


02

EL5 Series Servo Motors

	Frame Size	40 mm (NEMA16)	60 mm (NEMA24)	80 mm (NEMA32)	130 mm (NEMA51)
	Rated Power	50 W 100 W	200 W 400 W 600 W	750 W 1.0 KW	1.0 KW 1.5 KW

2.1

EL5 Series Part Number

EL5 — M 0750 — 1 — 32
 ① ② ③ ④ ⑤

①	Series	EL5: EL5 Series
②	Product	D: Servo Drive M: Servo Motor
③	Power	0400: 400W 0750: 750W 1000: 1000W 1500: 1500W
④	Encoder Type	1: 2500-line (10,000 ppr) incremental encoder 2: 17-bit (131,072 ppr) absolute encoder
⑤	Communication or Motor Size	For servo drives, it is communication type. R: RS485 C: CANopen E: EtherCAT For servo motors, it is frame size. 16: NEMA16 (□40mm) 24: NEMA24 (□60mm) 32: NEMA32 (□80mm) 51: NEMA51 (□130mm)

2.2

EL5 Series Electrical Specifications

NEMA16 (□ 40 mm)
Power: 50W, 100W



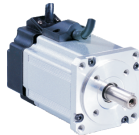
Specifications

Parameters	Units	EL5-M0050-x-16	EL5-M0100-x-16
Rated Power	W	50	100
Rated Torque	Nm	0.159	0.32
Rated Current	A	0.69	1.0
Rated Speed	RPm	3000	3000
Peak Torque	Nm	0.477	0.96
Peak Current	A	2.07	3.0
Torque Constant	Nm/A	0.23	0.32
Back EMF Constant	V/krpm	14.3	17
Inertia	Kg*m ² ×10 ⁻⁵	0.025	0.046
Poles	-	8	8

Operating Environment

Parameters	Descriptions	Parameters	Descriptions
Insulation Level	B	Insulation Voltage	AC1500V, 50HZ, 60sec
Insulation Resistance	DC500V, above 10M	Vibration	<2.5 G
Ambient Temperature	0 to 40	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70	Mounting Method	Flange Mounted

NEMA24 (□ 60 mm)
Power: 200W, 400W, 600W



Specifications

Parameters	Units	EL5-M0200-x-24	EL5-M0400-x-24	EL5-M0600-x-24
Rated Power	W	200	400	600
Rated Torque	Nm	0.64	1.27	1.9
Rated Current	A	2.1	2.8	4.5
Rated Speed	RPm	3000	3000	3000
Peak Torque	Nm	1.91	3.82	5.7
Peak Current	A	6.5	8.5	13.5
Torque Constant	Nm/A	0.31	0.47	0.47
Back EMF Constant	V/krpm	18.92	28.38	28.38
Inertia	Kg*m ² ×10 ⁻⁵	3.1	3.22	3.82
Poles	-	8	8	8

Operating Environment

Parameters	Descriptions	Parameters	Descriptions
Insulation Level	B	Insulation Voltage	AC1500V, 50HZ, 60sec
Insulation Resistance	DC500V, above 10M	Vibration	<2.5 G
Ambient Temperature	0 to 40	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70	Mounting Method	Flange Mounted

2.2 EL5 Series Electrical Specifications (Con't)

NEMA32 (□ 80 mm)
Power: 750W, 1000W



Specifications

Parameters	Units	EL5-M0750-x-32	EL5-M1000-x-32
Rated Power	W	750	1000
Rated Torque	Nm	2.4	3.2
Rated Current	A	4.4	5.9
Rated Speed	RPm	3000	3000
Peak Torque	Nm	7.2	9.6
Peak Current	A	13.4	17.7
Torque Constant	Nm/A	0.55	0.60
Back EMF Constant	V/krpm	33.1	36.03
Inertia	Kg*m ² ×10 ⁻⁵	7.3	8.5
Poles	-	8	8

Operating Environment

Parameters	Descriptions	Parameters	Descriptions
Insulation Level	B	Insulation Voltage	AC1500V, 50HZ, 60sec
Insulation Resistance	DC500V, above 10M	Vibration	<2.5 G
Ambient Temperature	0 to 40	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70	Mounting Method	Flange Mounted

NEMA51 (□ 130 mm)
Power: 1000W, 1500W



Specifications

Parameters	Units	EL5-M1000-x-51	EL5-M1500-x-51
Rated Power	W	1000	1500
Rated Torque	Nm	4.7	7.2
Rated Current	A	4.	14.2
Rated Speed	RPm	3000	3000
Peak Torque	Nm	14.1	21.3
Peak Current	A	28.2	42.6
Torque Constant	Nm/A	0.5	0.5
Back EMF Constant	V/krpm	39.3	44.1
Inertia	Kg*m ² ×10 ⁻⁵	85	201.7
Poles	-	10	10

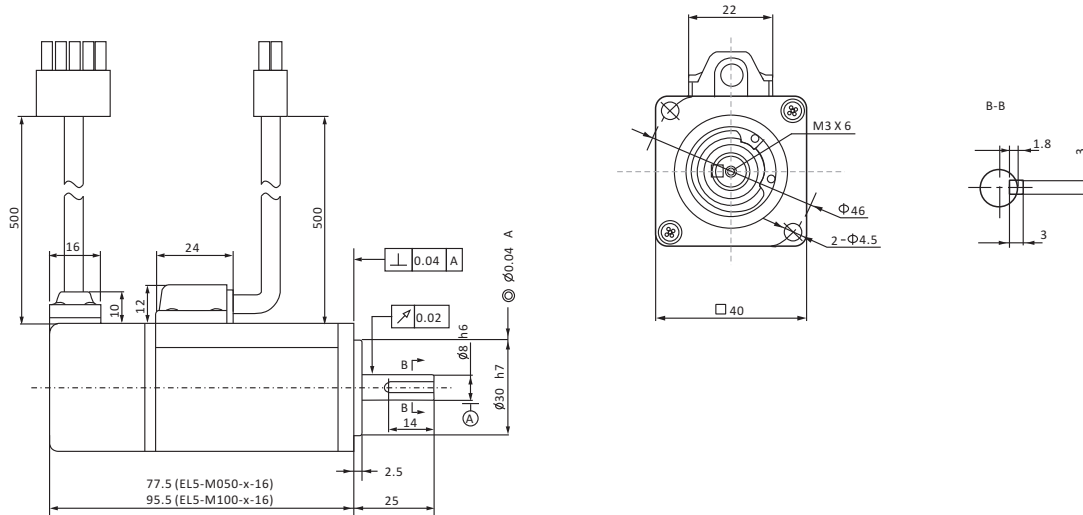
Operating Environment

Parameters	Descriptions	Parameters	Descriptions
Insulation Level	B	Insulation Voltage	AC1500V, 50HZ, 60sec
Insulation Resistance	DC500V, above 10M	Vibration	<2.5 G
Ambient Temperature	0 to 40	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70	Mounting Method	Flange Mounted

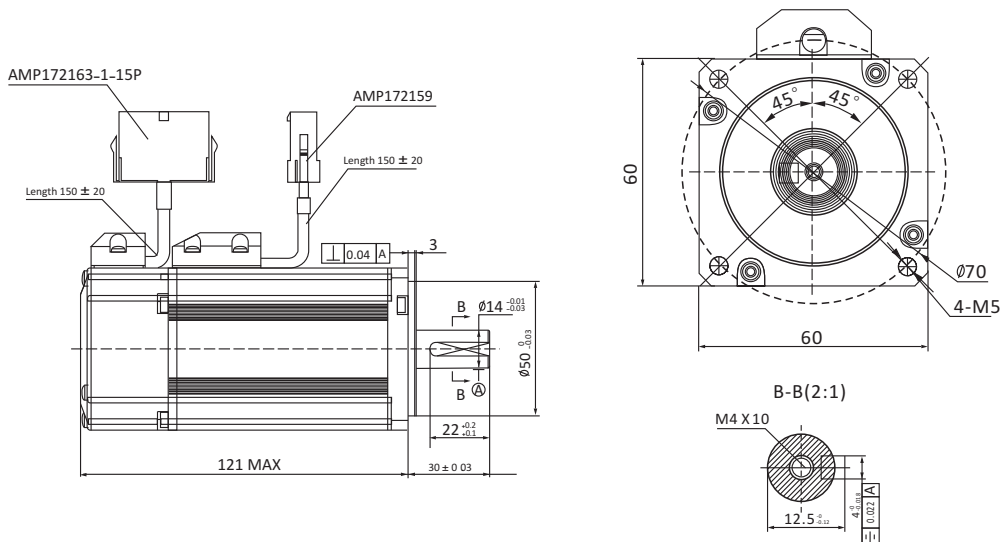
2.3 EL5 Series Mechanical Specifications

Units: mm 1 inch = 25.4 mm

● EL5-M0050-x-16 and EL5-M0100-x-16



● EL5-M0200-x-24



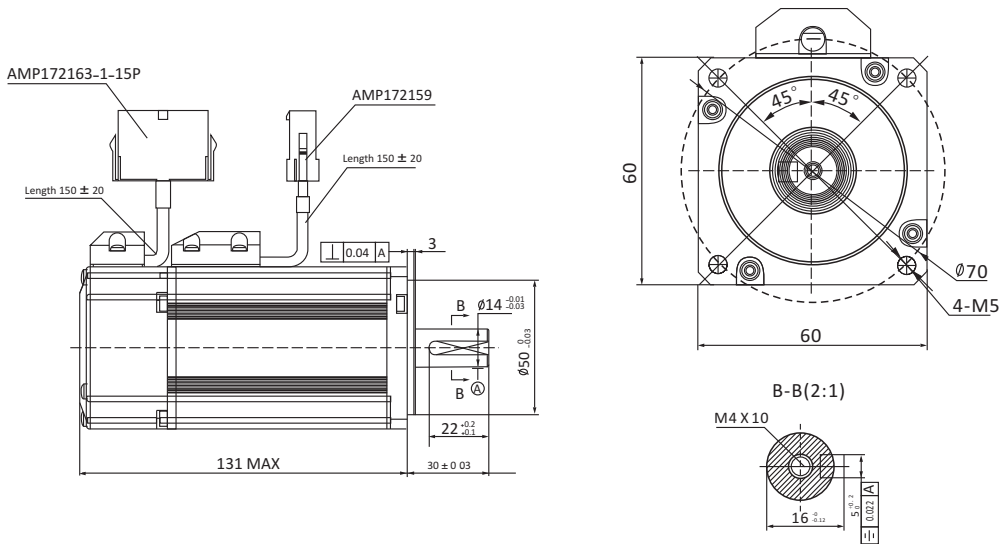
Installation Notes:

- (1) Do not give strong impact shock to the motor shaft.
- (2) Make sure the hall sensor signals U/V/W are connected to the drive correctly..
- (3) The motors are not water proof. Please contact Leadshine if you need a water proof product.
- (4) Keep the ambient temperature within the permissible temperature range (0 to 40 °C) for the product. Use force cooling method if necessary.

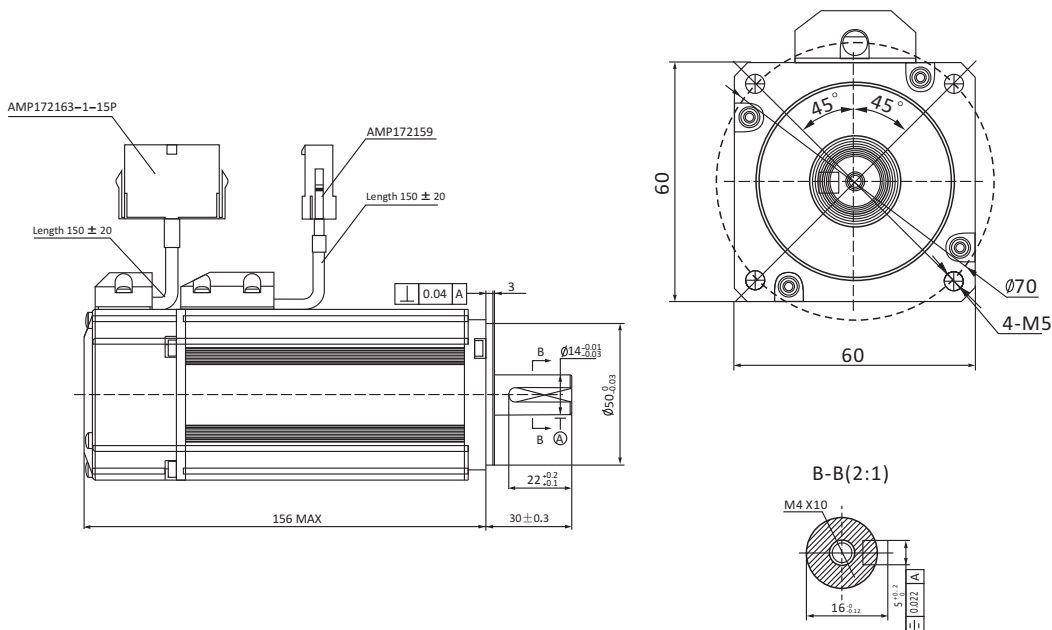
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M0400-x-24



● EL5-M0600-x-24



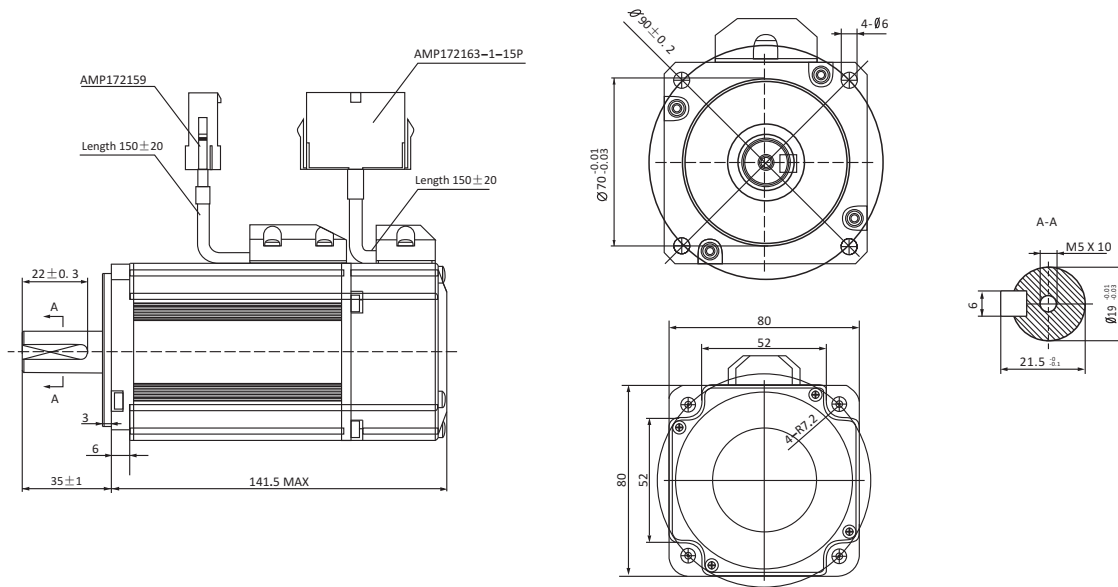
Installation Notes:

- (1) Do not give strong impact shock to the motor shaft.
- (2) Make sure the hall sensor signals U/V/W are connected to the drive correctly.
- (3) The motors are not water proof. Please contact Leadshine if you need a water proof product.
- (4) Keep the ambient temperature within the permissible temperature range (0 to 40 °C) for the product. Use force cooling method if necessary.

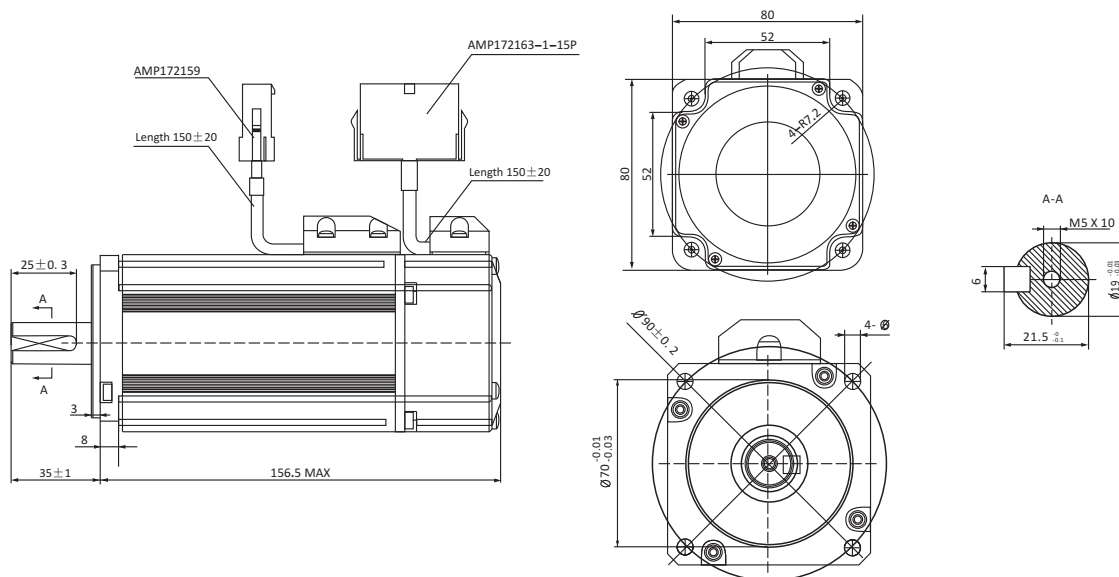
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M0750-x-32



● EL5-M1000-x-32



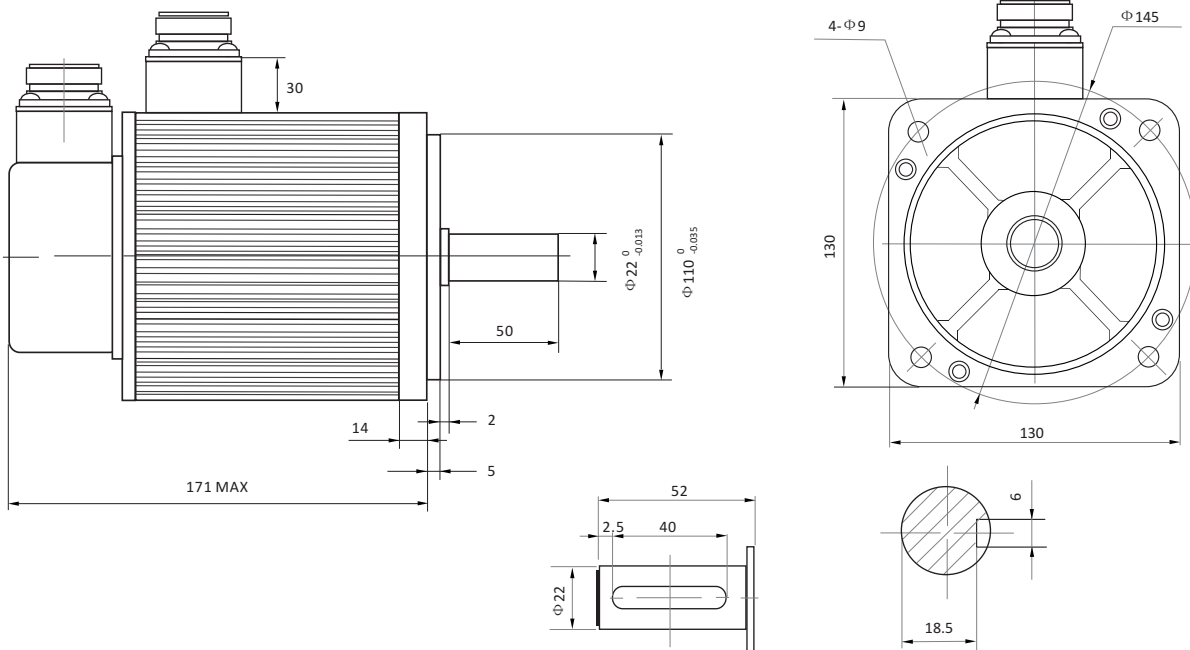
Installation Notes:

- (1) Do not give strong impact shock to the motor shaft.
- (2) Make sure the hall sensor signals U/V/W are connected to the drive correctly.
- (3) The motors are not water proof. Please contact Leadshine if you need a water proof product.
- (4) Keep the ambient temperature within the permissible temperature range (0 to 40 °C) for the product. Use force cooling method if necessary.

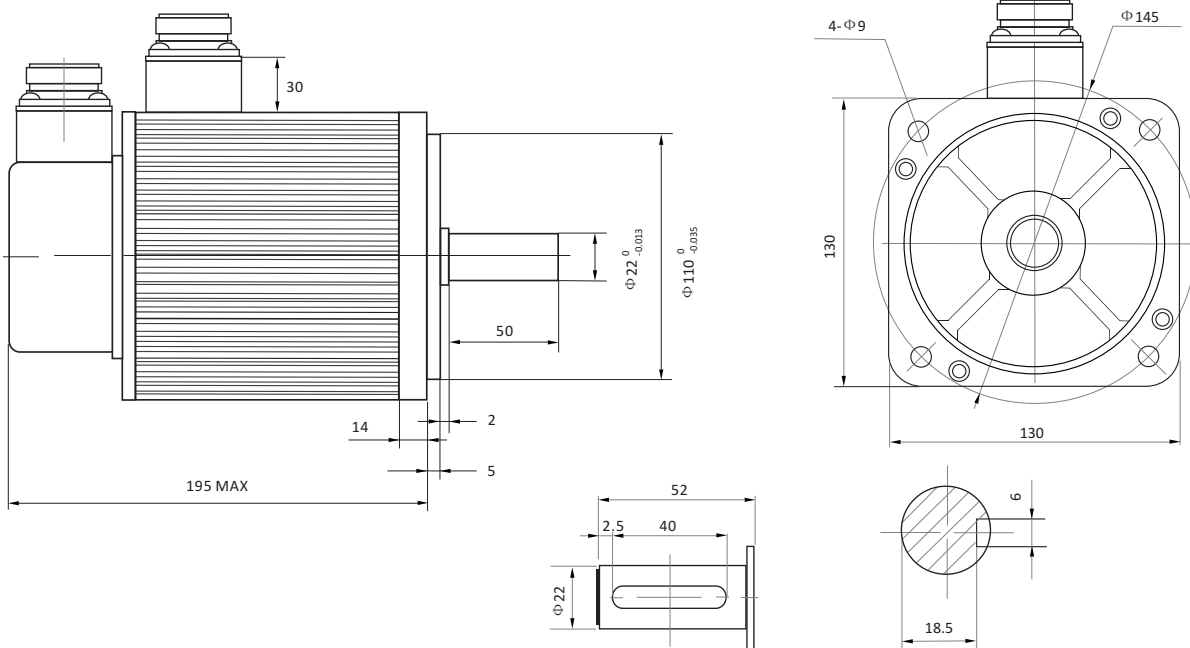
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M1000-x-51



● EL5-M1500-x-51



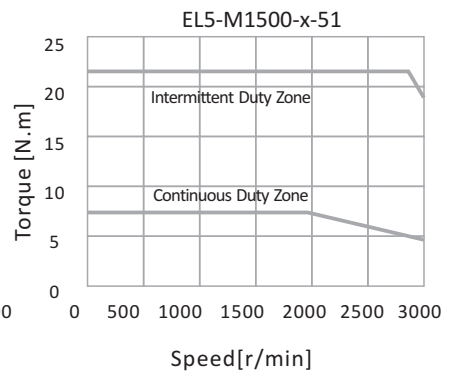
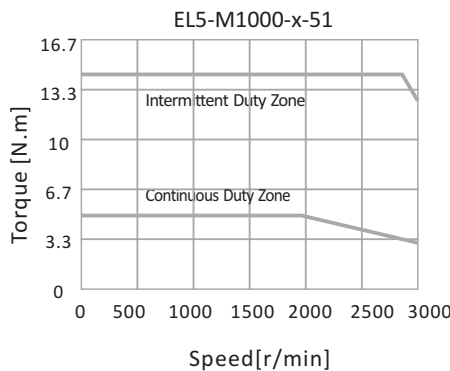
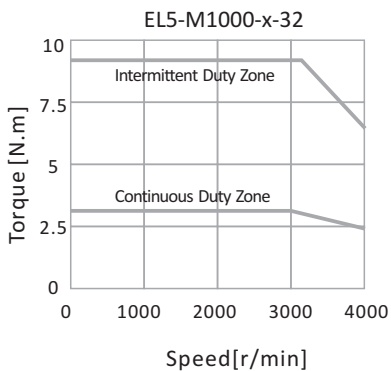
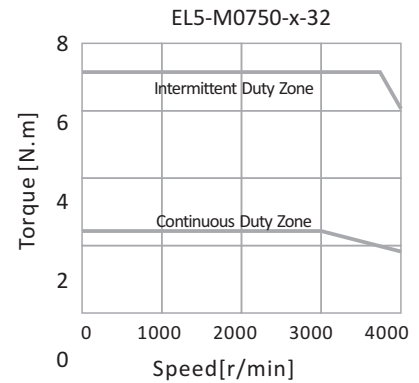
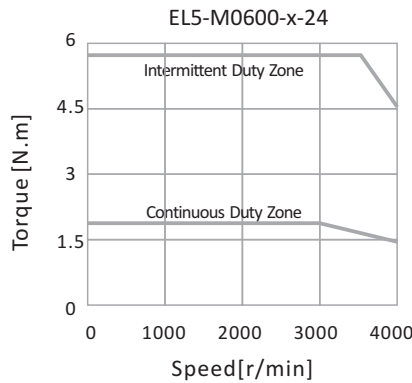
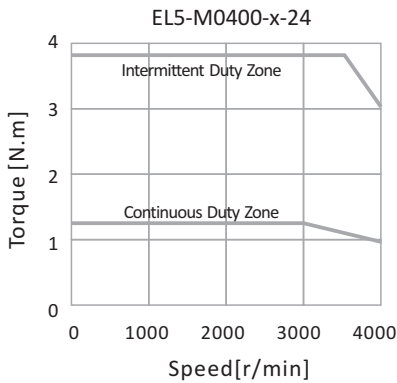
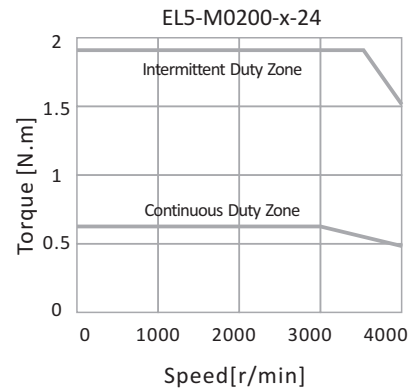
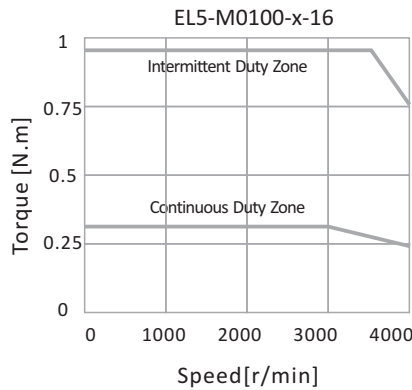
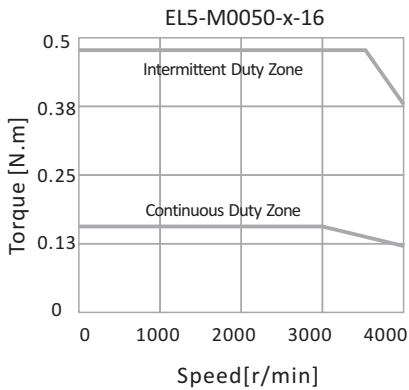
Installation Notes:

- (1) Do not give strong impact shock to the motor shaft.
- (2) Make sure the hall sensor signals U/V/W are connected to the drive correctly.
- (3) The motors are not water proof. Please contact Leadshine if you need a water proof product.
- (4) Keep the ambient temperature within the permissible temperature range (0 to 40°C) for the product. Use force cooling method if necessary.

2.4 EL5 Series Speed-Torque Curves

Matching Drives

EL5-D0400-x-xxx	EL5-D0750-x-xxx	EL5-D1000-x-xxx	EL5-D1500-x-xxx
0.4 KW	0.75 KW	1.0 KW	1.5 KW



2.5

EL5 Series Accessories

Number	Picture	Name	Descriptions
1		Motor Cable: CABLE-RZ1M5-S	Length 1.5 m (Standard) , 3m, 5m and 10m optional For NEMA16, NEMA24 and NEMA32 servo motors.
2		Motor Cable: CABLE-RZ1M5-H	Length 1.5 m (Standard) , 3m, 5m and 10m optional For NEMA51 servo motors.
3		Encoder Cable: CABLE-BM1M5-S	Length 1.5 m (Standard) , 3m, 5m and 10m optional For NEMA16, NEMA24 and NEMA32 servo motors.
4		Encoder Cable: CABLE-BM1M5-H	Length 1.5 m (Standard) , 3m, 5m and 10m optional For NEMA51 servo motors.
5		RS232 Cable for ProTuner: CABLE-ACH1000	Length 1.2 m (Standard) For the EL5 series servo drives.
6		Control Signal Connector: HDB-44P	Control signal connector for the EL5 series servo drives
7		USB to RS232 Converter: Not a standard accessory. .	Please specify when place an order if you need.
8		External Brake Resistor: Not a standard accessory.	Please specify when place an order if you need.

Note:

Standard connectors of the motor, encoder and hall sensor cables are for Leadshine's matching servo drives. They can be customized for your servo drives.

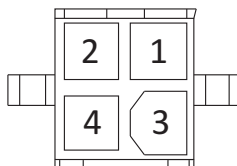
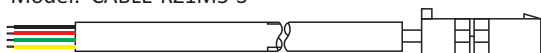
2.5

EL5 Series Accessories (Con't)

Motor Cable

Motor Cable (NEMA16 to NEMA32)

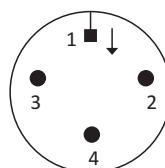
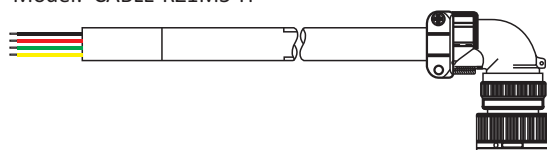
Model: CABLE-RZ1M5-S



Pin	Name
1	V
2	U
3	W
4	PE

Motor Cable (NEMA51)

Model: CABLE-RZ1M5-H

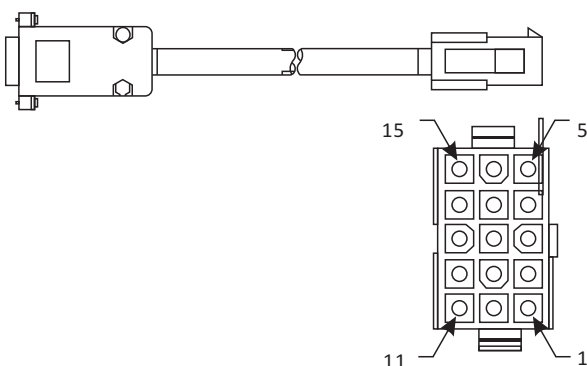


Pin	Name
1	PE
2	U
3	V
4	W

Encoder Cable

Encoder (NEMA16 to NEMA32)

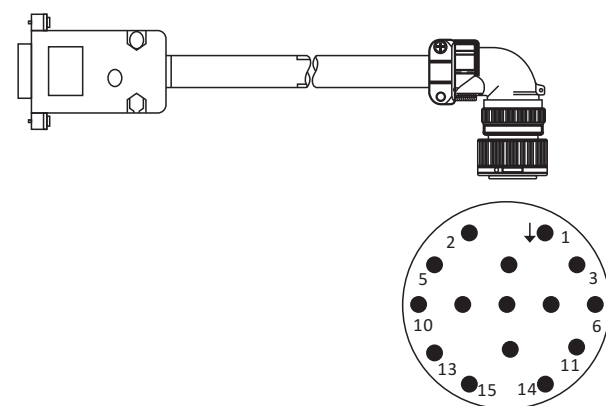
Model: CABLE-BM1M5-S



Pin	Name	Pin	Name
1	PE	5	Z-
2	+5V	6	HU+
3	GND	8	HU-
9	EA+	10	HV+
13	EA-	12	HV-
4	EB+	11	HW+
14	EB-	15	HW-
7	Z+		

Encoder Cable (NEMA51)

Model: CABLE-BM1M5-H





















Pin	Name	Pin	Name
1	PE	9	Z-
2	5+	10	U+
3	0	11	U-
4	A+	12	V+
5	A-	13	V-
6	B+	14	W+
7	B-	15	W-
8	Z+	16	NC

Note:

Standard connectors of the motor, encoder and hall sensor cables are for Leadshine's matching servo drives. They can be customized for your servo drives.

2.6

EL5 Series Order Information

Power	Package	Drive	Motor	Standard Accessories
50 W	EL5-P0050-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0400-x-xxx	EL5-M0050-x-16	
100 W	EL5-P0100-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0400-x-xxx	EL5-M0100-x-16	
200 W	EL5-P0200-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0400-x-xxx	EL5-M0200-x-24	
400 W	EL5-P0400-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0400-x-xxx	EL5-M0400-x-24	
600 W	EL5-P0600-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0750-x-xxx	EL5-M0600-x-24	
750 W	EL5-P0750-x-xxx			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D0750-x-xxx	EL5-M0750-x-32	
1000 W	EL5-P1000-x-xxx (NEMA32)			CABLE-RZ1M5-S CABLE-BM1M5-S CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D1000-x-xxx	EL5-M1000-x-32	
1000 W	EL5-P1000-x-xxx (NEMA51)			CABLE-RZ1M5-H CABLE-BM1M5-H CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D1000-x-xxx	EL5-M1000-x-51	
1500 W	EL5-P1500-x-xxx			CABLE-RZ1M5-H CABLE-BM1M5-H CABLE-ACH1000 HDB-44P See "Accessories" section for more information.
		EL5-D1500-x-xxx	EL5-M1500-x-51	

Package Number

EL5	—	P	1500	—	X	—	XXX
EL5: EL5 Series		P: Package	Rated Power: 1500: 1500W		Encoder Type: 1: 2500-line (10,000 ppr) 2: 17-bit (131,072 ppr)		Communication: R: RS485 C: CANopen E: EtherCAT