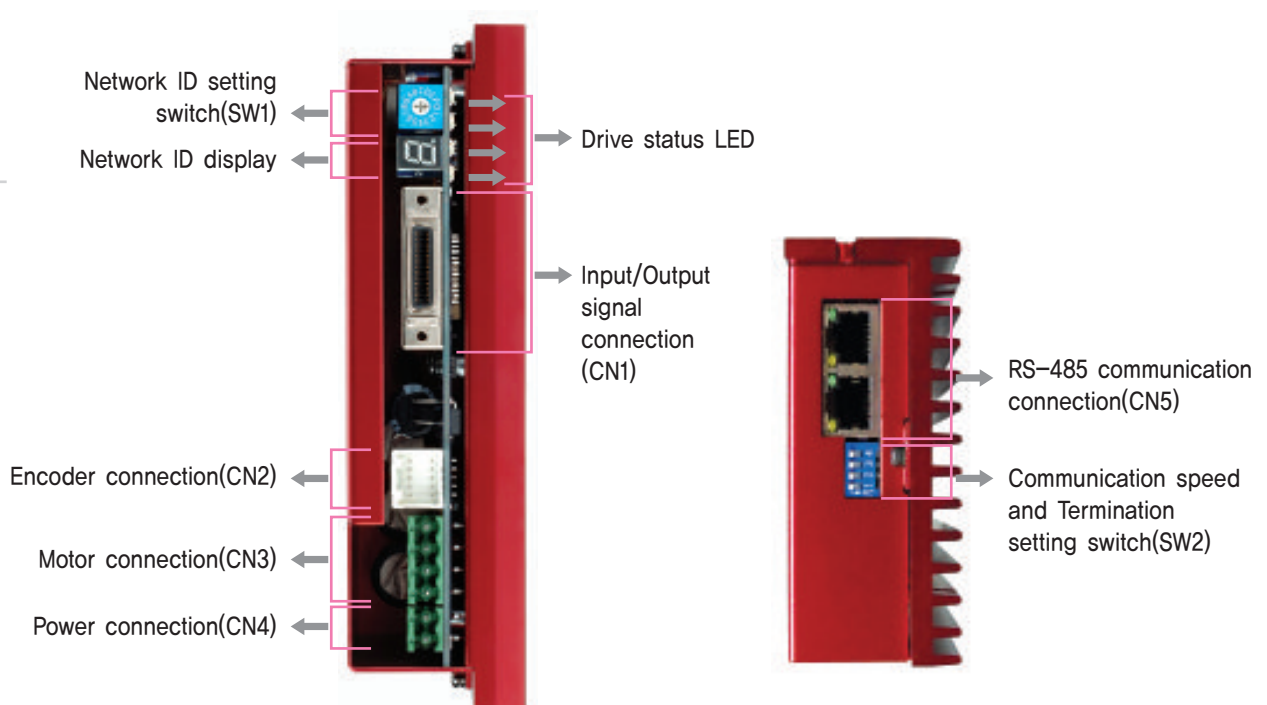
86mm

Model Name	Length(L)	Weight(kg)
BM-86M	78	3.58
BM-86L	117	5.11
BM-86XL	155	6.63

● Settings and Operation



◆ 86mm Motor Drive(EzT-NDR-86 series)

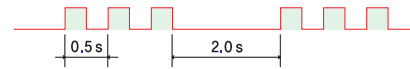


1. Drive Status LED

Indication	Color	Function	ON/OFF Condition
PWR	Green	Power input indication	Lights when power is ON Flashes when motor is Free status
ALM	Red	Alarm indication	Flash when protection function is activated (Identifiable which protection mode is activated by counting the blinking times)
CW	Yellow	Motor Rotation Direction	Lights when motor rotate CW direction
CCW	Orange	Motor Rotation Direction	Lights when motor rotate CCW direction

◆ Protection functions and LED flash times

Times	Protection	Conditions
1	Over Current Error	The current through power devices in drive exceeds the limit value *1
2	Over Speed Error	Motor speed exceed 3,000 [rpm]
3	Step Out Error	Abnormally motor do not followed pulsed input
5	Over Temperature Error	Inside temperature of drive exceeds 85°C
6	Over Regenerative Voltage Error	Back-EMF more high limit value *2
7	Motor Connect Error	The power is ON without connection of the motor cable to drive
9	Motor Voltage Error	Motor voltage is out of limited value *3
11	System Error	Error occurs in drive system
12	ROM Error	Error occurs in parameter storage device(ROM)



Alarm LED Flash (Ex, 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 : Motor limit voltage value depends on motor model, (Refer to the Manual)

2. Network ID Setting Switch(SW1)

Position	ID Number	Position	ID Number
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

※ Maximum 16 axis can be connected in one network.



3. Communication Speed and Termination Setting Switch(SW2)

Termination Setting Switch(SW2.1)

The drive installed at the end of the network must be terminated for reliable operation. Please termination setting switch is ON if drive install at the end of the network.

Speed Setting Switch(SW2.2~2.4)

SW2.2~SW2.4 used for setting speed 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

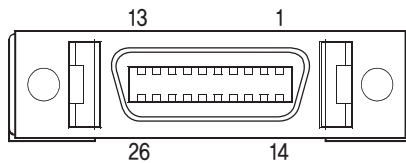
*1 : Default setting value



Speed setting switch
Termination 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_24VDC	Input

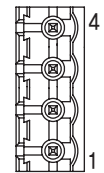


6. Motor Connector(CN3)

NO.	Function	I/O
1	A Phase	Output
2	B Phase	Output
3	/A Phase	Output
4	/B Phase	Output



NO.	Function	I/O
1	/B Phase	Output
2	B Phase	Output
3	/A Phase	Output
4	A Phase	Output



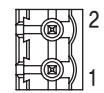
※ Only for 86mm motor drive.

7. Power Connector(CN4)

NO.	Function	I/O
1	24VDC	Input
2	GND	Input



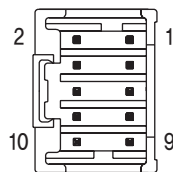
NO.	Function	I/O
1	GND	Input
2	40~70VDC	Input



※ Only for 86mm motor drive.

5. Encoder Connector(CN2)

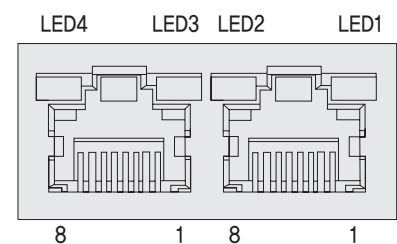
NO.	Function	I/O
1	A+	Input
2	A-	Input
3	B+	Input
4	B-	Input
5	Z+	Input
6	Z-	Input
7	5VDC	Output
8	GND	Output
9	F_GND	----
10	F_GND	----



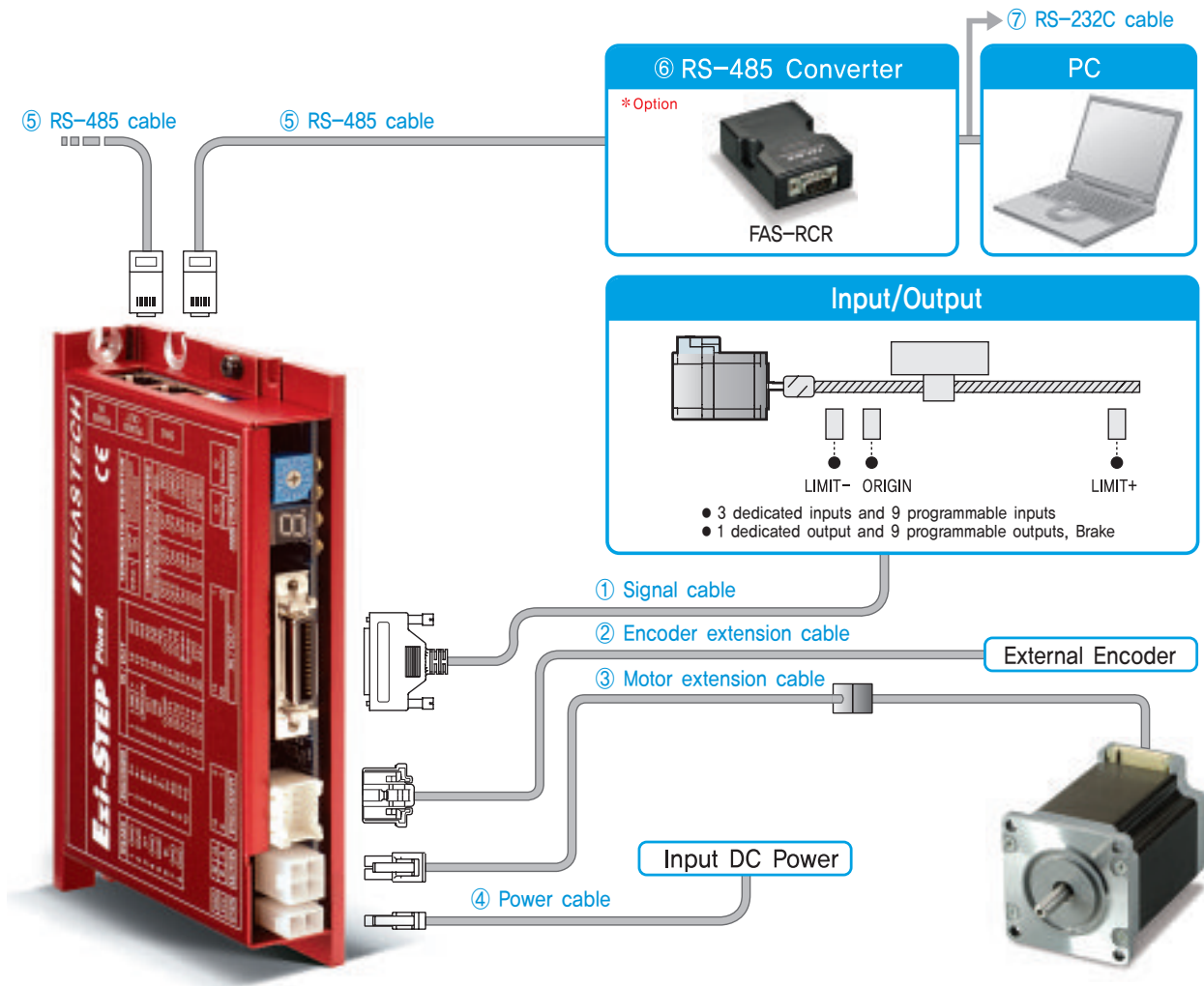
※ Used for monitoring the external encoder signal.

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



Type	Signal Cable	Encoder Cable	Motor Cable	Power Cable	RS-485 Cable
Length supplied	—	—	30cm	—	—
Max. Length	20m	20m	20m	2m	30m

1. Options

① Signal Cable

Available to connect between Input/Output signals and Ezi-STEP Plus-R,

Item	Length [m]	Remark
CVSR-S-□□□F	□□□	Normal Cable
CVSR-S-□□□M	□□□	Robot Cable

□ is for Cable Length, The unit is 1m and Max, 20m length,

② Encoder Extension Cable

Available to extended connection between Encoder and Ezi-STEP Plus-R,

Item	Length [m]	Remark
CTPR-E-□□□F	□□□	Normal Cable
CTPR-E-□□□M	□□□	Robot Cable

□ is for Cable Length, The unit is 1m and Max, 20m length,

③ Motor Extension Cable

Available to extended connection between motor and Ezi-STEP Plus-R.

Item	Length [m]	Remark
CSVO-M-□□□F	□□□	Normal Cable
CSVO-M-□□□M	□□□	Robot Cable

□ is for Cable Length. The unit is 1m and Max, 20m length.

④ Power Cable

Available to connect between Power and Ezi-STEP Plus-R.

Item	Length [m]	Remark
CSVO-P-□□□F	□□□	Normal Cable
CSVO-P-□□□M	□□□	Robot Cable

□ is for Cable Length. The unit is 1m and Max, 2m length.

⑤ RS-485 Cable

Available to connect between the drives of Ezi-STEP Plus-R or with FAS-RCR.

Item	Length [m]	Remark
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	

⑥ FAS-RCR(RS-232C to RS-485 Converter)

Item	Specification
Comm. Speed	Max, 115,2 [kbps]
Comm. Distance	RS-232C: Max, 15m RS-485: Max, 1,2km
Connection Type	RS-232C: DB9 Female RS-485: RJ-45
Dimension	50×75×23mm
Weight	38g
Power	Powered from PC (Usable for external DC5~24V)

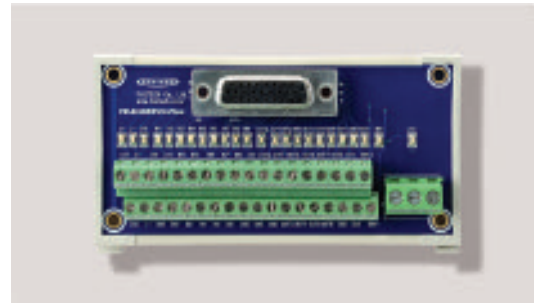
⑦ RS-232C Cable

Available to connect between RS-232C port of master and FAS-RCR.

Item	Length [m]	Remark
CGNR-C-002F	2	Normal Cable
CGNR-C-003F	3	
CGNR-C-005F	5	

⑧ TB-Plus(Interface Board)

Available to connect more conveniently between Input/Output signal and Ezi-STEP Plus-R.



⑨ Interface Cable for TB-Plus

Available to Connect between TB-Plus Interface Board and Ezi-STEP Plus-R.

Item	Length [m]	Remark
CIFD-S-□□□F	□□□	Normal Cable
CIFD-S-□□□M	□□□	Robot Cable

□ is for Cable Length. The unit is 1m and Max, 20m length.

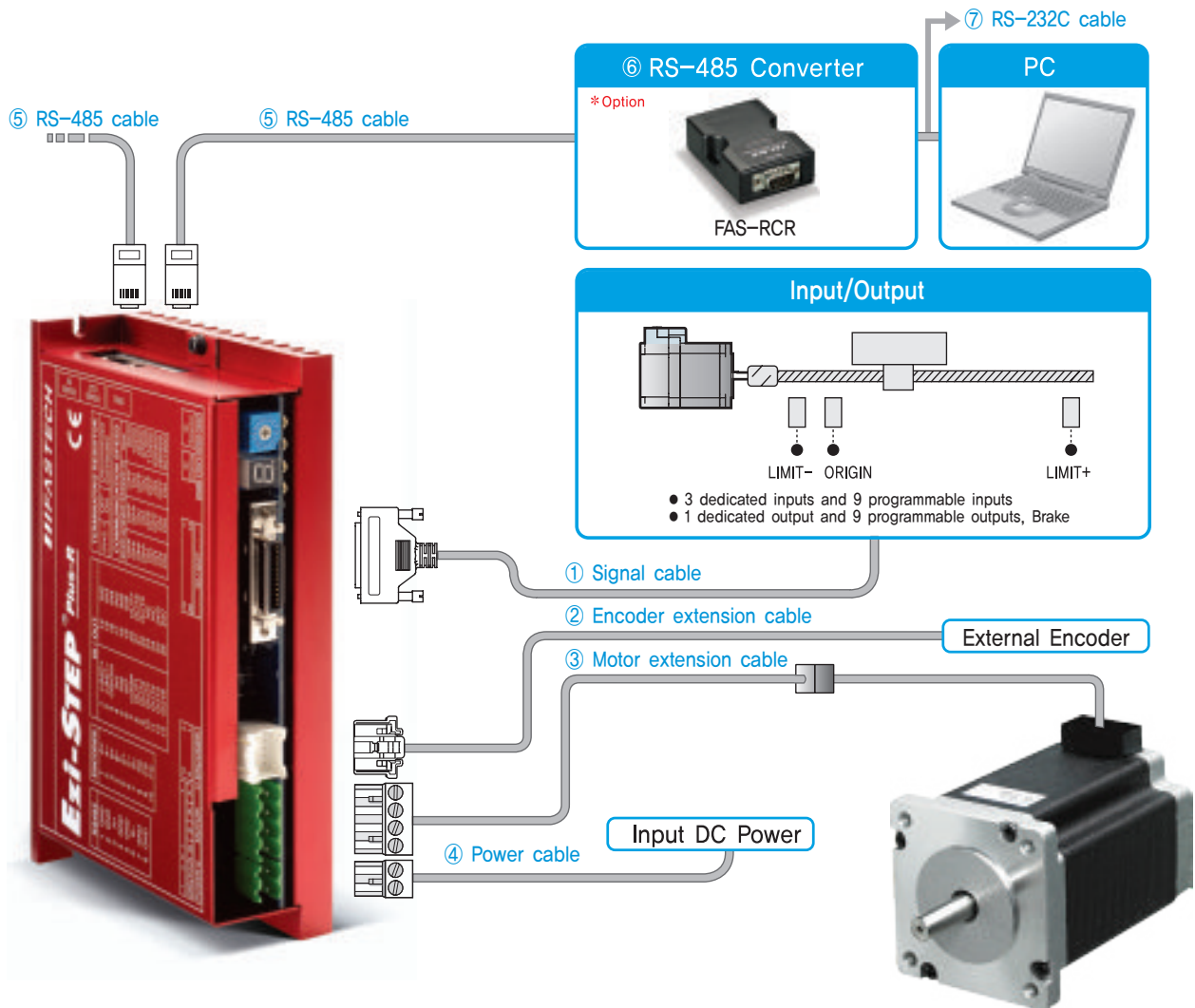
2. Connector Specifications

Connector specifications for cabling to drive.

Purpose		Item	Part Number	Manufacture
Power (CN4)		Housing Terminal	5557-05R 5556T	MOLEX
Motor	Drive Side (CN3)	Housing Terminal	5557-04R 5556T	MOLEX
	Motor Side	Housing Terminal	5557-04R 5556T	MOLEX
Encoder	Drive Side (CN2)	Housing Terminal	51353-1000 56134-9000	MOLEX
Signal (CN1)		Connector Backshell	10126-3000PE 10326-52F0-008	3M

※ Above connector is the most suitable product for the drive applied. Another equivalent connector can be used.

System Configuration [86mm Motor Drive]



FASTECH Ezi-STEP Plus-R

Type	Signal Cable	Encoder Cable	Motor Cable	Power Cable	RS-485 Cable
Length supplied	-	-	30cm	-	-
Max. Length	20m	20m	20m	2m	30m

1. Options

① Signal Cable

Available to connect between Input/Output signals and Ezi-STEP Plus-R.

Item	Length [m]	Remark
CVSR-S-□□□F	□□□	Normal Cable
CVSR-S-□□□M	□□□	Robot Cable

□ is for Cable Length. The unit is 1m and Max, 20m length.

② Encoder Extension Cable

Available to extended connection between Encoder and Ezi-STEP Plus-R.

Item	Length [m]	Remark
CTPR-E-□□□F	□□□	Normal Cable
CTPR-E-□□□M	□□□	Robot Cable

□ is for Cable Length. The unit is 1m and Max, 20m length.

③ Motor Extension Cable

Available to extended connection between motor and Ezi-STEP Plus-R,

Item	Length [m]	Remark
CSVP-M-□□□F	□□□	Normal Cable
CSVP-M-□□□M	□□□	Robot Cable

□ is for Cable Length, The unit is 1m and Max. 20m length.

④ Power Cable

Available to connect between Power and Ezi-STEP Plus-R,

Item	Length [m]	Remark
CSVP-P-□□□F	□□□	Normal Cable
CSVP-P-□□□M	□□□	Robot Cable

□ is for Cable Length, The unit is 1m and Max. 2m length.

⑤ RS-485 Cable

Available to connect between the drives of Ezi-STEP Plus-R or with FAS-RCR,

Item	Length [m]	Remark
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	

⑥ FAS-RCR(RS-232C to RS-485 Converter)

Item	Specification
Comm, Speed	Max. 115,2 [kbps]
Comm, Distance	RS-232C: Max. 15m RS-485: Max. 1,2km
Connection Type	RS-232C: DB9 Female RS-485: RJ-45
Dimension	50×75×23mm
Weight	38g
Power	Powered from PC (Usable for external DC5~24V)

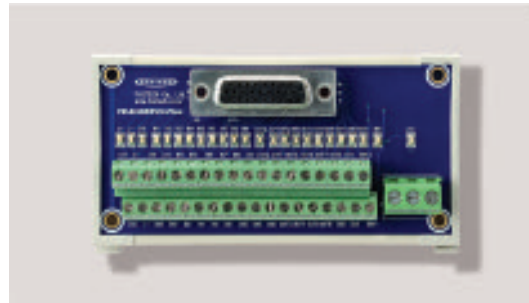
⑦ RS-232C Cable

Available to connect between RS-232C port of master and FAS-RCR,

Item	Length [m]	Remark
CGNR-C-002F	2	Normal Cable
CGNR-C-003F	3	
CGNR-C-005F	5	

⑧ TB-Plus(Interface Board)

Available to connect more conveniently between Input/Output signal and Ezi-STEP Plus-R,



⑨ Interface Cable for TB-Plus

Available to Connect between TB-Plus Interface Board and Ezi-STEP Plus-R,

Item	Length [m]	Remark
CIFD-S-□□□F	□□□	Normal Cable
CIFD-S-□□□M	□□□	Robot Cable

□ is for Cable Length, The unit is 1m and Max. 20m length.

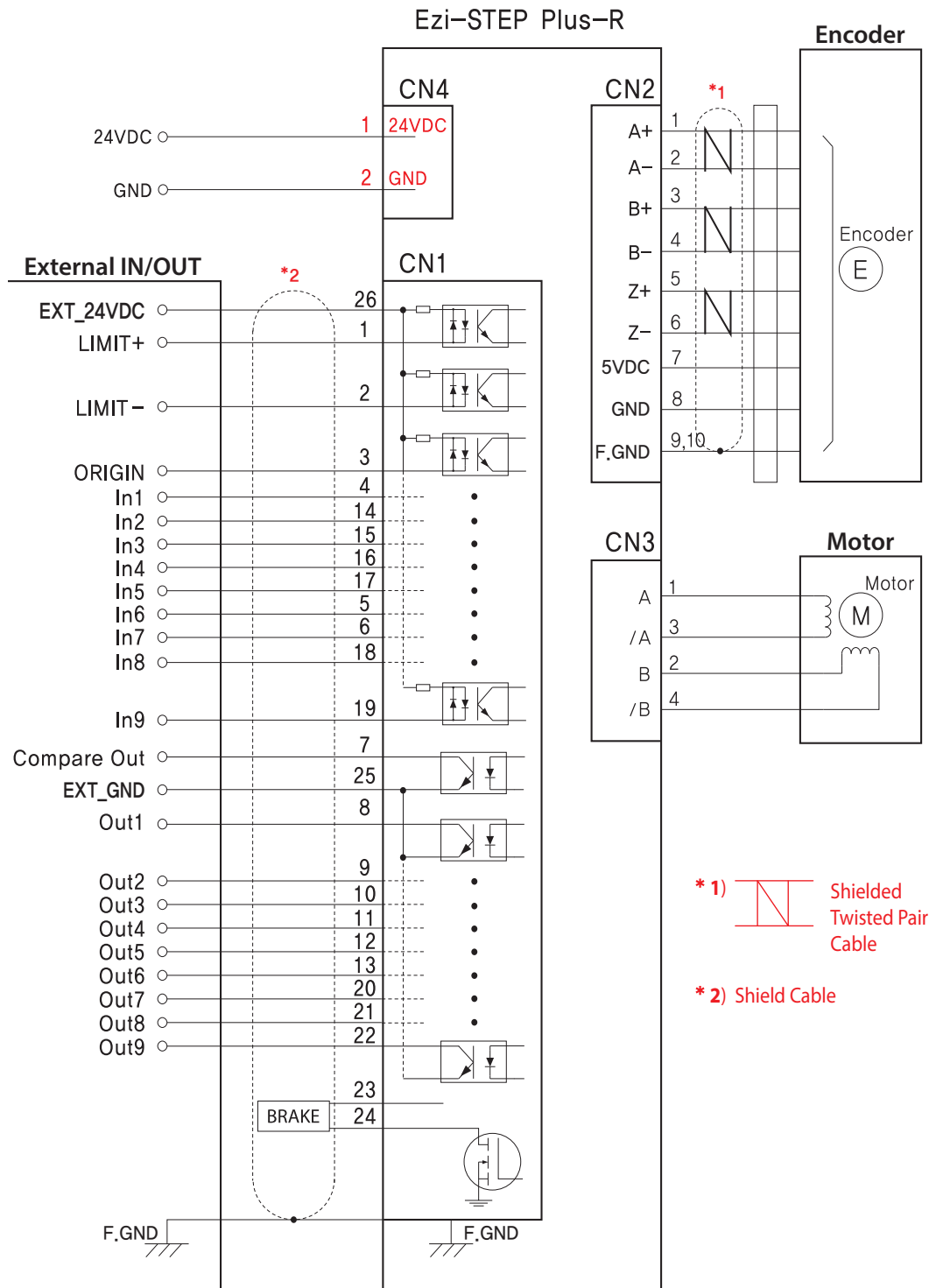
2. Connector Specifications

Connector specifications for cabling to drive,

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

※ Above connector is the most suitable product for the drive applied. Another equivalent connector can be used.

External Wiring Diagram

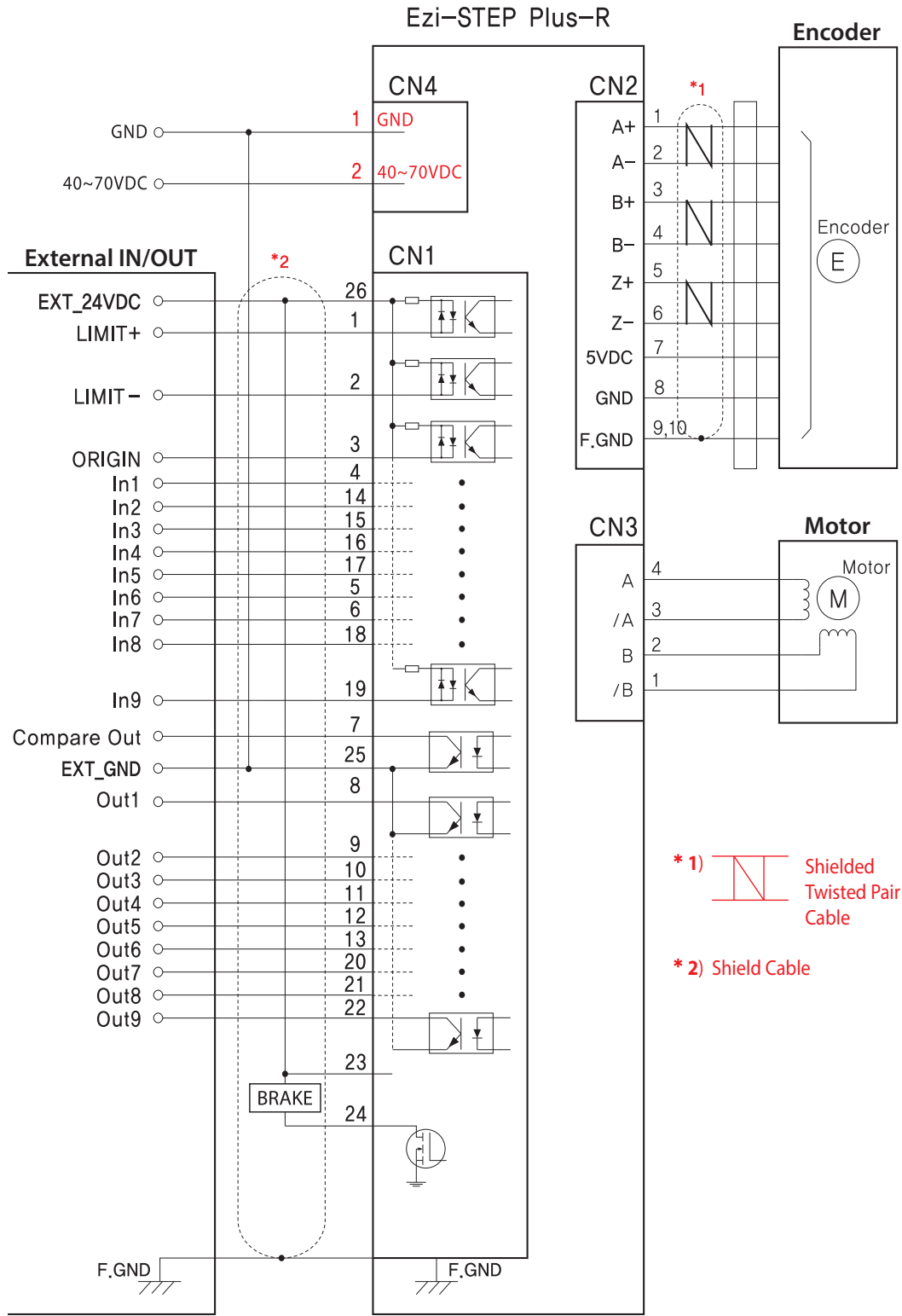


※ When connects I/O cable between controller and drive, please turn off the power of both controller and drive, in order to protect the drive from any damage.

CAUTION

Please refer to the Manual when connects motor extension cable. Careful connection will be required to protect the drive from any damages.

● External Wiring Diagram [86mm Motor Drive]



FASTECH Ezi-STEP Plus-R

※ When connects I/O cable between controller and drive, please turn off the power of both controller and drive, in order to protect the drive from any damage.

CAUTION
Please refer to the Manual when connects motor extension cable. Careful connection will be required to protect the drive from any damages.

● GUI(Graphic User Interface) Screenshot



◆ Controller Lists and Motion Test

This screen display the controller list that connected to system, You can make a single move, jog and origin command and also the motor status is displayed.



◆ Parameter List

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



◆ Motion Repeat and Monitor Status

Target position, speed, delay time and repeat count are selected for repeat motion test, Motion library(DLL) is also displayed on screen.



◆ I/O Monitoring and Setting

You can select various digital input and output signals of controller.



◆ Position Table

You can edit the position table and execute it, The position table data can be saved and loaded from Flash ROM and Windows file.

- ※ Graphic User Interface(GUI) Program can be downloaded from website, (www.fastech.co.kr)
- ※ Graphic User Interface(GUI) Program can support Windows 7/8/10.
- ※ Graphic User Interface(GUI) Program can be update without prior notice for improving the performance or convenience of user.



Fast, Accurate, Smooth Motion

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