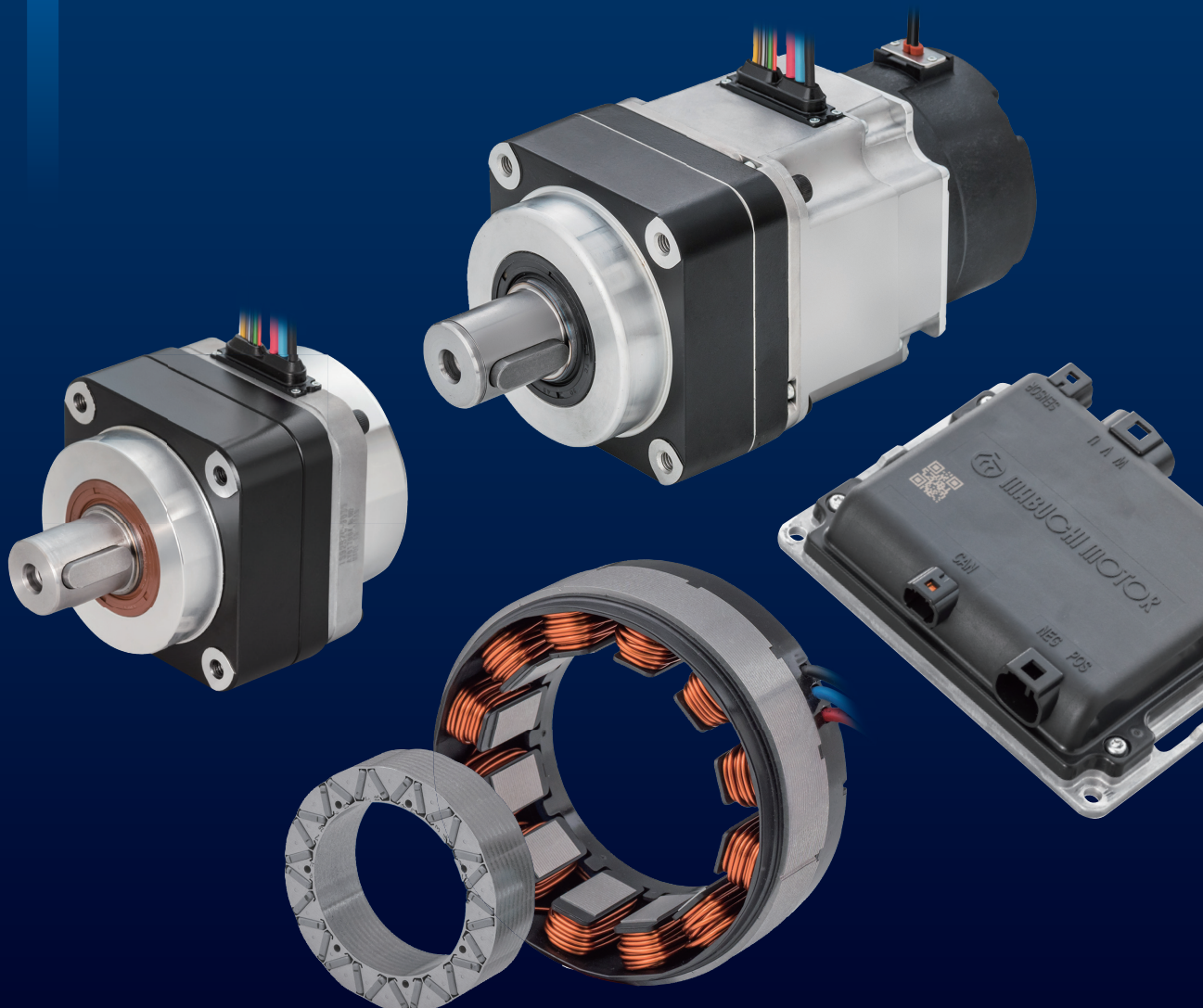
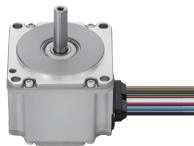

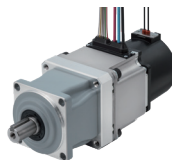





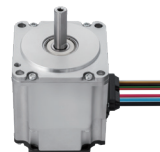





BRUSHLESS MOTOR CATALOG




Brushless motor lineup

Brushless DC Motors / Controllers

| Flange Dimension | Motor | Geared Motors | | | | Controllers | | |
|---|---|---|--|---|---|---|---|---|
| | | Reduction Ratio 10:1 | | Reduction Ratio 20:1 | | | | |
| 60 mm <small>(with Hall sensors)</small> |  IS-74BZA |  MS-74BZA <small>Coming Soon</small> |  MS-74BZB <small>Coming Soon</small> |  MS-74BZD <small>Coming Soon</small> |  TBD* |  DS-34EC1-IS311 | | |
| 85 mm <small>(with Hall sensors)</small> |  IS-94BZC |  MS-94BZA |  MS-94BZB |  MS-94BZC |  MS-94BZD |  MS-94BZE |  MS-94BZF |  DS-34EC1-IS221 |
| 100 mm <small>(with Hall sensors)</small> |  IS-B5BZA |  TBD* |  TBD* |  MS-B5BZD <small>Coming Soon</small> |  TBD* |  TBD* | | |
| 60 mm <small>(with Resolver sensors)</small> |  IR-74BZA <small>Coming Soon</small> |  TBD* |  TBD* |  TBD* |  TBD* |  DR-40FC1 <small>Coming Soon</small> | | |
| 85 mm <small>(with Resolver sensors)</small> |  IR-94BZA |  MR-94BZA |  MR-94BZB |  MR-94BZD <small>Coming Soon</small> |  MR-94BZE <small>Coming Soon</small> |  DR-40FC1 DR-40FC3 | | |

TBD*: Currently under development

Frameless Brushless DC Motors

| Stator Diameter | Stator / Rotor |
|-----------------|---|
| 60 mm | IA-A3BZA IB-A3BZA  |
| 75 mm | IA-B4BZA IB-B4BZA  |
| 90 mm | IA-C5BZA IB-C5BZA  |
| 120 mm | IA-D5BZA IB-D5BZA  |

Compact design enabling Product miniaturization

Mabuchi brushless motors generate high output for its size. Slim design of the motor enables high torque and flexible product design. Combined with a compact motor controller, Mabuchi motors contribute efficient space allocation for batteries and other components.

ISMSIR


MRDSDR

IPX4-rated waterproof design

Mabuchi motors and controllers have an IPX4 waterproof rating. The water-resistant design is ideal for products operated in demanding and outdoor conditions (e.g. delivery robots, agricultural robots).

ISMSIR


MRDSDR



Motor efficiency up to 90%

Mabuchi motors offer high efficiency (ratio of electrical energy input to mechanical energy output) due to their unique magnetic circuit design, thus improving power consumption and contributing to carbon neutrality and Sustainable Development Goal metrics.

ISIR



Low-EMI design

Mabuchi motor controllers have an EMI-suppressing design, compliant with CISPR32 Class B, which minimizes the risk of product malfunction caused by communication failures due to interference. As such, no external noise-suppressing is needed.

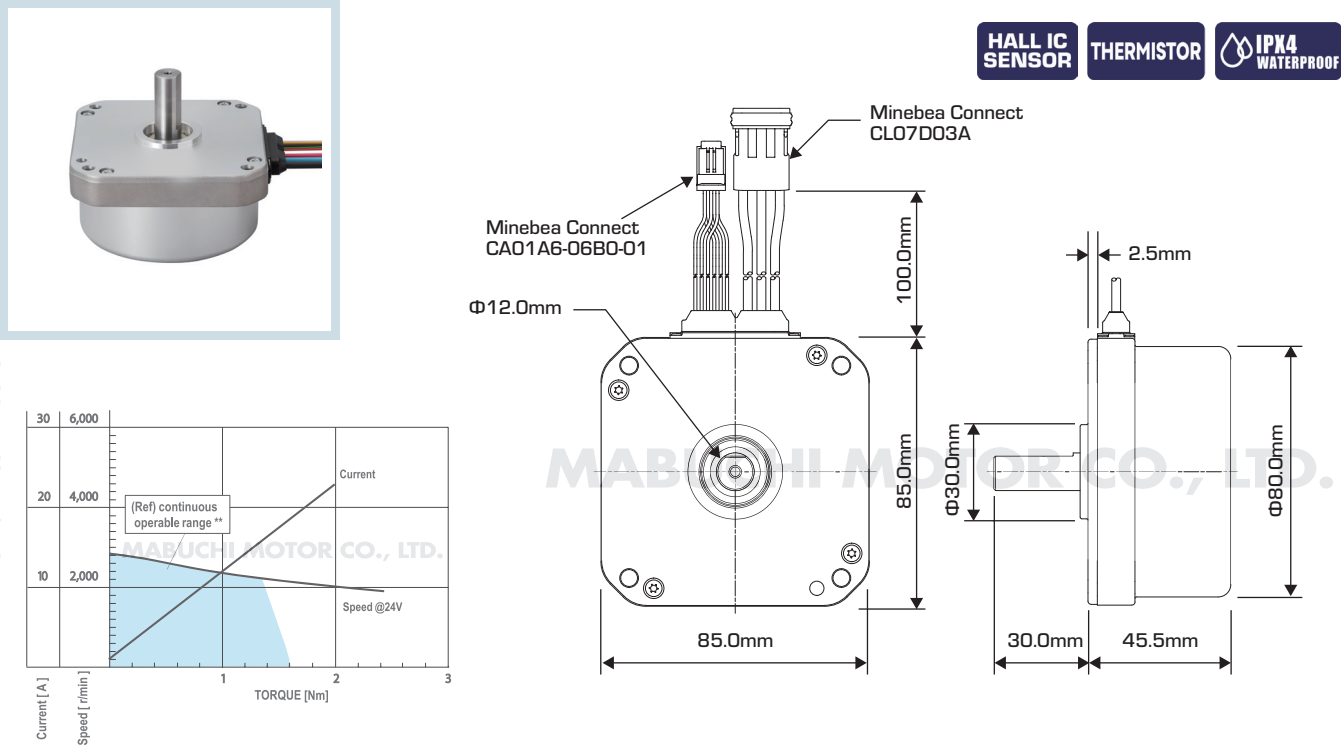
DSDR

IS Series

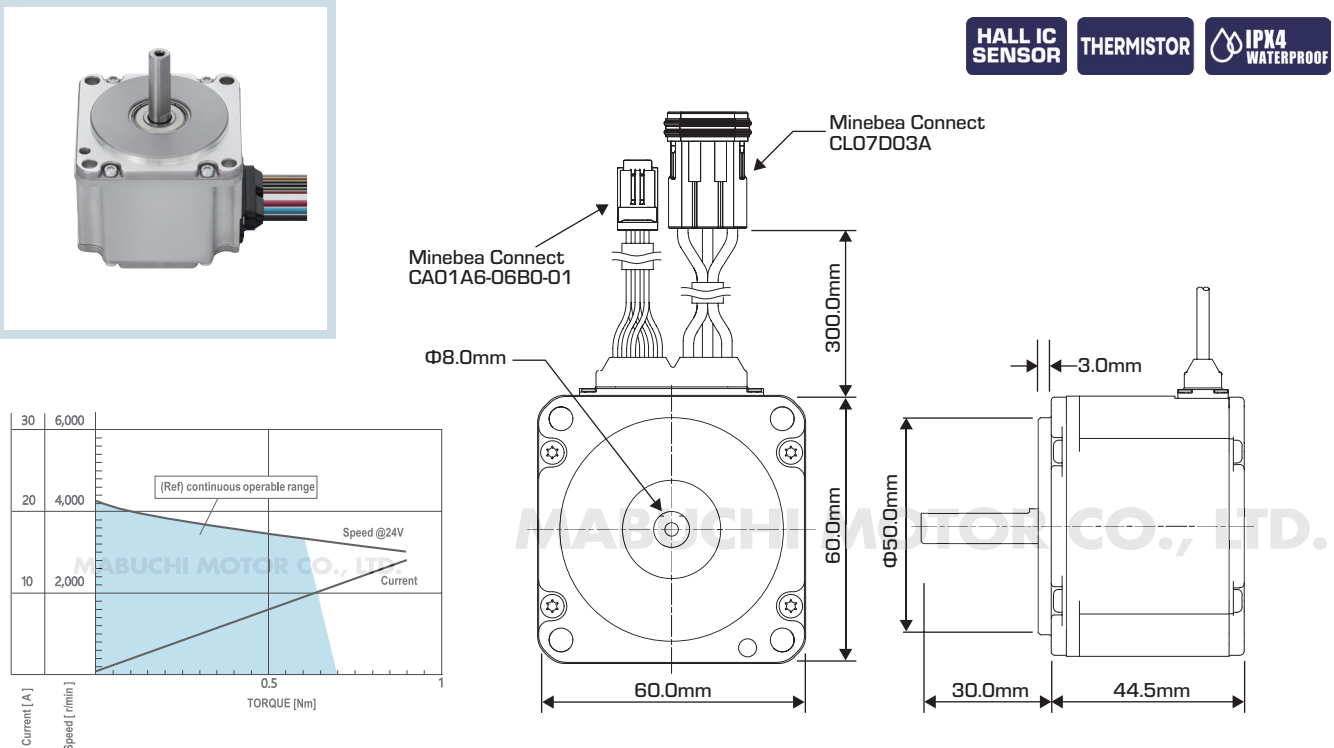
The IS Series brushless DC motors equipped with uniquely-designed magnetic circuit are optimized for battery-powered commercial robots and various types of industrial equipment. Available in three different rated outputs and three different flange side dimensions.

| Model | IS-74BZA | IS-94BZC | IS-B5BZA |
|------------------------|--|-------------------------------------|---------------------------------------|
| Instant Maximum Output | 280 W (10 sec max) | 410 W (10 sec max) | 1,000 W (10 sec max) |
| Instant Maximum Torque | 0.9 Nm (10 sec max) | 2.0 Nm (10 sec max) | 4.0 Nm (10 sec max) |
| Rated Voltage | 24V | | 48 V |
| Rated Output | 200 W | 250 W | 640 W |
| Rated Torque | 0.6 Nm | 1.0 Nm | 2.3 Nm |
| Rated Speed | 3,200 r/min | 2,400 r/min | 2,660 r/min |
| Operating Voltage | 15-55 V | | |
| Size | 60.0 mm x 60.0 mm x length: 44.5 mm | 85.0 mm x 85.0 mm x length: 45.5 mm | 100.0 mm x 100.0 mm x length: 54.0 mm |
| Weight | 0.52 kg | 0.83 kg | 1.76 kg |
| Withstand Voltage | 500 V AC 1 minute (between terminal and case) | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | |
| Water proof | IPX4 (Waterproof except at base of motor shaft. Must use dedicated waterproof mating connector.) | | |

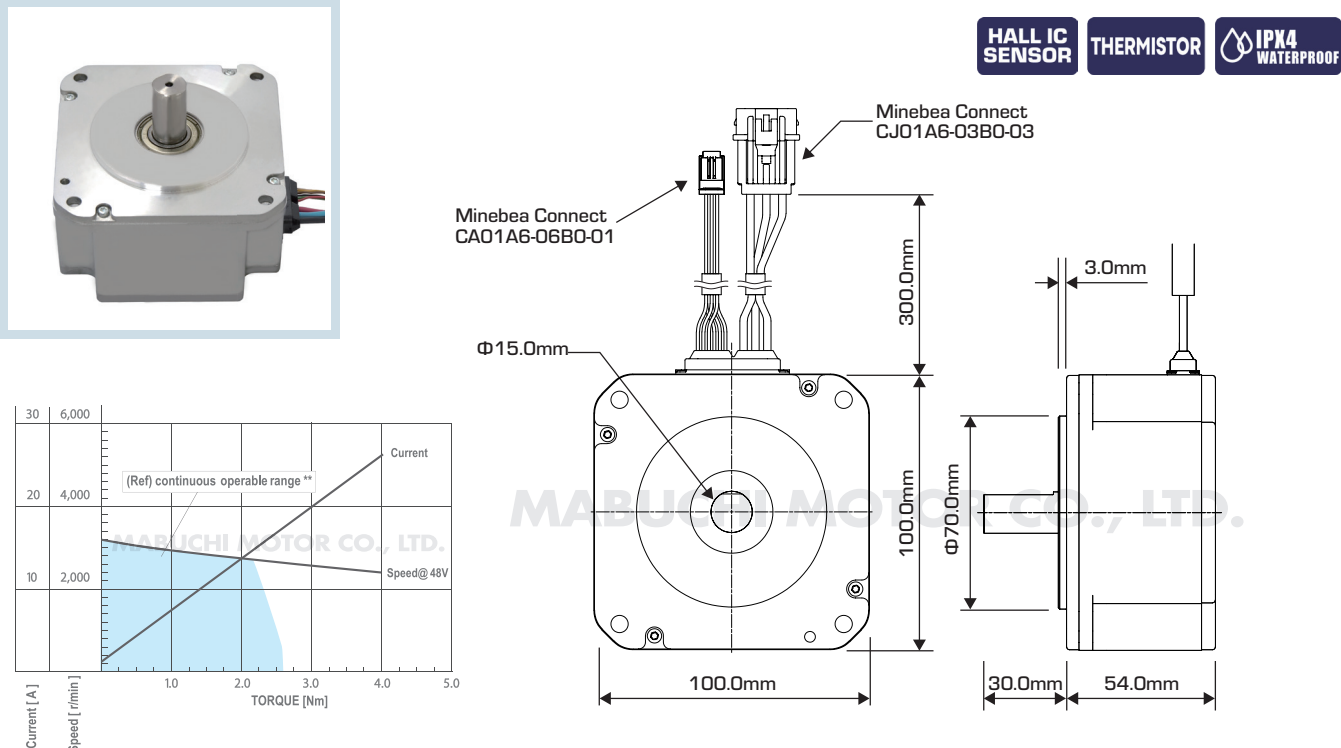
IS-94BZC



IS-74BZA



IS-B5BZA



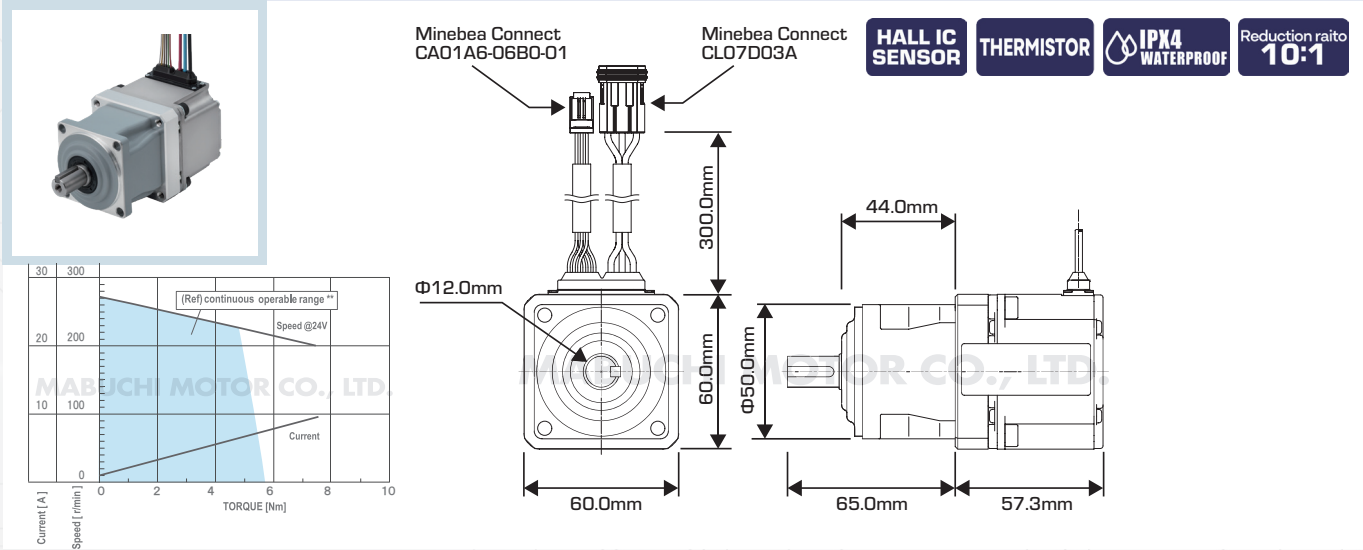
MS Series

The MS series brushless DC motor includes optional accessories (gear reducer, static brake, foot-mount, wheel). The planetary gears offer reduction ratios of 10:1 and 20:1.

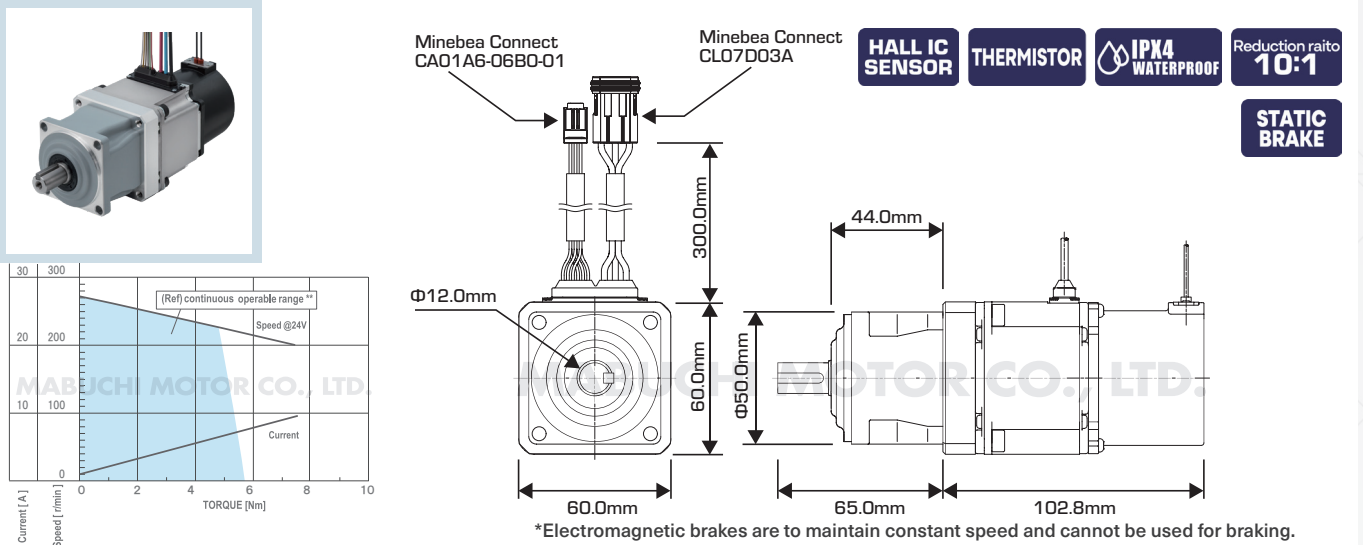
| Model | MS-74BZA | MS-74BZB | MS-74BZD | MS-B5BZD |
|--|---|--|---------------------------------------|---------------------------------------|
| Instant Maximum Output | 140 W (10 sec max) | | 115 W (10sec max) | 760 W (10 sec max) |
| Instant Maximum Torque | 7.5Nm (10 sec max) | | 13.8 Nm (10 sec max) | 64 Nm (10 sec max) |
| Rated Voltage | 24 V | | 24 V | 48 V |
| Rated Output | 100 W | | 90 W | 495 Nm |
| Rated Torque | 4.8 Nm | | 8.7 Nm | 36.4 Nm |
| Rated Speed | 200 r/min | | 100 r/min | 130 rpm |
| Operating Voltage | 15 - 55 V | | | |
| Size | 60.0 mm × 60.0 mm × length : 93.3 mm | 60.0mm x 60.0mm x length : 138.8 mm | 60.0 mm × 60.0 mm × length : 110.7 mm | 100.0 mm x100.0 mm x length :172.0 mm |
| Weight | 1.06 kg | 1.4 kg | 1.4 kg | 5.7 kg |
| Reduction Ratio | 10 : 1 | | 20 : 1 | |
| Allowable Radial Load Bearing | 650 N | | | 2000 N |
| Allowable Load Inertia | 0.6 kg/m2 max (Applicable Acceleration Rate: 200 r/min/s) | | | TBD* |
| Withstand Voltage | 500 V AC 1 minute (between terminal and case) | | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | | |
| Static Brake Operation Voltage at 20°C (ambient) | — | Power off type (for holding & emergency stops), Release voltage 24V, Holding voltage 24V | — | — |
| Material | — | — | — | — |
| Water proof | IPX4 (Must use dedicated waterproof mating connector.) | | | |

TBD*: Currently under development

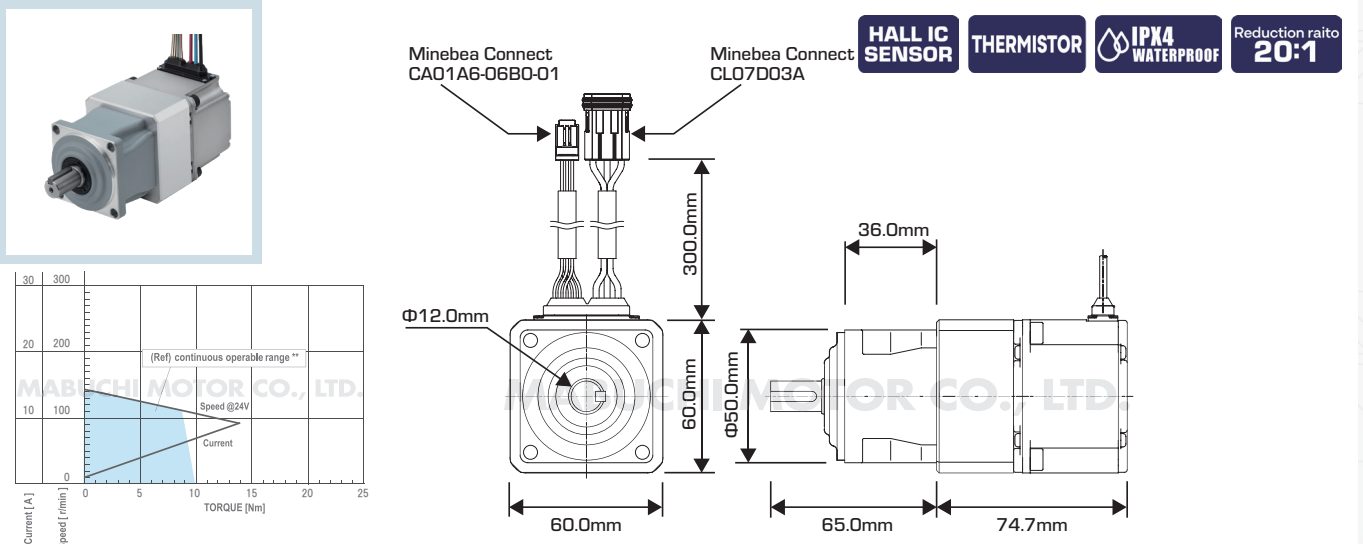
MS-74BZA (Coming soon)



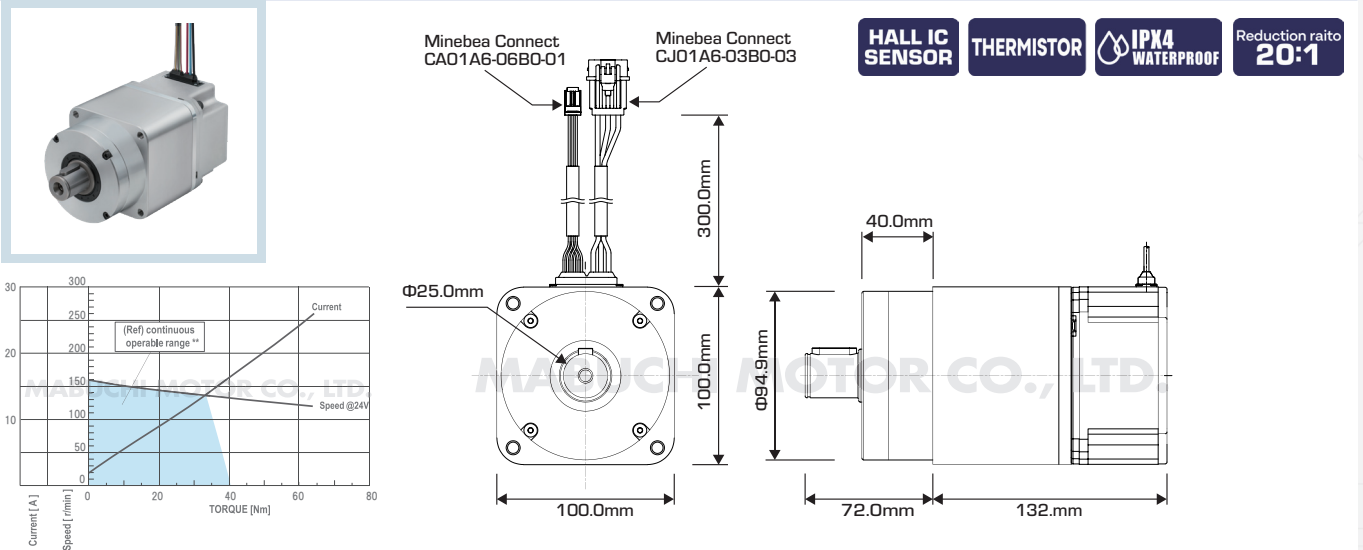
MS-74BZB (Coming soon)



MS-74BZD (Coming soon)



MS-B5BZD (Coming soon)



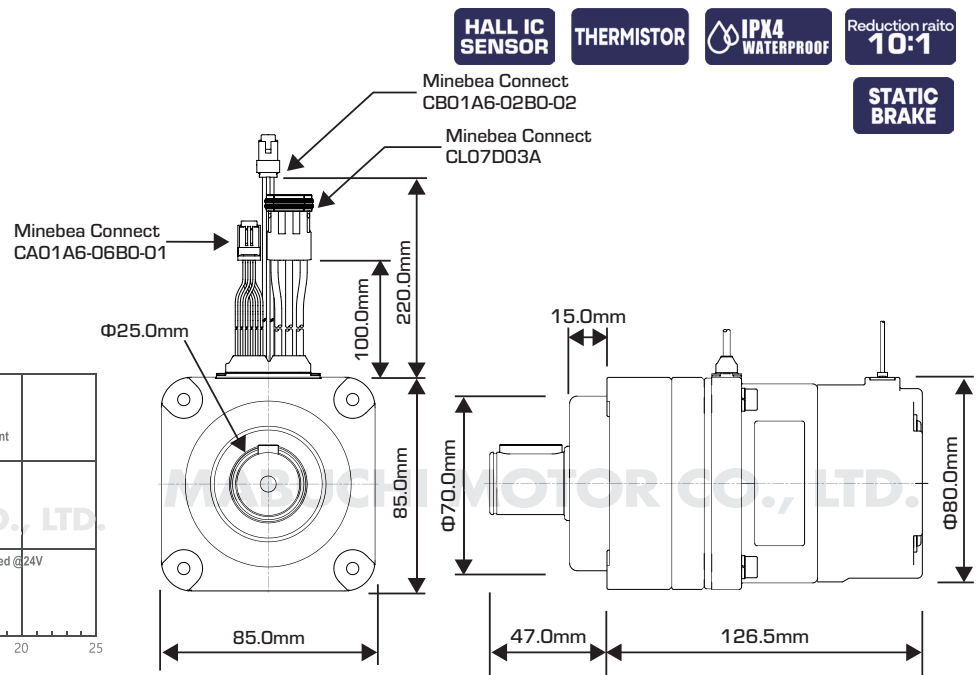
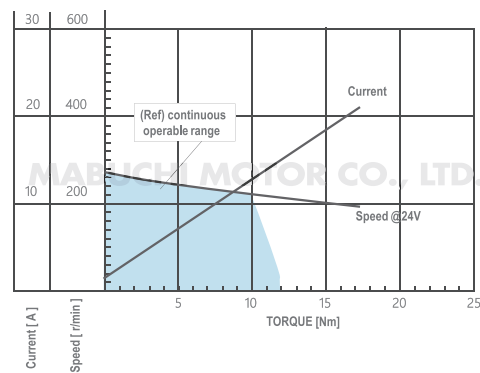
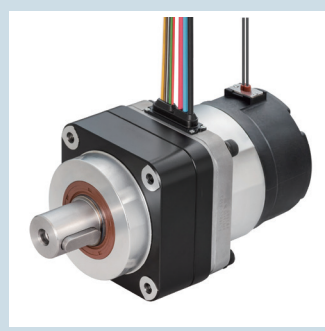
MS Series

The MS series brushless DC motor includes optional accessories (gear reducer, static brake, foot-mount, wheel). The planetary gears offer reduction ratios of 10:1 and 20:1.

| Model | MS-94BZA | MS-94BZB | MS-94BZC |
|--|---|---|--|
| Instant Maximum Output | 342 W (10 sec max) | | |
| Instant Maximum Torque | 17.2 Nm (10 sec max) | | |
| Rated Voltage | 24 V | | |
| Rated Output | 202 W | | |
| Rated Torque | 8.6 Nm | | |
| Rated Speed | 225 r/min | | |
| Operating Voltage | 15 - 55 V | | |
| Size | 85.0 mm x 85.0 mm x length: 84.5 mm | 85.0 mm x 85.0 mm x length: 126.5 mm | W:150.0 mm x D:187.5 mm x H:200.0 mm (Wheel Diameter: Φ 150.0 mm) |
| Weight | 2.2 kg | 2.8 kg | 4.5kg |
| Reduction Ratio | 10.33 : 1 | | |
| Allowable Radial Load Bearing | 700 N | | |
| Allowable Load Inertia | 0.6 kg/m2 max (Applicable Acceleration Rate: 200 r/min/s) | | |
| Withstand Voltage | 500 V AC 1 minute (between terminal and case) | | |
| Insulation Resistance | 10 M Ω (min.) (500 V DC) | | |
| Static Brake Operation Voltage at 20°C (ambient) | | Power off type (for holding & emergency stops), Release voltage 24V, Holding voltage 24V | |
| Material | | | Wheels, Brackets: ADC12 Wheels: Natural rubber |
| Water proof | IPX4 (Must use dedicated waterproof mating connector.) | | |

MS-94BZB

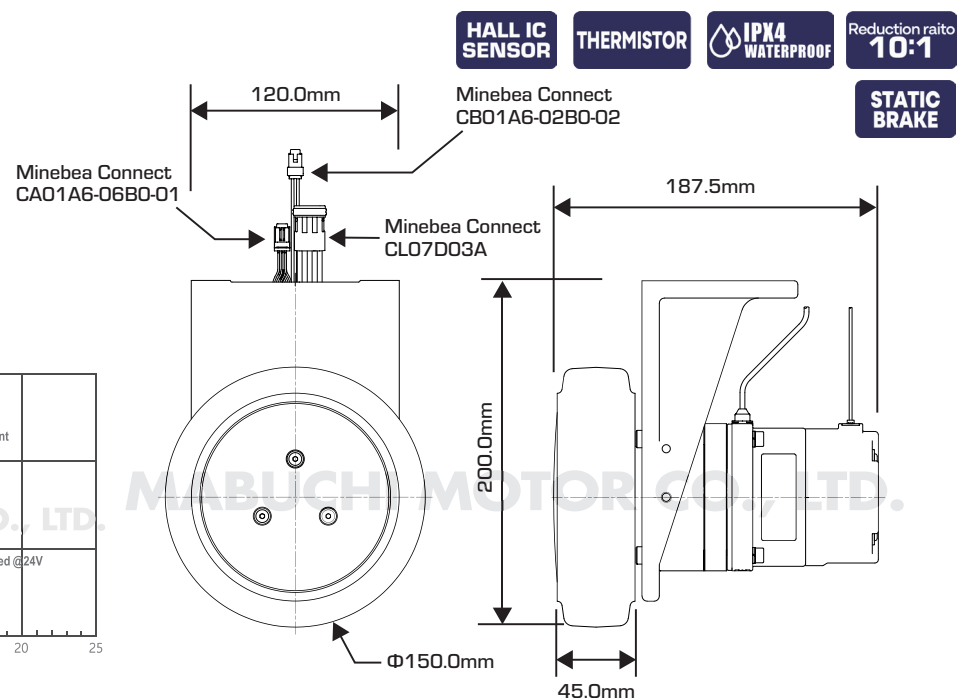
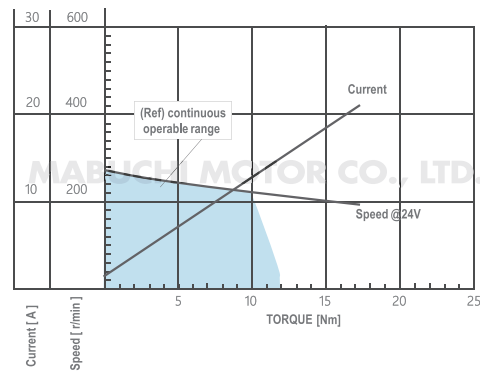
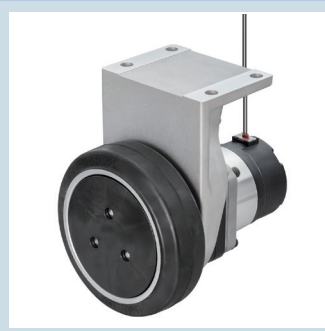
● High durability against radial load



*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MS-94BZC

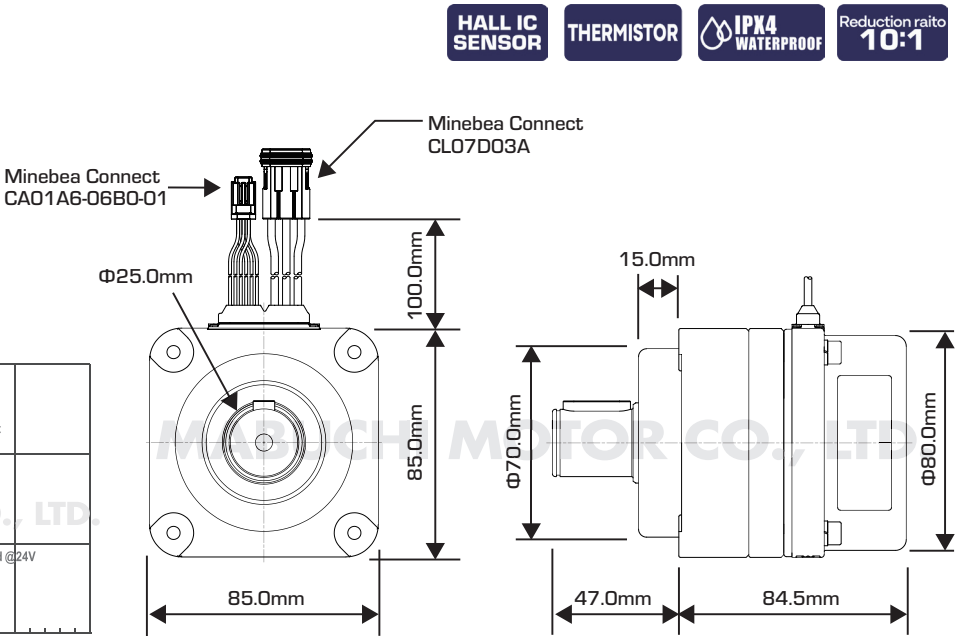
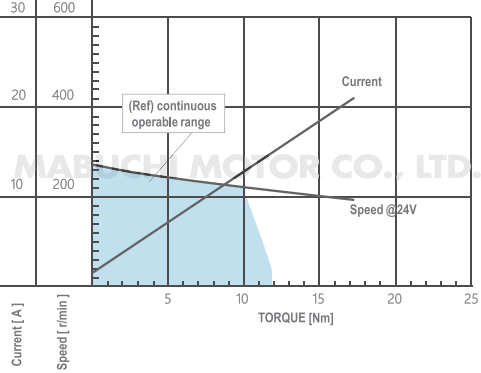
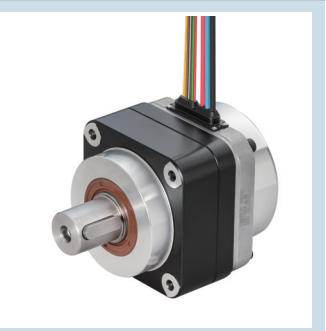
● High durability against radial load



*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MS-94BZA

● High durability against radial load




MS Series

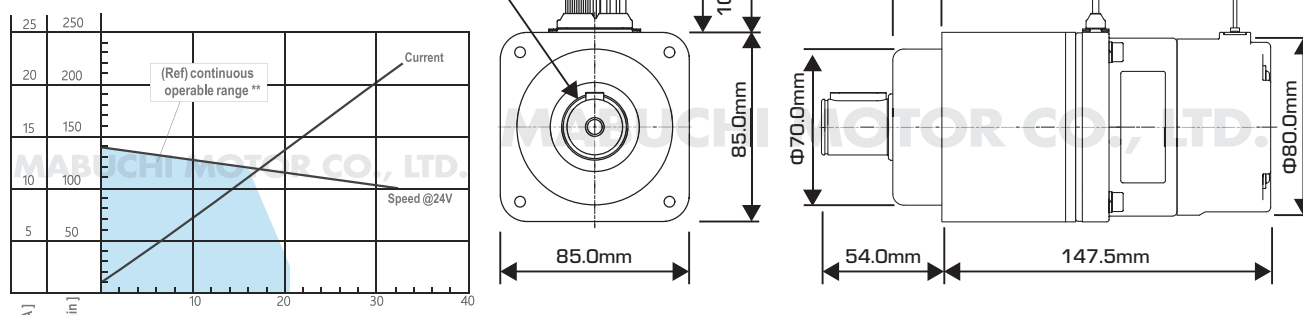
The MS series brushless DC motor includes optional accessories (gear reducer, static brake, foot-mount, wheel). The planetary gears offer reduction ratios of 10:1 and 20:1.

| Model | MS-94BZD | MS-94BZE | MS-94BZF |
|--|--|--------------------------------------|--|
| Instant Maximum Output | 327 W (10 sec max) | | |
| Instant Maximum Torque | 30.0 Nm (10 sec max) | | |
| Rated Voltage | 24 V | | |
| Rated Output | 203 W | | |
| Rated Torque | 16.0 Nm | | |
| Rated Speed | 121 r/min | | |
| Operating Voltage | 15-55 V | | |
| Size | 85.0 mm x 85.0 mm x length: 105.5 mm | 85.0 mm x 85.0 mm x length: 147.5 mm | W:150.0 mm x D:215.5 mm x H:200.0 mm (Wheel Diameter: Φ150.0 mm) |
| Weight | 2.8 kg | 3.4 kg | 5.1 kg |
| Reduction Ratio | 20 : 1 | | |
| Allowable Radial Load Bearing | 700 N | | |
| Allowable Load Inertia | 0.6 kg/m2 max (Applicable Acceleration Rate: 200 r/min/s) | | |
| Withstand Voltage | 500 V AC 1 minute (between terminal and case) | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | |
| Static Brake Operation Voltage at 20°C (ambient) | Power off type (for holding & emergency stops), Release voltage 24V, Holding voltage 24V | | |
| Material | Wheels, Brackets: ADC12 Wheels: Natural rubber | | |
| Water proof | IPX4 (Must use dedicated waterproof mating connector.) | | |

MS-94BZE



- High durability against radial load
- HALL IC SENSOR
- THERMISTOR
- IPX4 WATERPROOF
- Reduction ratio 20:1
- STATIC BRAKE



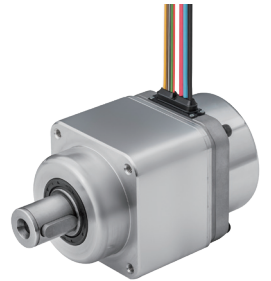
Dimensions: 85.0mm (width), 85.0mm (height), 100.0mm (mounting flange height), 220.0mm (total height), 22.0mm (flange thickness), 54.0mm (base width), 147.5mm (total length), Φ25.0mm (mounting hole diameter), Φ70.0mm (flange outer diameter), Φ80.0mm (flange inner diameter).

Performance Graph: Current [A] vs Speed [r/min] vs TORQUE [Nm]. (Ref) continuous operable range **.

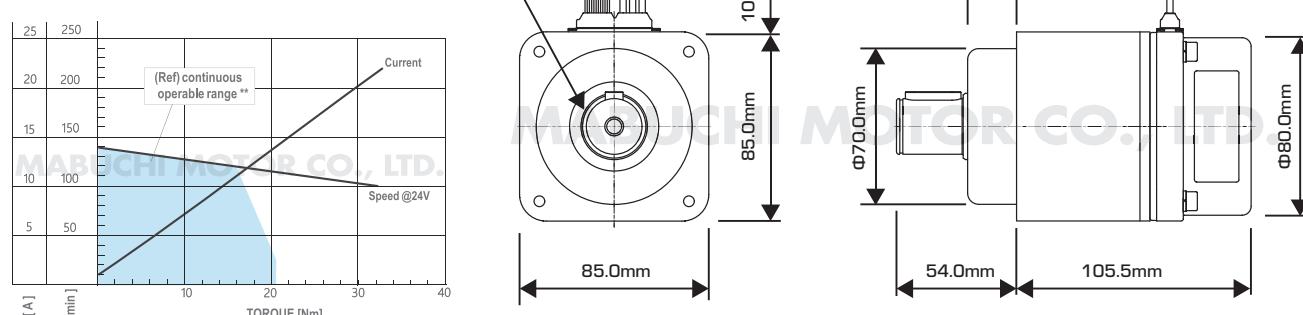
Connectors: Minebea Connect CA01A6-06B0-01, Minebea Connect CB01A6-02B0-02, Minebea Connect CL07D03A.

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MS-94BZD



- High durability against radial load
- HALL IC SENSOR
- THERMISTOR
- IPX4 WATERPROOF
- Reduction ratio 20:1




Dimensions: 85.0mm (width), 85.0mm (height), 100.0mm (mounting flange height), 22.0mm (flange thickness), 54.0mm (base width), 105.5mm (total length), Φ25.0mm (mounting hole diameter), Φ70.0mm (flange outer diameter), Φ80.0mm (flange inner diameter).

Performance Graph: Current [A] vs Speed [r/min] vs TORQUE [Nm]. (Ref) continuous operable range **.

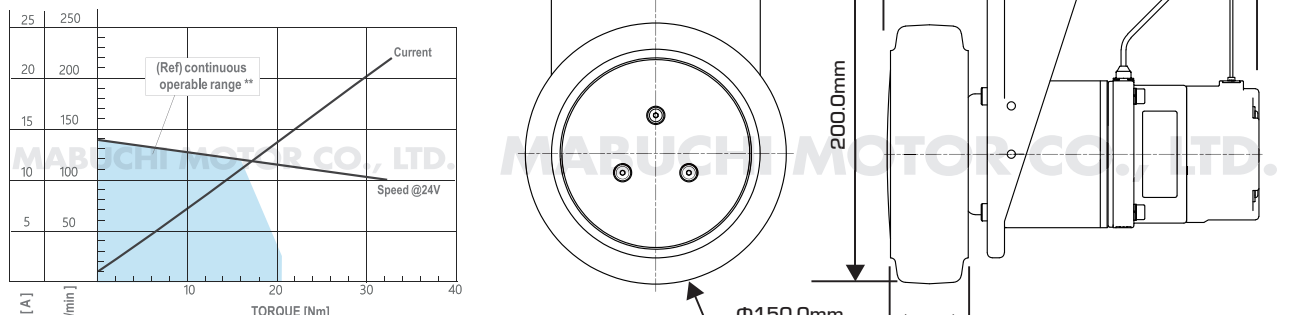
Connectors: Minebea Connect CA01A6-06B0-01, Minebea Connect CL07D03A.

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MS-94BZF



- High durability against radial load
- HALL IC SENSOR
- THERMISTOR
- IPX4 WATERPROOF
- Reduction ratio 20:1
- STATIC BRAKE



Dimensions: 120.0mm (width), 215.5mm (total length), 200.0mm (height), 45.0mm (base width), Φ150.0mm (wheel diameter).

Performance Graph: Current [A] vs Speed [r/min] vs TORQUE [Nm]. (Ref) continuous operable range **.

Connectors: Minebea Connect CA01A6-06B0-01, Minebea Connect CB01A6-02B0-02, Minebea Connect CL07D03A.

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

IR Series

The IR series brushless DC motor includes a resolver providing up to 15-bit resolution. These motors are perfect for AMR/AGV etc. which require low speed and frequent stops, such as in warehouse and factory applications.

| Model | IR-74BZA | IR-94BZA |
|-------------------------------|--|-------------------------------------|
| Instant Maximum Output | 280 W (10 sec max) | 710 W (10 sec max) |
| Instant Maximum Torque | 0.9 Nm (10 sec max) | 2.0 Nm (10 sec max) |
| Rated Voltage | 24 V | 48 V |
| Rated Output | 200 W | 355 W |
| Rated Torque | 0.6 Nm | 1.0 Nm |
| Rated Speed | 3200 r/min | 3,400 r/min |
| Operating Voltage | 17 - 60 V | |
| Size | 60.0mm x 60.0mm x length:66.5mm | 85.0 mm x 85.0 mm x length: 65.5 mm |
| Weight | 620 g | 1.1 kg |
| Allowable Radial Load Bearing | 500 V AC 1 minute (between terminal and case) | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | |
| Water proof | IPX4 (Waterproof except at base of motor shaft. Must use dedicated waterproof mating connector.) | |
| Angle sensor | Current-detection type resolver sensor | |

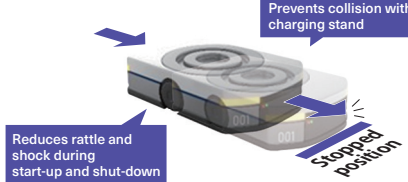
Features of IR/MR Series Motor Integrated with Resolver

Precise Positioning

The motor is equipped with a resolver sensor capable of 15-bit resolution, which provides more precise positioning compared to hall sensors.

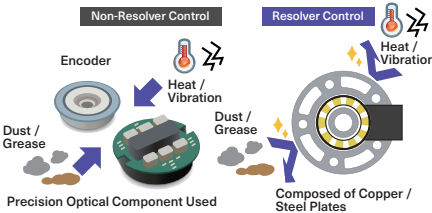
Resolution capability of conventional Hall sensor:
42 resolution capability/R ≈ 4-bit, 360 degrees/42≈8.6 degrees

Resolution capability of Resolver:
56,000 resolution capability/R ≈ 15-bit, 360 degrees/56,000≈0.006 degrees



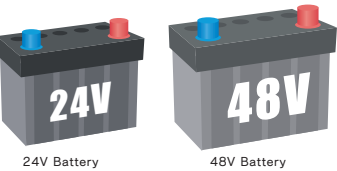
Robust Sensor Construction with Stable Sensing Capability

The uniquely engineered and in-house built resolver sensor has a far higher resistance to heat, grease, dust and vibration compared to conventional encoders. The sensor, composed of copper and steel plates, is robust and continues to perform reliably even in severe operating conditions.



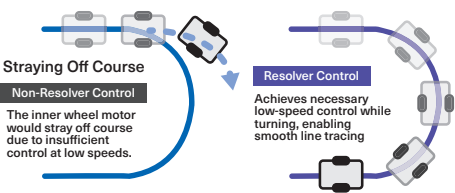
Can be operated at 24-48 V range

The motor and controller are optimized for 24-48 V DC battery-powered systems but have an overall operating range of 17-60 V.



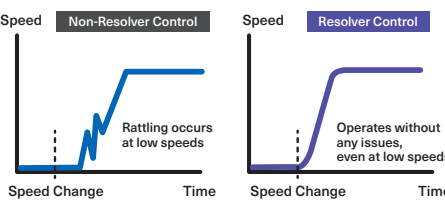
Elaborate Speed Controlling

The motor speed is controllable in the 0-4,000 rpm range, ensuring smooth and precise rotation.

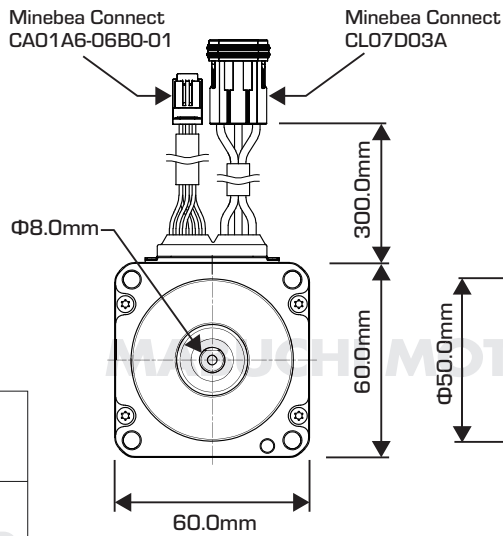
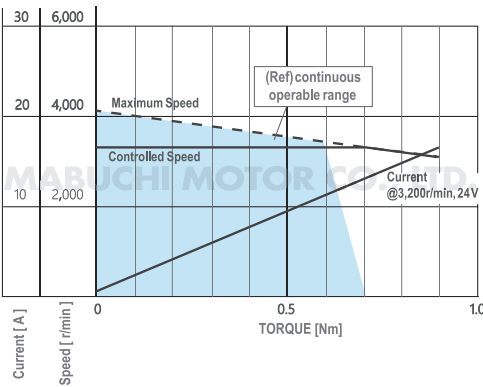


Smooth Acceleration and Motion

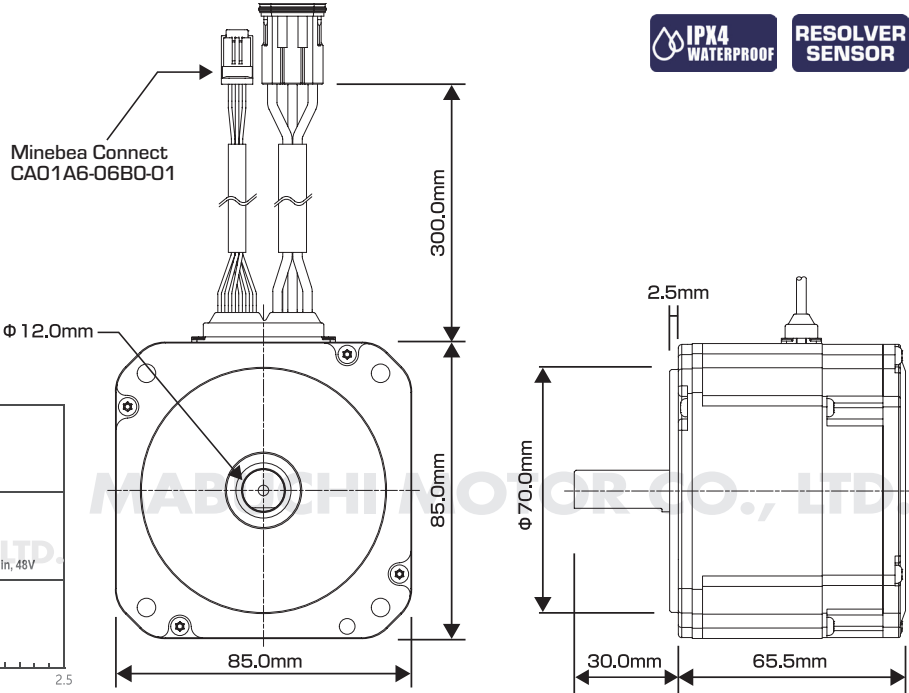
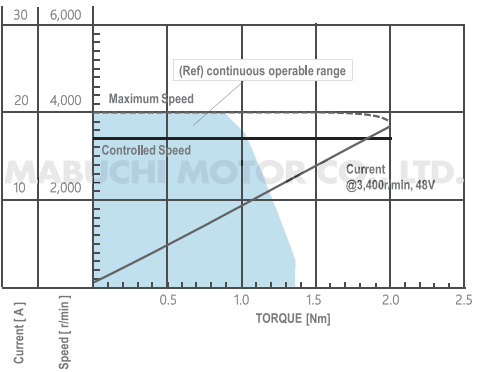
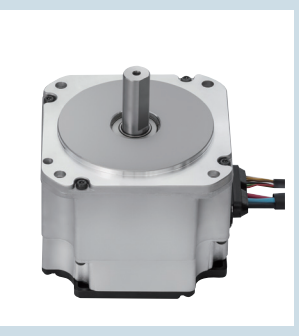
Due to the higher angular resolution of the resolver sensor, motor speed response is greatly improved; resulting in smooth, jerk-free acceleration and motion.



IR-74BZA (Coming soon)



IR-94BZA



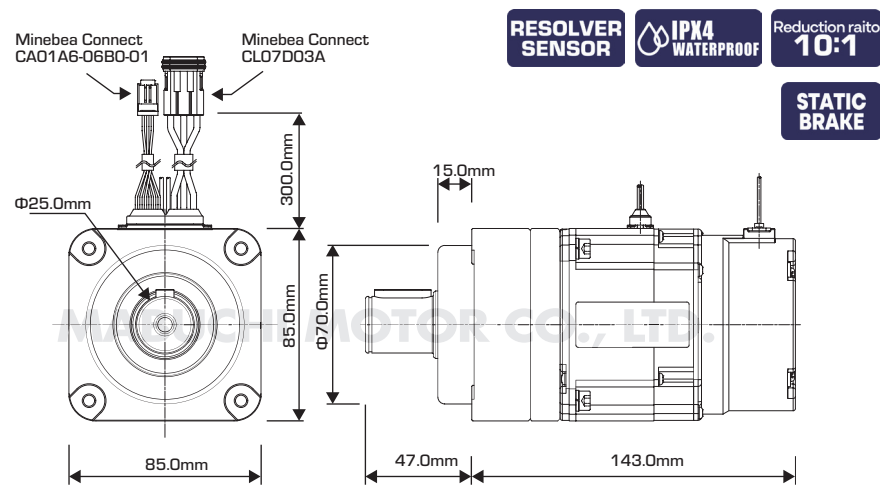
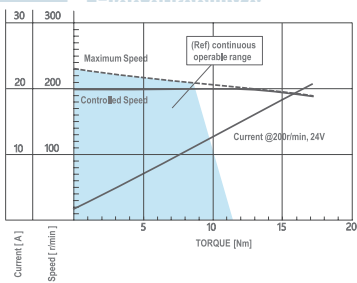
MR Series

The MR series motor is an IR series motor with a reduction gear, electromagnetic brake, etc., and is supplied as one fully integrated drop-in unit. The planetary gears offer reduction ratios of 10:1 and 20:1.

| Model | MR-94BZA | MR-94BZB | MR-94BZD | MR-94BZE |
|--|---|--|------------------------------|--|
| Instant Maximum Output | 320 W (10 sec max) | | 300W (10 sec max) | |
| Instant Maximum Torque | 17.2 Nm (10 sec max) | | 30.0 Nm (10 sec max) | |
| Rated Voltage | 24 V | | 24 V | |
| Rated Output | 180 W | | 180 W | |
| Rated Torque | 8.6 Nm | | 16 Nm | |
| Rated Speed | 200 r/min | | 105 r/min | |
| Operating Voltage | 17 - 60 V | | | |
| Size | 85.0mm×85.0mm×length:104.5mm | 85.0mm×85.0mm×length:143.0mm | 85.0mm×85.0mm×length:125.5mm | 85.0mm×85.0mm×length:164.0mm |
| Weight | 2.5 kg | 3.1 kg | 3.1 kg | 3.7 kg |
| Reduction Ratio | 10 : 1 | | 20 : 1 | |
| Allowable Radial Load Bearing | 700 N | | | |
| Allowable Load Inertia | 0.6 kg/m2 max (Applicable Acceleration Rate: 200 r/min/s) | | | |
| Withstand Voltage | 500 V AC 1 minute (between terminal and case) | | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | | |
| Static Brake Operation Voltage at 20°C (ambient) | _____ | Power off type (for holding & emergency stops), Release voltage 24V, Holding voltage 24V | _____ | Power off type (for holding & emergency stops), Release voltage 24V, Holding voltage 24V |
| Water proof | IPX4 (Must use dedicated waterproof mating connector.) | | | |
| Angle sensor | Current-detection type resolver sensor | | | |

MR-94BZB

● High durability against radial load



RESOLVER SENSOR

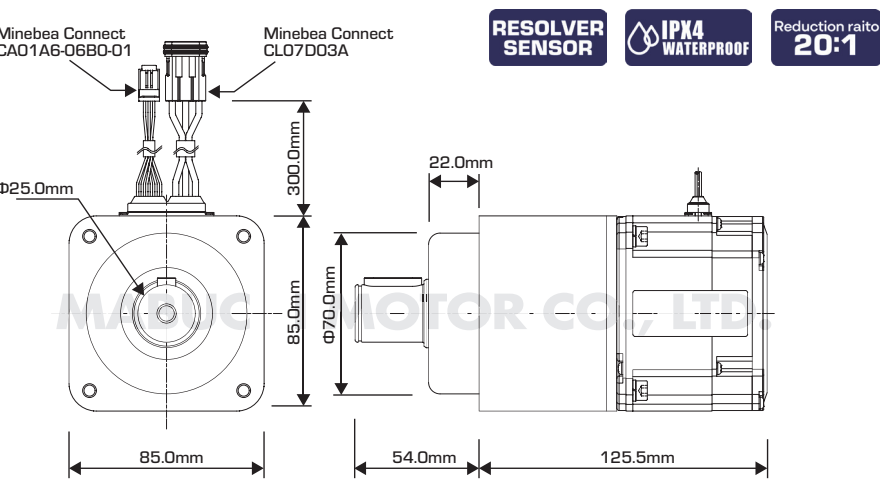
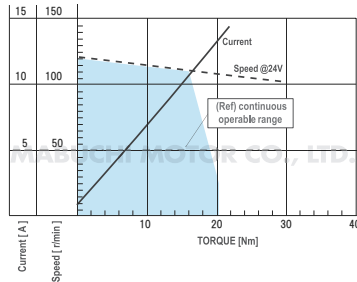
IPX4 WATERPROOF

Reduction ratio 10:1

STATIC BRAKE

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MR-94BZD (Coming soon)



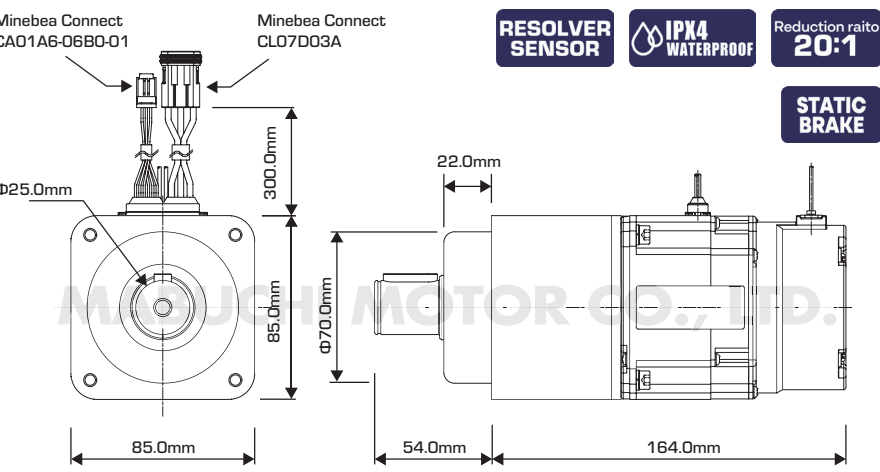
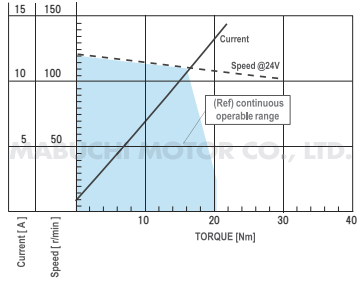
RESOLVER SENSOR

IPX4 WATERPROOF

Reduction ratio 20:1

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MR-94BZE (Coming soon)



RESOLVER SENSOR

IPX4 WATERPROOF

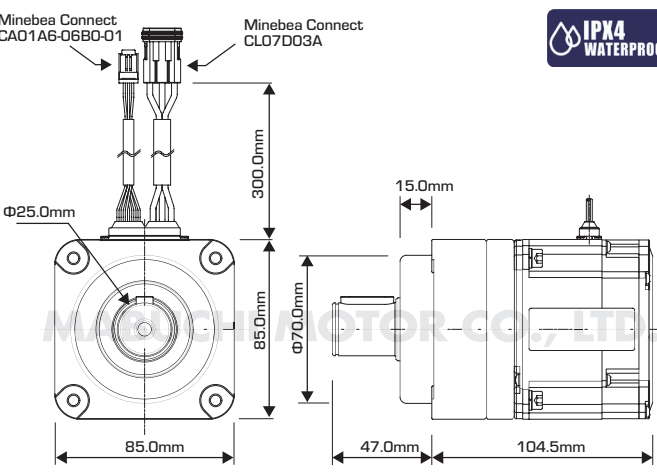
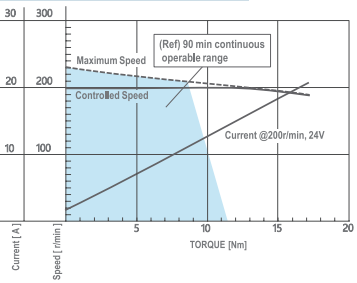
Reduction ratio 20:1

STATIC BRAKE

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

MR-94BZA

● High durability against radial load



IPX4 WATERPROOF

RESOLVER SENSOR

Reduction ratio 10:1

*Electromagnetic brakes are to maintain constant speed and cannot be used for braking.

DS/DR Series (Controllers) Optional Cables

DS/DR Series

The DS/DR Series controllers are optimized to work with battery-powered systems using Mabuchi motors. The controllers offer easy integration with no interference due to their low-EMI design and capability.

DS-34EC1
DR-40FC1
DR-40FC3



| Model | DS-34EC1-IS311 | DS-34EC1-IS221 | DR-40FC1 | DR-40FC3 | DR-40FC1 (Preliminary Data) |
|-------------------------------------|--|------------------|---|--|---|
| Compatible Models | For IS-74 | For IS-94/MS-94 | For IR-94/MR-94 | | For IR-74 |
| Sensor System | Hall Sensor | | Resolver Sensor | | |
| Power-Supply Voltage Specifications | 24-36 V DC (battery) Input Voltage Range: 17-45 V DC | | 24-48 V DC (battery) Input Voltage Range: 17-60 V DC | | |
| Rated Output Current | 9 Arms | | 11.5 Arms | | 0.9 Arms |
| Peak Output Current | 29 Apeak | 50 Apeak | 37 Apeak | | 29 Apeak |
| Drive Method | Sine Wave Drive (Advanced Ignition Map) | | Vector Control | | |
| Control Function | Speed Control | | Speed Control (Under Development: Torque Control, Positioning Control) | | Speed Control |
| Mandated Revolution Speed Range | 100 - 4,000 r/min | 60 - 3,000 r/min | 0 - 4,000 r/min | | |
| Interface | CAN Communication (Terminating Resistance: Enables Electrical Current Transition) | | CAN Communication (Without Terminating Resistance) | CAN Communication (With Terminating Resistance) | CAN Communication (Without Terminating Resistance) |
| Size | W : 116 mm × D : 88 mm × H : 29 mm | | | | |
| Weight | 0.22 kg | | | | |
| Waterproofing | IPX4 (Must use dedicated waterproof mating connector.) | | | | |
| Low Radiation Noise | CISPR32 Class B Compliant, EN55011 Class B Compliant | | | | |
| Withstand Voltage | 500 V AC 1 minute (Between Power Input Terminal and Case) | | | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | | | |

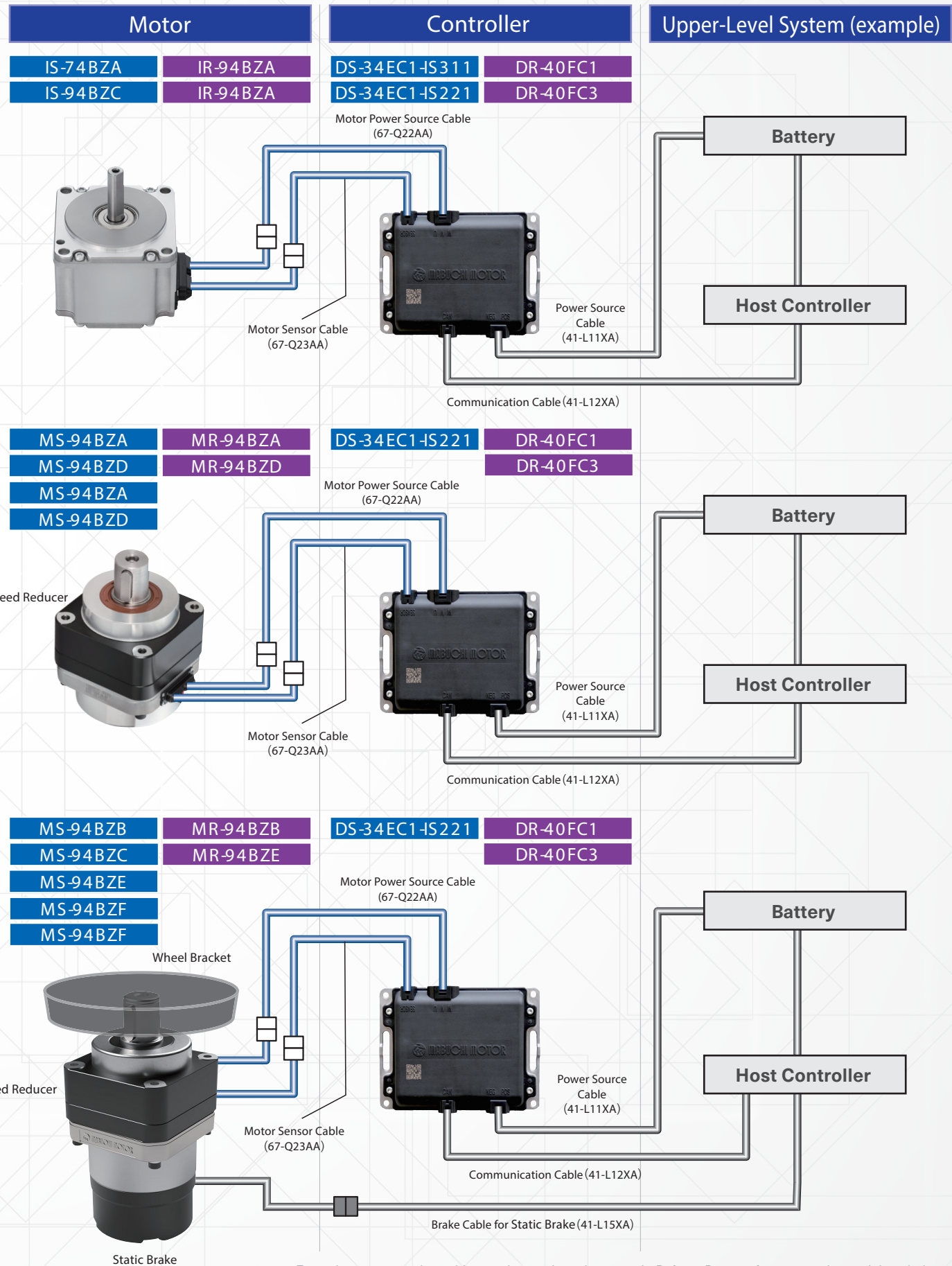
Extension / Connection Cables

Extension and connection cables are available for purchase separately to further expand system integration. Please contact us for information on various extension cables for IS-B5BZA and MS-B5BZD.



| Classification | Motor Extension Cable | | | Controller Connection Cable | |
|------------------|------------------------|--------------------|---------------------------|-----------------------------|-------------------|
| Product Name | For Motor Power Source | For Motor Sensor | For Static Brake | For Power Source | For Communication |
| Part Number | 67-Q22AA | 67-Q23AA | 41-L15XA | 41-L11XA | 41-L12XA |
| Length | 1 m | 1 m | 1 m | 1 m | 1 m |
| Applicable Model | IS/IR/MS/MR Series | IS/IR/MS/MR Series | MS/MR Series (With Brake) | DS/DR Series | DS/DR Series |

System Configurations



Extension or connection cables can be purchased separately. Refer to Page 16 for part number and description.

IA-IB Series

The IA-IB series frameless hollow-bore brushless DC motors are designed for robots or other non-automotive applications where built-in motors are required.

Suits a Wide Range of Applications

The motors, consisting of the rotor and stator, are available in four different outputs (200-950 W @48 V) and sizes (outer diameter of the stator, 60-120 mm).

Energy Saving Design

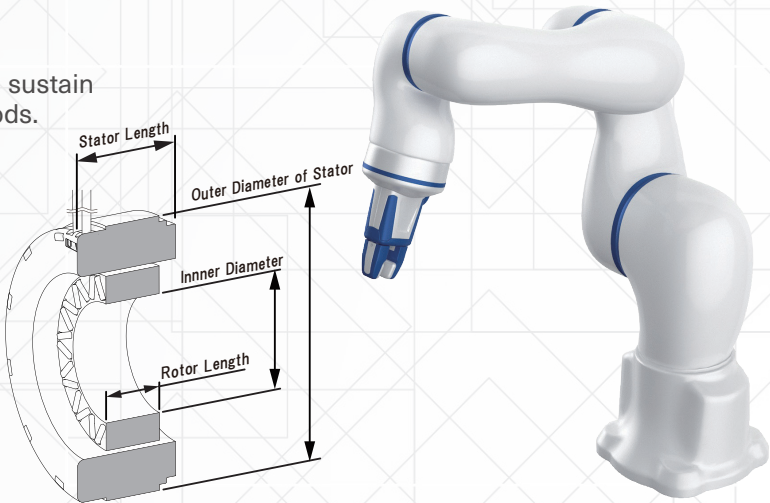
Uniquely engineered magnetic circuit helps to sustain high energy efficiency over long operating periods.

Smooth Movement

Low cogging for smooth motion.

Smaller, Lighter Products

The motor simply consists of the rotor and stator for easy installation and product downsizing.



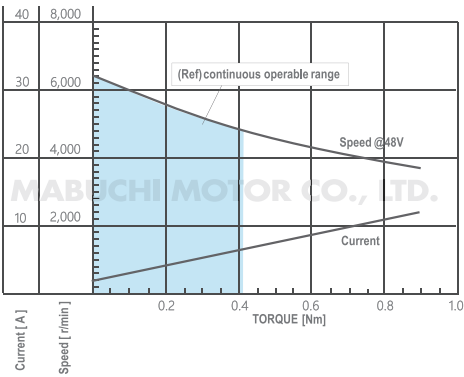
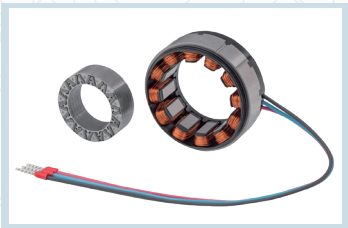
| Model | IA-A3BZA/IB-A3BZA | IA-B4BZA/IB-B4BZA | IA-C5BZA/IB-C5BZA | IA-D5BZA/IB-D5BZA |
|--|---|--------------------|--------------------|---------------------|
| Instant Maximum Torque | 0.9 Nm (5 sec max) | 2.1 Nm (5 sec max) | 5.0 Nm (5 sec max) | 11.0 Nm (5 sec max) |
| Rated Voltage | 48 V | | | |
| Rated Output | 200 W | 500 W | 650 W | 950 W |
| Rated Torque | 0.42 Nm | 0.9 Nm | 1.3 Nm | 3.4 Nm |
| Rated Speed | 4,600 r/min | 5,300 r/min | 4,800 r/min | 2,700 r/min |
| Operating Voltage | 15 - 55 V | | | |
| Outer Diameter of Stator | Φ 60.0 mm | Φ 75.0 mm | Φ 90.0 mm | Φ 120.0 mm |
| Inner Diameter | Φ 26.0 mm | Φ 35.0 mm | Φ 48.0 mm | Φ 55.0 mm |
| Stator Length | 25.0 mm | 32.0 mm | 39.65 mm | 45.1 mm |
| Rotor Length | 14.2 mm | 18.4 mm | 22.9 mm | 23.6 mm |
| Weight | 0.19 kg | 0.36 kg | 0.6 kg | 1.35 kg |
| Withstand Voltage | 500 V AC 1 minute (Between the Lead Line and Laminated Core Part) | | | |
| Insulation Resistance | 10 MΩ (min.) (500 V DC) | | | |
| International Standards (Conformity Directive) | CE (RoHS) | | | |

CE declaration of conformity

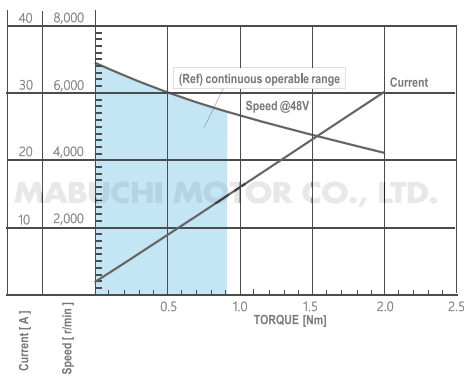
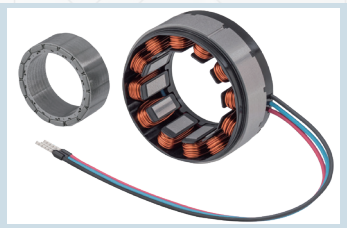
Rated output, torque, and speed differs depending on the heat dissipation of the customer's casing.



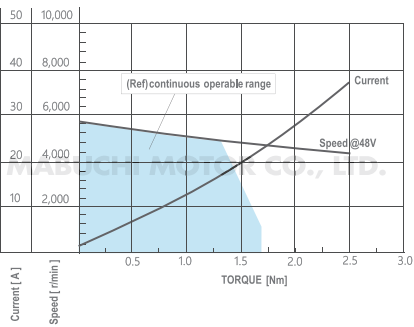
IA-A3BZA / IB-A3BZA



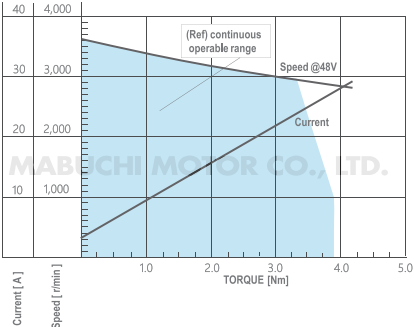
IA-B4BZA / IB-B4BZA



IA-C5BZA / IB-C5BZA

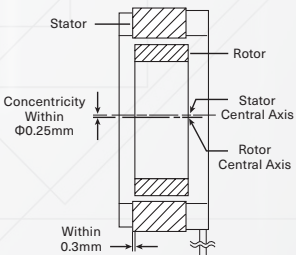


IA-D5BZA / IB-D5BZA



Installation Notes:

- Shafts, bearings and other parts needed for mounting the motor are not included.
- Take precautions when installing the rotor into the stator to prevent contact with surrounding parts due to magnet attraction or repulsion.
- Set the rotor/stator coaxially and ensure the gap between the rotor and stator (stack) is per the criteria as shown.
- For more details, instruction manuals can be downloaded from the Mabuchi website.





<https://www.mabuchi-motor.com>

Worldwide Network

MABUCHI MOTOR AMERICA CORP.
3001 West Big Beaver Road, Suite 328,
Troy, MI 48084 U.S.A.
1-248-816-3100

Mabuchi Motor Electromag SA
Chemin du Dévent 7 Z.I. Larges Pièces A,
1024 Ecublens, Switzerland
41-21-694-1600

MABUCHI TAIWAN CO., LTD.
No.18, Chungghwa Road, Hsinchu Industrial
District, Hsinchu, 30352 Taiwan
886-3-598-1111

MABUCHI MOTOR KOREA CO., LTD.
Ace High-End TowerIII 1403, 145,
Gasam Digital 1-Ro,Geumcheon-Gu, Seoul,
08506 Korea
82-2-534-8131

MABUCHI MOTOR MEXICO S.A. DE. C.V.
Circuito Cerezos Oriente #105,
Parque Industrial San Francisco IV,
San Francisco De Los Romo, AGS 20355 Mexico
52-449-478-3200

**MABUCHI MOTOR (SHANGHAI)
MANAGEMENT CO., LTD.**
Room 1506-1510, Metro Plaza, No.555 Lou Shan
Guan Road, Changning District, Shanghai,
200051 China
86-21-6208-5666

MABUCHI MOTOR (SINGAPORE) PTE. LTD.
111, North Bridge Road, #21-02 Peninsula Plaza,
Singapore 179098
65-6339-9991

MABUCHI MOTOR (THAILAND) CO., LTD.
4345 Bhiraj Tower at BITEC, 12Fl., Unit 1201,
Sukhumvit Road, South-Bangna Sub-district,
Bangna District, Bangkok, 10260, Thailand
66-2-091-0624

MABUCHI MOTOR (EUROPE) GmbH
Herriotstrasse 1, 60528 Frankfurt am Main,
Germany
49-69-6690220

**MABUCHI MOTOR (SHANGHAI)
MANAGEMENT CO., LTD. SHENZHEN BRANCH**
Unit 1601, Excellence Times Plaza, No.4068,
Yitian Road, Futian District, Shenzhen City,
Guangdong Province, 518017 China
86-755-2399-8568

MABUCHI MOTOR DANANG LTD.
LotA2, No.3 street, Hoa Khanh Industrial Zone,
Hoa Khanh Bac Ward, Lien Chieu District,
Da Nang City, Vietnam
84-236-3731931

MABUCHI MOTOR OKEN CO., LTD.
706 Yanokuchi, Inagi-shi, Tokyo 206-0812, Japan
81-42-378-0078