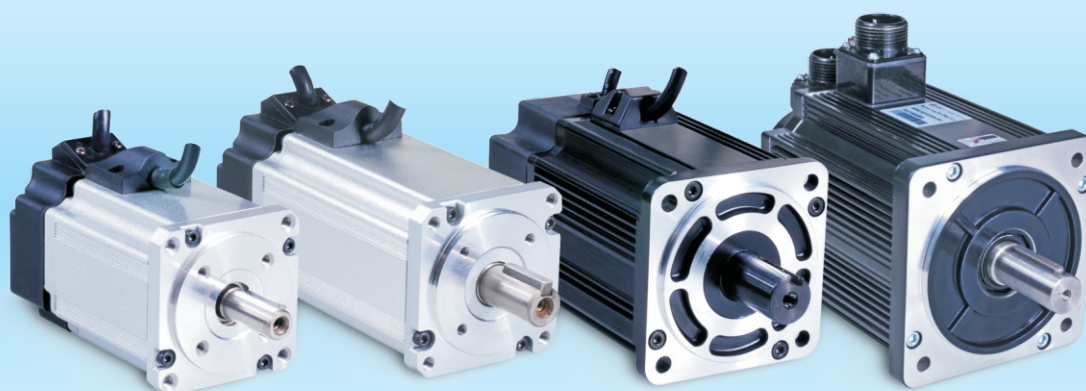


Servo Motors

- High Quality
- Highly Cost-effective



Power Specifications

Servo Motors	Rated Power	Rated Voltage	Rated Torque	Rated Speed
EL5-M Series	50 - 1500 W	220 VAC	0.159 - 7.2 N*m	2000 - 3000 RPM
ACM Series	50 - 400 W	36 - 60 VDC	0.318 - 1.27 N*m	3000 RPM
BLM Series	25 - 180 W	24 - 36 VDC	0.08 - 0.57 N*m	3000 - 4000 RPM
DCM Series	50 - 120 W	24 - 30 VDC	0.15 - 0.35 N*m	2900 - 3500 RPM
iSV Series	25 - 400 W	24 - 60 VDC	0.08 - 1.27 N*m	3000 RPM

Leading Technology

Shining Value



Company Overview

Founded in 1997, Leadshine Motion Technology Ltd. specializes in developing, manufacturing, and distributing high-quality cost-effective motion control products. Its products include motion controllers, stepper drives and motors, DC servo products, AC servo products, and power supplies. Leadshine serves various industrial and OEM customers in Asia, Europe, North/South America, Africa and Australia.

Leadshine is a global leader in stepper and servo technology, and it's also one of the LARGEST manufacturers of motion control products around the world. Leading by an MIT PhD graduate, Leadshine's R&D team of 80 talented engineers is capable of designing high-quality motion control products based on the latest technologies. Leadshine's manufacturing facilities are ISO-9001 certified and professionally staffed.

Leadshine is committed to provide its customers with world-class motion control products at highly competitive prices. "LEADING technology and SHINING value" is always what Leadshine intends to offer to its customers.

R&D

Leadshine is proud of its talented research & development team, which is one of the best in the motion control industry. We are capable of designing world-class products which can meet high requirements of our customers. Many innovative designs and products from Leadshine have been awarded for patents by Chinese government.

Product Quality

Leadshine has been awarded the ISO 9001 registration for quality management practices since September 2004. The certification is a testimony of Leadshine's commitment to provide its customers with high quality products and services.

Technical Support

Staffed with a highly professional and experienced technical support team, Leadshine can help its customers to increase productivity, reduce design & selection risks, and minimize the product development time. We are able to support our customers through email, telephone, field support, product studying conference, and some other approaches.

You can contact Leadshine technical support by phone at 86-755-2641-8447, by fax at 86-755-2640-2718, or by email at tech@leadshine.com.



Servo Motors

CONTENTS

01 Overview	
1.1 Matching Drives-----	1
1.2 Typical Applications-----	2
02 EL5 Series High Voltage AC Servo Motors	
2.1 Part Number-----	3
2.2 Electrical Specifications-----	4
2.3 Mechanical Specifications-----	5
2.4 Speed-Torque Curves-----	10
2.5 Accessories-----	11
2.6 Order Information-----	13
03 ACM Series Low-medium Voltage AC Servo Motors	
3.1 Part Number-----	14
3.2 Electrical Specifications-----	14
3.3 Mechanical Specifications-----	15
3.4 Motor and Encoder Cables-----	16
3.5 Speed-Torque Curves-----	17
3.6 Order Information-----	17
04 BLM Series BLDC Servo Motors	
4.1 Part Number-----	18
4.2 General Specifications-----	18
4.3 Electrical Specifications-----	19
4.4 Mechanical Specifications-----	19
4.5 Motor and Encoder Cables-----	20
4.6 Speed-Torque Curves-----	20
4.7 Order Information-----	21
05 DCM Series Brushed Servo Motors	
5.1 Part Number-----	22
5.2 Electrical Specifications-----	22
5.3 Mechanical Specifications-----	23
5.4 Encoder Cable-----	23
5.5 Speed-Torque Curves-----	24
5.6 Order Information-----	24
06 iSV Series Integrated Servos	
6.1 Part Number-----	25
6.2 Electrical Specifications-----	25

01 Overview

1.1 Overview Matching Drives

EL5-M Series (High-voltage AC Servo Motors, Rated Voltage: 220 VAC)

Power	Motors	Matching Drives
50 W	 EL5-M0050-x-16	 EL5-D0400-x-xxx
100 W	 EL5-M0100-x-16	
200 W	 EL5-M0200-x-24	
400 W	 EL5-M0400-x-24	
600 W	 EL5-M0600-x-24	 EL5-D0750-x-xxx
750 W	 EL5-M0750-x-32	
1000 W(NEMA32)	 EL5-M1000-x-32	 EL5-D1000-x-xxx
1000 W (NEMA51)	 EL5-M1000-x-51	
1500 W	 EL5-M1500-x-51	 EL5-D1500-x-xxx

ACM Series (Low-voltage AC Servo Motors, Rated Voltage: 36VDC, 60VDC)

Power	Motors	Matching Drives
100 W	 ACM601V36	 ACS806
200 W	 ACM602V36, ACM602V36A ACM602V60, ACM602V60A	
	 ACM602V36-30	
400 W	 ACM604V60	
	 ACM604V60-30	

1.1 Overview Matching Drives (Con't)

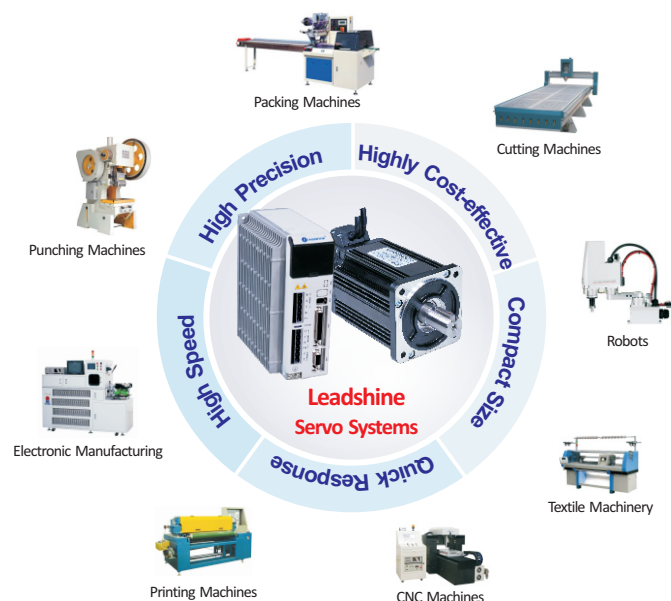
BLM Series (Brushless DC Servo Motors, Rated Voltage: 24VDC, 36VDC)

Power	Motors	Matching Drives
25 W	 BLM57025	 ACS306
50 W	 BLM57050	
90 W	 BLM57090	
130 W	 BLM57130	 ACS606
180 W	 BLM57180	
	 57BL180	

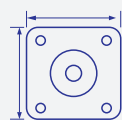
DCM Series (Brushed DC Servo Motors, Rated Voltage: 24VDC, 30.3VDC)

Power	Motors	Matching Drives
50 W	 DCM50202A, DCM57202 DCM50202AD, DCM57202D	 DCS303 (for the DCM5xxxx) DCS810 (for the DCM5xxxxD)
80 W	 DCM50205, DCM57205 DCM50205D, DCM57205D	 DCS303, DCS810S (for the DCM5xxxx) DCS810 (for the DCM5xxxxD)
120 W	 DCM50207, DCM57207 DCM50207D, DCM57207D	 DCS303, DCS810S (for the DCM5xxxx) DCS810 (for the DCM5xxxxD)

1.2 Overview Typical Applications



02

EL5 Series
Servo Motors

Frame Size

40 mm
(NEMA16)60 mm
(NEMA24)80 mm
(NEMA32)130 mm
(NEMA51)

Rated Power

50 W
100 W200 W
400 W
600 W750 W
1.0 KW1.0 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 1000: 1000W	0750: 750W 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



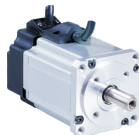
Specifications

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 10MΩ	Vibration	<2.5 G
Ambient Temperature	0 to 40°C	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70°C	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 10MΩ	Vibration	<2.5 G
Ambient Temperature	0 to 40°C	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70°C	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 10MΩ	Vibration	<2.5 G
Ambient Temperature	0 to 40°C	Humidity	20%RH to 90%RH
Storage Temperature	-20 to 70°C	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

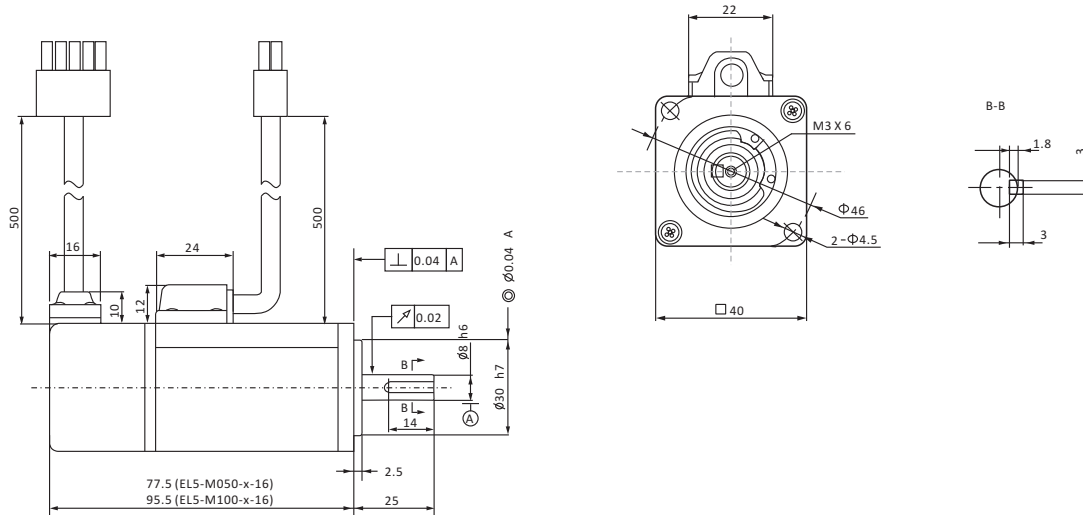
Operating Environment

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

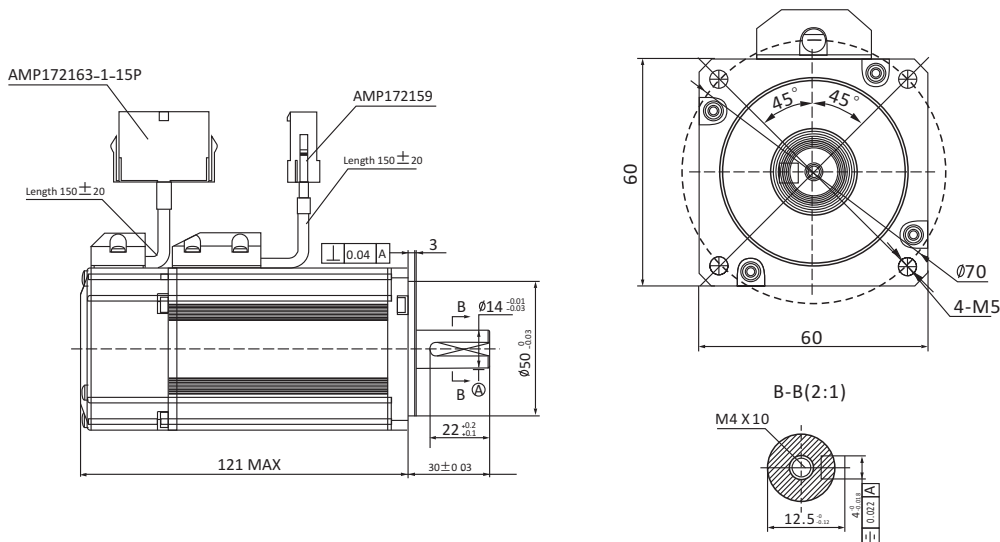
2.3 EL5 Series Mechanical Specifications

Units: mm 1 inch = 25.4 mm

● EL5-M0050-x-16 and EL5-M0100-x-16



● EL5-M0200-x-24



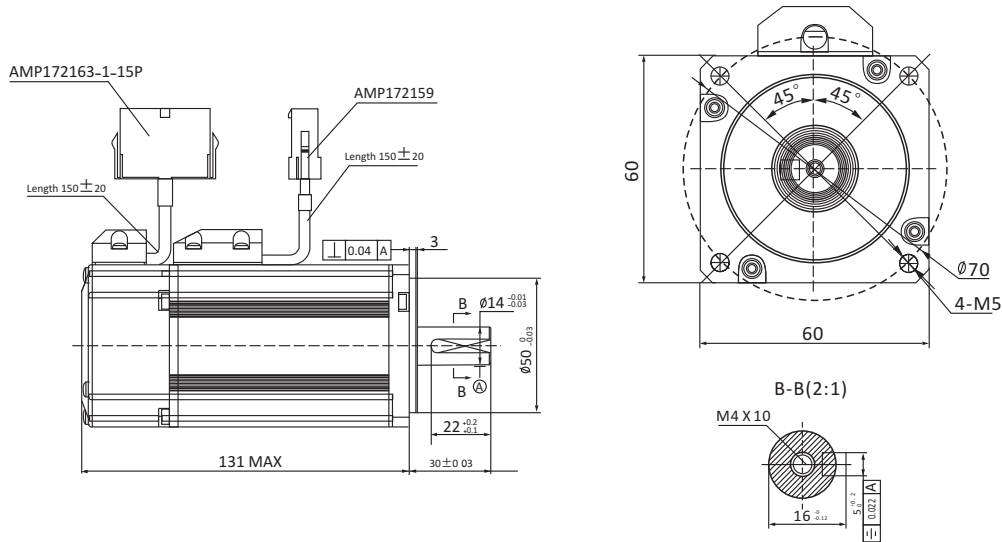
Installation Notes:

- (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.

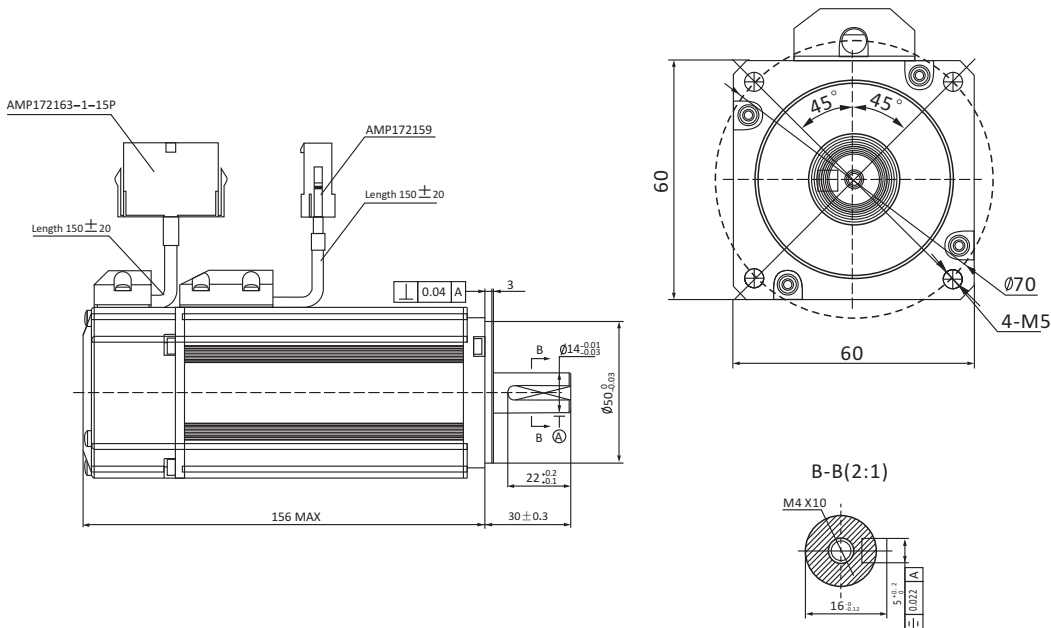
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M0400-x-24



● EL5-M0600-x-24



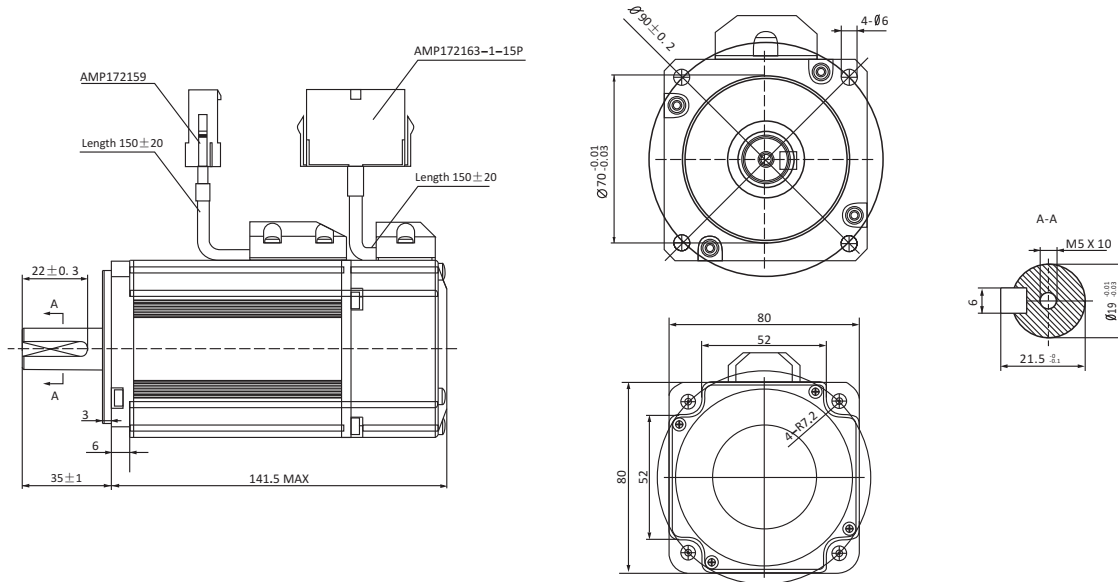
Installation Notes:

- (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.

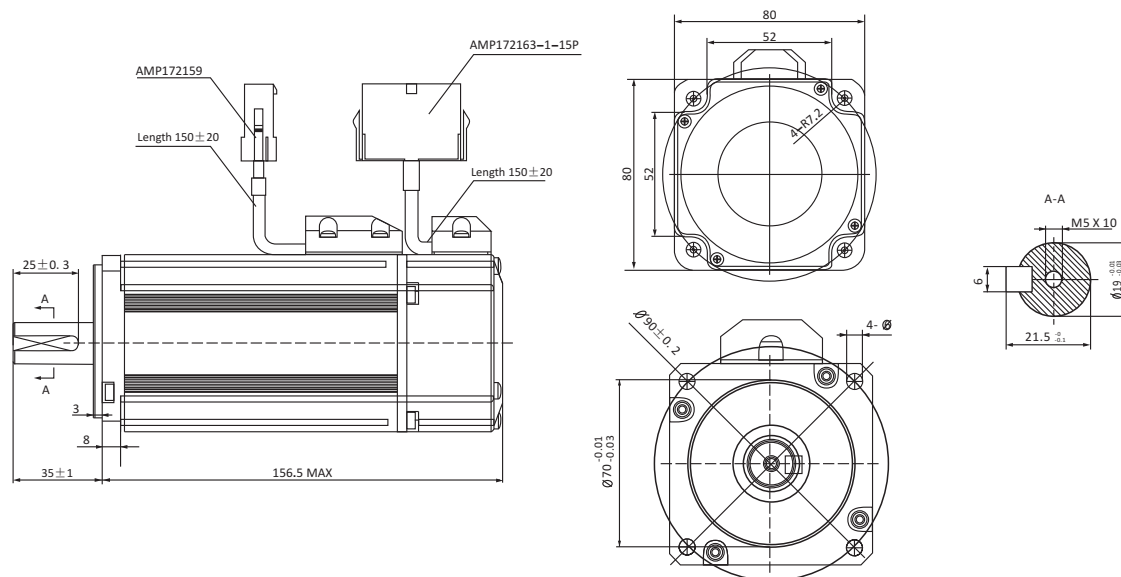
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M0750-x-32



● EL5-M1000-x-32



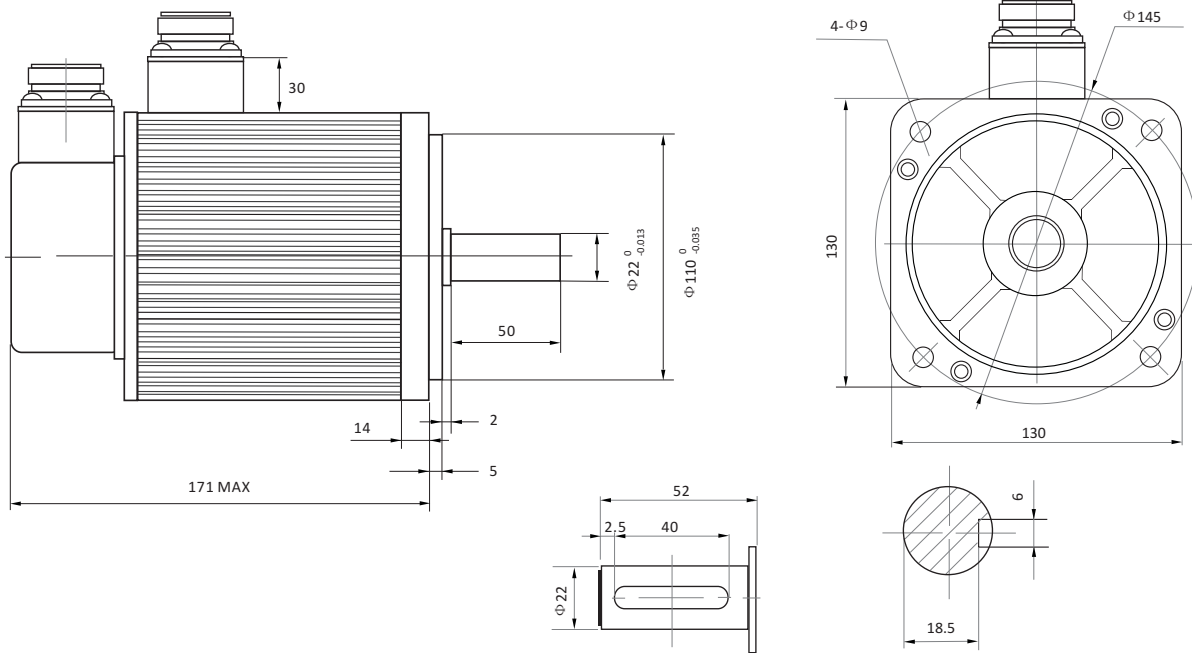
Installation Notes:

- (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.

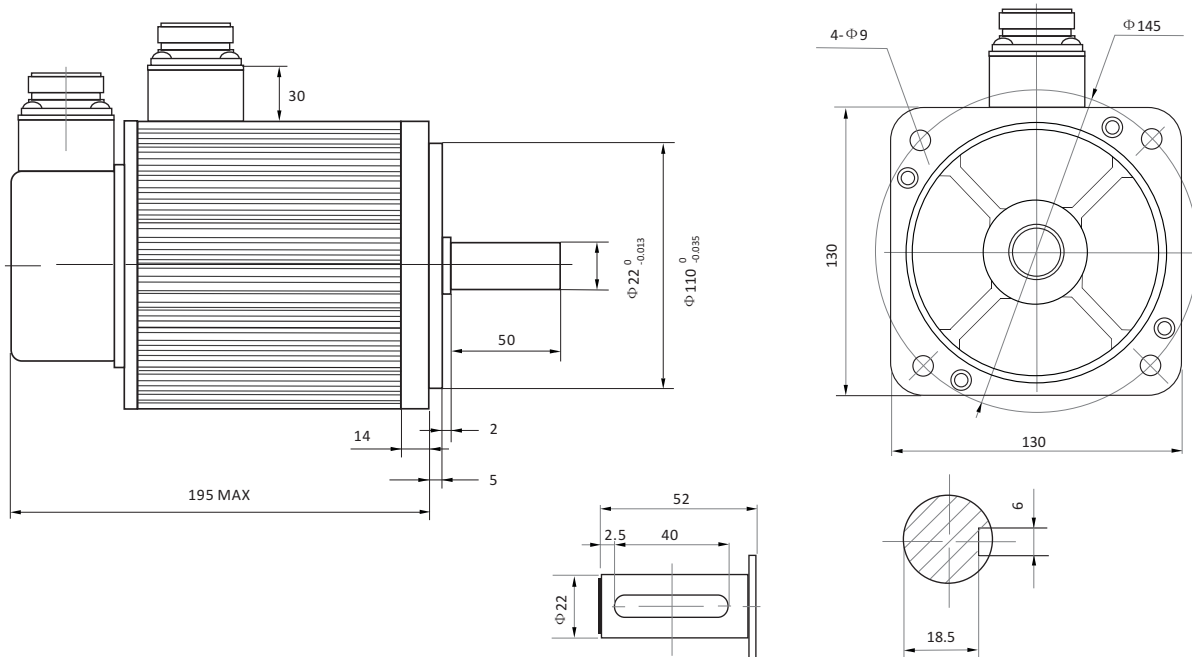
2.3 EL5 Series Mechanical Specifications (Con't)

Units: mm 1 inch = 25.4 mm

● EL5-M1000-x-51



● EL5-M1500-x-51



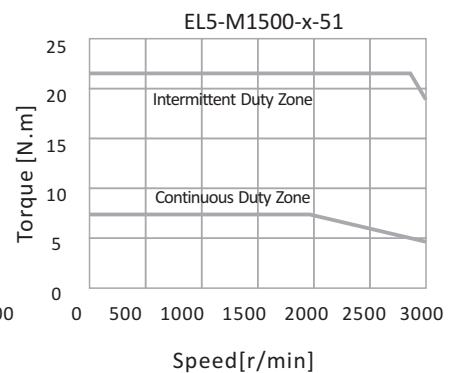
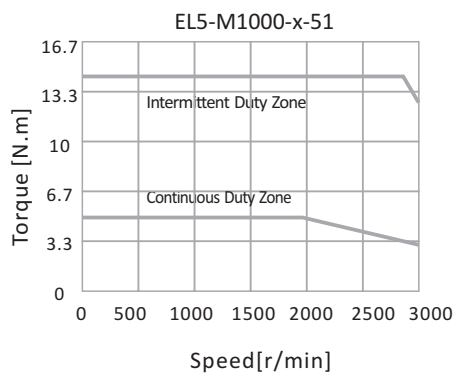
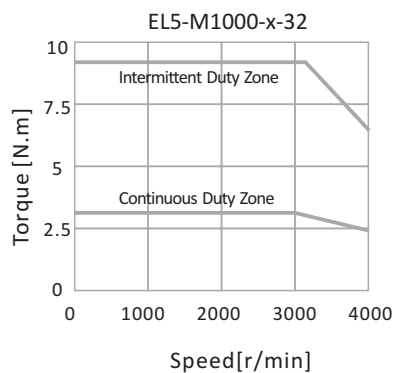
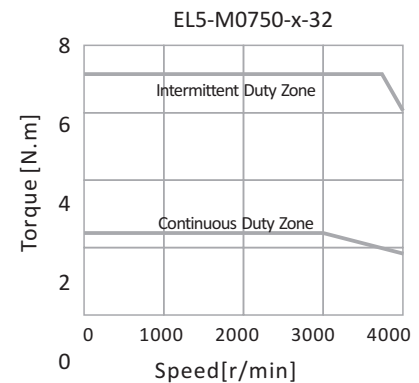
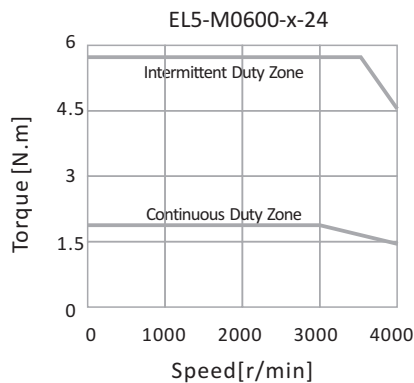
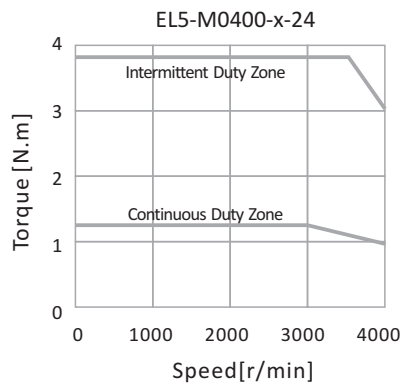
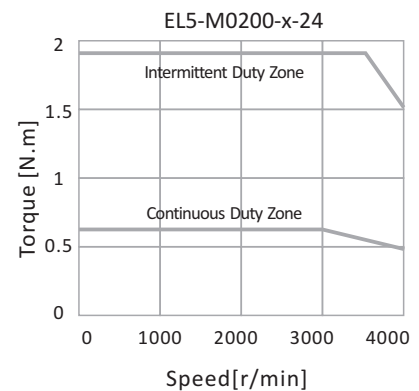
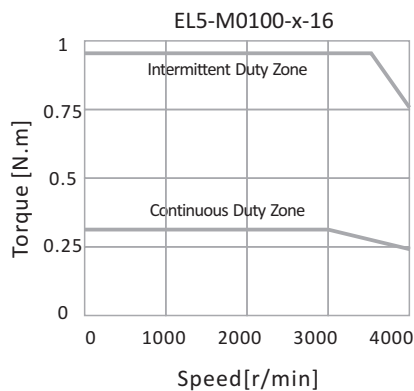
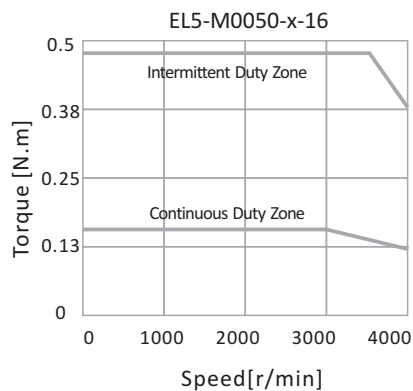
Installation Notes:

- (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

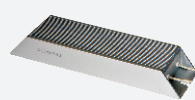
Matching Drives

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.

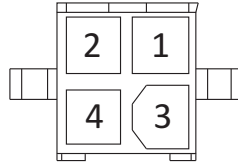
2.5

EL5 Series
Accessories (Con't)

Motor Cable

Motor Cable (NEMA16 to NEMA32)

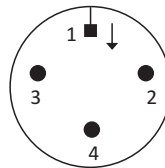
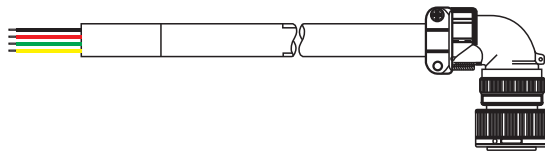
Model: CABLE-RZ1M5-S



Pin	Name
1	V
2	U
3	W
4	PE

Motor Cable (NEMA51)

Model: CABLE-RZ1M5-H

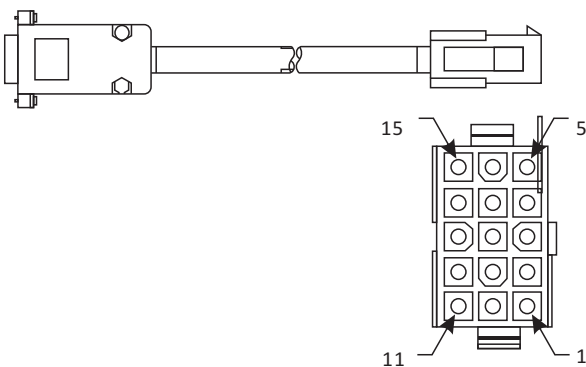


Pin	Name
1	PE
2	U
3	V
4	W

Encoder Cable

Encoder (NEMA16 to NEMA32)

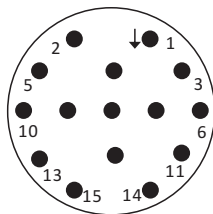
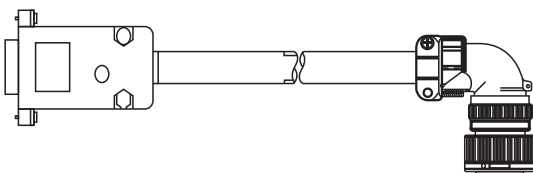
Model: CABLE-BM1M5-S



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

Package Number

EL5

EL5: EL5 Series

P

P: Package

1500Rated Power:
1500: 1500W**x**

Encoder Type:

1: 2500—line (10,000 ppr)
2: 17—bit (131,072 ppr)**xxx**

Communication:

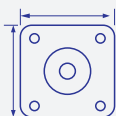
R: RS485
C: CANopen
E: EtherCAT

03

ACM Series AC Servo Motors

Low-medium Voltage (36, 60 VDC)

The ACM series low-medium voltage AC servo motors offer high performance with modes ranging from 100W to 400W. Mounting is compatible with most AC servo motors on the market. Standard models come with a standard 2500-line or 1000-line differential encoder with index slits (A, B, Z), and Hall Sensors (U, V, W). When driven by Leadshine ACS series servo drives, the ACM series motors meet application requirements from as low as 1 rpm to as high as 4000 rpm.



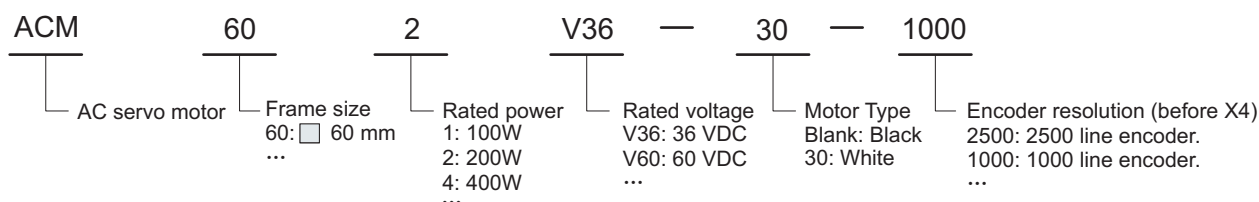
Frame Size 60 mm (NEMA24)



Rated Power 100 W, 200 W, 400 W

3.1

ACM Series Part Number



3.2

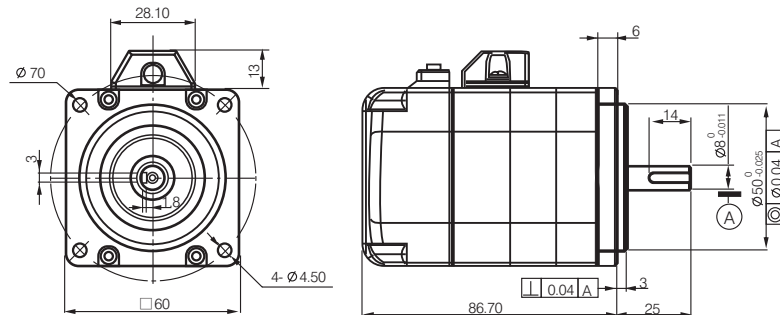
ACM Series Electrical Specifications

Model	ACM601V36	ACM602V36(A)	ACM602V60(A)	ACM604V60	ACM602V36-30	ACM604V60-30
Rated Voltage (V)	36	36	60	60	36	60
Rated Power (W)	100	200	200	400	200	400
Rated Torque (N.M)	0.318	0.64	0.64	1.27	0.64	1.27
Peak Torque (N.M)	0.95	1.91	1.91	3.82	1.92	3.81
Rated Speed (RPM)	3000	3000	3000	3000	3000	3000
Peak Speed (RPM)	4000	4000	4000	4000	4000	4000
Rated Current (A)	4	7.6	4.7	8.4	7.6	8.4
Peak Current (A)	11	22	14	25	22	25
Torque Const. (N.M/A)	0.0866	0.0918	0.15	0.161	0.084	0.151
Back EMF Const. (V/RPM)	3.03 x10 ⁻³	3.213x10 ⁻³	5.24x10 ⁻³	5.54x10 ⁻³	3.2x10 ⁻³	5.5x10 ⁻³
Resistance (ohm)	0.38	0.16	0.38	0.19	0.39	0.28
Inductance (mH)	0.91	0.41	1.07	0.59	0.33	0.34
Inertia (kgm ² x 10 ⁻⁴)	0.1032	0.176 (0.178)	0.176 (0.178)	0.3549	0.32	0.46
Allowable radial load (N)	78.6	245	245	245	245	245
Allowable axial load (N)	38.2	68	68	74	68	74
Flange Size (mm)	60	60	60	60	60	60
Mounting Diameter (mm)	70	70	70	70	70	70
Shaft Diameter (mm)	8	11 (14)	11 (14)	14	11	14
Motor Length (mm)	86.7	100.7	100.7	127.8	123	143
Pole Pairs (-)	4	4	4	4	4	4
Encoder Res. (counts/rev.)	2500 (optional)	2500 (optional)	2500 (optional)	2500 (optional)	1000 **	1000 **
Mass (Kg)	0.701	0.966	0.984	1.463	0.95	1.48
Ambient Temperature (°C)	0~40	0~40	0~40	0~40	0 to 40	0 to 40

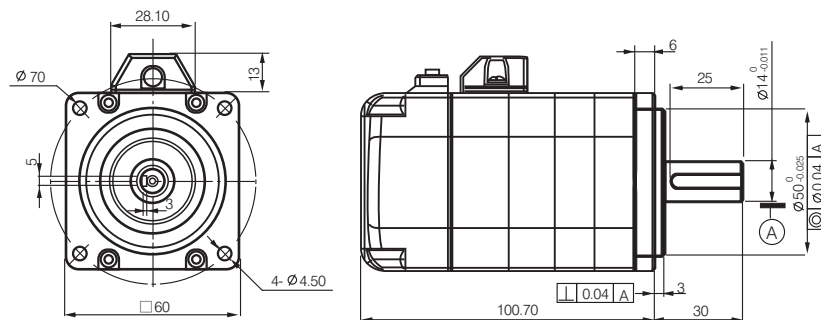
3.3 ACM Series Mechanical Specifications

Unit: mm 1 inch = 25.4 mm

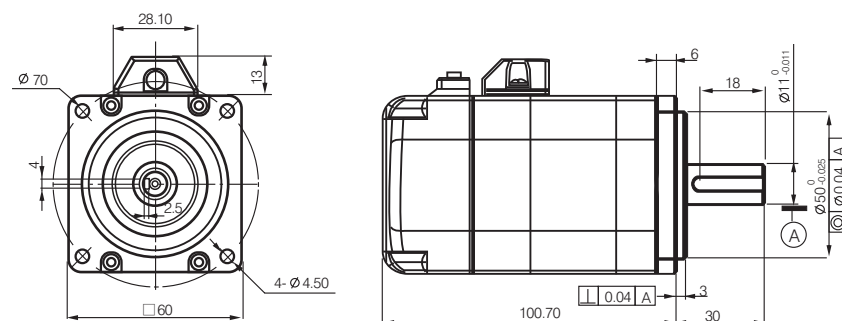
(a) Mechanical specifications of the ACM601V36 (100W)



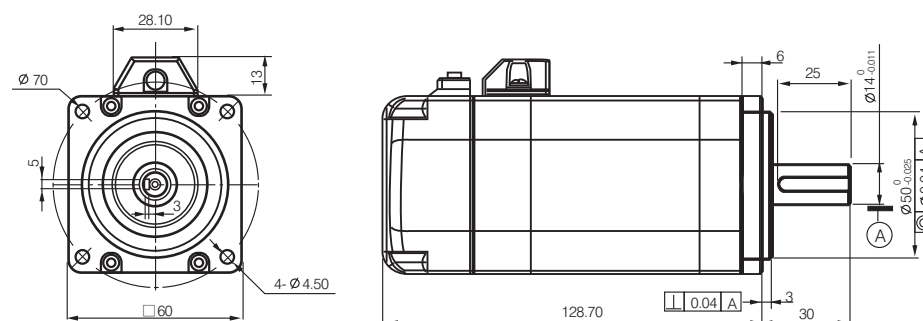
(b) Mechanical specifications of the ACM602V36A and ACM602V60A (200W)



(c) Mechanical specifications of the ACM602V36 and ACM602V60 (200W)



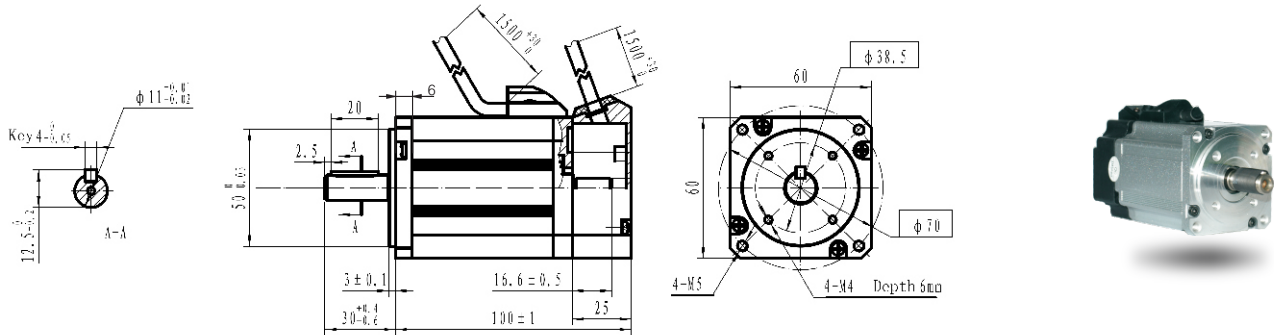
(d) Mechanical specifications of the ACM604V60 (400W)



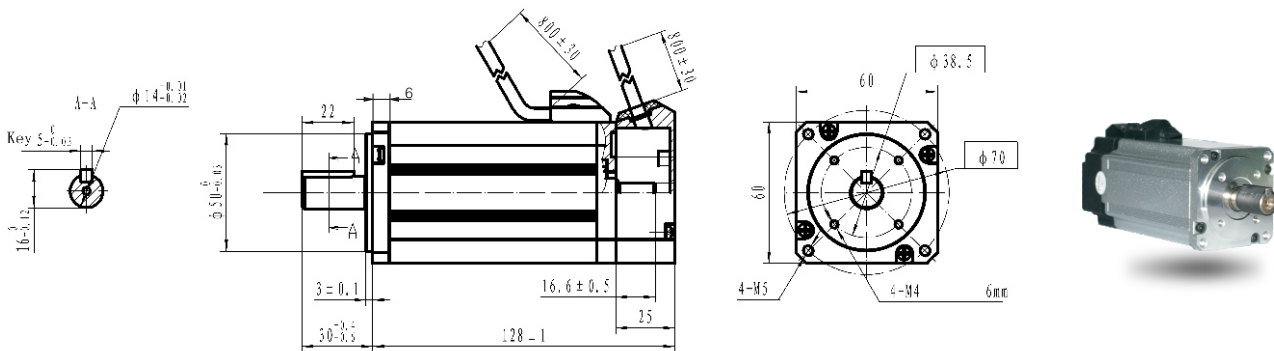
3.3 ACM Series Mechanical Specifications (Con't)

Unit: mm 1 inch = 25.4 mm

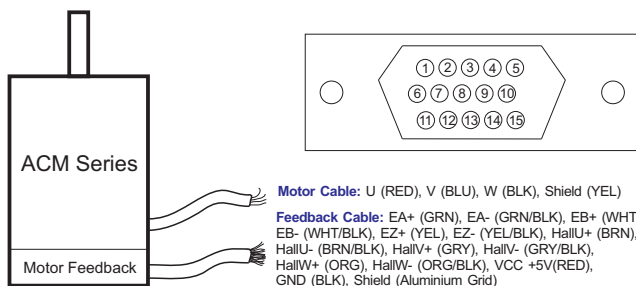
(e) Mechanical specifications of the ACM602V36-30 (200W)



(f) Mechanical specifications of the ACM604V60-30 (400W)



3.4 ACM Series Motor and Encoder Cables



Motor Feedback (D-sub, 15 pin, male)

Pin	Description	Pin	Description	Pin	Description
1	EA+	6	Shield	11	EA-
2	EB+	7	EZ+*	12	EB-
3	GND	8	EZ-*	13	Vcc
4	HallW+	9	HallV+	14	HallW-*
5	HallU+	10	HallV-*	15	HallU-*

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.

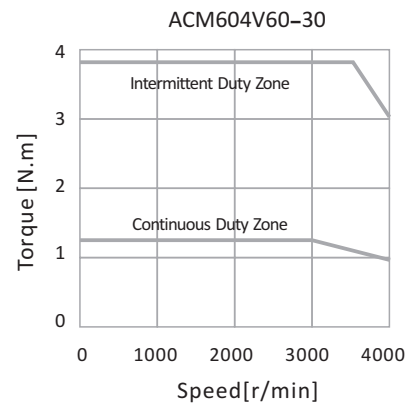
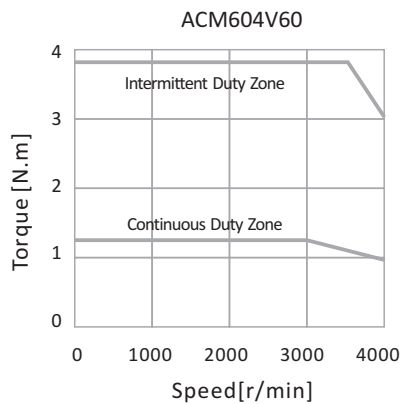
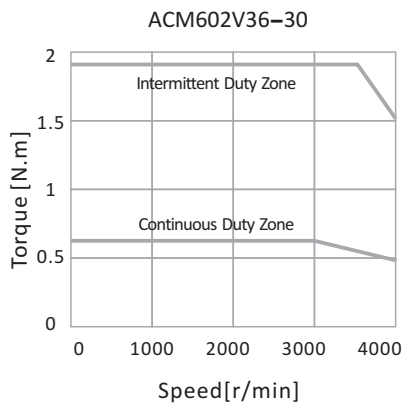
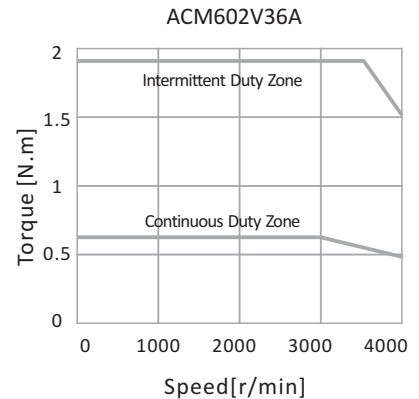
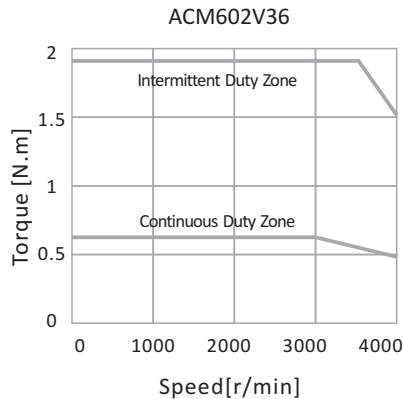
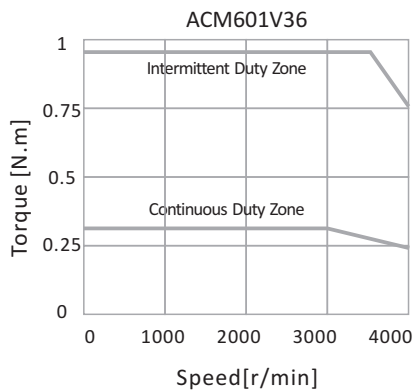
* These signals are only available for 2,500-line encoder, and for 1,000-line encoder these signals are NOT available (NC).

3.5 ACM Series Speed–Torque Curves

Matching Drive

ACS806

480 W



3.6 ACM Series Order Information

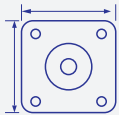
Models	Matching Drives
100 W AC Servo Motors	ACS806
200 W AC Servo Motors	ACS806
400 W AC Servo Motors	ACS806

04

BLM Series Brushless DC Servo Motors Low-medium Voltage (24, 36 VDC)

Leadshine's BLM series motors are highly cost-effective brushless DC servo motors. Rated speed of BLM series motors is 3000 rpm (That of the 57BL180 is 4000 rpm). Standard model includes a 1000-line differential encoder (EA+/EA-, EB+/EB-), and Hall Sensors with standard Hall signals (U, V, W).

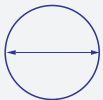
When driven by Leadshine ACS series servo drives, the BLM series motors can meet requirements of many applications requiring speed from as low as 1 rpm to as high as 4000 rpm. They are able to offer AC-servo-like performance, such as high speed, high precision, low motor noise and low heating performance, while at the cost of normal stepping systems. BLM series motors are flange mounted motors, and mounting is compatible with that of NEMA23 stepper motors. The 57BL180 is a screw mounted motor.



Frame Size 57mm (NEMA23)



Rated Power 25 W, 50 W, 90 W,
130 W, 180 W



Diameter ϕ 57mm



Rated Power 180 W

4.1

BLM Series Part Number

BLM

Brushless DC servo motor

57

Flange size
57: $\square$ 57 mm
...

025

Rated power
025: 25W
050: 50W
...
180: 180W

—



Custom-built or Special Model Number
Blank: Standard
...

* The 57BL180 is a screw mounted model, above rules inapplicable to this model.

4.2

BLM Series General Specifications

Winding connection: Δ (Delta connection)

Hall Sensor: 120°

Pole Pairs (-): 2

Phase: 3

Shaft Radial Play: 0.025 mm

Shaft Axial Play: 0.025 mm@460g

Allowable radial load: 75N@20mm from the flange

Allowable axial load: 15N

Isolation Level: Class B

Isolation Strength: 500VDC for one minute

Isolation Resistance: 100M ohms

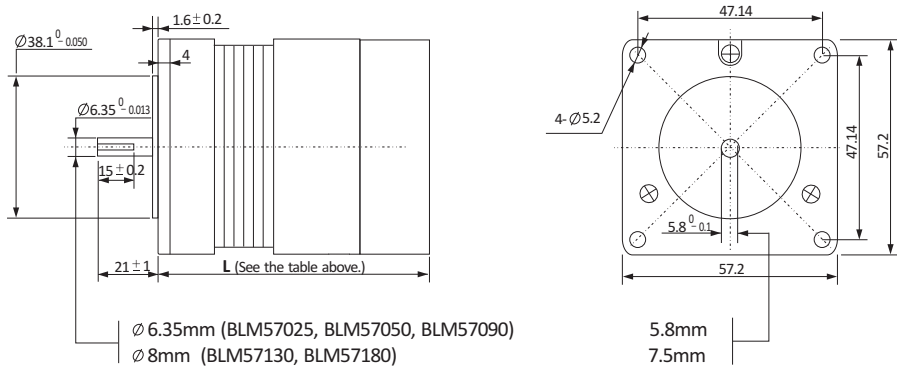
4.3 BLM Series Electrical Specifications

No.	Parameters	BLM57025	BLM57050	BLM57090	BLM57130	BLM57180	57BL180
1	Rated Voltage (VDC)	24	24	36	36	36	36
2	Rated Power (W)	25	50	90	130	180	180
3	Rated Torque (N.M)	0.08	0.16	0.29	0.41	0.57	0.43
4	Peak Torque (N.M)	0.24	0.48	0.87	1.23	1.71	1.27
5	Rated Speed (RPM)	3000	3000	3000	3000	3000	4000
6	Rated Current (A)	1.6	3	3.45	5.3	6.7	7
7	Peak Current (A)	4.8	9	10.35	15.9	20	20.5
8	Torque Const. (N.M/A)	0.05	0.053	0.084	0.078	0.085	0.063
9	Back EMF Const. (V/RPM)	5.2	5.55	8.8	8.2	8.9	6.6
10	Resistance (ohms)	1.73	0.88	1.35	0.63	0.9	0.35
11	Inductance (mH)	3.36	2.2	4.1	2.17	2	1
12	Inertia ($\text{kgm}^2 \times 10^{-4}$)	30	75	119	173	230	230
13	Motor Length L (mm)	70	80	100	120	140	140
14	Mass (Kg)	0.25	0.5	0.75	1	1.25	1.25

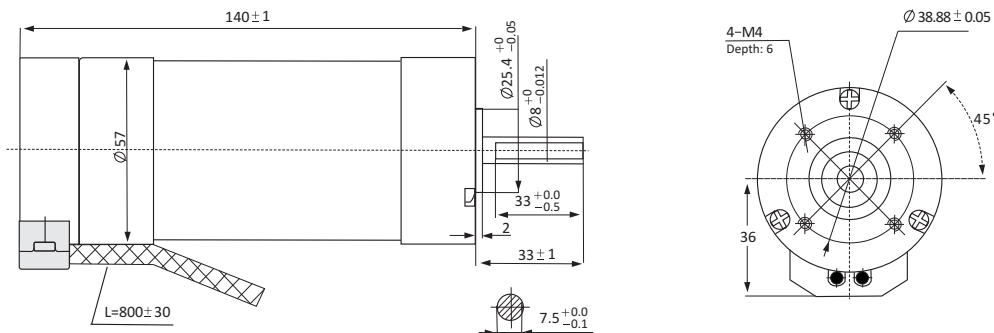
4.4 BLM Series Mechanical Specifications

Unit: mm 1 inch = 25.4 mm

(a). Mechanical specification of the BLM57xxx series motors.



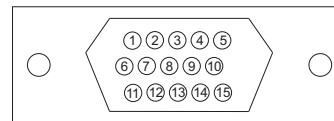
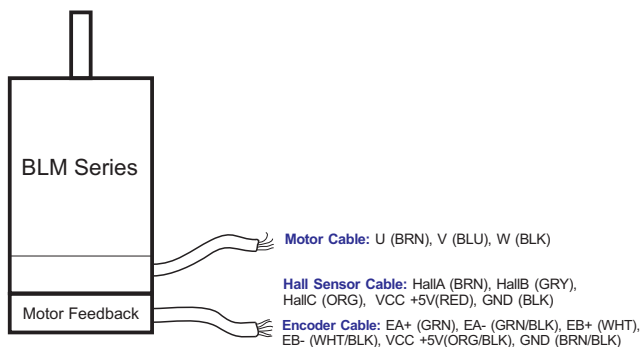
(b). Mechanical specification of the 57BL180.



Note:

The thread depth for the M4 mounting holes on the face of the 57BL180 is 6.0 mm. Do not screw more than 6.0 mm as this will cause damage to the motor.

4.5 BLM Series Motor and Encoder Cables



Motor Feedback (D-sub,15 pin, male)

Pin	Description	Pin	Description	Pin	Description
1	EA+	6	NC	11	EA-
2	EB+	7	NC	12	EB-
3	GND	8	NC	13	Vcc
4	HallC	9	HallB	14	NC
5	HallA	10	NC	15	NC

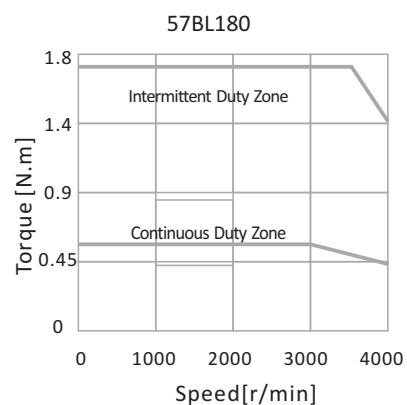
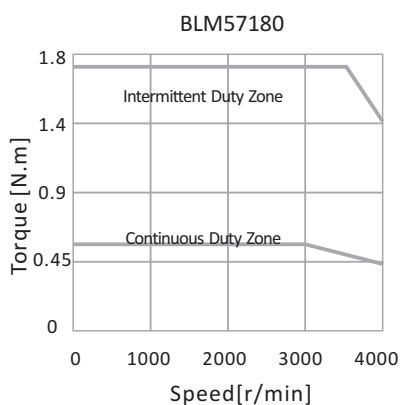
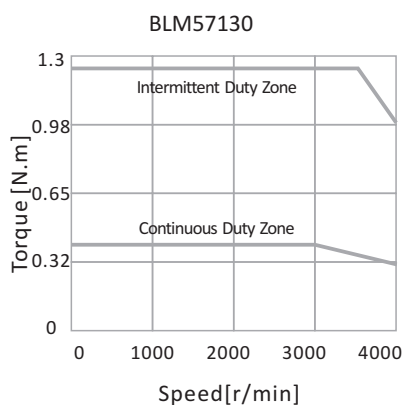
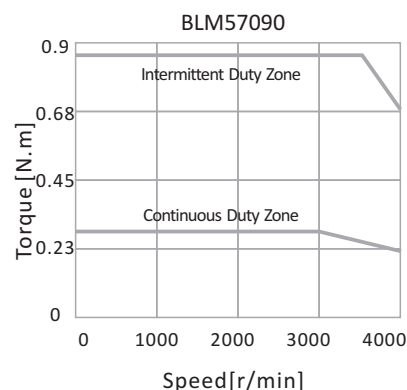
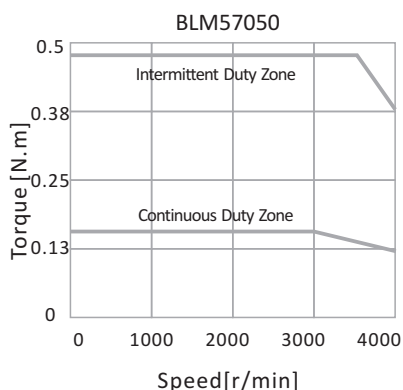
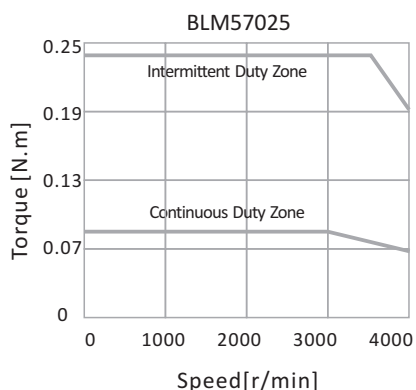
Note:

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.

4.6 BLM Series Speed-Torque Curves

Matching Drives

ACS306	ACS606
180 W	360 W



4.7

BLM Series Order Information

Series	Model	Description
BLM Series Motors	BLM57025	Brushless DC Servo Motor, Rated Voltage: 24 VDC, Rated Power: 25W, Shaft Diameter: 6.35 mm
	BLM57050	Brushless DC Servo Motor, Rated Voltage: 24 VDC, Rated Power: 50W, Shaft Diameter: 6.35 mm
	BLM57090	Brushless DC Servo Motor, Rated Voltage: 36 VDC, Rated Power: 90W, Shaft Diameter: 6.35 mm
	BLM57130	Brushless DC Servo Motor, Rated Voltage: 36 VDC, Rated Power: 130W, Shaft Diameter: 8 mm
	BLM57180	Brushless DC Servo Motor, Rated Voltage: 36 VDC, Rated Power: 180W, Shaft Diameter: 8 mm
	57BL180	Brushless DC Servo Motor, Rated Voltage: 36 VDC, Rated Power: 180W, Shaft Diameter: 8 mm

05

DCM Series Brushed Servo Motors

Low-medium Voltage (24, 30.3 VDC)

The DCM series motors are permanent magnet DC brushed servo motors. All of them come with attached encoder which provides position feedback to controllers. These motors are widely used in inkjet printers, medical equipments, measuring devices, etc, which require smooth operation, super-low noise, high precision and high reliability.



Diameter

∅ 54mm



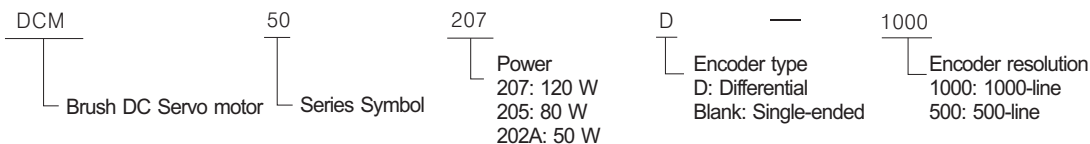
Rated Power

50 W, 80 W, 120 W

5.1

DCM Series

Part Number



5.2

DCM Series

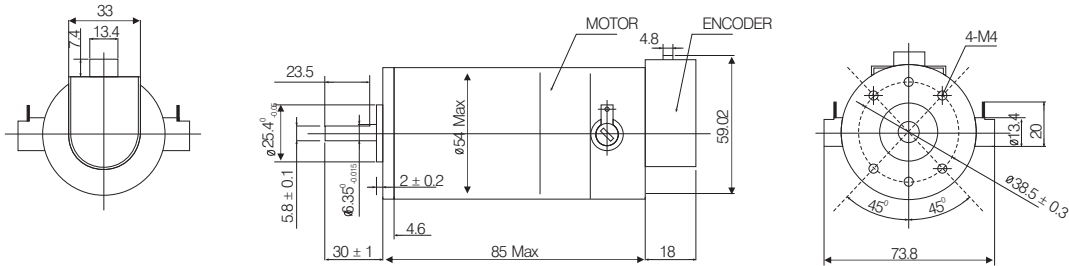
Electrical Specifications

No.	Parameters	Symbol	Units	DCM50202A	DCM50205	DCM50207
1	Continuous Torque (Max)	T_C	N·m	0.15	0.25	0.35
2	Peak Torque (Stall)	T_{PK}	N·m	0.76	1.59	2.90
3	No-load Speed	S_{NL}	rpm	$4600 \pm 10\%$	$4000 \pm 10\%$	$3600 \pm 10\%$
4	Rated Speed	S_R	rpm	3500	3400	2900
5	Rotor Inertia	J_M	kg·m ²	1.62×10^{-5}	3.11×10^{-5}	4.73×10^{-5}
6	Winding Temperature	θ_{MAX}	°C	155 (Max)	155 (Max)	155 (Max)
7	Thermal Impedance	R_{TH}	°C/watt	9.00	7.30	4.98
8	Weight (Plus Encoder)	W_M	g	694	1182	1338
9	Length (Plus Encoder)	L1	mm	129 ± 2	161 ± 2	196 ± 2
10	Rated Voltage	E	V	24	24	30.3
11	Rated Current	I	A	1.79	2.95	3.94
12	Torque Constant	K_T	N·m/A	48×10^{-3}	52×10^{-3}	80×10^{-3}
13	Resistance	R_T	Ω	2.52	0.8	0.90
14	No-load Current	I_{NL}	A	0.45	0.5	0.45
15	Peak Current (Stall)	I_P	A	13.9	21.6	32.6
16	Encoder Resolution	-	steps/rev.	500/1000	500/1000	500/1000

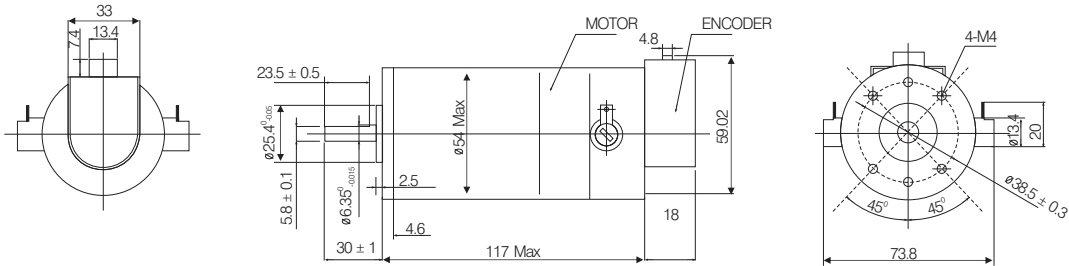
5.3 DCM Series Mechanical Specifications

Unit: mm 1 inch = 25.4 mm

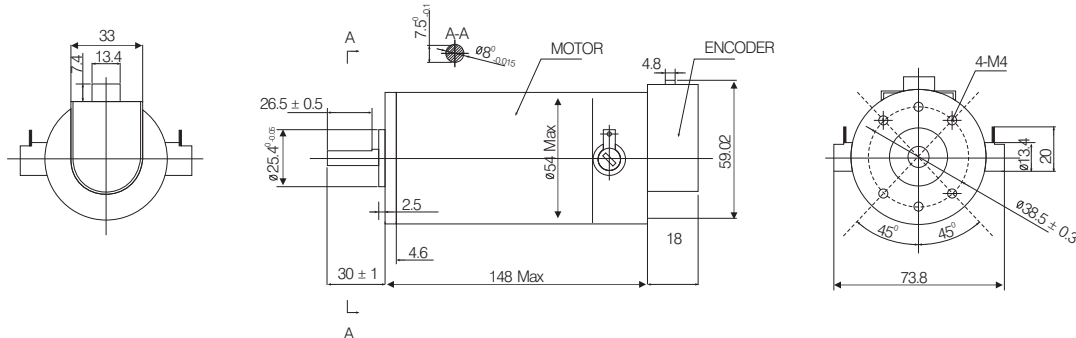
Mechanical specification of the DCM50202A motor (plus encoder):



Mechanical specification of the DCM50205 motor (plus encoder):



Mechanical specification of the DCM50207 motor (plus encoder):



5.4 DCM Series Encoder Cables

Encoder Connections

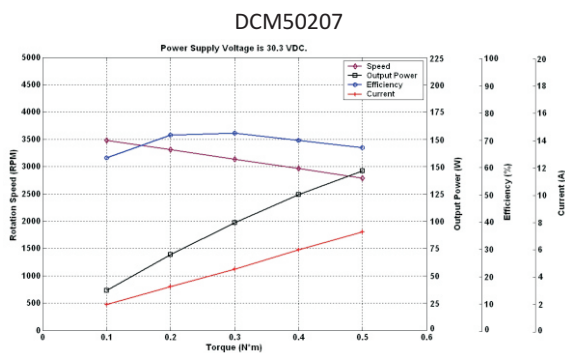
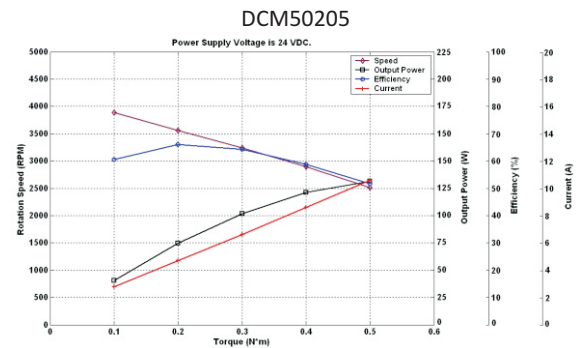
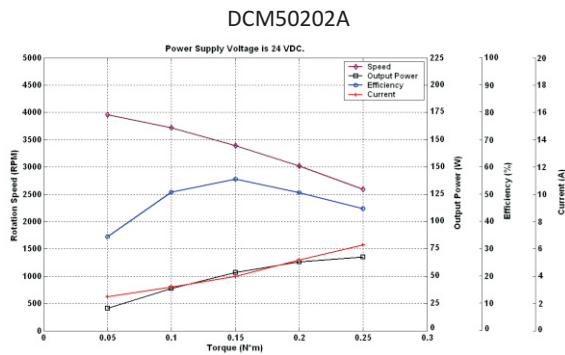
Connection Table for Single-ended Encoder			Connection Table for Differential Encoder		
Pin	Color	Description	Pin	Color	Description
1	Blue	Channel B	1	Black	Channel A+
2	Yellow	Channel A	2	Blue	Channel A-
3	Red	VCC	3	Yellow	Channel B+
4	Black	Ground	4	Green	Channel B-
5	Green	Index / NC	5	Red	VCC
			6	White	Ground

Note: The DCM5xxx-1000 motor includes an attached 1000-line encoder, and the DCM5xxx-500 motor includes an attached 500-line encoder. Z (Index) signal is **NOT** offered by standard models, please specify the requirement when placing an order if you need.

5.5 DCM Series Speed-Torque Curves

Matching Drives

DCS303	DCS810 / DCS810S
90 W	800 W



5.6 DCM Series Order Information

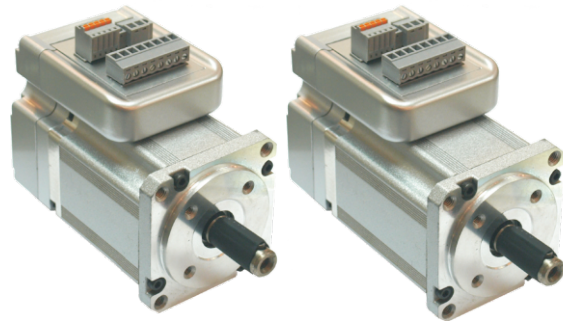
Motors	Models	Descriptions
DCM Series Motors	DCM50xxx-1000	Screw mounted brush DC servo motor with a 1000-line incremental encoder (A, B phase single-ended).
	DCM50xxx-500	Screw mounted brush DC servo motor with a 500-line incremental encoder (A, B phase single-ended).
	DCM50xxxD-1000	Screw mounted brush DC servo motor with a 1000-line incremental encoder (A, B phase differential).
	DCM50xxxD-500	Screw mounted brush DC servo motor with a 500-line incremental encoder (A, B phase differential).

06

iSV Series Integrated Servos Low-medium Voltage (24, 36, 60 VDC)

Features

- **Highly Integrated**, Servo motor + advanced DSP servo drive
- FOC-SVPWM technologies
- Lower labour cost
- Lower cable cost
- Support step & direction, RS485 or CANopen commands
- Built-in pulse generator for the tuning and self-test
- Compact size, Save mounting space



Lower
Labour Cost

+

Lower
Cable Cost

+

Increase
Reliability

+

Save
Mounting Space

Leadshine's iSV series integrated servos are one of the most compact servo systems available on the market. An iSV integrated servo has a servo motor (PMSM or BLDC optional) and an advanced DSP servo drive. At very compact size and with all components integrated, the iSV series servos can save mounting space, eliminate encoder connection and motor wiring time, increase reliability, and lower cable and labour cost. The drive takes step & direction, RS485 or CANopen commands, and is capable of outputting in position and fault signals back to the master controller or external devices for complete system controls.

6.1

iSV Series Part Number

iSV –
iSV: Integrated
Servo

Motor Type
A: PMSM
B: BLDC

Motor Frame Size
17: NEMA17 (42mm)
23: NEMA23 (57mm)
24: NEMA24 (60mm)

Rated Power
050: 50W
130: 130W
400: 400W
...

Communication Type
Blank: Step & Direction
485: RS485
CAN: CANopen

**Custom or Special
model number**

6.2

iSV Series Electrical Specifications

No.	Part Number	Rated Voltage (VDC)	Rated Power (W)	Rated Torque (N.M)	Peak Torque (N.M)	Rated Speed (RPM)
1	iSV-A24100	36	100	0.32	0.95	3000
2	iSV-A24200	36	200	0.64	1.91	3000
3	iSV-A24400	60	400	1.27	3.82	3000
4	iSV-B17025	24	25	0.08	0.24	3000
5	iSV-B17050	24	50	0.16	0.48	3000
6	iSV-B17075	24	75	0.24	0.72	3000
7	iSV-B23090	36	90	0.29	0.87	3000
8	iSV-B23130	36	130	0.41	1.23	3000
9	iSV-B23180	36	180	0.57	1.71	3000

Please visit Leadshine's website at www.leadshine.com for the latest information about the iSV series integrated servos.

China Headquarters

Address: 3/F, Block 2, Nanyou Tianan Industrial Park, Nanshan District Shenzhen, China

Website: <http://www.leadshine.com>

Sales Hot Line:

Tel: 86-755-2643 4369 (for All)

86-755-2641-7674 (for Asia, Australia, Africa region)

86-755-2640-9254 (for Europe region)

86-755-2641-7684 (for America region)

Fax: 86-755-2640-2718

Email: sales@leadshine.com

Technical Support:

Tel: 86 755-2641-8447 and 86-755-2647-1129

Fax: 86-755-2640-2718

Email: tech@leadshine.com and vic@leadshine.com

Leadshine U.S.A

Address: 25 Mauchly, Suite 318, Irvine, CA92618, America

Tel: 1-949-608-7270

Fax: 1-949-608-7298

Website: <http://www.leadshineUSA.com>

Email: usa_sales@leadshine.com and cli@leadshine.com

Leadshine Hong Kong

Address: Rm 3, 9/F, Block E, Wah Lok Industrial Center, 31-41 Shan Mei St., Fo Tan, Shatin, Hong Kong

Tel: 852-2952-9114

Fax: 852-2952-9395

Email: hk_sales@leadshine.com