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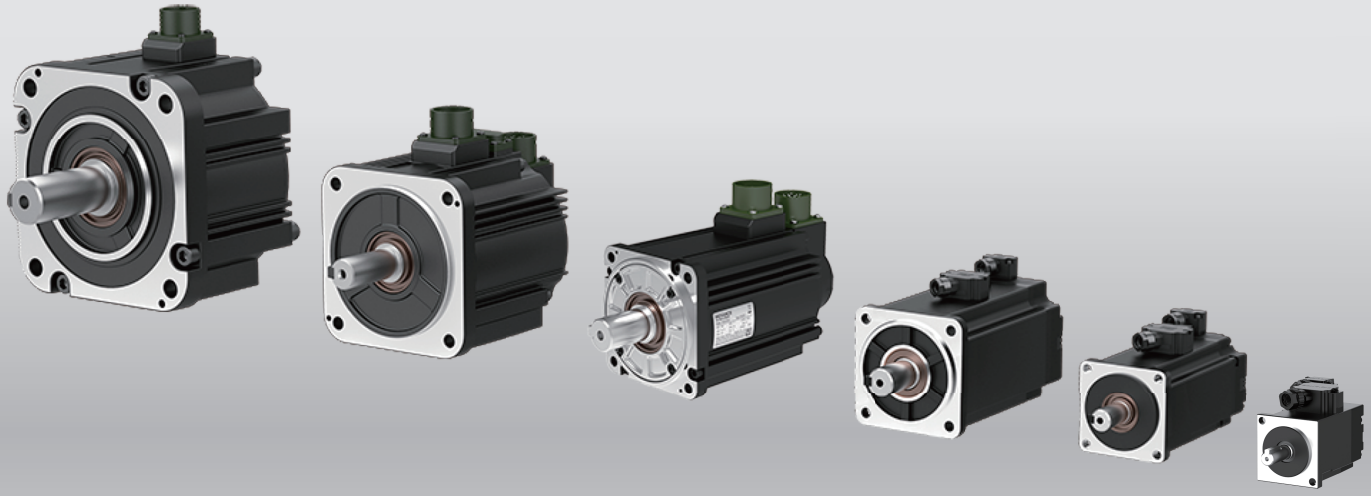


MS1-R Series Servo Motor

Selection Guide

Industrial Automation | Intelligent Elevator | New Energy Vehicle | Industrial Robot | Rail Transit

Data code PS00004605B00

Preface

Introduction

Thank you for purchasing the MS1-R series servo motor.

As the latest generation of servo motors developed by Inovance, the MS1-R series servo motor carries a power range from 0.05 kW to 7.5 kW, with flange sizes ranging from 40 mm to 180 mm. It offers multiple types of inertia and speed configurations, with different types of encoders configured as required by customers.

It is used for accurate position control, speed control, and torque control in industries including semiconductors, lithium batteries, silicon, machine tools, mobile phones, printing and packaging, pharmacy, textile, and display.

This user guide presents motor information, model selection instructions, and motor wiring methods. Contact Inovance for detailed information on the motor function and performance.

Documents provided by Inovance are subject to change without notice due to continuous product improvement.

Note

- The drawings in the user guide are sometimes shown without covers or protective guards. Remember to install the covers or protective guards as specified first, and then perform operations in accordance with the instructions.
- The drawings in the user guide are shown for descriptions only and may not match the product you purchased.
- The user guide is subject to change without notice due to product upgrade, specification modifications as well as efforts to improve the accuracy and convenience of the user guide.

More documents

Document Name	Data Code	Description
MS1-R Series Servo Motor Selection Guide	PS00004605	Describes product information, general specifications, motor selection, cable selection, certification categories and standards of the product.
MS1-R Series Servo Motor Installation Guide	PS00005407	Describes the installation of the motor, including motor installation flowcharts, wiring, unpacking and handling, mechanical installation, electrical installation.

Revision history

Date	Version	Description
November 2023	B00	Updated the selection list.
November 2023	A06	• Updated the selection list. • Updated descriptions for MS1H1-05B30CB, MS1H1-10B30CB, MS1H4-05B30CB, and MS1H4-10B30CB.
July 2023	A05	Added some models and related information.
June 2023	A04	• Updated model selection list and motor list. • Updated model selection section. • Updated descriptions for product characteristics.

Date	Version	Description
September 2022	A03	• Updated the selection list. • Updated some rating specifications and corresponding torque-speed characteristic curves for MS1H2 and MS1H3 motors. • Updated weight and brake electrical specifications for MS1H2 and MS1H3 motors. • Updated weight and brake electrical specifications for MS1H2 and MS1H3 motors. • Updated the dimension drawings for motors in flange size 40. • Added related data of motors with A3/T3 encoder.
July 2022	A02	• Updated the selection list. • Updated components description drawings. • Updated rated current and maximum current value of some models in MS1H2. • Updated torque-speed characteristic curves for MS1H2-25C30CD, MS1H2-20C30CD, MS1H2-15C30CD, MS1H3-44C15CB, MS1H3-44C15CD, MS1H3-29C15CB, and MS1H1-20B30CB.
May 2022	A01	• Updated torque-speed characteristic curves for MS1H3-44C15CB and MS1H3-44C15CD. • Optimized model selection descriptions.
March 2022	A00	First release

Access to the Guide

This guide is not delivered with the product. You can obtain the PDF version in the following ways:

- Visit *http://www.inovance.com*, go to Support > Download, search by keyword, and then download the PDF file.
- Scan the QR code on the equipment to acquire more.

About this guide

- Contact us if you have any questions or suggestions for this manual.
- The data and consistency of the contents in this manual have been reviewed as required. However, variance cannot be precluded entirely. The necessary revision will be made in the subsequent versions.

Table of Contents

1 Model List

1.1 Motor Model Selection List

Motor with 26-bit encoder

Servo motor				Servo drive SV680******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Recommended drive model	No.
Ratings of MS1H1 (n_N=3000 rpm, n_{max} =7000 rpm) motors							
MS1H1-05B30CB-A6/S630R	MS1H1-05B30CB-A6/S632R	40	0.05	Single-phase/ Three-phase 220 V	A	S1R6	00002
MS1H1-10B30CB-A6/S630R	MS1H1-10B30CB-A6/S632R	40	0.1	Single-phase/ Three-phase 220 V			
MS1H1-20B30CB-A6/S631R	MS1H1-20B30CB-A6/S634R	60	0.2	Single-phase/ Three-phase 220 V			
MS1H1-40B30CB-A6/S631R	MS1H1-40B30CB-A6/S634R	60	0.4	Single-phase/ Three-phase 220 V		S2R8	00003
MS1H1-55B30CB-A6/S631R	-	80	0.55	Single-phase/ Three-phase 220 V	C	S5R5	00005
MS1H1-75B30CB-A6/S631R	MS1H1-75B30CB-A6/S634R	80	0.75	Single-phase/ Three-phase 220 V		S5R5	00005
MS1H1-10C30CB-A6/S631R	MS1H1-10C30CB-A6/S634R	80	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
Ratings of MS1H2 (n_N=3000 rpm, n_{max} =6000 rpm) motors							
MS1H2-10C30CB-A6/S631R	MS1H2-10C30CB-A6/S634R	100	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H2-10C30CD-A6/S631R	MS1H2-10C30CD-A6/S634R	100	1.0	Three-phase 380 V		T3R5	10001
MS1H2-15C30CB-A6/S631R	MS1H2-15C30CB-A6/S634R	100	1.5	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-15C30CD-A6/S631R	MS1H2-15C30CD-A6/S634R	100	1.5	Three-phase 380 V	C	T5R4	10002
MS1H2-20C30CB-A6/S631R	MS1H2-20C30CB-A6/S634R	100	2.0	Three-phase 220 V	E	S018	00008
MS1H2-20C30CD-A6/S631R	MS1H2-20C30CD-A6/S634R	100	2.0	Three-phase 380 V	D	T8R4	10003
MS1H2-25C30CB-A6/S631R	MS1H2-25C30CB-A6/S634R	100	2.5	Three-phase 220 V	E	S022	00009
MS1H2-25C30CD-A6/S631R	MS1H2-25C30CD-A6/S634R	100	2.5	Three-phase 380 V	D	T012	10004
MS1H2-30C30CB-A6/S631R	MS1H2-30C30CB-A6/S634R	130	3.0	Three-phase 220 V	E	S022	00009
MS1H2-30C30CD-A6/S631R	MS1H2-30C30CD-A6/S634R	130	3.0	Three-phase 380 V	D	T012	10004

Servo motor				Servo drive SV680******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Recommended drive model	No.
MS1H2-40C30CB-A6/S631R	MS1H2-40C30CB-A6/S634R	130	4.0	Three-phase 220 V	E	S027	00010
MS1H2-40C30CD-A6/S631R	MS1H2-40C30CD-A6/S634R	130	4.0	Three-phase 380 V		T017	10005
MS1H2-50C30CB-A6/S631R	MS1H2-50C30CB-A6/S634R	130	5.0	Three-phase 220 V		S027	00010
MS1H2-50C30CD-A6/S631R	MS1H2-50C30CD-A6/S634R	130	5.0	Three-phase 380 V		T021	10006
Ratings of MS1H3 (n_N=1500 rpm, n_{max} =4500 rpm) series motors							
MS1H3-85B15CB-A6/S631R	MS1H3-85B15CB-A6/S634R	130	0.85	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H3-85B15CD-A6/S631R	MS1H3-85B15CD-A6/S634R	130	0.85	Three-phase 380 V		T3R5	10001
MS1H3-13C15CB-A6/S631R	MS1H3-13C15CB-A6/S634R	130	1.3	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-13C15CD-A6/S631R	MS1H3-13C15CD-A6/S634R	130	1.3	Three-phase 380 V	C	T5R4	10002
MS1H3-18C15CB-A6/S631R	MS1H3-18C15CB-A6/S634R	130	1.8	Three-phase 220 V	E	S018	00008
MS1H3-18C15CD-A6/S631R	MS1H3-18C15CD-A6/S634R	130	1.8	Three-phase 380 V	D	T8R4	10003
MS1H3-29C15CB-A6/S631R	MS1H3-29C15CB-A6/S634R	180	2.9	Three-phase 220 V	E	S022	00009
MS1H3-29C15CD-A6/S631R	MS1H3-29C15CD-A6/S634R	180	2.9	Three-phase 380 V	D	T012	10004
MS1H3-44C15CB-A6/S631R	MS1H3-44C15CB-A6/S634R	180	4.4	Three-phase 220 V	E	S027	00010
MS1H3-44C15CD-A6/S631R	MS1H3-44C15CD-A6/S634R	180	4.4	Three-phase 380 V	E	T017	10005
MS1H3-55C15CD-A6/S631R	MS1H3-55C15CD-A6/S634R	180	5.5	Three-phase 380 V		T021	10006
MS1H3-75C15CD-A6/S631R	MS1H3-75C15CD-A6/S634R	180	7.5	Three-phase 380 V		T026	10007
Ratings of MS1H4 (n_N=3000 rpm, n_{max} =7000 rpm) motors							
MS1H4-05B30CB-A6/S630R	MS1H4-05B30CB-A6/S632R	40	0.05	Single-phase/ Three-phase 220 V	A	S1R6	00002
MS1H4-10B30CB-A6/S630R	MS1H4-10B30CB-A6/S632R	40	0.1	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-05B30CB-A6/S631R	MS1H4-05B30CB-A6/S634R	40	0.05	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-10B30CB-A6/S631R	MS1H4-10B30CB-A6/S634R	40	0.1	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-20B30CB-A6/S631R	MS1H4-20B30CB-A6/S634R	60	0.2	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-40B30CB-A6/S631R	MS1H4-40B30CB-A6/S634R	60	0.4	Single-phase/ Three-phase 220 V		S2R8	00003
MS1H4-55B30CB-A6/S631R	-	80	0.55	Single-phase/ Three-phase 220 V	C	S5R5	00005
MS1H4-75B30CB-A6/S631R	MS1H4-75B30CB-A6/S634R	80	0.75	Single-phase/ Three-phase 220 V		S5R5	00005

Servo motor				Servo drive SV680******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Recommended drive model	No.
MS1H4-10C30CB-A6/S631R	MS1H4-10C30CB-A6/S634R	80	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006

Note

Models of drives:

- S - 220 V voltage class
- T - 380 V voltage class
- 1R6 - Rated output current: 1.6 A; 2R8 - Rated output current: 2.8 A ... 026 - Rated output current: 26 A, 027 - Rated output current: 27 A

Motor with 23-bit encoder

Servo motor				Servo drive SV670******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
Ratings of MS1H1 (n_N=3000 rpm, n_{max}=7000 rpm) motors							
MS1H1-05B30CB-A330R	MS1H1-05B30CB-A332R	40	0.05	Single-phase/ Three-phase 220 V	A	S1R6	00002
MS1H1-10B30CB-A330R	MS1H1-10B30CB-A332R	40	0.1	Single-phase/ Three-phase 220 V			
MS1H1-20B30CB-A331R	MS1H1-20B30CB-A334R	60	0.2	Single-phase/ Three-phase 220 V			
MS1H1-40B30CB-A331R	MS1H1-40B30CB-A334R	60	0.4	Single-phase/ Three-phase 220 V		S2R8	00003
MS1H1-55B30CB-A331R	-	80	0.55	Single-phase/ Three-phase 220 V	C	S5R5	00005
MS1H1-75B30CB-A331R	MS1H1-75B30CB-A334R	80	0.75	Single-phase/ Three-phase 220 V		S5R5	00005
MS1H1-10C30CB-A331R	MS1H1-10C30CB-A334R	80	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
Ratings of MS1H2 (n_N=3000 rpm, n_{max}=6000 rpm) motors							
MS1H2-10C30CB-A331R	MS1H2-10C30CB-A334R	100	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H2-10C30CD-A331R	MS1H2-10C30CD-A334R	100	1.0	Three-phase 380 V		T3R5	10001
MS1H2-15C30CB-A331R	MS1H2-15C30CB-A334R	100	1.5	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-15C30CD-A331R	MS1H2-15C30CD-A334R	100	1.5	Three-phase 380 V	C	T5R4	10002

Servo motor				Servo drive SV670******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
MS1H2-20C30CB-A331R	MS1H2-20C30CB-A334R	100	2.0	Three-phase 220 V	E	S018[1]	00008
MS1H2-20C30CD-A331R	MS1H2-20C30CD-A334R	100	2.0	Three-phase 380 V	D	T8R4	10003
MS1H2-25C30CB-A331R	MS1H2-25C30CB-A334R	100	2.5	Three-phase 220 V	E	S022	00009
MS1H2-25C30CD-A331R	MS1H2-25C30CD-A334R	100	2.5	Three-phase 380 V	D	T012[2]	10004
MS1H2-30C30CB-A331R	MS1H2-30C30CB-A334R	130	3.0	Three-phase 220 V	E	S022	00009
MS1H2-30C30CD-A331R	MS1H2-30C30CD-A334R	130	3.0	Three-phase 380 V	D	T012	10004
MS1H2-40C30CB-A331R	MS1H2-40C30CB-A334R	130	4.0	Three-phase 220 V	E	S027	00010
MS1H2-40C30CD-A331R	MS1H2-40C30CD-A334R	130	4.0	Three-phase 380 V	E	T017	10005
MS1H2-50C30CB-A331R	MS1H2-50C30CB-A334R	130	5.0	Three-phase 220 V		S027	00010
MS1H2-50C30CD-A331R	MS1H2-50C30CD-A334R	130	5.0	Three-phase 380 V		T021[3]	10006
Ratings of MS1H3 (n_N=1500 rpm, n_{max} =4500 rpm) series motors							
MS1H3-85B15CB-A331R	MS1H3-85B15CB-A334R	130	0.85	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H3-85B15CD-A331R	MS1H3-85B15CD-A334R	130	0.85	Three-phase 380 V		T3R5	10001
MS1H3-13C15CB-A331R	MS1H3-13C15CB-A334R	130	1.3	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-13C15CD-A331R	MS1H3-13C15CD-A334R	130	1.3	Three-phase 380 V	C	T5R4	10002
MS1H3-18C15CB-A331R	MS1H3-18C15CB-A334R	130	1.8	Three-phase 220 V	D	S012	00007
MS1H3-18C15CD-A331R	MS1H3-18C15CD-A334R	130	1.8	Three-phase 380 V	D	T8R4	10003
MS1H3-29C15CB-A331R	MS1H3-29C15CB-A334R	180	2.9	Three-phase 220 V	E	S022	00009
MS1H3-29C15CD-A331R	MS1H3-29C15CD-A334R	180	2.9	Three-phase 380 V	D	T012	10004
MS1H3-44C15CB-A331R	MS1H3-44C15CB-A334R	180	4.4	Three-phase 220 V	E	S027	00010
MS1H3-44C15CD-A331R	MS1H3-44C15CD-A334R	180	4.4	Three-phase 380 V	E	T017	10005
MS1H3-55C15CD-A331R	MS1H3-55C15CD-A334R	180	5.5	Three-phase 380 V		T021	10006
MS1H3-75C15CD-A331R	MS1H3-75C15CD-A334R	180	7.5	Three-phase 380 V		T026	10007
Ratings of MS1H4 (n_N=3000 rpm, n_{max} =7000 rpm) motors							

Servo motor				Servo drive SV670******			
Models without brake	Models with brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
MS1H4-05B30CB-A330R	MS1H4-05B30CB-A332R	40	0.05	Single-phase/ Three-phase 220 V	A	S1R6	00002
MS1H4-10B30CB-A330R	MS1H4-10B30CB-A332R	40	0.1	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-05B30CB-A331R	MS1H4-05B30CB-A334R	40	0.05	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-10B30CB-A331R	MS1H4-10B30CB-A334R	40	0.1	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-20B30CB-A331R	MS1H4-20B30CB-A334R	60	0.2	Single-phase/ Three-phase 220 V		S1R6	00002
MS1H4-40B30CB-A331R	MS1H4-40B30CB-A334R	60	0.4	Single-phase/ Three-phase 220 V		S2R8	00003
MS1H4-55B30CB-A331R	-	80	0.55	Single-phase/ Three-phase 220 V	C	S5R5	00005
MS1H4-75B30CB-A331R	MS1H4-75B30CB-A334R	80	0.75	Single-phase/ Three-phase 220 V		S5R5	00005
MS1H4-10C30CB-A331R	MS1H4-10C30CB-A334R	80	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006

Note

- [1] See the torque-speed characteristics of this model for S012 drives.
- [2] See the torque-speed characteristics of this model for T8R4 drives.
- [3] See the torque-speed characteristics of this model for T017 drives.

Motor with 23-bit encoder

Servo motor				Servo drive SV660******			
Models without brake	Models with Brake	Flange Size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
Ratings of MS1H1 (n_N=3000 rpm, n_{max} =7000 rpm) motors							
MS1H1-05B30CB-A330R	MS1H1-05B30CB-A332R	40	0.05	Single-phase 220 V	A	S1R6	00002
MS1H1-10B30CB-A330R	MS1H1-10B30CB-A332R	40	0.1	Single-phase 220 V			
MS1H1-20B30CB-A331R	MS1H1-20B30CB-A334R	60	0.2	Single-phase 220 V			
MS1H1-40B30CB-A331R	MS1H1-40B30CB-A334R	60	0.4	Single-phase 220 V		S2R8	00003

Servo motor				Servo drive SV660******			
Models without brake	Models with Brake	Flange Size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
MS1H1-55B30CB-A331R	-	80	0.55	Single-phase 220 V	B	S5R5	00005
MS1H1-75B30CB-A331R	MS1H1-75B30CB-A334R	80	0.75	Single-phase 220 V		S5R5	00005
MS1H1-10C30CB-A331R	MS1H1-10C30CB-A334R	80	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
Ratings of MS1H2 (n_N=3000 rpm, n_{max}=6000 rpm) motors							
MS1H2-10C30CB-A331R	MS1H2-10C30CB-A334R	100	1.0	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H2-10C30CD-A331R	MS1H2-10C30CD-A334R	100	1.0	Three-phase 380 V		T3R5	10001
MS1H2-15C30CB-A331R	MS1H2-15C30CB-A334R	100	1.5	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-15C30CD-A331R	MS1H2-15C30CD-A334R	100	1.5	Three-phase 380 V	C	T5R4	10002
MS1H2-20C30CB-A331R	MS1H2-20C30CB-A334R	100	2.0	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-20C30CD-A331R	MS1H2-20C30CD-A334R	100	2.0	Three-phase 380 V	D	T8R4	10003
MS1H2-25C30CD-A331R	MS1H2-25C30CD-A334R	100	2.5	Three-phase 380 V	D	T012[1]	10004
MS1H2-30C30CD-A331R	MS1H2-30C30CD-A334R	130	3.0	Three-phase 380 V	D	T012	10004
MS1H2-40C30CD-A331R	MS1H2-40C30CD-A334R	130	4.0	Three-phase 380 V	E	T017	10005
MS1H2-50C30CD-A331R	MS1H2-50C30CD-A334R	130	5.0	Three-phase 380 V		T021[2]	10006
Ratings of MS1H3 (n_N=1500 rpm, n_{max}=4500 rpm) series motors							
MS1H3-85B15CB-A33*R	MS1H3-85B15CB-A334R	130	0.85	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H3-85B15CD-A331R	MS1H3-85B15CD-A334R	130	0.85	Three-phase 380 V		T3R5	10001
MS1H3-13C15CB-A331R	MS1H3-13C15CB-A334R	130	1.3	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-13C15CD-A331R	MS1H3-13C15CD-A334R	130	1.3	Three-phase 380 V	C	T5R4	10002

Servo motor				Servo drive SV660******			
Models without brake	Models with Brake	Flange Size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
MS1H3-18C15CB-A331R	MS1H3-18C15CB-A334R	130	1.8	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-18C15CD-A331R	MS1H3-18C15CD-A334R	130	1.8	Three-phase 380 V	D	T8R4	10003
MS1H3-29C15CD-A331R	MS1H3-29C15CD-A334R	180	2.9	Three-phase 380 V	D	T012	10004
MS1H3-44C15CD-A331R	MS1H3-44C15CD-A334R	180	4.4	Three-phase 380 V	E	T017	10005
MS1H3-55C15CD-A331R	MS1H3-55C15CD-A334R	180	5.5	Three-phase 380 V		T021	10006
MS1H3-75C15CD-A331R	MS1H3-75C15CD-A334R	180	7.5	Three-phase 380 V		T026	10007
Ratings of MS1H4 (n_N=3000 rpm, n_{max} =7000 rpm) motors							
MS1H4-05B30CB-A330R	MS1H4-05B30CB-A332R	40	0.05	Single-phase 220 V	A	S1R6	00002
MS1H4-10B30CB-A330R	MS1H4-10B30CB-A332R	40	0.1	Single-phase 220 V		S1R6	00002
MS1H4-05B30CB-A331R	MS1H4-05B30CB-A334R	40	0.05	Single-phase 220 V		S1R6	00002
MS1H4-10B30CB-A331R	MS1H4-10B30CB-A334R	40	0.1	Single-phase 220 V		S1R6	00002
MS1H4-20B30CB-A331R	MS1H4-20B30CB-A334R	60	0.2	Single-phase 220 V		S1R6	00002
MS1H4-40B30CB-A331R	MS1H4-40B30CB-A334R	60	0.4	Single-phase 220 V		S2R8	00003
MS1H4-55B30CB-A331R	-	80	0.55	Single-phase 220 V	B	S5R5	00005
MS1H4-75B30CB-A331R	MS1H4-75B30CB-A334R	80	0.75	Single-phase 220 V		S5R5	00005
MS1H4-10C30CB-A331R	MS1H4-10C30CB-A334R	80	1.0	Single-phase/ Three-phase 220 V		S7R6	00006

Note

- [1] See the torque-speed characteristics of this model for T8R4 drives.
- [2] See the torque-speed characteristics of this model for T017 drives.

Motor with 18-bit encoder

Servo motor				Servo drive SV630			
Models without brake	Models with Brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
Ratings of MS1H1 (n_N=3000 rpm, n_{max} =6000 rpm) series motors							
MS1H1-05B30CB-T330R	MS1H1-05B30CB-T332R	40	0.05	Single-phase 220 V	A	S1R6	00002
MS1H1-10B30CB-T330R	MS1H1-10B30CB-T332R	40	0.1	Single-phase 220 V		S1R6	00002
Ratings of MS1H2 (n_N=3000 rpm, n_{max} =6000 rpm/5000 rpm) series motors							
MS1H2-10C30CB-T331R	MS1H2-10C30CB-T334R	100	1	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H2-10C30CD-T331R	MS1H2-10C30CD-T334R	100	1	Three-phase 380 V		T3R5	10001
MS1H2-15C30CB-T331R	MS1H2-15C30CB-T334R	100	1.5	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-15C30CD-T331R	MS1H2-15C30CD-T334R	100	1.5	Three-phase 380 V	C	T5R4	10002
MS1H2-20C30CB-T331R	MS1H2-20C30CB-T334R	100	2	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H2-20C30CD-T331R	MS1H2-20C30CD-T334R	100	2	Three-phase 380 V	D	T8R4	10003
MS1H2-25C30CD-T331R	MS1H2-25C30CD-T334R	100	2.5	Three-phase 380 V	D	T012[1]	10004
MS1H2-30C30CD-T331R	MS1H2-30C30CD-T334R	130	3	Three-phase 380 V	D	T012	10004
MS1H2-40C30CD-T331R	MS1H2-40C30CD-T334R	130	4	Three-phase 380 V	E	T017	10005
MS1H2-50C30CD-T331R	MS1H2-50C30CD-T334R	130	5	Three-phase 380 V	E	T021[2]	10006
Ratings of MS1H3 (n_N=1500 rpm, n_{max} =3000 rpm) motors							
MS1H3-85B15CB-T331R	MS1H3-85B15CB-T334R	130	0.85	Single-phase/ Three-phase 220 V	C	S7R6	00006
MS1H3-85B15CD-T331R	MS1H3-85B15CD-T334R	130	0.85	Three-phase 380 V		T3R5	10001
MS1H3-13C15CB-T331R	MS1H3-13C15CB-T334R	130	1.3	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-13C15CD-T331R	MS1H3-13C15CD-T334R	130	1.3	Three-phase 380 V	C	T5R4	10002
MS1H3-18C15CB-T331R	MS1H3-18C15CB-T334R	130	1.8	Single-phase/ Three-phase 220 V	D	S012	00007
MS1H3-18C15CD-T331R	MS1H3-18C15CD-T334R	130	1.8	Three-phase 380 V	D	T8R4	10003
MS1H3-29C15CD-T331R	MS1H3-29C15CD-T334R	180	2.9	Three-phase 380 V	D	T012	10004
MS1H3-44C15CD-T331R	MS1H3-44C15CD-T334R	180	4.4	Three-phase 380 V	E	T017	10005
MS1H3-55C15CD-T331R	MS1H3-55C15CD-T334R	180	5.5	Three-phase 380 V		T021	10006
MS1H3-75C15CD-T331R	MS1H3-75C15CD-T334R	180	7.5	Three-phase 380 V		T026	10007
Ratings of MS1H4 (n_N=3000 rpm, n_{max} =6000 rpm) series motors							

Servo motor				Servo drive SV630			
Models without brake	Models with Brake	Flange size (mm)	Capacity (kW)	Voltage class	Size	Drive model	No.
MS1H4-05B30CB-T330R	MS1H4-05B30CB-T332R	40	0.05	Single-phase 220 V	A	S1R6	00002
MS1H4-10B30CB-T330R	MS1H4-10B30CB-T332R	40	0.1	Single-phase 220 V			
MS1H4-05B30CB-T331R	MS1H4-05B30CB-T334R	40	0.05	Single-phase 220 V			
MS1H4-10B30CB-T331R	MS1H4-10B30CB-T334R	40	0.1	Single-phase 220 V			
MS1H4-20B30CB-T331R	MS1H4-20B30CB-T334R	60	0.2	Single-phase 220 V			
MS1H4-40B30CB-T331R	MS1H4-40B30CB-T334R	60	0.4	Single-phase 220 V		S2R8	00003
MS1H4-55B30CB-T331R	-	80	0.55	Single-phase 220 V	B	S5R5	00005
MS1H4-75B30CB-T331R	MS1H4-75B30CB-T334R	80	0.75	Single-phase 220 V		S5R5	00005
MS1H4-10C30CB-T331R	MS1H4-10C30CB-T334R	80	1	Single-phase/ Three-phase 220 V		S7R6	00006

Note

- [1] See the torque-speed characteristics of this model for T8R4 drives.
- [2] See the torque-speed characteristics of this model for T017 drives.

Table 1–1 Relation between servo drive and motor encoder

Servo drive model	Encoder type	Reference
SV680****I	A6: 26-bit multi-turn absolute encoder	SV680P Series Servo Drive Selection Guide SV680N Series Servo Drive Selection Guide
SV680*****S	S6: 26-bit absolute multi-turn encoder (functional safety type)	
SV670****I	A3: 23-bit multi-turn absolute encoder	SV670P Series Servo Drive Selection Guide SV670N Series Servo Drive Selection Guide
SV660****I	A3: 23-bit multi-turn absolute encoder	SV660P Series Servo Drive Selection Guide SV660N Series Servo Drive Selection Guide SV660F Series Servo Drive Selection Guide
SV630****I	T3: 18-bit multi-turn absolute encoder	SV630P Series Servo Drive Selection Guide SV630N Series Servo Drive Selection Guide

Note

- Drive models S018, S022, and S027 are only available for SV670 and SV680 series servo drives.
- Servo motors match different series of servo drives, and the maximum speed and maximum torque output of the motor vary slightly. See the servo drive selection guide for details.
- Servo motors designed to work with 23-bit or 26-bit encoders share the same dimensions. For servo motors designed to work with 18-bit encoders, the height of the encoder aviation connector increases by 1 mm.

1.2 Comparison Between MS1-R Series Motor and MS1-Z Series Motor

Flange size	Models without brake		Models with brake	
	MS1-Z series motor model	MS1-R series motor model	MS1-Z series motor model	MS1-R series motor model
40	MS1H1-05B30CB-A330Z	MS1H4-05B30CB-A330R	MS1H1-05B30CB-A332Z	MS1H4-05B30CB-A332R
	MS1H1-10B30CB-A330Z	MS1H4-10B30CB-A330R	MS1H1-10B30CB-A332Z	MS1H4-10B30CB-A332R
	MS1H4-10B30CB-A330Z		MS1H4-10B30CB-A332Z	
	MS1H1-05B30CB-T330Z	MS1H4-05B30CB-T330R	MS1H1-05B30CB-T332Z	MS1H4-05B30CB-T332R
	MS1H1-10B30CB-T330Z	MS1H4-10B30CB-T330R	MS1H1-10B30CB-T332Z	MS1H4-10B30CB-T332R
60	MS1H1-20B30CB-A331Z	MS1H4-20B30CB-A331R	MS1H1-20B30CB-A334Z	MS1H4-20B30CB-A334R
	MS1H1-40B30CB-A331Z	MS1H4-40B30CB-A331R	MS1H1-40B30CB-A334Z	MS1H4-40B30CB-A334R
	MS1H4-40B30CB-A331Z		MS1H4-40B30CB-A334Z	
	MS1H1-20B30CB-A331Z-S	MS1H4-20B30CB-A331R-S	MS1H1-20B30CB-A334Z-S	MS1H4-20B30CB-A334R-S
	MS1H1-40B30CB-A331Z-S	MS1H4-40B30CB-A331R-S	MS1H1-40B30CB-A334Z-S	MS1H4-40B30CB-A334R-S
	MS1H4-40B30CB-A331Z-S		MS1H4-40B30CB-A334Z-S	
	MS1H1-20B30CB-T331Z	MS1H4-20B30CB-T331R	MS1H1-20B30CB-T334Z	MS1H4-20B30CB-T334R
	MS1H1-40B30CB-T331Z	MS1H4-40B30CB-T331R	MS1H1-40B30CB-T334Z	MS1H4-40B30CB-T334R
	MS1H4-40B30CB-T331Z		MS1H4-40B30CB-T334Z	
	MS1H1-20B30CB-T331Z X6	MS1H4-20B30CB-T331R	MS1H1-20B30CB-T334Z X6	MS1H4-20B30CB-T334R
	MS1H1-40B30CB-T331Z X6	MS1H4-40B30CB-T331R	MS1H1-40B30CB-T334Z X6	MS1H4-40B30CB-T334R
	MS1H4-40B30CB-T331Z X6		MS1H4-40B30CB-T334Z X6	
	-	MS1H4-20B30CB-T331R-S	-	MS1H4-20B30CB-T334R-S
	-	MS1H4-40B30CB-T331R-S	-	MS1H4-40B30CB-T334R-S
80	MS1H1-55B30CB-A331Z	MS1H4-55B30CB-A331R	-	-
	MS1H1-75B30CB-A331Z	MS1H4-75B30CB-A331R	MS1H1-75B30CB-A334Z	MS1H4-75B30CB-A334R
	MS1H4-75B30CB-A331Z		MS1H4-75B30CB-A334Z	
	MS1H1-10C30CB-A331Z	MS1H4-10C30CB-A331R	-	MS1H4-10C30CB-A334R
	MS1H1-55B30CB-A331Z-S	MS1H4-55B30CB-A331R-S	-	-
	MS1H1-75B30CB-A331Z-S	MS1H4-75B30CB-A331R-S	MS1H1-75B30CB-A334Z-S	MS1H4-75B30CB-A334R-S
	MS1H4-75B30CB-A331Z-S		MS1H4-75B30CB-A334Z-S	
	MS1H1-10C30CB-A331Z-S	MS1H4-10C30CB-A331R-S	-	MS1H4-10C30CB-A334R-S
	MS1H1-55B30CB-T331Z	MS1H4-55B30CB-T331R	-	-
	MS1H1-75B30CB-T331Z	MS1H4-75B30CB-T331R	MS1H1-75B30CB-T334Z	MS1H4-75B30CB-T334R
	MS1H4-75B30CB-T331Z		MS1H4-75B30CB-T334Z	
	MS1H1-10C30CB-T331Z	MS1H4-10C30CB-T331R	-	MS1H4-10C30CB-T334R
	MS1H1-55B30CB-T331Z X6	MS1H4-55B30CB-T331R	-	-
	MS1H1-75B30CB-T331Z X6	MS1H4-75B30CB-T331R	MS1H1-75B30CB-T334Z X6	MS1H4-75B30CB-T334R
	MS1H4-75B30CB-T331Z X6		MS1H4-75B30CB-T334Z X6	
	MS1H1-10C30CB-T331Z X6	MS1H4-10C30CB-T331R	-	-
	-	MS1H4-55B30CB-T331R-S	-	-
	MS1H1-75B30CB-T331Z-S	MS1H4-75B30CB-T331R-S	-	MS1H4-75B30CB-T334R-S
	-	MS1H4-10C30CB-T331R-S	-	MS1H4-10C30CB-T334R-S

Note

- The R version of the H4 inertia model is used to replace the Z version of the H1 and H4 inertia models.
- The H1 model, the ultra-small inertia motor added to the flange size 40, 60, and 80 of R version (T3 model is not available for 60-/80-flange motors), is mainly used for fast point-to-point motion control applications.

Flange size	Models without brake		Models with brake	
	MS1-Z series motor model	MS1-R series motor model	MS1-Z series motor model	MS1-R series motor model
100	MS1H2-10C30CB-A331Z	MS1H2-10C30CB-A331R	MS1H2-10C30CB-A334Z	MS1H2-10C30CB-A334R
	MS1H2-10C30CD-A331Z	MS1H2-10C30CD-A331R	MS1H2-10C30CD-A334Z	MS1H2-10C30CD-A334R
	MS1H2-15C30CB-A331Z	MS1H2-15C30CB-A331R	MS1H2-15C30CD-A334Z	MS1H2-15C30CD-A334R
	MS1H2-15C30CD-A331Z	MS1H2-15C30CD-A331R	MS1H2-15C30CB-A334Z	MS1H2-15C30CB-A334R
	MS1H2-20C30CD-A331Z	MS1H2-20C30CD-A331R	MS1H2-20C30CD-A334Z-S4	MS1H2-20C30CD-A334R
	MS1H2-25C30CD-A331Z	MS1H2-25C30CD-A331R	MS1H2-25C30CD-A334Z-S4	MS1H2-25C30CD-A334R
	MS1H2-10C30CB-T331Z	MS1H2-10C30CB-T331R	MS1H2-10C30CB-T334Z	MS1H2-10C30CB-T334R
	MS1H2-10C30CD-T331Z	MS1H2-10C30CD-T331R	MS1H2-10C30CD-T334Z	MS1H2-10C30CD-T334R
	MS1H2-15C30CB-T331Z	MS1H2-15C30CB-T331R	MS1H2-15C30CD-T334Z	MS1H2-15C30CD-T334R
	MS1H2-15C30CD-T331Z	MS1H2-15C30CD-T331R	MS1H2-15C30CB-T334Z	MS1H2-15C30CB-T334R
	-	MS1H2-20C30CB-T331R	-	MS1H2-20C30CB-T334R
	MS1H2-20C30CD-T331Z	MS1H2-20C30CD-T331R	MS1H2-20C30CD-T334Z-S4	MS1H2-20C30CD-T334R
	MS1H2-25C30CD-T331Z	MS1H2-25C30CD-T331R	MS1H2-25C30CD-T334Z-S4	MS1H2-25C30CD-T334R
130	MS1H2-30C30CD-A331Z	MS1H2-30C30CD-A331R	MS1H2-30C30CD-A334Z-S4	MS1H2-30C30CD-A334R
	MS1H2-40C30CD-A331Z	MS1H2-40C30CD-A331R	MS1H2-40C30CD-A334Z-S4	MS1H2-40C30CD-A334R
	MS1H2-50C30CD-A331Z	MS1H2-50C30CD-A331R	MS1H2-50C30CD-A334Z-S4	MS1H2-50C30CD-A334R
	MS1H2-30C30CD-T331Z	MS1H2-30C30CD-T331R	MS1H2-30C30CD-T334Z-S4	MS1H2-30C30CD-T334R
	MS1H2-40C30CD-T331Z	MS1H2-40C30CD-T331R	MS1H2-40C30CD-T334Z-S4	MS1H2-40C30CD-T334R
	MS1H2-50C30CD-T331Z	MS1H2-50C30CD-T331R	MS1H2-50C30CD-T334Z-S4	MS1H2-50C30CD-T334R
	MS1H3-85B15CB-A331Z	MS1H3-85B15CB-A331R	MS1H3-85B15CB-A334Z	MS1H3-85B15CB-A334R
	MS1H3-85B15CD-A331Z	MS1H3-85B15CD-A331R	MS1H3-85B15CD-A334Z	MS1H3-85B15CD-A334R
	MS1H3-13C15CB-A331Z	MS1H3-13C15CB-A331R	MS1H3-13C15CB-A334Z	MS1H3-13C15CB-A334R
	MS1H3-13C15CD-A331Z	MS1H3-13C15CD-A331R	MS1H3-13C15CD-A334Z	MS1H3-13C15CD-A334R
	MS1H3-18C15CB-A331Z	MS1H3-18C15CB-A331R	-	MS1H3-18C15CB-A334R
	MS1H3-18C15CD-A331Z	MS1H3-18C15CD-A331R	MS1H3-18C15CD-A334Z	MS1H3-18C15CD-A334R
	MS1H3-85B15CB-T331Z X6	MS1H3-85B15CB-T331R	MS1H3-85B15CB-T334Z X6	MS1H3-85B15CB-T334R
	MS1H3-85B15CD-T331Z X6	MS1H3-85B15CD-T331R	MS1H3-85B15CD-T334Z X6	MS1H3-85B15CD-T334R
	MS1H3-13C15CB-T331Z X6	MS1H3-13C15CB-T331R	MS1H3-13C15CB-T334Z X6	MS1H3-13C15CB-T334R
	MS1H3-13C15CD-T331Z X6	MS1H3-13C15CD-T331R	MS1H3-13C15CD-T331Z X6	MS1H3-13C15CD-T331R
	MS1H3-18C15CD-T331Z X6	MS1H3-18C15CD-T331R	MS1H3-13C15CD-T334Z X6	MS1H3-13C15CD-T334R
	MS1H3-85B15CB-T331Z	MS1H3-85B15CB-T331R	MS1H3-18C15CD-T334Z X6	MS1H3-18C15CD-T334R
	MS1H3-85B15CD-T331Z	MS1H3-85B15CD-T331R	MS1H3-85B15CB-T334Z	MS1H3-85B15CB-T334R
	MS1H3-85B15CD-T334Z	MS1H3-85B15CD-T334R	MS1H3-85B15CD-T334Z	MS1H3-85B15CD-T334R
	MS1H3-13C15CB-T331Z	MS1H3-13C15CB-T331R	MS1H3-13C15CB-T334Z	MS1H3-13C15CB-T334R
	MS1H3-13C15CD-T331Z	MS1H3-13C15CD-T331R	MS1H3-13C15CD-T334Z	MS1H3-13C15CD-T334R
	-	MS1H3-18C15CB-T331R	-	MS1H3-18C15CB-T334R
	MS1H3-18C15CD-T331Z	MS1H3-18C15CD-T331R	MS1H3-18C15CD-T334Z	MS1H3-18C15CD-T334R
180	MS1H3-29C15CD-A331Z	MS1H3-29C15CD-A331R	MS1H3-29C15CD-A334Z	MS1H3-29C15CD-A334R
	MS1H3-44C15CD-A331Z	MS1H3-44C15CD-A331R	MS1H3-44C15CD-A334Z	MS1H3-44C15CD-A334R
	MS1H3-55C15CD-A331Z	MS1H3-55C15CD-A331R	MS1H3-55C15CD-A334Z	MS1H3-55C15CD-A334R
	MS1H3-75C15CD-A331Z	MS1H3-75C15CD-A331R	MS1H3-75C15CD-A334Z	MS1H3-75C15CD-A334R
	MS1H3-29C15CD-T331Z	MS1H3-29C15CD-T331R	MS1H3-29C15CD-T334Z	MS1H3-29C15CD-T334R
	MS1H3-44C15CD-T331Z	MS1H3-44C15CD-T331R	MS1H3-44C15CD-T334Z	MS1H3-44C15CD-T334R
	MS1H3-55C15CD-T331Z	MS1H3-55C15CD-T331R	MS1H3-55C15CD-T334Z	MS1H3-55C15CD-T334R
	MS1H3-75C15CD-T331Z	MS1H3-75C15CD-T331R	MS1H3-75C15CD-T334Z	MS1H3-75C15CD-T334R

2 Product Information

2.1 Product Features

- **Small size**
  - Small size with high torque output
  - Mounting flange, output shaft, and aviation connectors compatible with last generation of motors
- **High speed**
  - Maximum speed of MS1H1 and MS1H4 (flange sizes 40/60/80) improved from 6000 rpm to 7000 rpm
  - Maximum speed of MS1H2 models improved from 5000 rpm to 6000 rpm
  - Maximum speed of MS1H3 (flange sizes 130/180) motors improved from 3000 rpm to 4500 rpm
  - Speed of motors with 23-bit/26-bit encoders improved greatly
- **Low temperature rise rate**
  - Optimized electromagnetic circuits to reduce the temperature rise rate
  - Flange sizes 40/60/80: Temperature rise reduced by 20K compared with previous generation of motors
- **High stiffness**
  Stiffness improved by 5 levels for typical models
- **Wide applicability**
  - Ultra-low inertia models (with 26-bit/23-bit encoder) are available for flange size 40/60/80, meeting the demands of fast point-to-point control applications.
  - 220 V models are available for flange size 100/130/180.
  - Regular 26-bit absolute multi-turn absolute encoders and those of functional safety type are available to meet high accuracy requirements.
- **High energy-saving performance**
  550 W to 7.5 kW motors are compliant with energy efficiency requirements of GB30253-Class 1.

2.2 Model and Nameplate

Model description

MS1 H1 - 75B 30C B A3 3 1 R - *
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① **MS1 series servo motor**	② **Inertia and capacity** H1: low inertia, small capacity H2: low inertia, medium capacity H3: medium inertia, medium capacity H4: medium inertia, small capacity	③ **Rated power (W)** One letter and two digits B: x 10 C: x 100 Example: 75B: 750 W
④ **Rated speed (rpm)** One letter and two digits B: x 10 C: x 100 Example: 30C: 3,000 rpm	⑤ **Voltage class (V)** B: 220 D: 380	⑥ **Encoder type** One letter and one digit A6: 26-bit multi-turn absolute encoder S6: 26-bit multi-turn absolute encoder of functional safety type A3: 23-bit multi-turn absolute encoder T3: 18-bit multi-turn absolute encoder
⑦ **Shaft connection mode** 3: Solid shaft, with key and threaded hole	⑧ **Brake, reducer and oil seal** [1] 0: No oil seal or brake 1: With oil seal but no brake 2: Without not oil seal but with brake 4: With oil seal and brake	⑨ **Sub-series** R: R version ⑩ **Non-standard function** Blank: standard S: Flying leads type -**: Other non-standard function

Nameplate

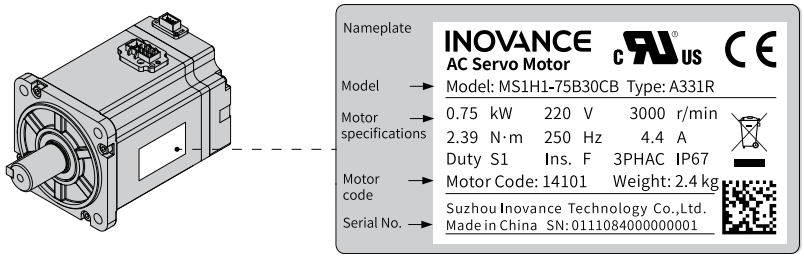


Figure 2-1 Model and Nameplate

2.3 Components

Motor (40-flange)

- **Terminal-type servo motor**

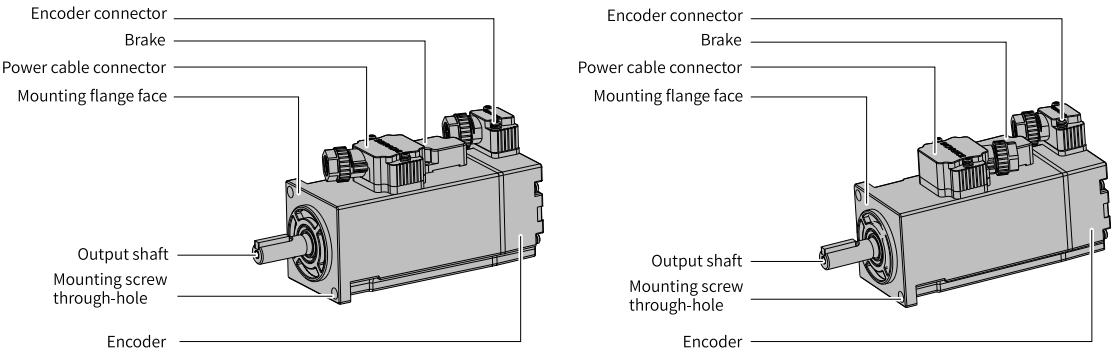


Figure 2-2 Components of a terminal-type servo motor (Left: motor with front cable outlet; Right: motor with rear cable outlet)

- **Flying leads type servo motors**

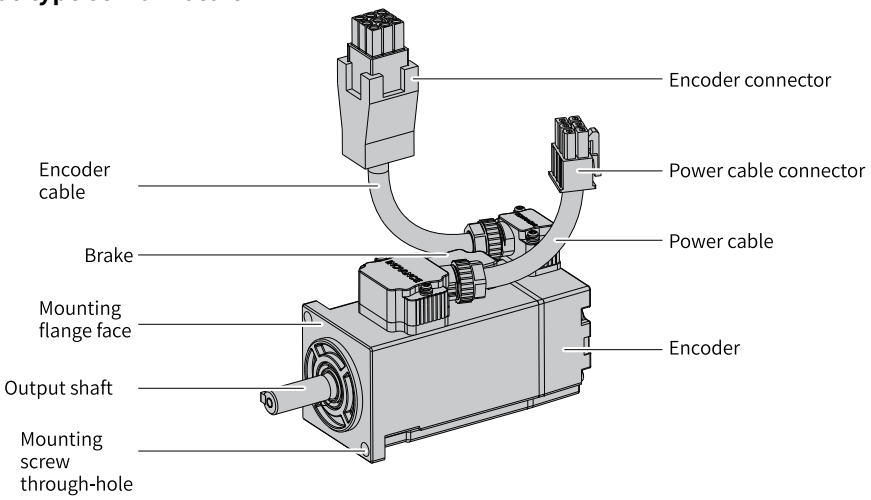


Figure 2-3 Components of flying leads type motors

Note

- For 50 W terminal type models, use rear outlet for power cables.
- For 100 W models, if the mounting flange face is internally stepped type, only terminal-type models can be used, which are equipped with power cables with rear outlet.

Motor (60- and 80-flange)

- **Terminal-type servo motor**

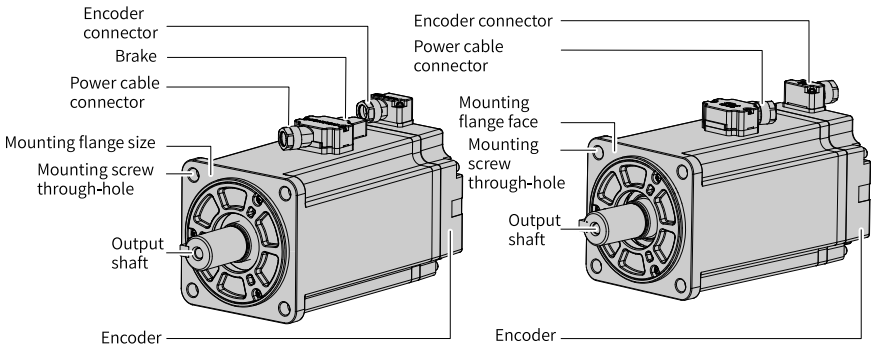


Figure 2-4 Components of a terminal-type servo motor (Left: motor with front cable outlet; Right: motor with rear cable outlet)

- **Flying leads type servo motors**

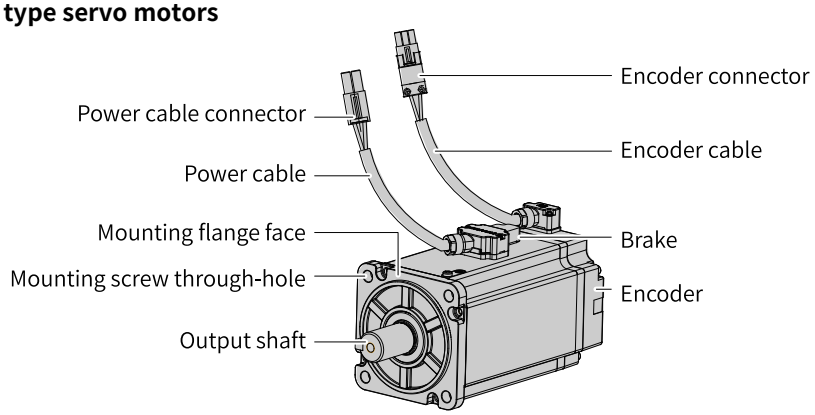


Figure 2-5 Components of flying leads type motors

Motor (100-, 130- and 180-flange)

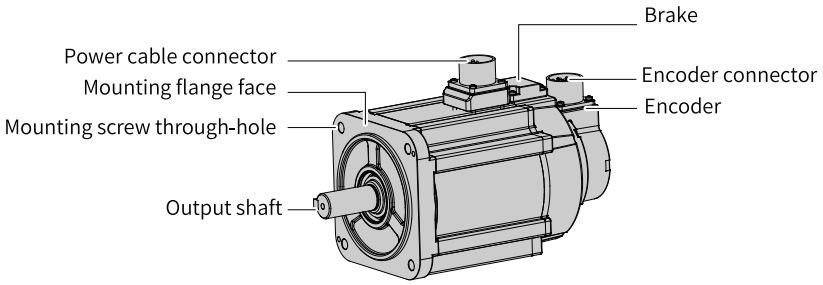


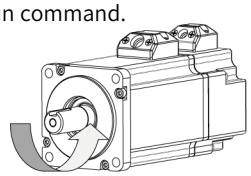
Figure 2-6 Components of servo drives in flange sizes 100/130/180

2.4 Motor Models

Motor type		Rated output capacity (kW)	Encoder	IP rating of the enclosure
Low inertia, small capacity	MS1H1 	0.05, 0.1, 0.2, 0.4, 0.55, 0.75, 1.0	A6: 26-bit multi-turn absolute encoder S6: 26-bit multi-turn absolute encoder of functional safety type A3: 23-bit multi-turn absolute encoder T3: 18-bit multi-turn absolute encoder	IP67
Low inertia, medium capacity	MS1H2 	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0	A6: 26-bit multi-turn absolute encoder S6: 26-bit multi-turn absolute encoder of functional safety type A3: 23-bit multi-turn absolute encoder T3: 18-bit multi-turn absolute encoder	IP67
Medium inertia, medium capacity	MS1H3 	0.85, 1.3, 1.8, 2.9, 4.4, 5.5, 7.5	A6: 26-bit multi-turn absolute encoder S6: 26-bit multi-turn absolute encoder of functional safety type A3: 23-bit multi-turn absolute encoder T3: 18-bit multi-turn absolute encoder	IP67
Medium inertia, small capacity	MS1H4 	0.05, 0.1, 0.2, 0.4, 0.55, 0.75, 1.0	A6: 26-bit multi-turn absolute encoder S6: 26-bit multi-turn absolute encoder of functional safety type A3: 23-bit multi-turn absolute encoder T3: 18-bit multi-turn absolute encoder	IP67

3 Specifications

3.1 Mechanical Characteristics

Item		Description
Duty type		S1 (Continuous duty)
Vibration level [1]		V15
Insulation resistance		500 VDC, above 10 MΩ
Excitation mode		Permanent magnetic
Installation mode		Flange
Heat resistance level		F
Insulation voltage		1500 VAC for 1 min (220 V class) 1800 VAC for 1 min (380 V class)
Enclosure protection mode		IP67 (excluding shaft opening and flying leads type motor connectors)
Direction of rotation		Rotates counterclockwise (CCW) when viewed from the shaft extension side with the forward run command.  CCW
Environmental conditions	Ambient temperature	0°C to 40°C (non-frozen) (Derate based on the derating curve for temperatures above 40°C.)
	Ambient humidity	20% to 80% (without condensation)
	Installation location	• Free from corrosive or explosive gases • Well ventilated and with minimum amount of dust, waste and moisture. • Convenient for inspection and cleanup. • Derating is required only for installation altitudes higher than 1000 m. For derating details, see *"3.3 Derating Characteristics" on page 28*. • Away sources that may generate strong magnetic field • Away from heating sources such as a heating stove • Use the motor with oil seal in places with grinding fluid, oil mist, iron powders or cuttings. • The oil seal is only dust-proof. It cannot withstand the intrusion of oil for a long term. • Not applicable to vacuum environment • Not applicable to inching condition, which may result in stuck. • The motor with brake may generate a pattering sound. • Coupler type and installation alignment requirements • The system should avoid continuous operation at natural frequency. Exceeding the allowable vibration value may damage the system.
	Storage	Observe the following requirements when storing a de-energized motor: • Temperature: -20°C to +60°C (non-frozen) • Humidity: 20% to 80% RH (without condensation)
Shock resistance [3][4]	Shock acceleration (taking flange side as standard)	490 m/s^2
	Number of shocks	2

Item		Description
Vibration resistance [2][4]	Vibration acceleration (taking flange side as standard)	Radial 49 m/s^2 Axial 24.5 m/s^2

Note

- [1] Vibration level V15 indicates that the amplitude of vibration is less than 15 μm when a single servo motor rotates at its rated value.
- [2] For a motor shaft mounted horizontally, the impact resistance level in the up and down directions is shown in the preceding table.
- [3] For a servo motor shaft mounted horizontally, the vibration resistance level in the up/down, left/right, and front/rear directions is shown in the preceding table.
- [4] The vibration intensity applied on the motor is affected by the transmission structure, alignment accuracy, mounting conditions, and external vibration. These factors may enhance the vibration applied on the motor. When the maximum allowable vibration limit is exceeded, the motor may fail. Therefore, take necessary measures to limit resonance.
- The vibration intensity applied on the motor varies with applications.

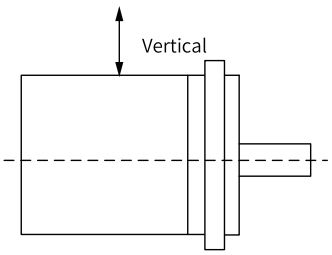


Figure 3-1 Shock that applied to the motor

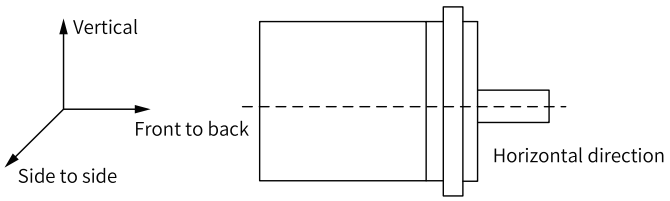


Figure 3-2 Vibration that applied to the motor

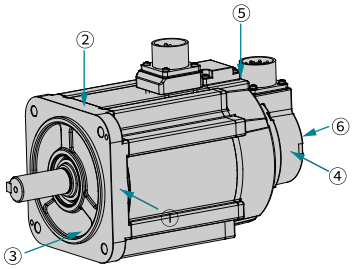


Figure 3-3 Max. allowable vibration limit of the motor

Direction	Measuring point	Limit value (10 Hz to 2000 Hz)
Radial	①②	49 m/s^2
	④⑤	49 m/s^2
Axial	③	24.5 m/s^2
	⑥	24.5 m/s^2

Note

The preceding vibration/shock standards cannot be applied for a long term. For long-term application needs, contact Inovance.

3.2 Overload Characteristics

The equipment is compliant with NEC and CEC requirements and equipped with protective functions against overload and overtemperature.

The following overload protection curve applies to hot start at an ambient temperature of 40°C, which cannot guarantee continuous duty under 100%+ output. During use, keep the effective torque of the load within the continuous duty zone.

To protect different load motors, set motor overload protection gain based on the overload capacity of the motor. Use the default gains in general conditions, however, when one of the following condition occurs, change the gains based on the temperature rise condition of the motor:

- The motor operates in environments with high temperature.
- The motor is in cyclic motion featuring a short motion cycle and frequent acceleration/deceleration.
- Overload thermal protection only occurs during continuous energized operation. You need to check the motor temperature when the drive is powered off.

Motor overload protection curve is as follows:

- **MS1H1/H4 (flange size 40)**

Load ratio (%)	Operating time (s)
115	411.98
120	258.22
125	131.05
130	79.80
135	54.13
140	43.04
145	37.33
150	32.79
155	27.17
160	22.16
165	19.28
170	18.55
175	17.62
180	16.31
185	14.70
190	13.14
195	11.95
200	11.03
205	9.97
210	9.18
215	8.36
220	7.61
225	7.03

Load ratio (%)	Operating time (s)
230	6.58
235	6.27
240	6.06
245	6.06
250	6.06
255	6.06
260	6.06
265	6.06
270	6.06
275	6.06
280	6.01
285	5.84
290	5.61
295	5.31
300	4.96
305	4.61
310	4.27
315	3.97
320	3.69
325	3.36
330	3.15
335	2.97
340	2.82
345	2.70
350	2.63

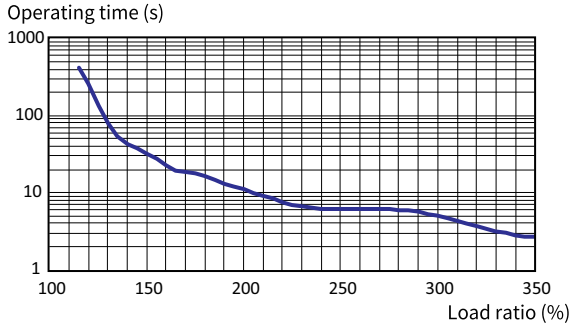


Figure 3-4 MS1H1/H4 (flange size 40) series motor overload curve

- **MS1H1/H4 (flange size 60/80)**

Load ratio (%)	Operating time (s)
120	230
130	80
140	40
150	30
160	20
170	17
180	15
190	12
200	10
210	8.5
220	7
230	6

Load ratio (%)	Operating time (s)
240	5.5
250	5
300	3
350	2

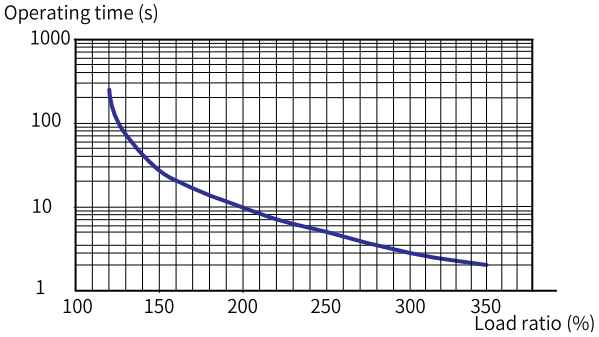


Figure 3-5 MS1H1/H4 (flange size 60/80) series motor overload curve

Note

The maximum torque of H1 and H4 models is the rated torque x 3.5.

- **MS1H2/MS1H3**

Load ratio (%)	Operating time (s)
115	6000
121.4	2000
127.8	1000
134.2	800
140.6	500
147	300
153.4	150
159.8	100
166.2	80
172.6	60
179.0	50
185.4	45
191.8	40
198.2	36
204.6	32
211.0	28
217.4	23
223.8	22
230.2	19
236.6	18
243.0	15
249.4	14
255.8	13
262.2	11
268.6	10
275.0	9
281.4	8

Load ratio (%)	Operating time (s)
287.8	7
294.2	6

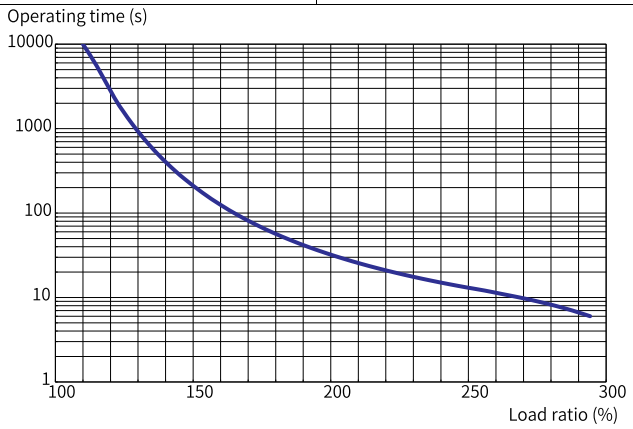


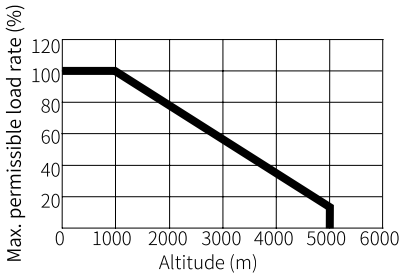
Figure 3-6 Overload curve of MS1H2 and MS1H3 series motors

Note

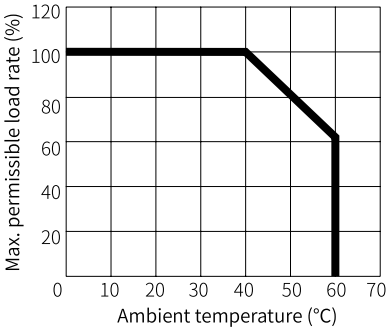
- The maximum torque of H2 models is the rated torque x 3.
- The maximum torque of H3 models is the rated torque x 2.5.

3.3 Derating Characteristics

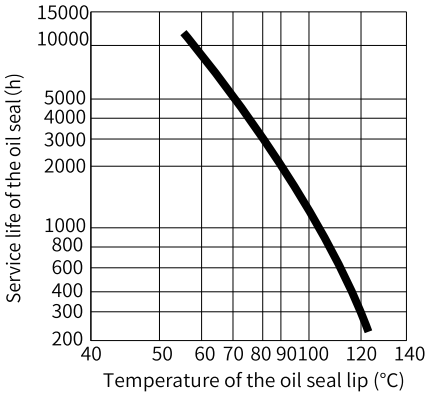
- **Altitude-based derating curve**



- **Temperature-based derating curve**



3.4 Temperature Curve of the Oil Seal



3.5 Load Moment of Inertia

The load moment of inertia represents the ratio of load inertia to the rotor inertia. The higher the load inertia ratio, the weaker the responsiveness will be. An excessively high inertia ratio can result in unstable operation. The allowable load moment of inertia of the motor is restricted. This value is provided strictly as a guideline and results depend on the motor driving conditions.

An overvoltage alarm may occur during deceleration if the load moment of inertia exceeds the allowable value. For servo drives with a built-in braking resistor, an overload alarm my be present. In case of such alarms, take one of the following measures:

- Reduce the torque limit values.
- Reduce the deceleration rate.
- Reduce the maximum speed.
- Install an external braking resistor if the alarm cannot be cleared using the above measures.

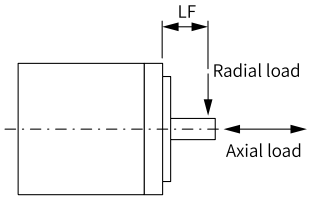
Caution

- Check the drive selection guide for the built-in brake.
- Even you use a built-in resistor, the energy generated in some conditions will exceed the allowable capacity loss (W) of the resistor. Therefore, an external braking resistor is required.

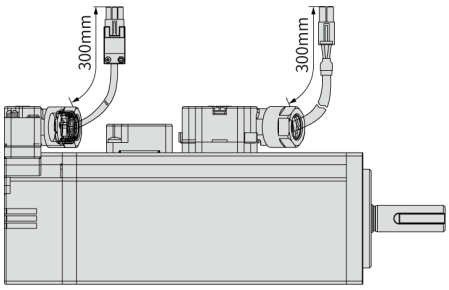
4 Motor Model Selection

4.1 Selection Instructions

- Description of torque-speed characteristic curves:
  - Technical data and torque/speed characteristic values in the following tables are applicable to motors working with Inovance servo drives with the armature coil temperature being 20°C.
  - Continuous duty zone: Indicates a series of states in which the motor can operate safely and continuously. The effective torque must be in this zone.
  - Intermittent duty zone: Indicates a series of states in which the motor can operate for a short period of time when the effective torque is greater than the rated torque.
- The characteristic parameter values are obtained in cases where the motor is installed with the following heatsink:
  - MS1H1/MS1H4: 250 x 250 x 6 (mm) (aluminum)
  - MS1H2-10C to 25C: 400 x 400 x 20 (mm) (steel)
  - MS1H2-30C to 50C: 400 x 400 x 20 (mm) (steel)
  - MS1H3-85B to 18C: 400 x 400 x 20 (mm) (steel)
  - MS1H3-29C to 55C: 550 x 550 x 30 ((mm) (aluminum)
  - MS1H2-50CD to MS1H3-75C: 700 x 700 x 30 ((mm) (aluminum)
- Description of motor radial and axial loads:



- Description of flying leads type motor dimensions
  The 40/60/80-flange flying leads type motor (ended with “-S”) provides flying leads of about 300 mm long, as shown in the following figure.



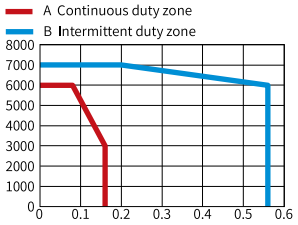
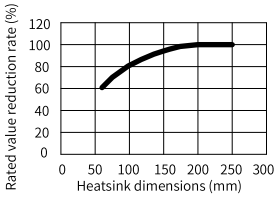
- MS1H3 motors in flange size 130/180 with a keyway must operate with the keyway when the operating speed exceeds 3000 rpm. If you need a motor without keyway to operate at a speed higher than 3000 rpm, contact Inovance for customization.

Note

- Values inside the parentheses in sections 4.2 to 4.5 are parameters of the servo motor with brake.
- The motor with oil seal must be derated by 10% during use.
- The 24 VDC power supply needs to be prepared by users. The cross sectional area of DC power cables and motor brake connection cables must be larger than 0.5mm^2. To prevent malfunction of the brake, use a separate power supply for the brake, avoiding voltage or current drop caused by other electrical devices during operation.
- The brake apply time and release time vary with the discharge circuit. Check the actual action delay of the product during use.

4.2 MS1H1 Motors with Low Inertia and Small Capacity

4.2.1 MS1H1-05B30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	40		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.05		
Rated voltage (V)	220		
Rated torque (N·m)	0.16		
Maximum torque (N·m)	0.56		
Rated current (Arms)	1.2		Heatsink-based derating curve
Maximum current (Arms)	4.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.12		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	0.018	
	Brake motor	0.0208	

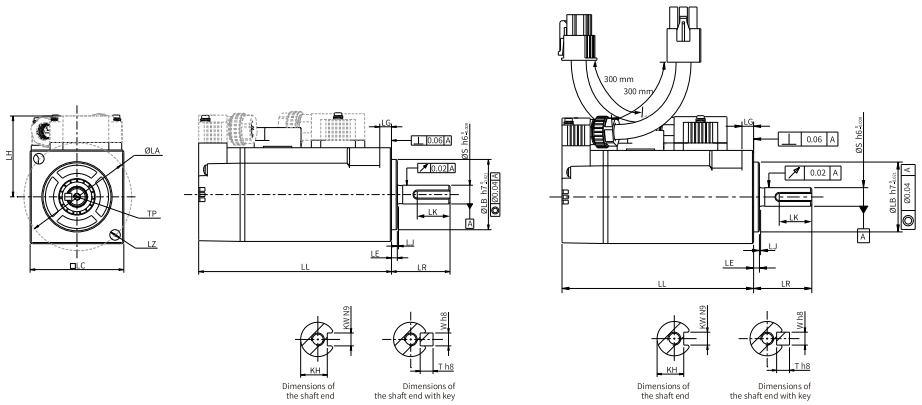
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

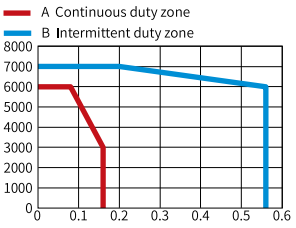
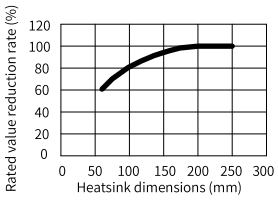
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)



LL	LC	LR	LA	LZ	LH	LG	LE	LJ
55(82.3)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26(0.43)

4.2.2 MS1H1-05B30CB-A33*R

Motor model			Torque-Speed characteristics
Flange size (mm)	40		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.05		
Rated voltage (V)	220		
Rated torque (N·m)	0.16		
Maximum torque (N·m)	0.56		
Rated current (Arms)	1.2		Heatsink-based derating curve
Maximum current (Arms)	4.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.12		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.018	
	Brake motor	0.0208	

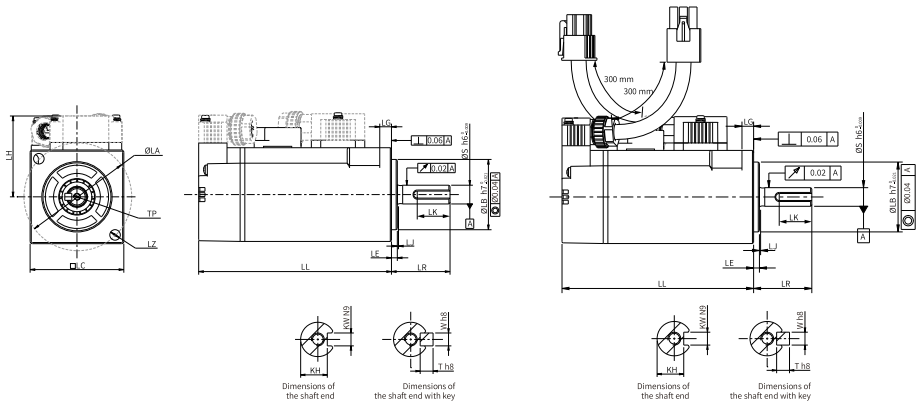
Electrical specifications of the motor with brake

Holding Torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil resistance (Ω)(±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

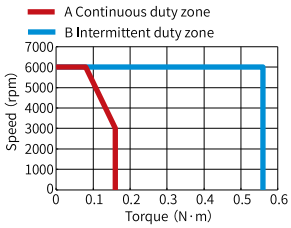


LL	LC	LR	LA	LZ	LH	LG	LE	LJ
55(82.3)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26(0.43)

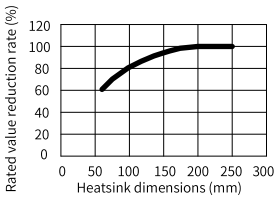
4.2.3 MS1H1-05B30CB-T33*R

Motor specifications		
Flange size (mm)	40	
Inertia, capacity	Low inertia, small capacity	
Rated power (kW)	0.05	
Rated voltage (V)	220	
Rated torque (N·m)	0.16	
Maximum torque (N·m)	0.56	
Rated current (Arms)	1.2	
Maximum current (Arms)	4.8	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.12	
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.018
	Brake motor	0.0208

Torque-Speed characteristics



Heatsink-based derating curve



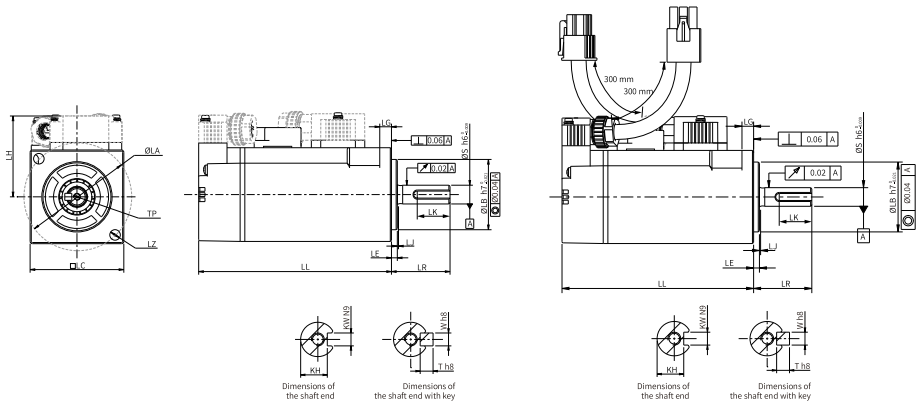
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

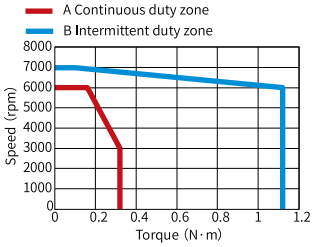


LL	LC	LR	LA	LZ	LH	LG	LE	LJ
55(82.3)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26(0.43)

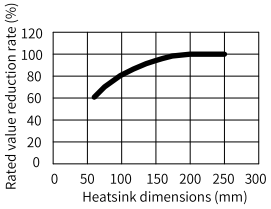
4.2.4 MS1H1-10B30CB-A6/S63*R

Motor specifications		
Flange size (mm)	40	
Inertia, capacity	Low inertia, small capacity	
Rated power (kW)	0.1	
Rated voltage (V)	220	
Rated torque (N·m)	0.32	
Maximum torque (N·m)	1.12	
Rated current (Arms)	1.2	
Maximum current (Arms)	4.8	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.25	
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.0316
	Brake motor	0.0345

Torque-Speed characteristics



Heatsink-based derating curve



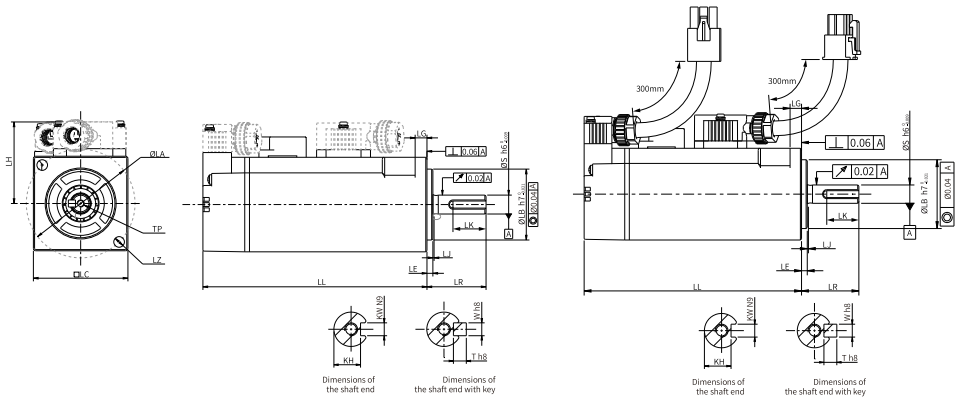
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

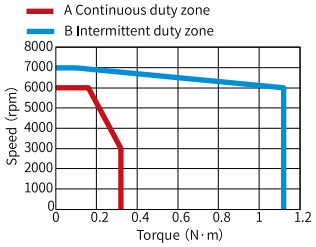
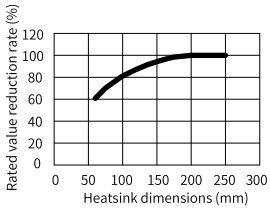
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)



LL	LC	LR	LA	LZ	LH	LG	LE	LJ
67.5(94.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.35(0.52)

4.2.5 MS1H1-10B30CB-A33*R

Motor model			Torque-Speed characteristics
Flange size (mm)	40		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.1		
Rated voltage (V)	220		
Rated torque (N·m)	0.32		
Maximum torque (N·m)	1.12		
Rated current (Arms)	1.2		Heatsink-based derating curve
Maximum current (Arms)	4.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.25		
Rotor moment of inertia ($kg·cm^2$)	Brake-less motor	0.0316	
	Brake motor	0.0345	

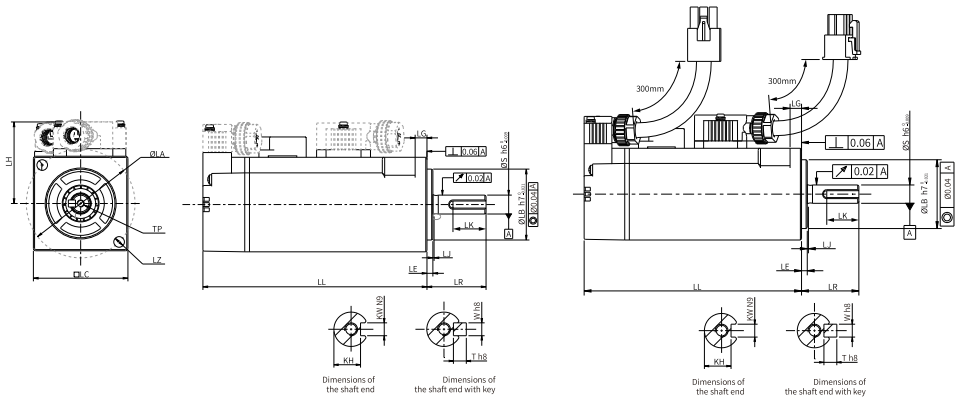
Electrical specifications of the motor with brake

Holding Torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

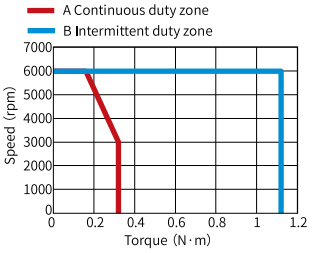
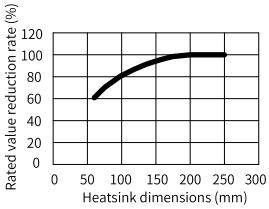
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)



LL	LC	LR	LA	LZ	LH	LG	LE	LJ
67.5(94.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.35(0.52)

4.2.6 MS1H1-10B30CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	40		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.1		
Rated voltage (V)	220		
Rated torque (N·m)	0.32		
Maximum torque (N·m)	1.12		
Rated current (Arms)	1.2		Heatsink-based derating curve
Maximum current (Arms)	4.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.25		
Rotor moment of inertia ($kg·cm^2$)	Brake-less motor	0.0316	
	Brake motor	0.0345	

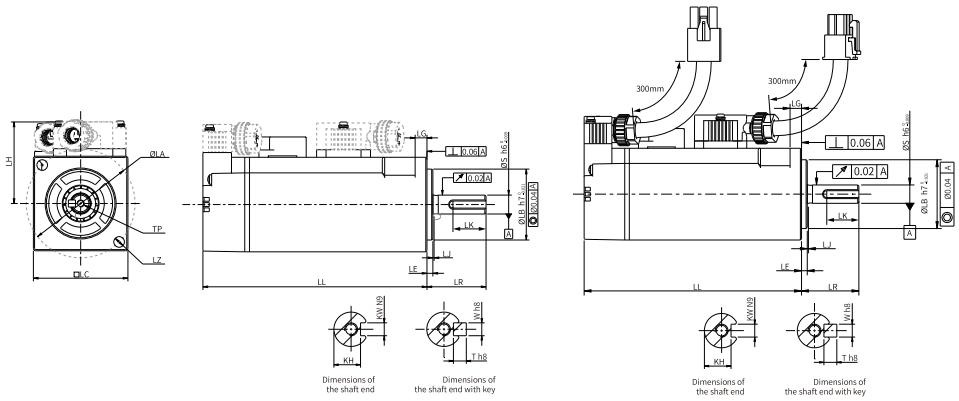
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC) ±10%	Rated power (W)	Coil Resistance (Ω) (±7%)	Exciting current (A)	Apply Time (ms)	Release Time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

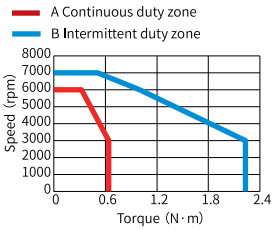
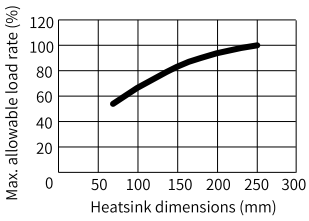
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)



LL	LC	LR	LA	LZ	LH	LG	LE	LJ
67.5(94.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	KW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.35 (0.52)

4.2.7 MS1H1-20B30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	60		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.2		
Voltage (V)	220		
Rated torque (N·m)	0.64		
Maximum torque (N·m)	2.24		
Rated current (Arms)	1.5		Heatsink-based derating curve
Maximum current (Arms)	5.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	0.094	
	Motor with brake	0.106	

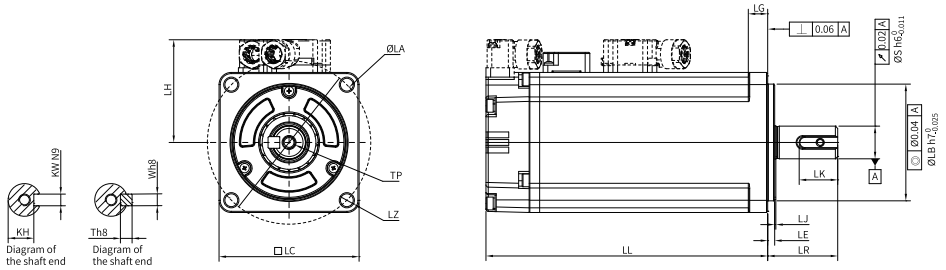
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

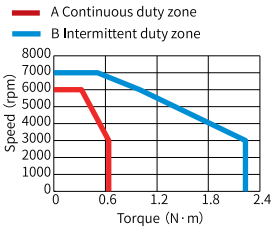
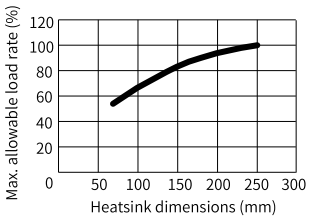
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	75.5 (103)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7 $^{0}_{-0.025}$	14	M5x8	16.5	11 $^{0}_{-0.1}$	5	5	5	0.80 (1.17)

4.2.8 MS1H1-20B30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	60		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.2		
Voltage (V)	220		
Rated torque (N·m)	0.64		
Maximum torque (N·m)	2.24		
Rated current (Arms)	1.5		Heatsink-based derating curve
Maximum current (Arms)	5.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.094	
	Motor with brake	0.106	

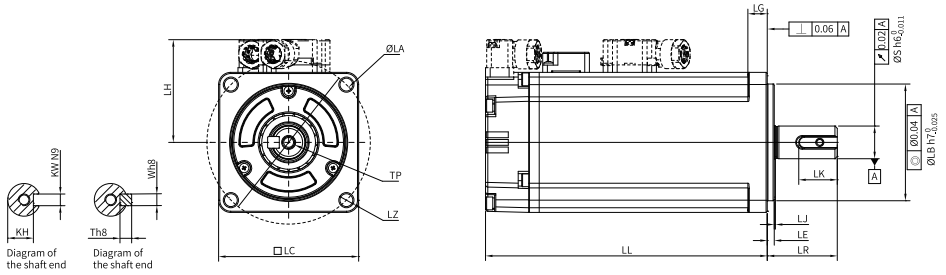
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

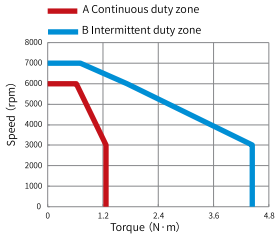
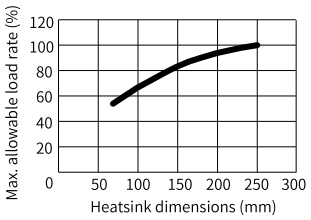
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	75.5 (103)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	0.80 (1.17)

4.2.9 MS1H1-40B30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	60		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.4		
Voltage (V)	220		
Rated torque (N·m)	1.27		
Maximum torque (N·m)	4.45		
Rated current (Arms)	2.5		Heatsink-based derating curve
Maximum current (Arms)	9.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.53		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.145	
	Motor with brake	0.157	

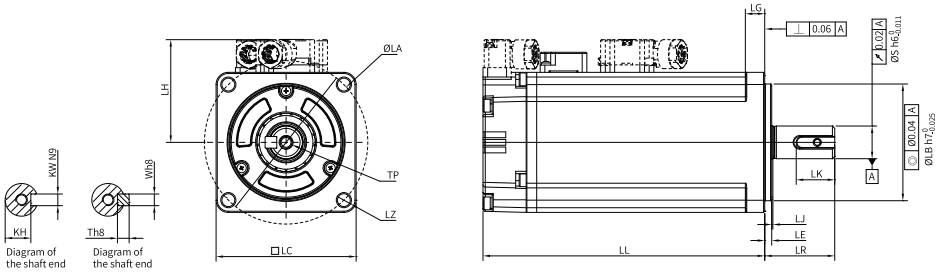
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

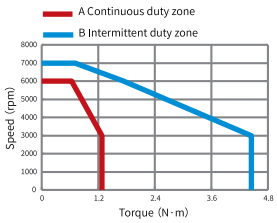
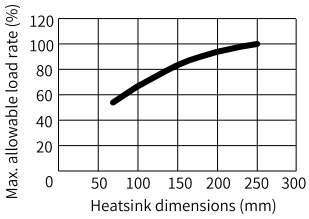
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	93 (121)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	1.11 (1.48)

4.2.10 MS1H1-40B30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	60		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.4		
Voltage (V)	220		
Rated torque (N·m)	1.27		
Maximum torque (N·m)	4.45		
Rated current (Arms)	2.5		Heatsink-based derating curve
Maximum current (Arms)	9.8		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.53		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.145	
	Motor with brake	0.157	

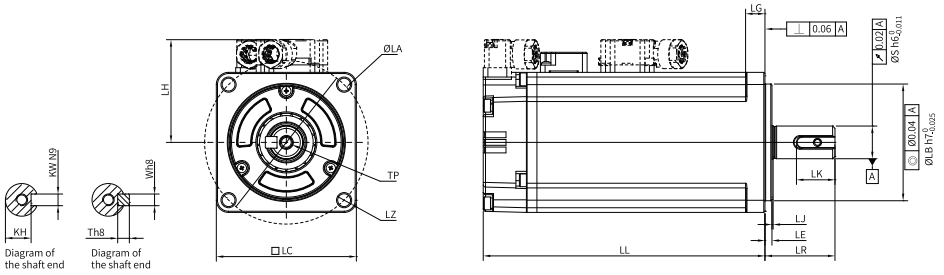
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

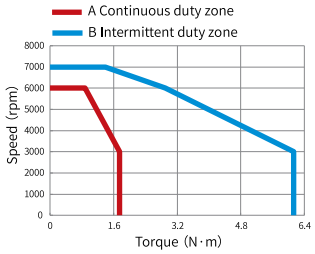
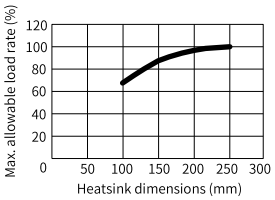
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	93 (121)	30 ± 0.5	70	4- Ø 5.5	44	8.0	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	1.11 (1.48)

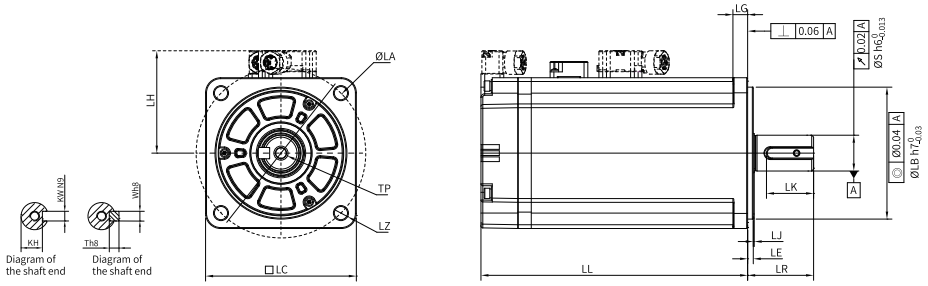
4.2.11 MS1H1-55B30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.55		
Voltage (V)	220		
Rated torque (N·m)	1.75		
Maximum torque (N·m)	6.13		
Rated current (Arms)	3.9		Heatsink-based derating curve
Maximum current (Arms)	15		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.49		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.55	
	Motor with brake	-	

Allowable load

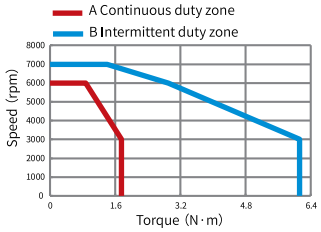
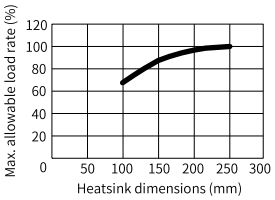
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	96.7	25±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
$Ø70h7^{0}_{-0.03}$	19	M6 x 20	26	$15.5^{0}_{-0.1}$	6	6	6	1.88

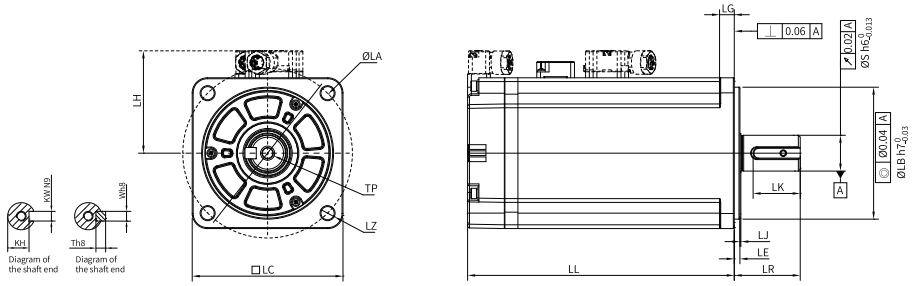
4.2.12 MS1H1-55B30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.55		
Voltage (V)	220		
Rated torque (N·m)	1.75		
Maximum torque (N·m)	6.13		
Rated current (Arms)	3.9		Heatsink-based derating curve
Maximum current (Arms)	15		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.49		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.55	
	Motor with brake	-	

Allowable load

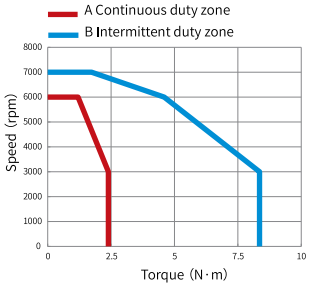
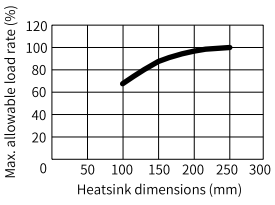
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	96.7	25±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7 $^{0}_{-0.03}$	19	M6 x 20	26	15.5 $^{0}_{-0.1}$	6	6	6	1.88

4.2.13 MS1H1-75B30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	0.75		
Voltage (V)	220		
Rated torque (N·m)	2.39		
Maximum torque (N·m)	8.37		
Rated current (Arms)	4.4		Heatsink-based derating curve
Maximum current (Arms)	16.9		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.58		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.68	
	Motor with brake	0.71	

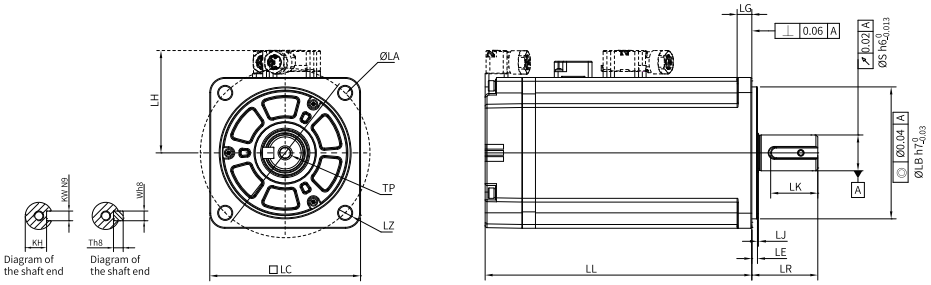
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

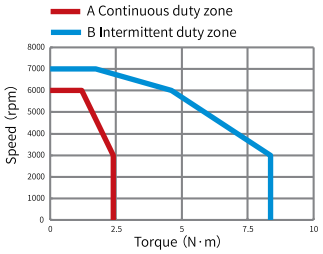


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	107.3 (141.5)	35±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.22 (2.88)

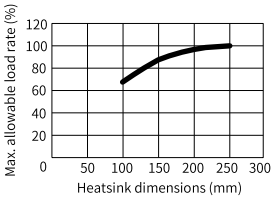
4.2.14 MS1H1-75B30CB-A33*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Low inertia, small capacity	
Rated power (kW)	0.75	
Voltage (V)	220	
Rated torque (N·m)	2.39	
Maximum torque (N·m)	8.37	
Rated current (Arms)	4.4	
Maximum current (Arms)	16.9	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.58	
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.68
	Motor with brake	0.71

Torque-Speed characteristics



Heatsink-based derating curve



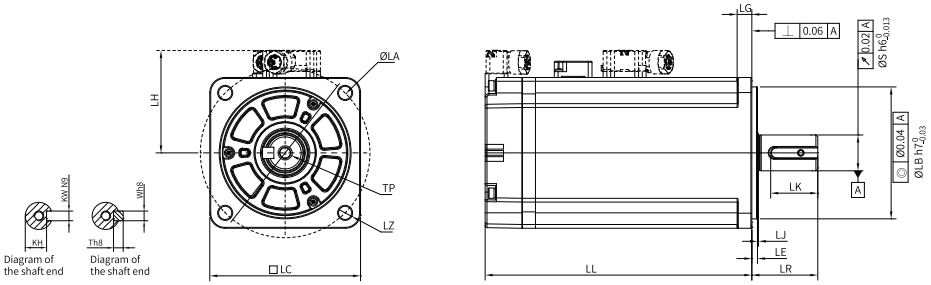
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

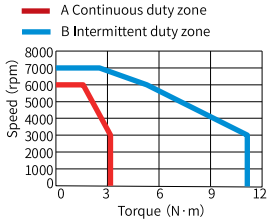


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	107.3 (141.5)	25±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.22 (2.88)

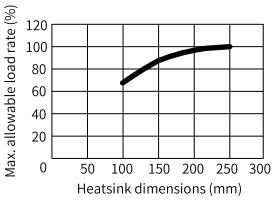
4.2.15 MS1H1-10C30CB-A6/S63*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Low inertia, small capacity	
Rated power (kW)	1.0	
Voltage (V)	220	
Rated torque (N·m)	3.18	
Maximum torque (N·m)	11.13	
Rated current (Arms)	6.2	
Maximum current (Arms)	24	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.46	
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.82
	Motor with brake	0.87

Torque-Speed characteristics



Heatsink-based derating curve



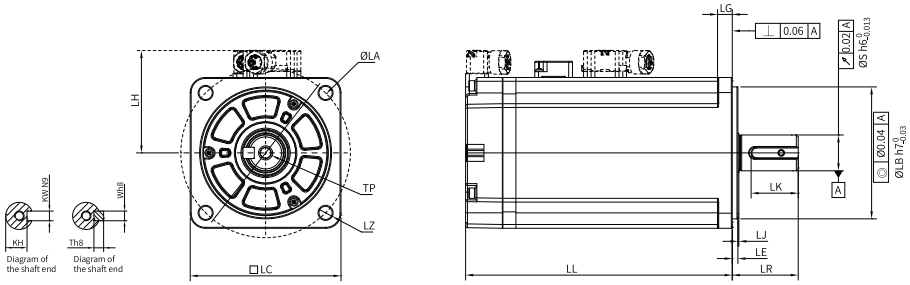
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

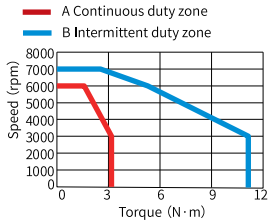
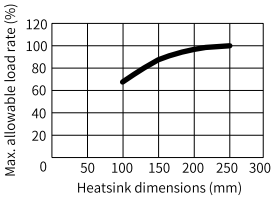
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	119.2 (153.4)	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.61 (3.27)

4.2.16 MS1H1-10C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Low inertia, small capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	11.13		
Rated current (Arms)	6.2		Heatsink-based derating curve
Maximum current (Arms)	24		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.82	
	Motor with brake	0.87	

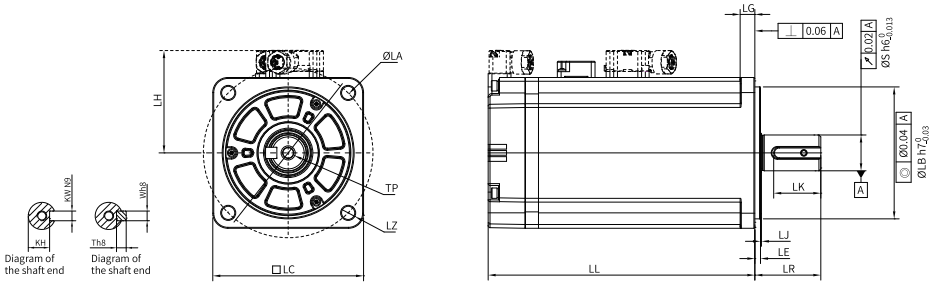
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

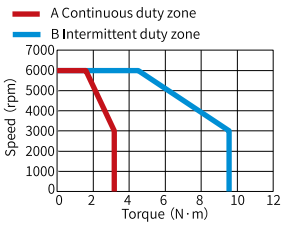
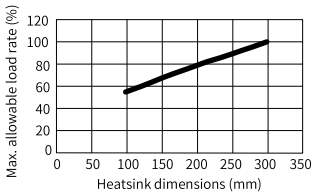
Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	119.2 (153.4)	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.61 (3.27)

4.3 MS1H2 Motors with Low Inertia and Small Capacity

4.3.1 MS1H2-10C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	6.4		Heatsink-based derating curve
Maximum current (Arms)	23		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.54		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

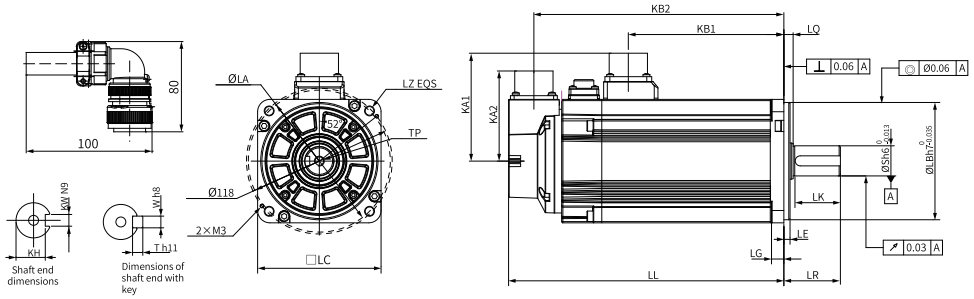
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

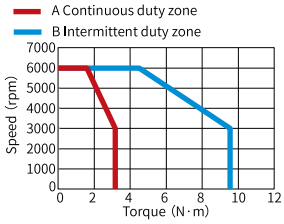
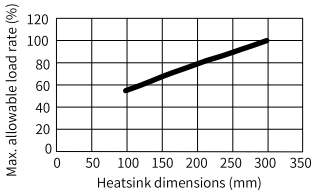
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	73	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.2 MS1H2-10C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	6.4		Heatsink-based derating curve
Maximum current (Arms)	23		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.54		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

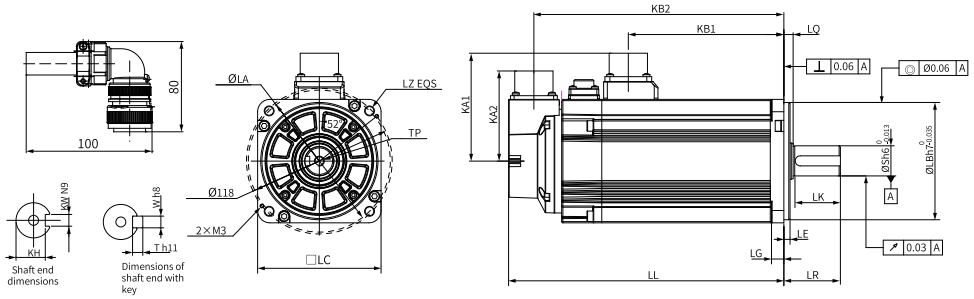
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

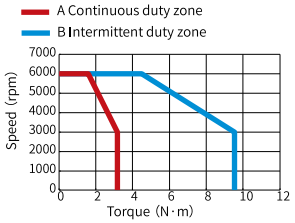
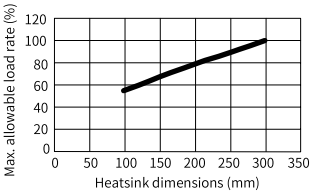
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	73	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.3 MS1H2-10C30CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	6.4		Heatsink-based derating curve
Maximum current (Arms)	23		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.54		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

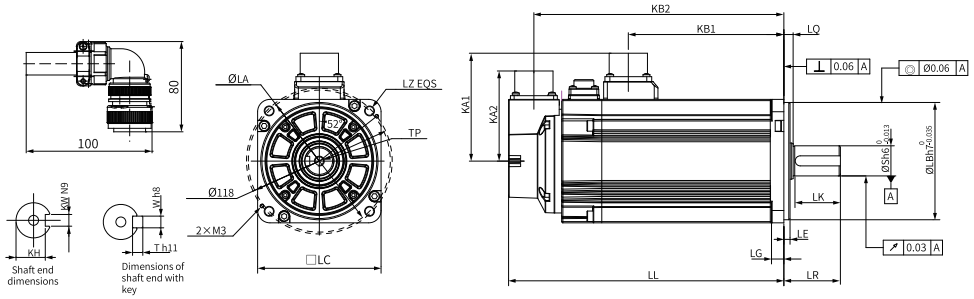
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

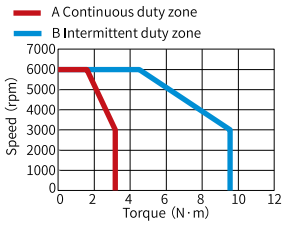
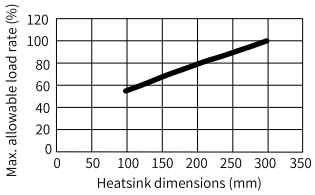
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	74	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.4 MS1H2-10C30CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	380		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	3.3		Heatsink-based derating curve
Maximum current (Arms)	11		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.07		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

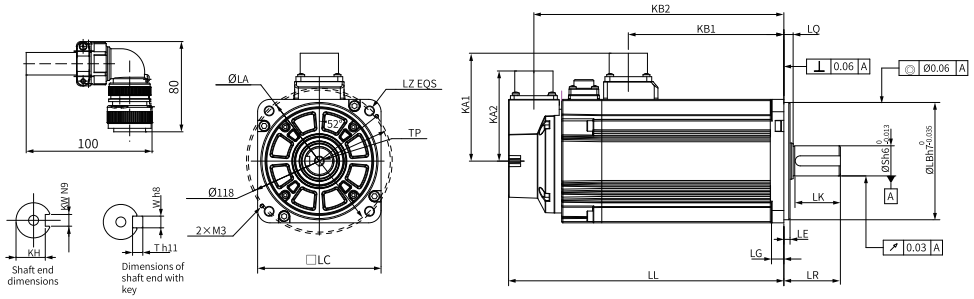
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

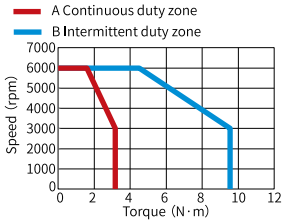
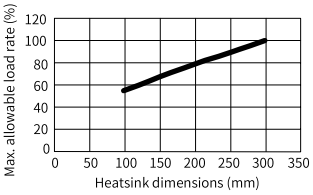
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	73	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.5 MS1H2-10C30CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	380		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	3.3		Heatsink-based derating curve
Maximum current (Arms)	11		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.07		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

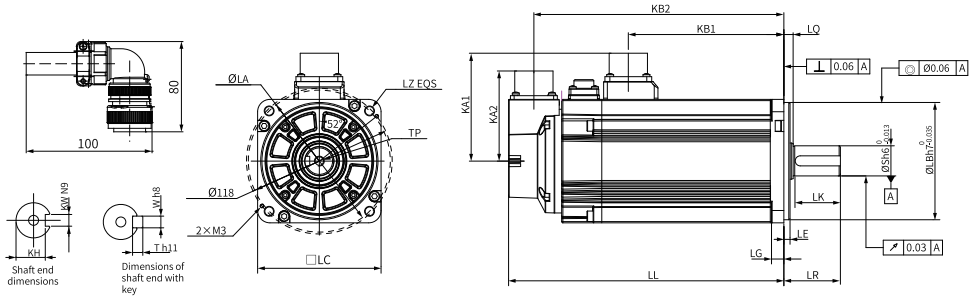
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

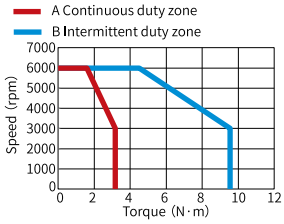
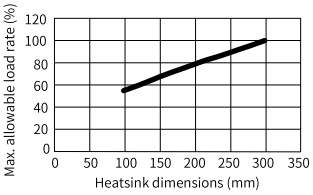
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	73	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.6 MS1H2-10C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.0		
Voltage (V)	380		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	3.3		Heatsink-based derating curve
Maximum current (Arms)	11		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.07		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.78	
	Motor with brake	2.6	

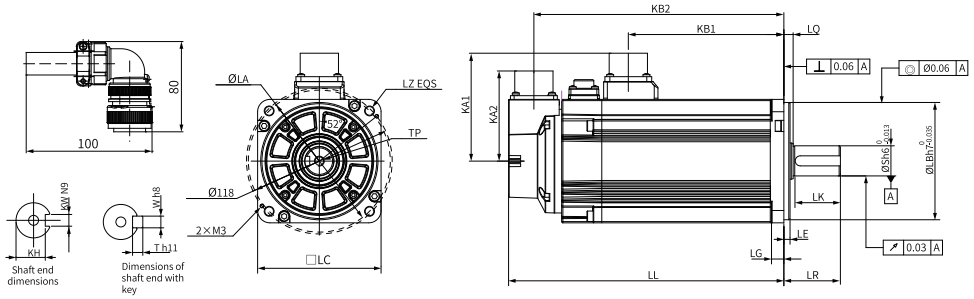
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

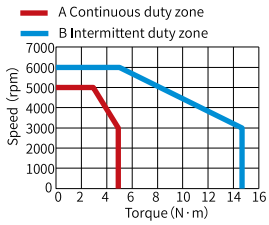
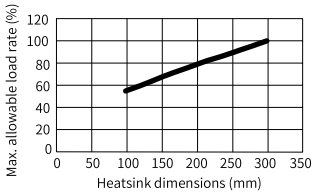
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	144 (172)	45±1	115	4-Ø7	88	75	74	123.5 (151.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	3.85 (4.9)

4.3.7 MS1H2-15C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	220		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	8.6		Heatsink-based derating curve
Maximum current (Arms)	32		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.62		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

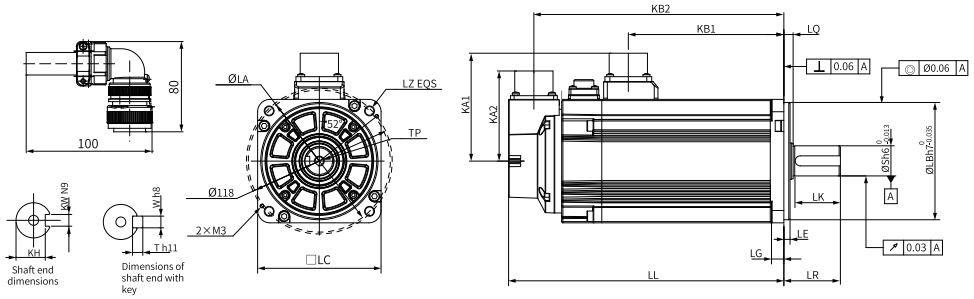
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

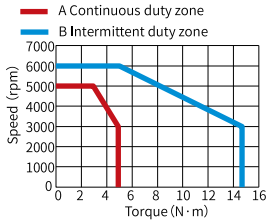
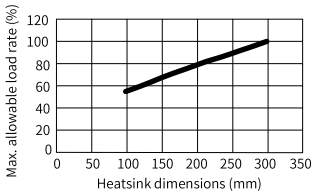
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	73	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.8 MS1H2-15C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	220		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	8.6		Heatsink-based derating curve
Maximum current (Arms)	32		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.62		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

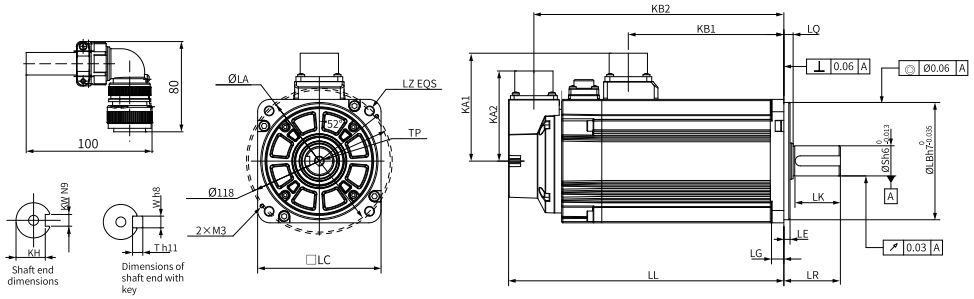
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

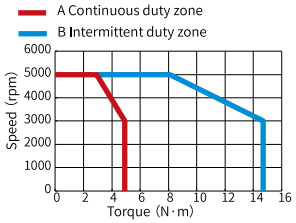
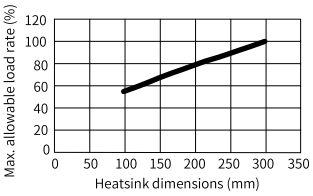
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	73	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.9 MS1H2-15C30CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	220		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	8.6		Heatsink-based derating curve
Maximum current (Arms)	32		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	0.62		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

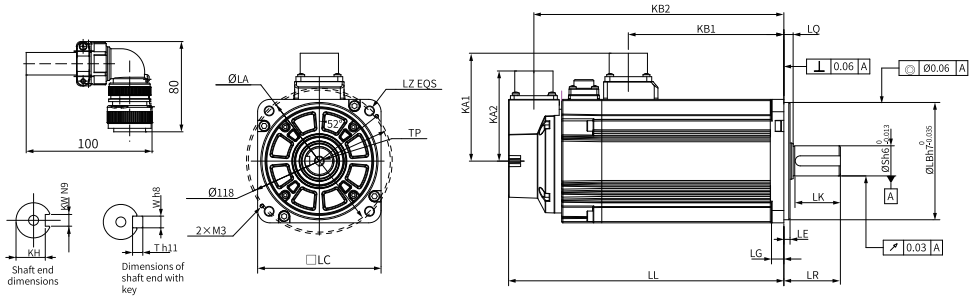
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

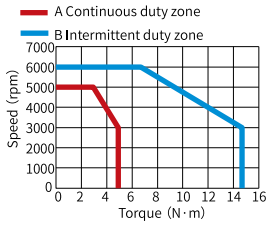
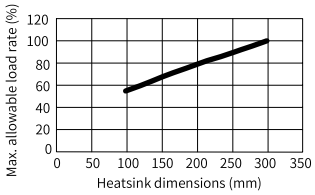
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	74	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.10 MS1H2-15C30CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	380		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	4.2		Heatsink-based derating curve
Maximum current (Arms)	14		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.28		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

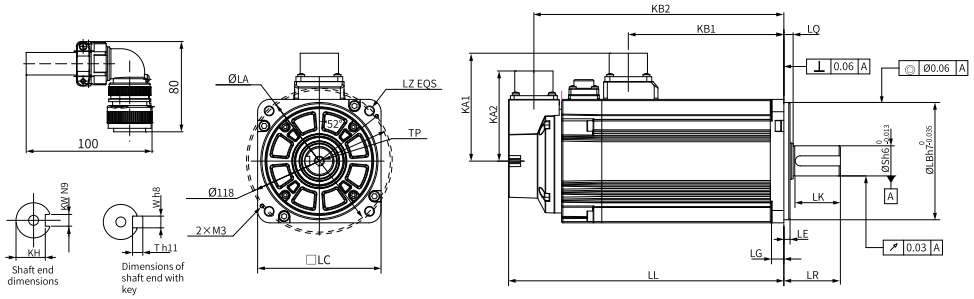
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

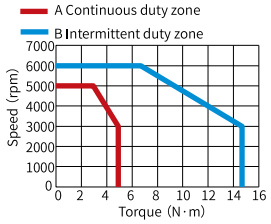
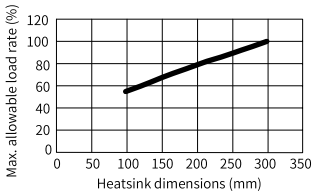
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	73	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.11 MS1H2-15C30CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	380		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	4.2		Heatsink-based derating curve
Maximum current (Arms)	14		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.28		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

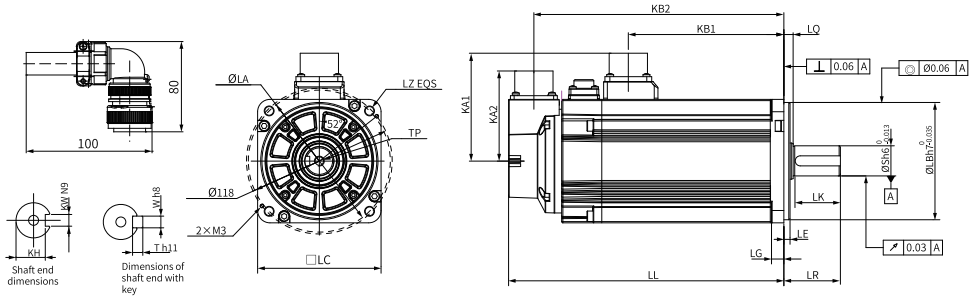
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

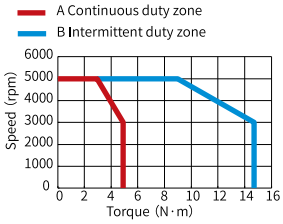
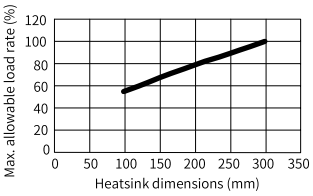
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	73	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.12 MS1H2-15C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	1.5		
Voltage (V)	380		
Rated torque (N·m)	4.9		
Maximum torque (N·m)	14.7		
Rated current (Arms)	4.2		Heatsink-based derating curve
Maximum current (Arms)	14		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	1.28		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.35	
	Motor with brake	3.17	

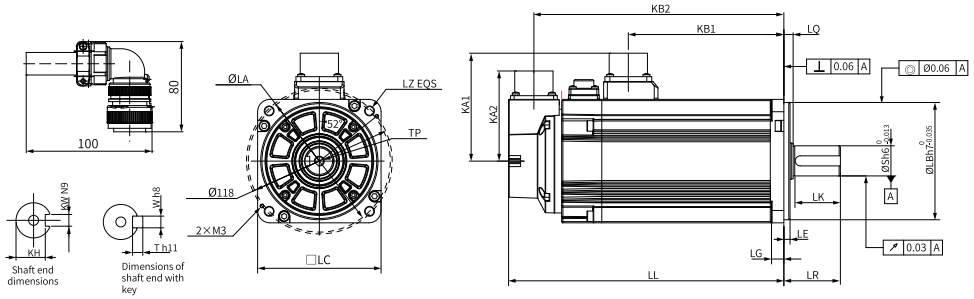
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

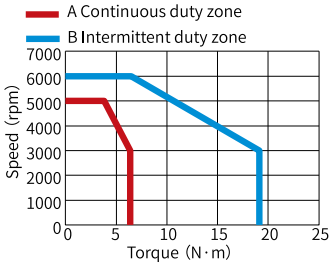
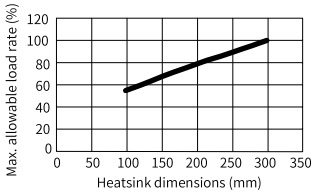
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	161 (189)	45±1	115	4-Ø7	88	92	74	140.5 (168.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	4.65 (5.75)

4.3.13 MS1H2-20C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	220		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	19.1		
Rated current (Arms)	11.3		Heatsink-based derating curve
Maximum current (Arms)	42		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.60		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

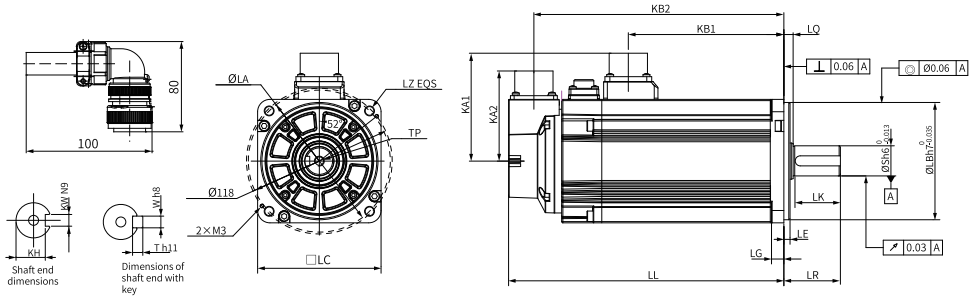
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

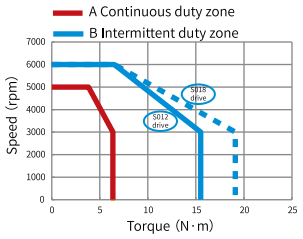
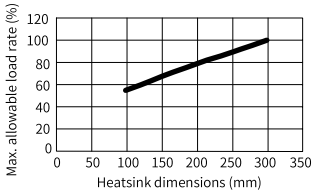
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	73	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.14 MS1H2-20C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	220		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	19.1		
Rated current (Arms)	11.3		Heatsink-based derating curve
Maximum current (Arms)	42		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.60		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

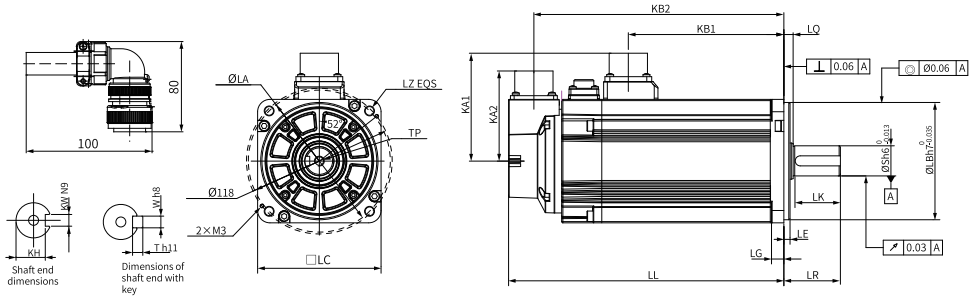
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

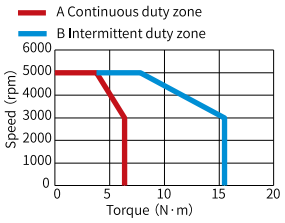
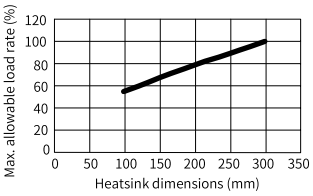
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	73	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.15 MS1H2-20C30CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	220		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	15.5		
Rated current (Arms)	11.3		Heatsink-based derating curve
Maximum current (Arms)	32		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	0.60		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

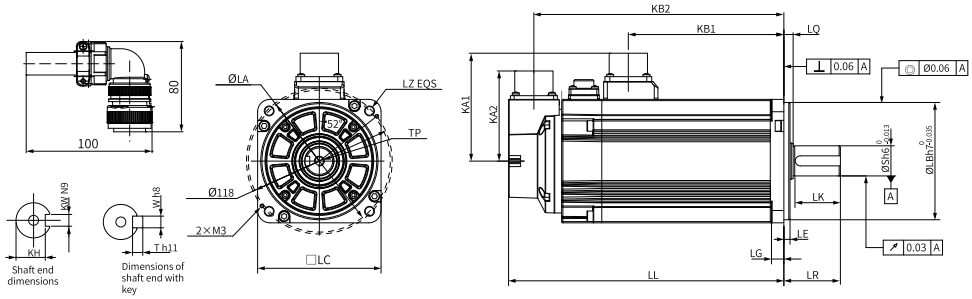
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

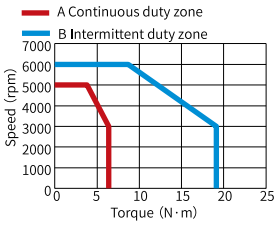
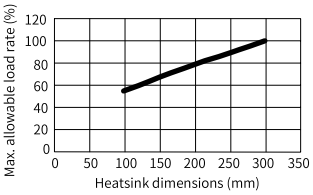
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	74	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.16 MS1H2-20C30CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	380		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	19.1		
Rated current (Arms)	5.6		Heatsink-based derating curve
Maximum current (Arms)	20		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.19		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

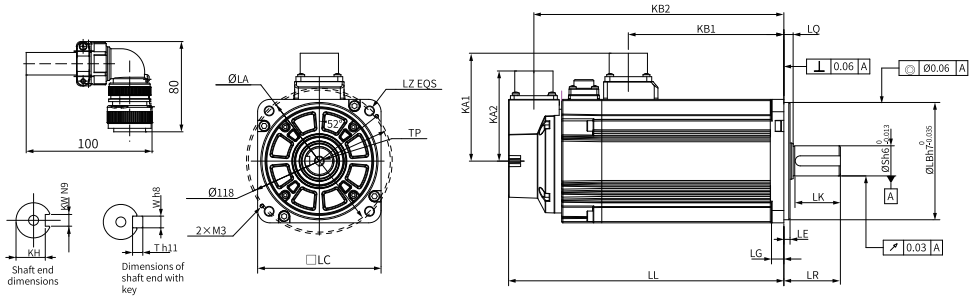
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

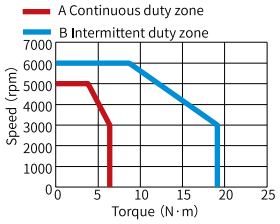
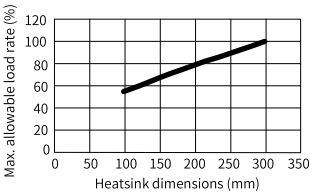
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	73	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.17 MS1H2-20C30CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	380		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	19.1		
Rated current (Arms)	5.6		Heatsink-based derating curve
Maximum current (Arms)	20		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.19		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

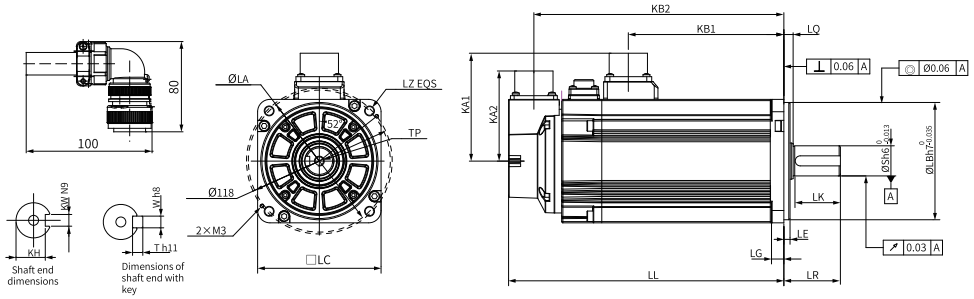
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

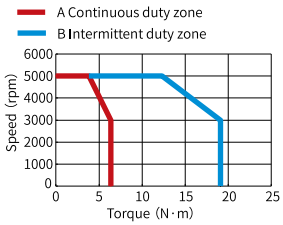
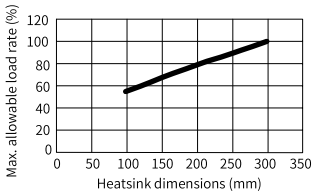
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	73	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.18 MS1H2-20C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.0		
Voltage (V)	380		
Rated torque (N·m)	6.36		
Maximum torque (N·m)	19.1		
Rated current (Arms)	5.6		Heatsink-based derating curve
Maximum current (Arms)	20		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	1.19		
Rotor moment of inertia (kg·cm^2)	Motor without brake	2.92	
	Motor with brake	3.74	

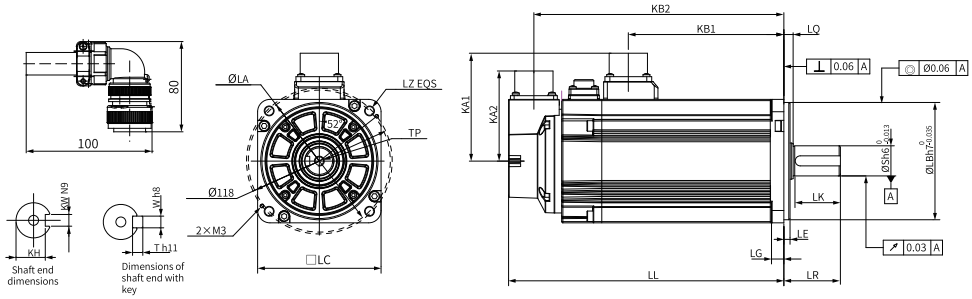
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

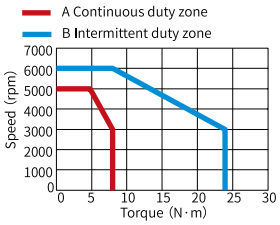
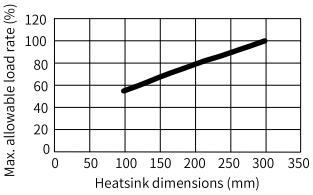
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	177 (205)	45±1	115	4-Ø7	88	108	74	156.5 (184.5)	10	5±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	5.5 (6.55)

4.3.19 MS1H2-25C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.5		
Voltage (V)	220		
Rated torque (N·m)	7.96		
Maximum torque (N·m)	23.9		
Rated current (Arms)	14.7		Heatsink-based derating curve
Maximum current (Arms)	53		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.60		
Rotor moment of inertia (kg·cm^2)	Motor without brake	3.49	
	Motor with brake	4.3	

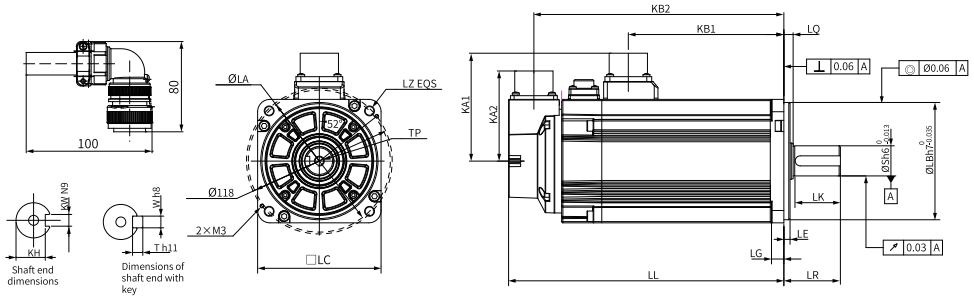
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

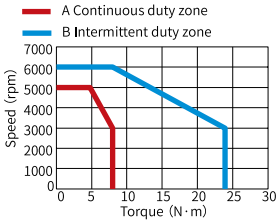
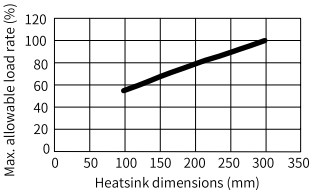
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	195 (223)	45±1	115	4-Ø7	88	126	73	174.5 (202.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	6.3 (7.35)

4.3.20 MS1H2-25C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.5		
Voltage (V)	220		
Rated torque (N·m)	7.96		
Maximum torque (N·m)	23.9		
Rated current (Arms)	14.7		Heatsink-based derating curve
Maximum current (Arms)	53		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.60		
Rotor moment of inertia (kg·cm^2)	Motor without brake	3.49	
	Motor with brake	4.3	

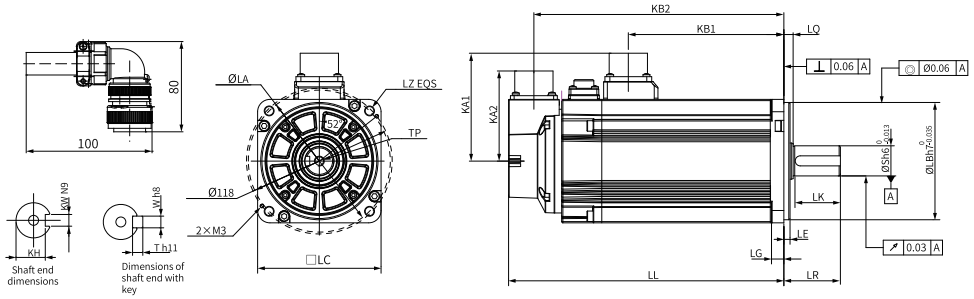
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

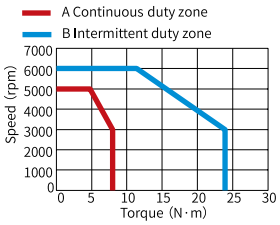
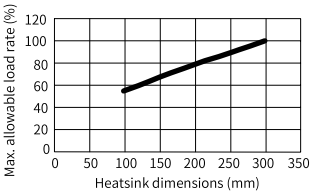
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	195 (223)	45±1	115	4-Ø7	88	126	73	174.5 (202.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	6.3 (7.35)

4.3.21 MS1H2-25C30CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.5		
Voltage (V)	380		
Rated torque (N·m)	7.96		
Maximum torque (N·m)	23.9		
Rated current (Arms)	7.2		Heatsink-based derating curve
Maximum current (Arms)	26		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.18		
Rotor moment of inertia (kg·cm^2)	Motor without brake	3.49	
	Motor with brake	4.3	

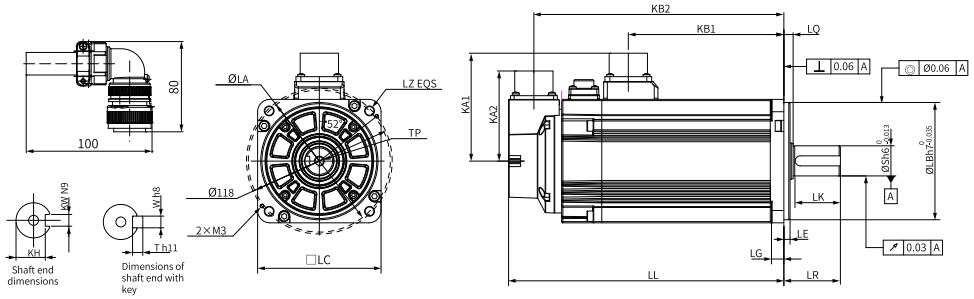
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

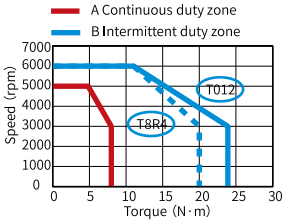
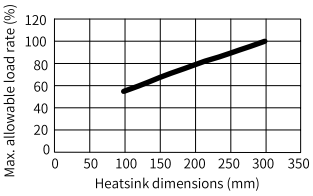
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	195 (223)	45±1	115	4-Ø7	88	126	73	174.5 (202.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8x16	36	20$^{0}_{-0.2}$	8	8	7	6.3 (7.35)

4.3.22 MS1H2-25C30CD-A33*R

Motor model			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.5		
Voltage (V)	380		
Rated torque (N·m)	7.96		
Maximum torque (N·m)	23.9		
Rated current (Arms)	7.2		Heatsink-based derating curve
Maximum current (Arms)	26		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.18		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	3.49	
	Brake motor	4.3	

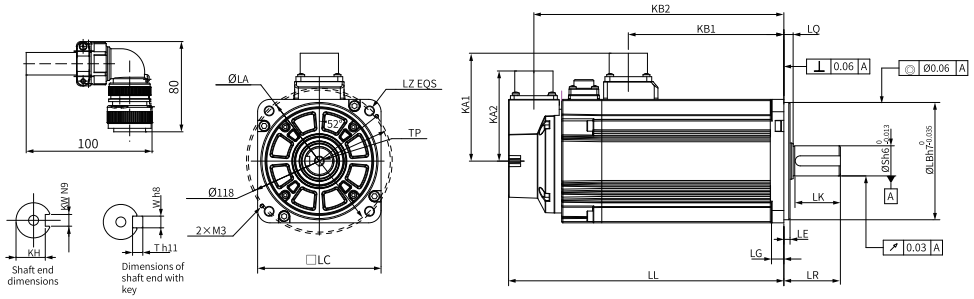
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Coil resistance (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

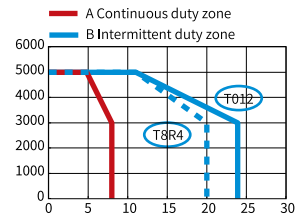
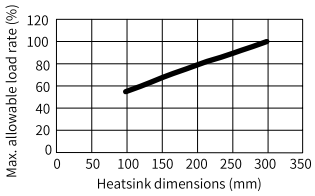
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Product dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	195 (223)	45±1	115	4-Ø7	88	126	73	174.5 (202.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8×16	36	20$^{0}_{-0.2}$	8	8	7	6.3 (7.35)

4.3.23 MS1H2-25C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	100		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	2.5		
Voltage (V)	380		
Rated torque (N·m)	7.96		
Maximum torque (N·m)	23.9		
Rated current (Arms)	7.2		Heatsink-based derating curve
Maximum current (Arms)	26		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	1.18		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	3.49	
	Brake motor	4.3	

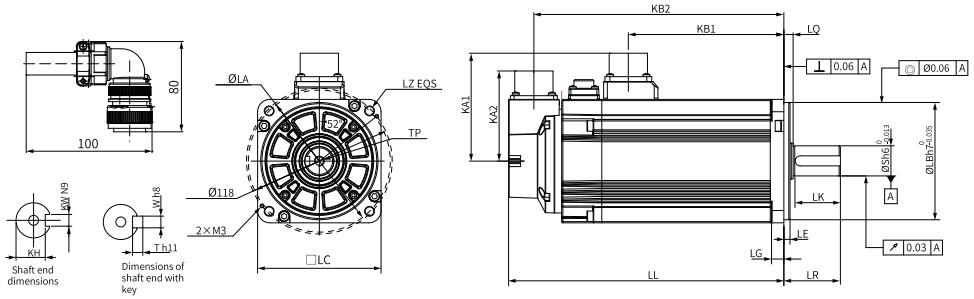
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
8	24	17.6	32.73	0.73	⩽ 100	⩽ 40	⩽ 1

Allowable load

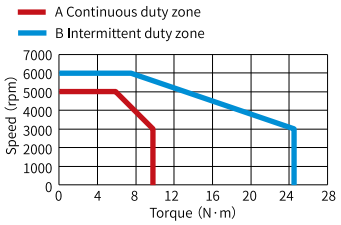
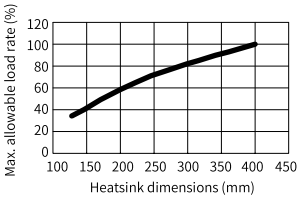
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
45	686	196

Product dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
100	195 (223)	45±1	115	4-Ø7	88	126	74	174.5 (202.5)	10	5±0.3
LQ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
7.5±0.75	Ø95h7$^{0}_{-0.035}$		24	M8×16	36	20$^{0}_{-0.2}$	8	8	7	6.3 (7.35)

4.3.24 MS1H2-30C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	3.0		
Voltage (V)	220		
Rated torque (N·m)	9.8		
Maximum torque (N·m)	24.5		
Rated current (Arms)	16.6		Heatsink-based derating curve
Maximum current (Arms)	55		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.67		
Rotor moment of inertia (kg·cm^2)	Motor without brake	6.4	
	Motor with brake	9.38	

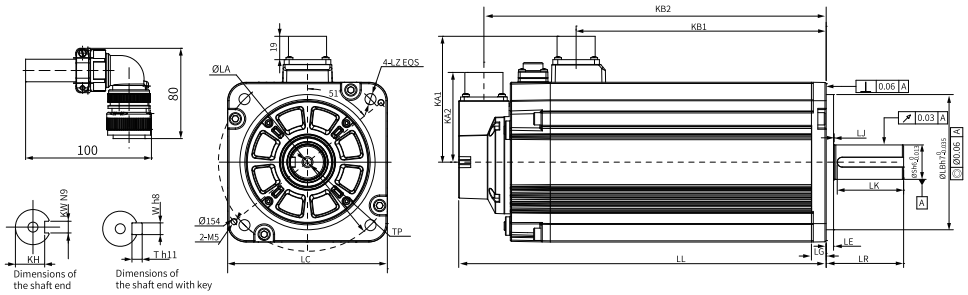
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

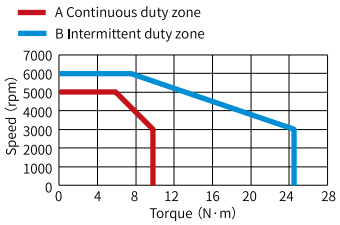


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	198 (223)	63±1	145	4-Ø9	102.4	127.5	73	177.5 (202.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	10.0 (11.9)

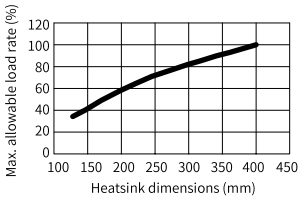
4.3.25 MS1H2-30C30CB-A33*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	3.0	
Voltage (V)	220	
Rated torque (N·m)	9.8	
Maximum torque (N·m)	24.5	
Rated current (Arms)	16.6	
Maximum current (Arms)	55	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.67	
Rotor moment of inertia (kg·cm^2)	Motor without brake	6.4
	Motor with brake	9.38

Torque-Speed characteristics



Heatsink-based derating curve



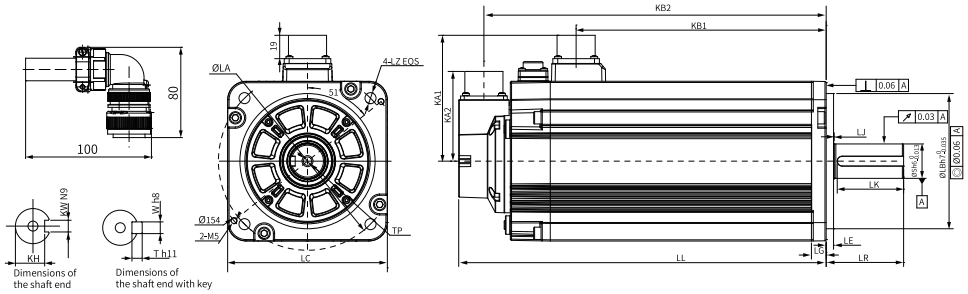
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

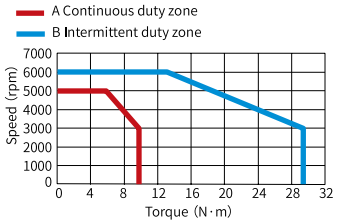


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	198 (223)	63±1	145	4-Ø9	102.4	127.5	73	177.5 (202.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	10.0 (11.9)

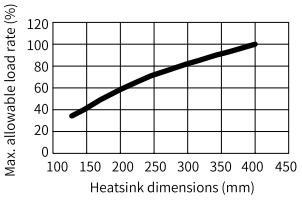
4.3.26 MS1H2-30C30CD-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	3.0	
Voltage (V)	380	
Rated torque (N·m)	9.8	
Maximum torque (N·m)	29.4	
Rated current (Arms)	8.9	
Maximum current (Arms)	29	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	1.25	
Rotor moment of inertia (kg·cm^2)	Motor without brake	6.4
	Motor with brake	9.38

Torque-Speed characteristics



Heatsink-based derating curve



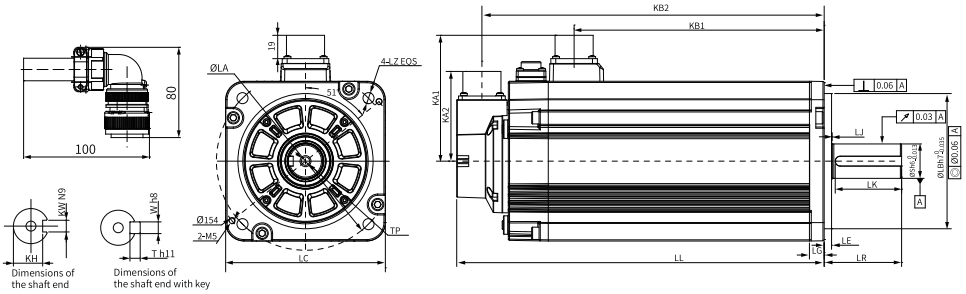
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

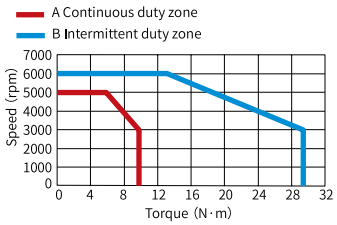


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	198 (223)	63±1	145	4-Ø9	102.4	127.5	73	177.5 (202.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	10.0 (11.9)

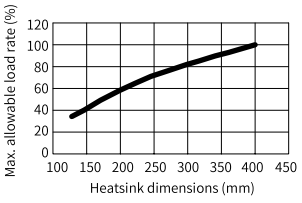
4.3.27 MS1H2-30C30CD-A33*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	3.0	
Voltage (V)	380	
Rated torque (N·m)	9.8	
Maximum torque (N·m)	29.4	
Rated current (Arms)	8.9	
Maximum current (Arms)	29	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	1.25	
Rotor moment of inertia (kg·cm^2)	Motor without brake	6.4
	Motor with brake	9.38

Torque-Speed characteristics



Heatsink-based derating curve



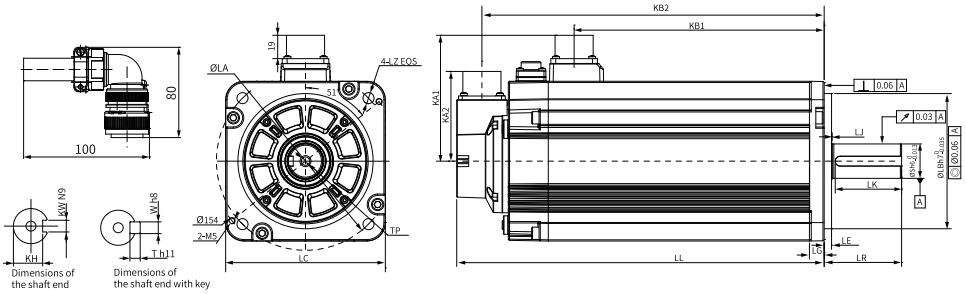
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

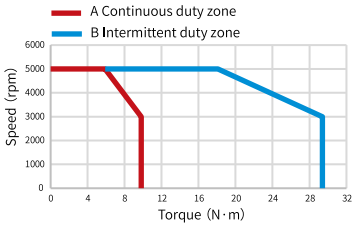


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	198 (223)	63±1	145	4-Ø9	102.4	127.5	73	177.5 (202.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	10.0 (11.9)

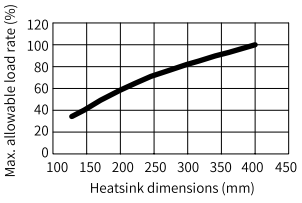
4.3.28 MS1H2-30C30CD-T33*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	3.0	
Voltage (V)	380	
Rated torque (N·m)	9.8	
Maximum torque (N·m)	29.4	
Rated current (Arms)	8.9	
Maximum current (Arms)	29	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	1.25	
Rotor moment of inertia (kg·cm^2)	Motor without brake	6.4
	Motor with brake	9.38

Torque-Speed characteristics



Heatsink-based derating curve



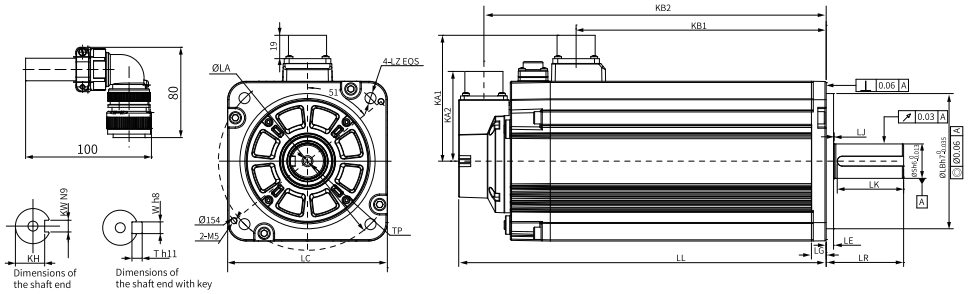
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

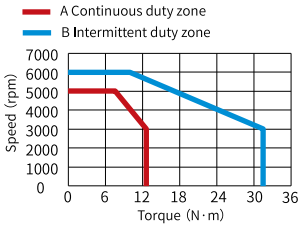


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	198 (223)	63±1	145	4-Ø9	102.4	127.5	74	177.5 (202.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	10.0 (11.9)

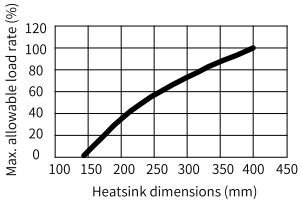
4.3.29 MS1H2-40C30CB-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	4.0	
Voltage (V)	220	
Rated torque (N·m)	12.6	
Maximum torque (N·m)	31.5	
Rated current (Arms)	22	
Maximum current (Arms)	67.5	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.65	
Rotor moment of inertia (kg·cm^2)	Motor without brake	9
	Motor with brake	11.98

Torque-Speed characteristics



Heatsink-based derating curve



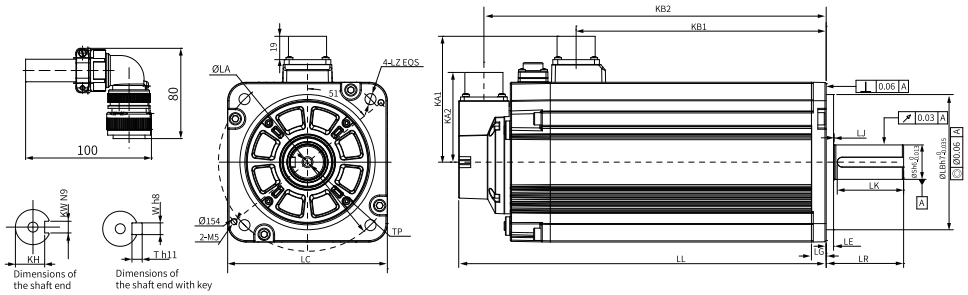
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

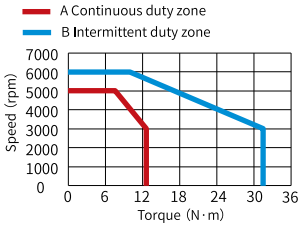
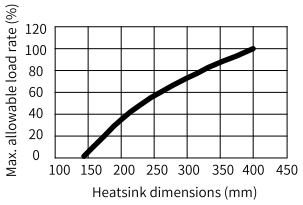
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	236 (261)	63±1	145	4-Ø9	102.4	165.5	73	215.5 (240.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	13.2 (15.1)

4.3.30 MS1H2-40C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	4.0		
Voltage (V)	220		
Rated torque (N·m)	12.6		
Maximum torque (N·m)	31.5		
Rated current (Arms)	22		Heatsink-based derating curve
Maximum current (Arms)	67.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.65		
Rotor moment of inertia (kg·cm^2)	Motor without brake	9	
	Motor with brake	11.98	

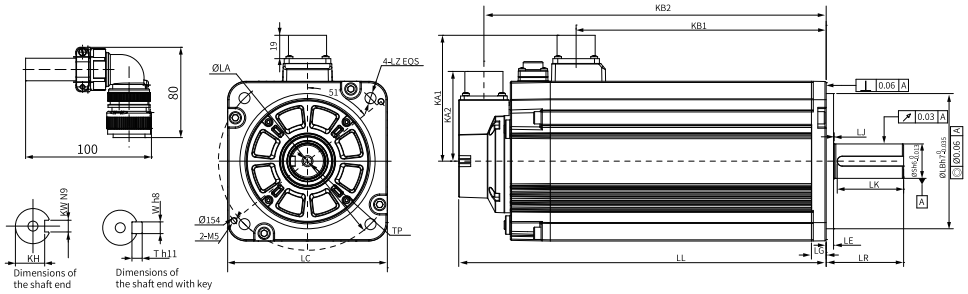
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

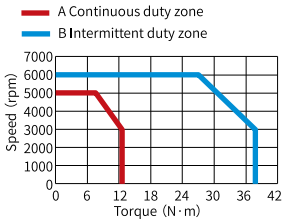
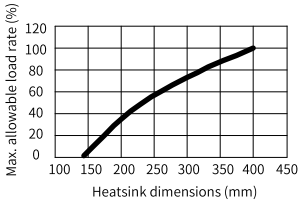
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	236 (261)	63±1	145	4-Ø9	102.4	165.5	73	215.5 (240.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	13.2 (15.1)

4.3.31 MS1H2-40C30CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	4.0		
Voltage (V)	380		
Rated torque (N·m)	12.6		
Maximum torque (N·m)	37.8		
Rated current (Arms)	13.5		Heatsink-based derating curve
Maximum current (Arms)	42.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.06		
Rotor moment of inertia (kg·cm^2)	Motor without brake	9	
	Motor with brake	11.98	

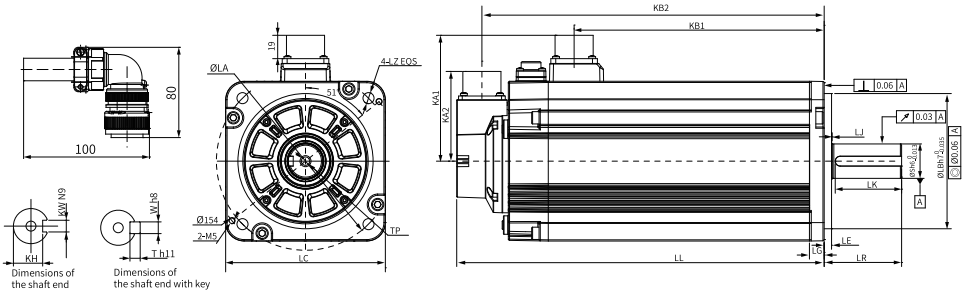
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

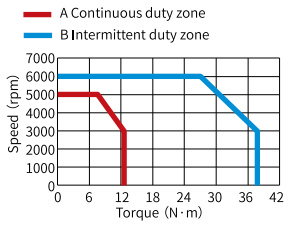
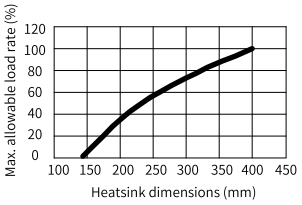
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	236 (261)	63±1	145	4-Ø9	102.4	165.5	73	215.5 (240.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	13.2 (15.1)

4.3.32 MS1H2-40C30CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	4.0		
Voltage (V)	380		
Rated torque (N·m)	12.6		
Maximum torque (N·m)	37.8		
Rated current (Arms)	13.5		Heatsink-based derating curve
Maximum current (Arms)	42.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.06		
Rotor moment of inertia (kg·cm^2)	Motor without brake	9	
	Motor with brake	11.98	

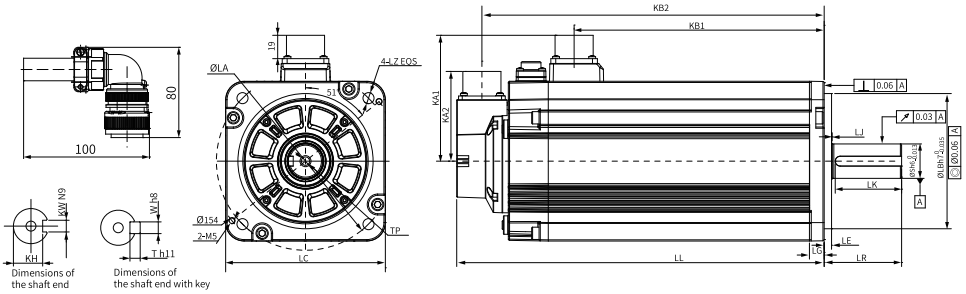
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

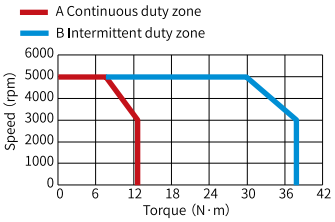
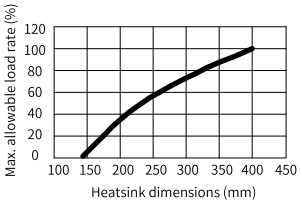
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	236 (261)	63±1	145	4-Ø9	102.4	165.5	73	215.5 (240.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	13.2 (15.1)

4.3.33 MS1H2-40C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	4.0		
Voltage (V)	380		
Rated torque (N·m)	12.6		
Maximum torque (N·m)	37.8		
Rated current (Arms)	13.5		Heatsink-based derating curve
Maximum current (Arms)	42.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	1.06		
Rotor moment of inertia (kg·cm^2)	Motor without brake	9	
	Motor with brake	11.98	

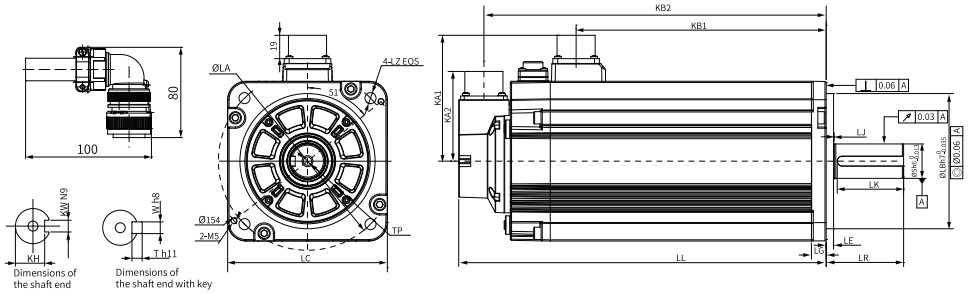
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

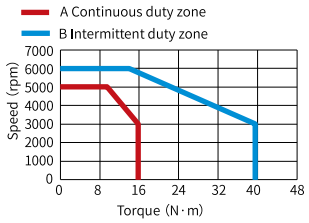
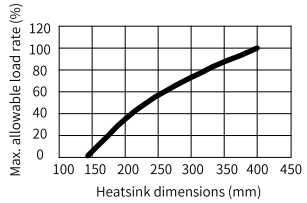
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	236 (261)	63±1	145	4-Ø9	102.4	165.5	74	215.5 (240.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	13.2 (15.1)

4.3.34 MS1H2-50C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	5.0		
Voltage (V)	220		
Rated torque (N·m)	15.8		
Maximum torque (N·m)	39.5		
Rated current (Arms)	22		Heatsink-based derating curve
Maximum current (Arms)	67.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.81		
Rotor moment of inertia (kg·cm^2)	Motor without brake	11.6	
	Motor with brake	14.58	

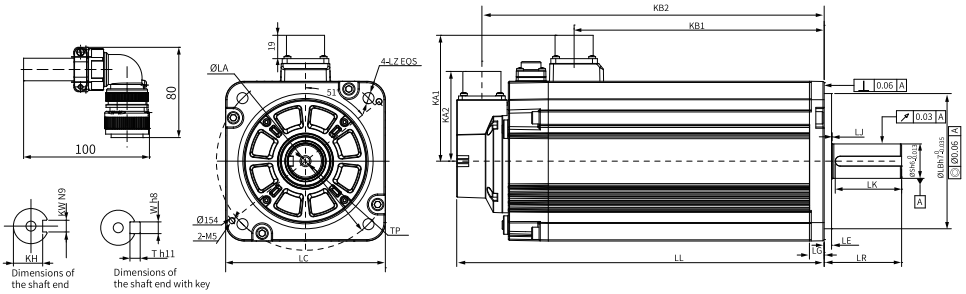
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

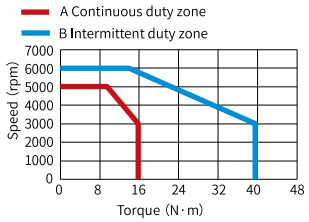
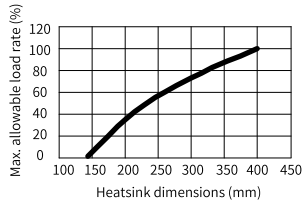
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	274 (299)	63±1	145	4-Ø9	102.4	203.5	73	253.5 (278.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	16.35 (18.25)

4.3.35 MS1H2-50C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	5.0		
Voltage (V)	220		
Rated torque (N·m)	15.8		
Maximum torque (N·m)	39.5		
Rated current (Arms)	22		Heatsink-based derating curve
Maximum current (Arms)	67.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.81		
Rotor moment of inertia (kg·cm^2)	Motor without brake	11.6	
	Motor with brake	14.58	

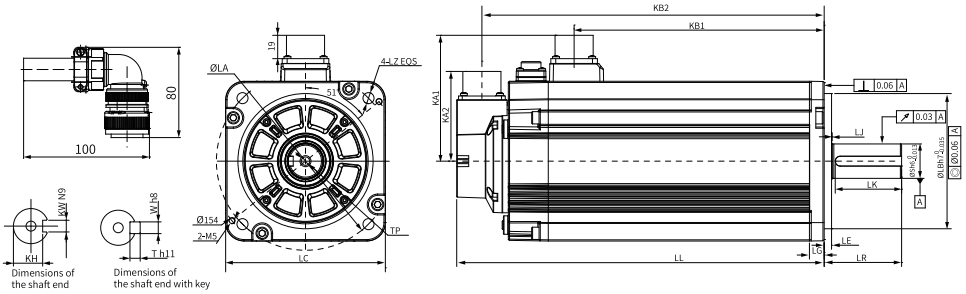
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)

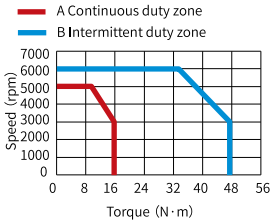


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	274 (299)	63±1	145	4-Ø9	102.4	203.5	73	253.5 (278.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	16.35 (18.25)

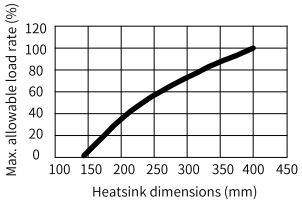
4.3.36 MS1H2-50C30CD-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Low inertia, medium capacity	
Rated power (kW)	5.0	
Voltage (V)	380	
Rated torque (N·m)	15.8	
Maximum torque (N·m)	47.4	
Rated current (Arms)	17	
Maximum current (Arms)	52.5	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	1.04	
Rotor moment of inertia (kg·cm^2)	Motor without brake	11.6
	Motor with brake	14.58

Torque-Speed characteristics



Heatsink-based derating curve



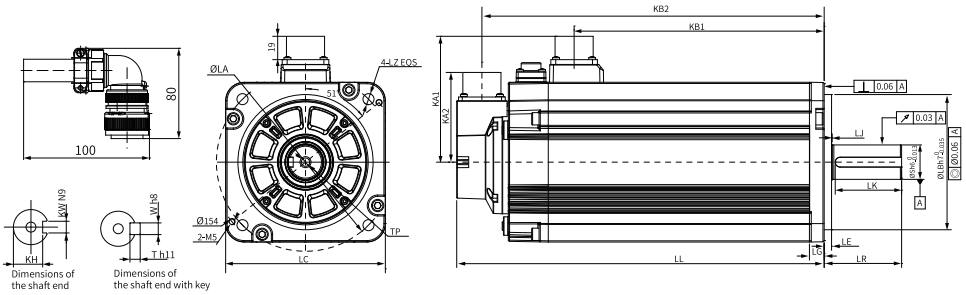
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

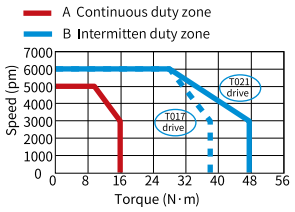
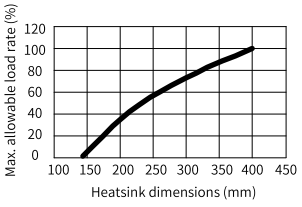
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	274 (299)	63±1	145	4-Ø9	102.4	203.5	73	253.5 (278.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8 × 20	54	24$^{0}_{-0.2}$	8	8	7	16.35 (18.25)

4.3.37 MS1H2-50C30CD-A33*R

Motor model			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	5.0		
Voltage (V)	380		
Rated torque (N·m)	15.8		
Maximum torque (N·m)	47.4		
Rated current (Arms)	17		Heatsink-based derating curve
Maximum current (Arms)	52.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	1.04		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	11.6	
	Brake motor	14.58	

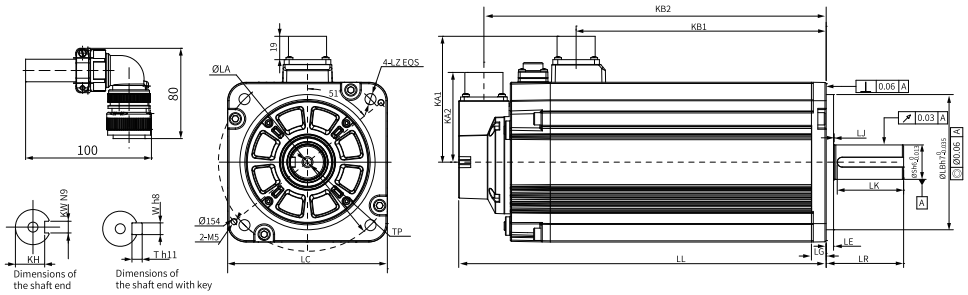
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Coil resistance (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

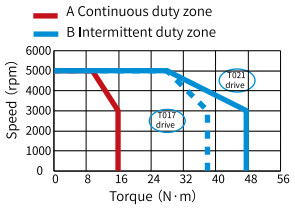
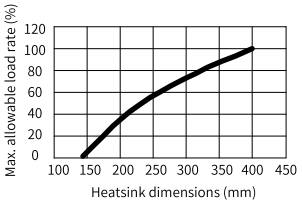
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

Product dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	274 (299)	63±1	145	4-Ø9	102.4	203.5	73	253.5 (278.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8×20	54	24$^{0}_{-0.2}$	8	8	7	16.35 (18.25)

4.3.38 MS1H2-50C30CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Low inertia, medium capacity		
Rated power (kW)	5.0		
Voltage (V)	380		
Rated torque (N·m)	15.8		
Maximum torque (N·m)	47.4		
Rated current (Arms)	17		Heatsink-based derating curve
Maximum current (Arms)	52.5		
Rated speed (rpm)	3000		
Maximum speed (rpm)	5000		
Torque coefficient (N·m/Arms)	1.04		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	11.6	
	Brake motor	14.58	

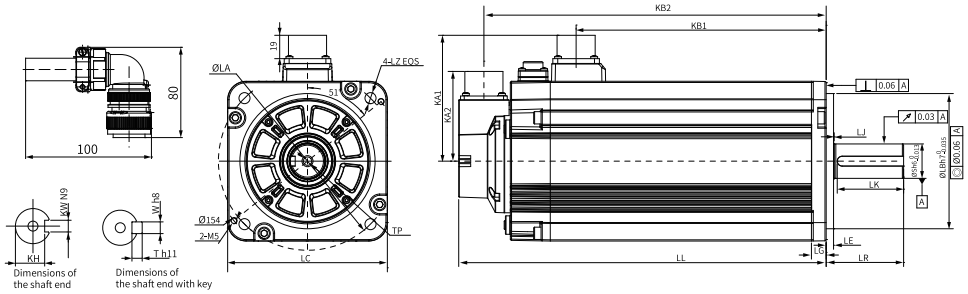
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
63	1176	392

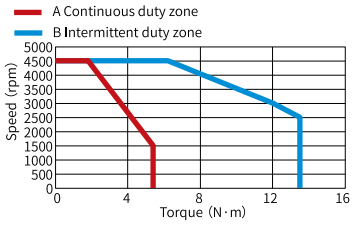
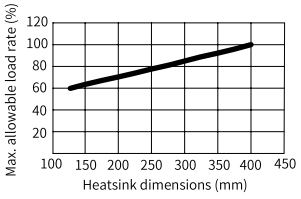
Product dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	274 (299)	63±1	145	4-Ø9	102.4	203.5	74	253.5 (278.5)	12	6±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		28	M8×20	54	24$^{0}_{-0.2}$	8	8	7	16.35 (18.25)

4.4 MS1H3 Motors with Medium Inertia and Medium Capacity

4.4.1 MS1H3-85B15CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	0.85		
Voltage (V)	220		
Rated torque (N·m)	5.39		
Maximum torque (N·m)	13.5		
Rated current (Arms)	6.6		Heatsink-based derating curve
Maximum current (Arms)	17.2		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	0.93		
Rotor moment of inertia (kg·cm^2)	Motor without brake	13.56	
	Motor with brake	15.8	

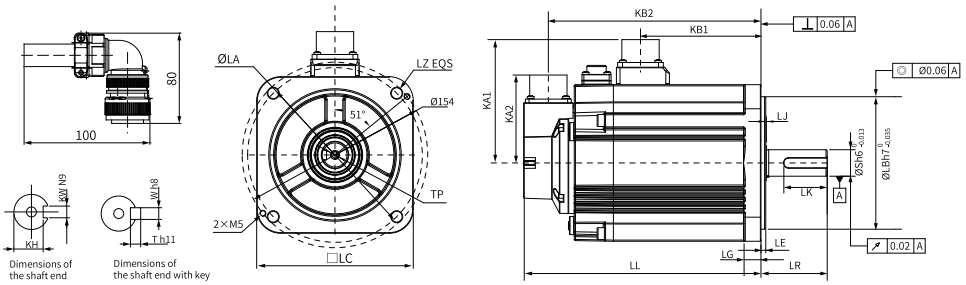
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



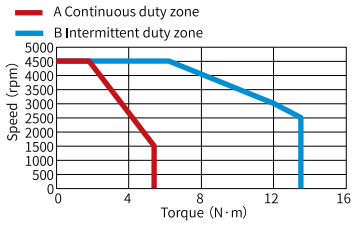
LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	73	121.5 (146.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$	22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	5.8 (7.7)

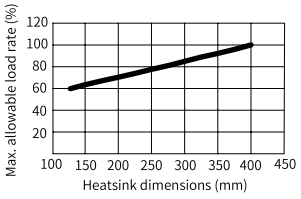
4.4.2 MS1H3-85B15CB-A33*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	0.85	
Voltage (V)	220	
Rated torque (N·m)	5.39	
Maximum torque (N·m)	13.5	
Rated current (Arms)	6.6	
Maximum current (Arms)	17.2	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	0.93	
Rotor moment of inertia (kg·cm^2)	Motor without brake	13.56
	Motor with brake	15.8

Torque-Speed characteristics



Heatsink-based derating curve



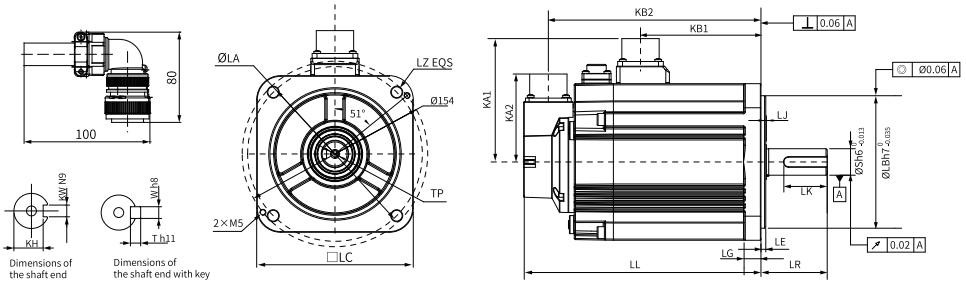
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

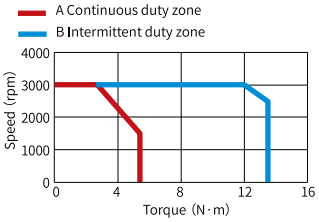
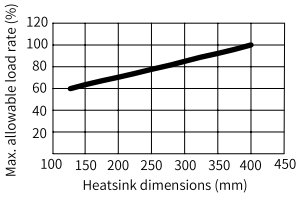
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	73	121.5 (146.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	5.8 (7.7)

4.4.3 MS1H3-85B15CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	0.85		
Voltage (V)	220		
Rated torque (N·m)	5.39		
Maximum torque (N·m)	13.5		
Rated current (Arms)	6.6		Heatsink-based derating curve
Maximum current (Arms)	17.2		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	0.93		
Rotor moment of inertia (kg·cm²)	Motor without brake	13.56	
	Motor with brake	15.8	

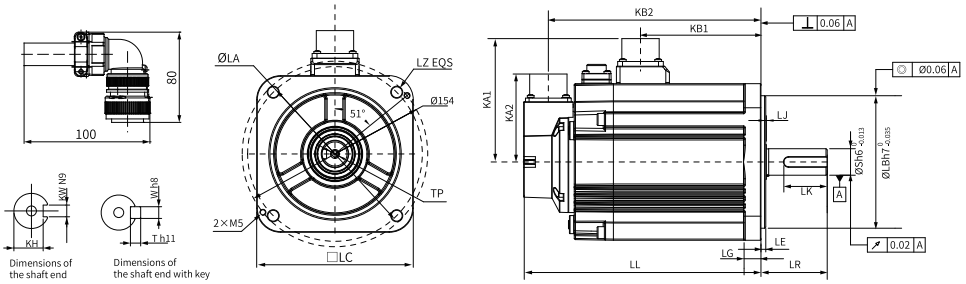
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



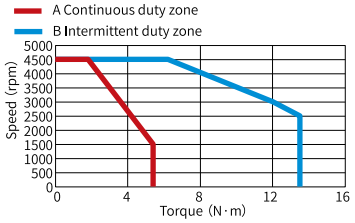
LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	74	121.5 (146.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$	22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	5.8 (7.7)

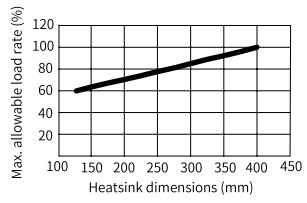
4.4.4 MS1H3-85B15CD-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	0.85	
Voltage (V)	380	
Rated torque (N·m)	5.39	
Maximum torque (N·m)	13.5	
Rated current (Arms)	3.5	
Maximum current (Arms)	8.5	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	1.84	
Rotor moment of inertia (kg·cm^2)	Motor without brake	13.56
	Motor with brake	15.8

Torque-Speed characteristics



Heatsink-based derating curve



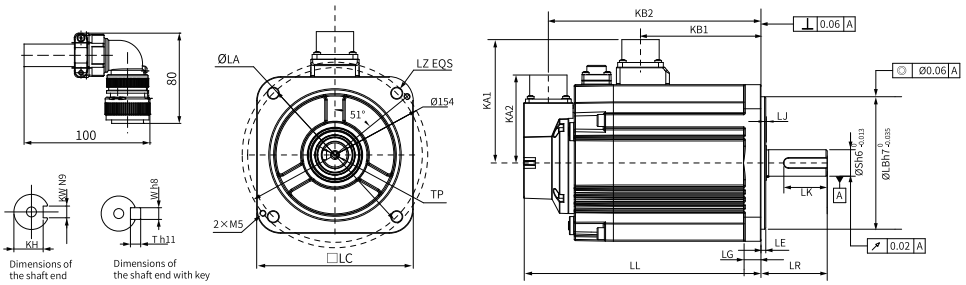
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

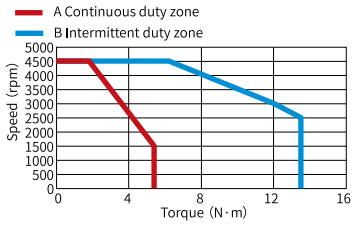
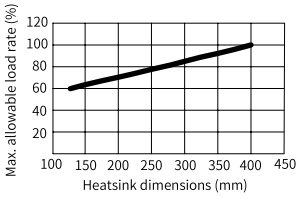
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	73	121.5 (146.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	5.8 (7.7)

4.4.5 MS1H3-85B15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	0.85		
Voltage (V)	380		
Rated torque (N·m)	5.39		
Maximum torque (N·m)	13.5		
Rated current (Arms)	3.5		Heatsink-based derating curve
Maximum current (Arms)	8.5		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.84		
Rotor moment of inertia ($kg·cm^2$)	Motor without brake	13.56	
	Motor with brake	15.8	

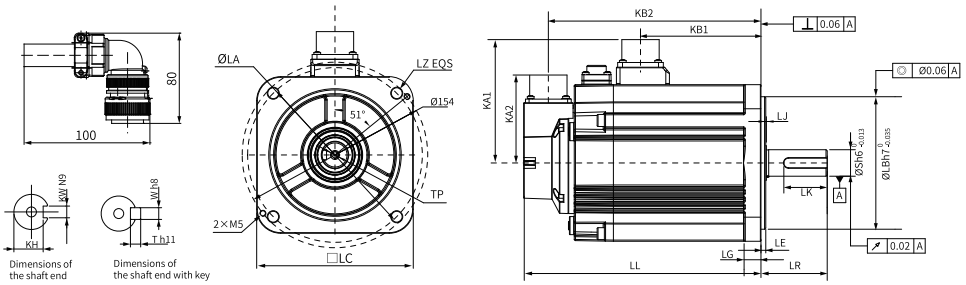
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

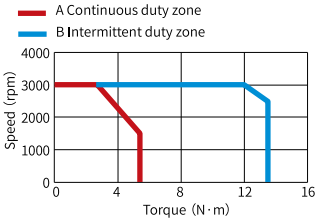
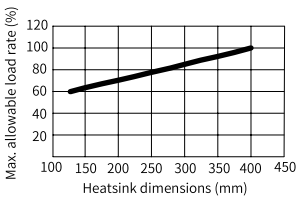
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	73	121.5 (146.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	5.8 (7.7)

4.4.6 MS1H3-85B15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	0.85		
Voltage (V)	380		
Rated torque (N·m)	5.39		
Maximum torque (N·m)	13.5		
Rated current (Arms)	3.5		Heatsink-based derating curve
Maximum current (Arms)	8.5		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.84		
Rotor moment of inertia ($kg·cm^2$)	Motor without brake	13.56	
	Motor with brake	15.8	

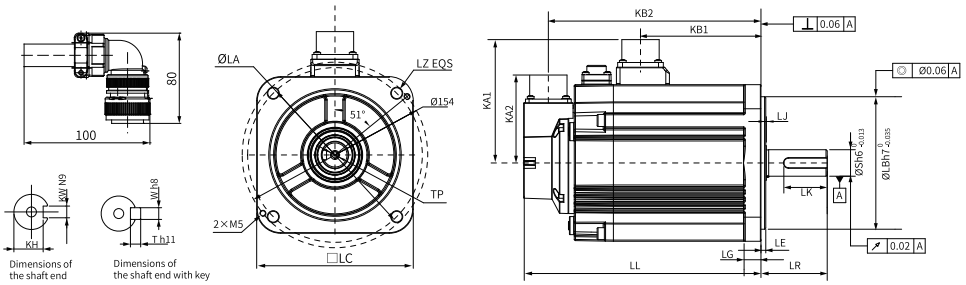
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)

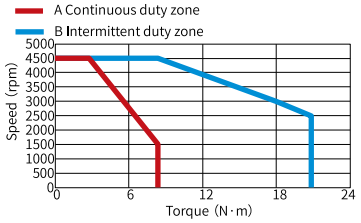


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	142 (167)	55±1	145	4-Ø9	103	70	74	121.5 (146.5)	14	4
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	5.8 (7.7)

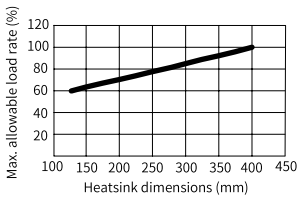
4.4.7 MS1H3-13C15CB-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	1.3	
Voltage (V)	220	
Rated torque (N·m)	8.34	
Maximum torque (N·m)	20.85	
Rated current (Arms)	10.5	
Maximum current (Arms)	27.3	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	0.89	
Rotor moment of inertia (kg·cm^2)	Motor without brake	19.25
	Motor with brake	21.5

Torque-Speed characteristics



Heatsink-based derating curve



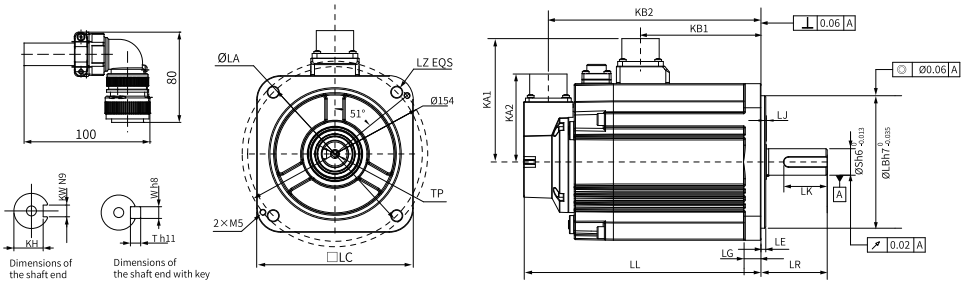
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

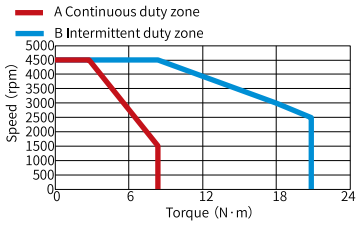
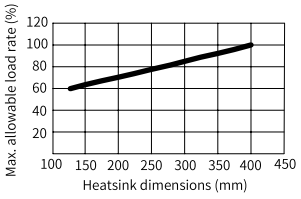
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	73	136.5 (161.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$	22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.8 MS1H3-13C15CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.3		
Voltage (V)	220		
Rated torque (N·m)	8.34		
Maximum torque (N·m)	20.85		
Rated current (Arms)	10.5		Heatsink-based derating curve
Maximum current (Arms)	27.3		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	0.89		
Rotor moment of inertia (kg·cm^2)	Motor without brake	19.25	
	Motor with brake	21.5	

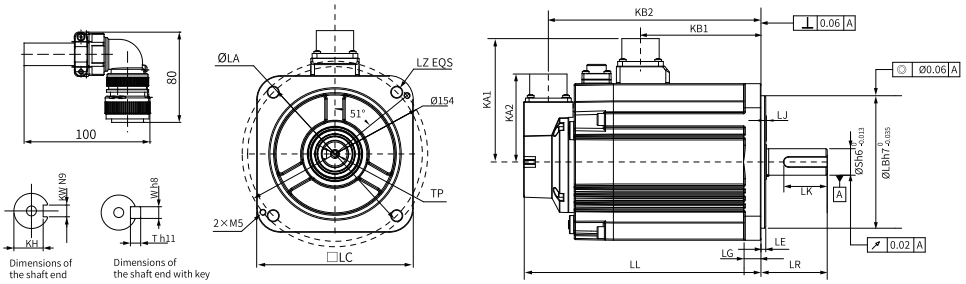
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

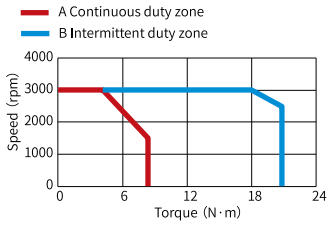
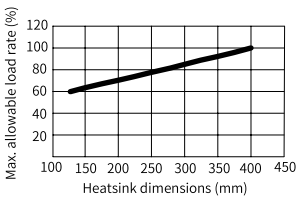
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	73	136.5 (161.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.9 MS1H3-13C15CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.3		
Voltage (V)	220		
Rated torque (N·m)	8.34		
Maximum torque (N·m)	20.85		
Rated current (Arms)	10.5		Heatsink-based derating curve
Maximum current (Arms)	27.3		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	0.89		
Rotor moment of inertia (kg·cm²)	Motor without brake	19.25	
	Motor with brake	21.5	

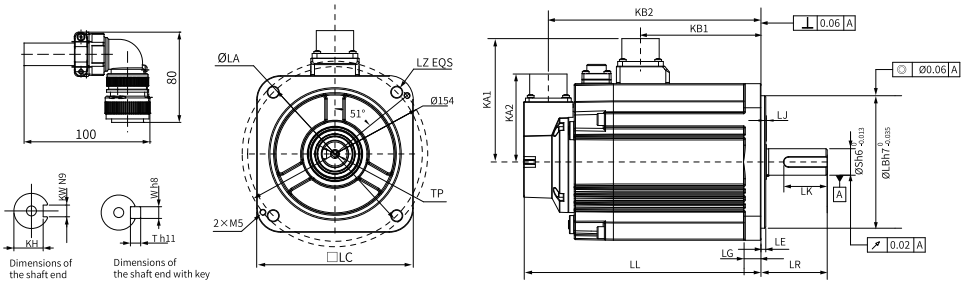
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

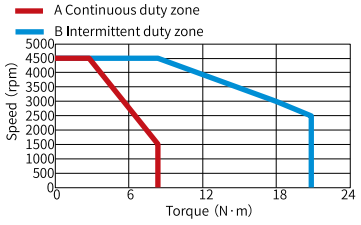
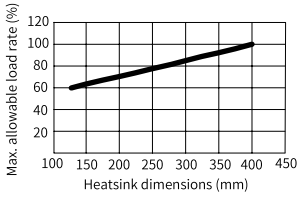
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	74	136.5 (161.5)	14	4
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.10 MS1H3-13C15CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.3		
Voltage (V)	380		
Rated torque (N·m)	8.34		
Maximum torque (N·m)	20.85		
Rated current (Arms)	5.1		Heatsink-based derating curve
Maximum current (Arms)	12.6		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.85		
Rotor moment of inertia (kg·cm^2)	Motor without brake	19.25	
	Motor with brake	21.5	

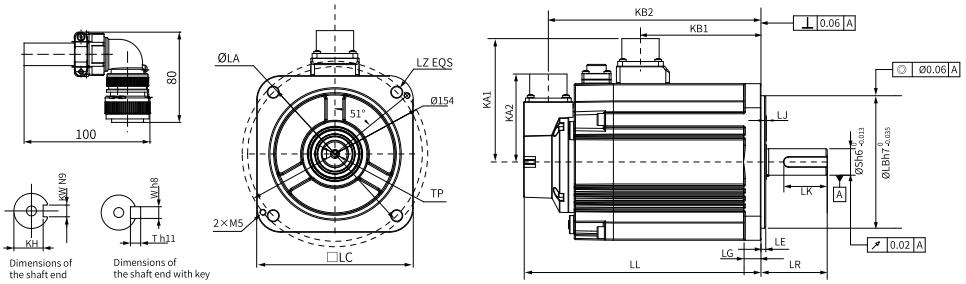
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

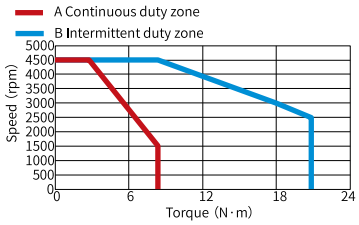
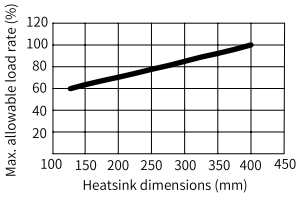
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	73	136.5 (161.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.11 MS1H3-13C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.3		
Voltage (V)	380		
Rated torque (N·m)	8.34		
Maximum torque (N·m)	20.85		
Rated current (Arms)	5.1		Heatsink-based derating curve
Maximum current (Arms)	12.6		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.85		
Rotor moment of inertia (kg·cm²)	Motor without brake	19.25	
	Motor with brake	21.5	

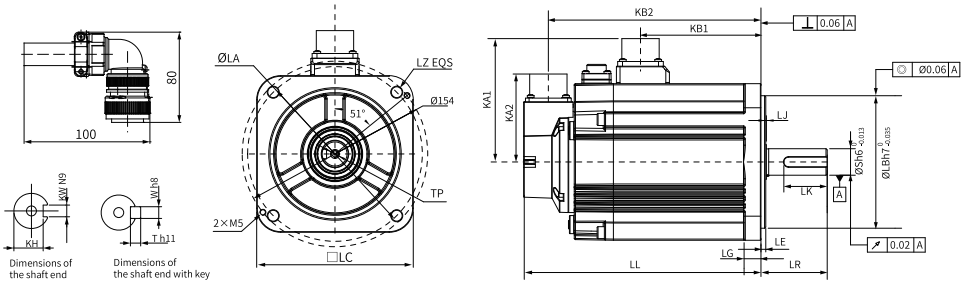
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

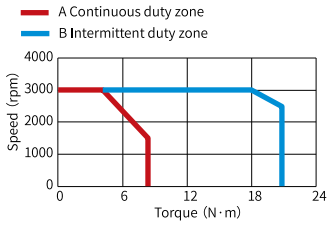
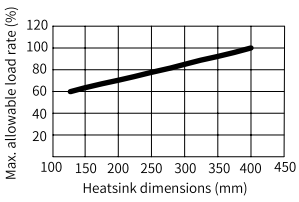
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	73	136.5 (161.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.12 MS1H3-13C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.3		
Voltage (V)	380		
Rated torque (N·m)	8.34		
Maximum torque (N·m)	20.85		
Rated current (Arms)	5.1		Heatsink-based derating curve
Maximum current (Arms)	12.6		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.85		
Rotor moment of inertia (kg·cm²)	Motor without brake	19.25	
	Motor with brake	21.5	

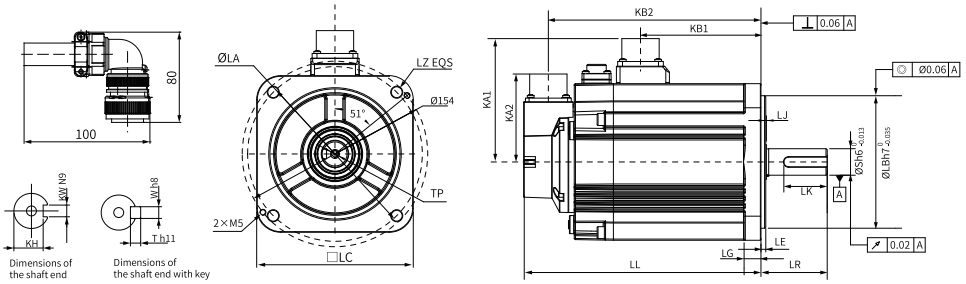
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

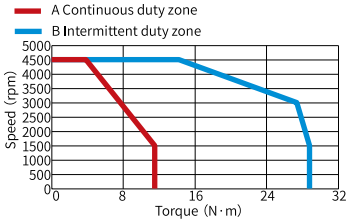
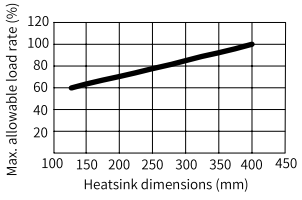
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	157 (182)	55±1	145	4-Ø9	103	85	74	136.5 (161.5)	14	4
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$		22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	7.1 (8.9)

4.4.13 MS1H3-18C15CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.8		
Voltage (V)	220		
Rated torque (N·m)	11.5		
Maximum torque (N·m)	28.75		
Rated current (Arms)	11.9		Heatsink-based derating curve
Maximum current (Arms)	32.2		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.05		
Rotor moment of inertia (kg·cm^2)	Motor without brake	24.9	
	Motor with brake	27.2	

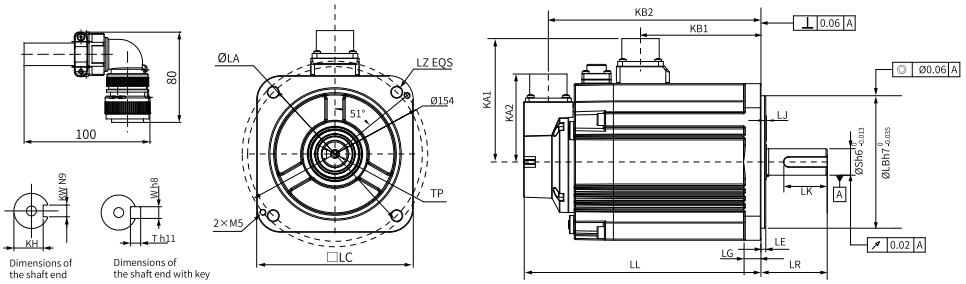
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



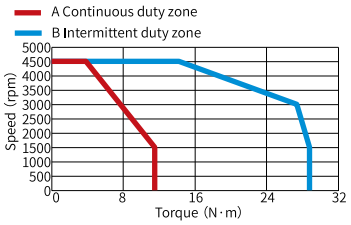
LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	73	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	8.5 (10.3)

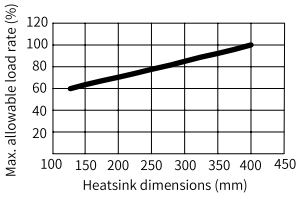
4.4.14 MS1H3-18C15CB-A33*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	1.8	
Voltage (V)	220	
Rated torque (N·m)	11.5	
Maximum torque (N·m)	28.75	
Rated current (Arms)	11.9	
Maximum current (Arms)	32.2	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	1.05	
Rotor moment of inertia (kg·cm²)	Motor without brake	24.9
	Motor with brake	27.2

Torque-Speed characteristics



Heatsink-based derating curve



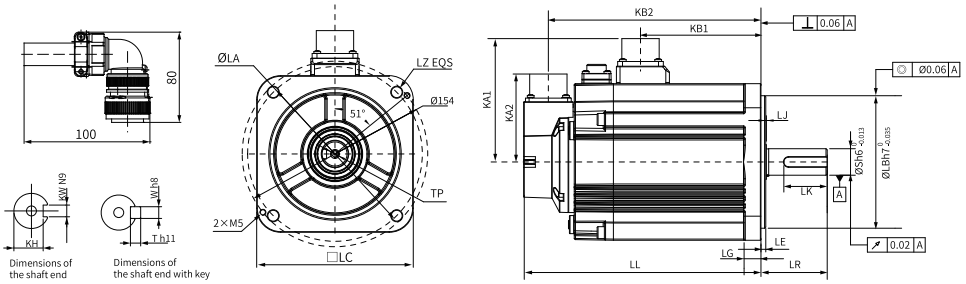
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

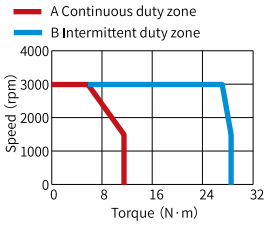
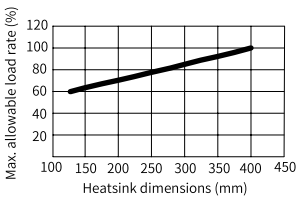
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	73	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	8.5 (10.3)

4.4.15 MS1H3-18C15CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.8		
Voltage (V)	220		
Rated torque (N·m)	11.5		
Maximum torque (N·m)	28.75		
Rated current (Arms)	11.9		Heatsink-based derating curve
Maximum current (Arms)	32.2		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.05		
Rotor moment of inertia (kg·cm²)	Motor without brake	24.9	
	Motor with brake	27.2	

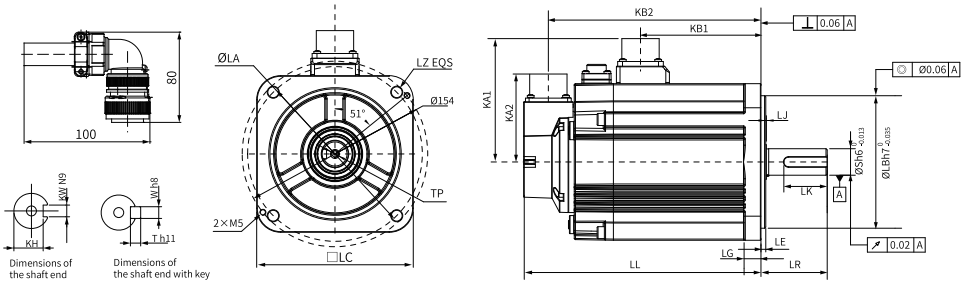
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



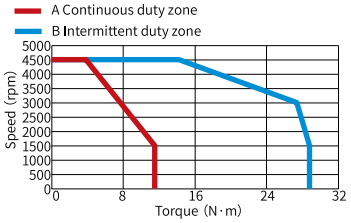
LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	74	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$	22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	8.5 (10.3)

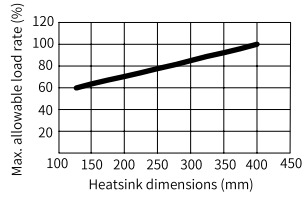
4.4.16 MS1H3-18C15CD-A6/S63*R

Motor specifications		
Flange size (mm)	130	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	1.8	
Voltage (V)	380	
Rated torque (N·m)	11.5	
Maximum torque (N·m)	28.75	
Rated current (Arms)	6.75	
Maximum current (Arms)	17.7	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	1.87	
Rotor moment of inertia (kg·cm^2)	Motor without brake	24.9
	Motor with brake	27.2

Torque-Speed characteristics



Heatsink-based derating curve



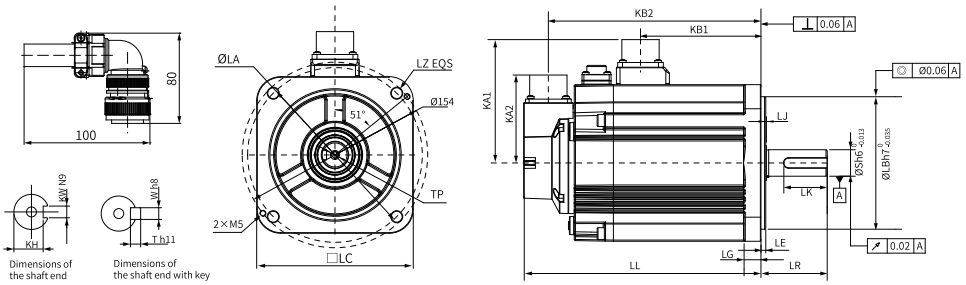
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

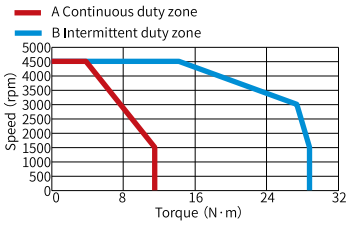
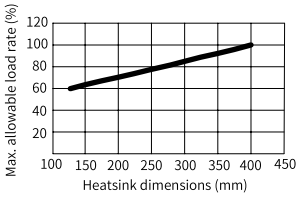
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	73	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	8.5 (10.3)

4.4.17 MS1H3-18C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.8		
Voltage (V)	380		
Rated torque (N·m)	11.5		
Maximum torque (N·m)	28.75		
Rated current (Arms)	6.75		Heatsink-based derating curve
Maximum current (Arms)	17.7		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.87		
Rotor moment of inertia (kg·cm²)	Motor without brake	24.9	
	Motor with brake	27.2	

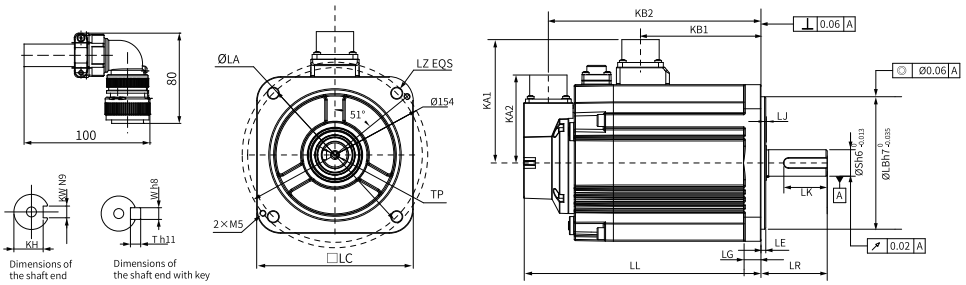
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

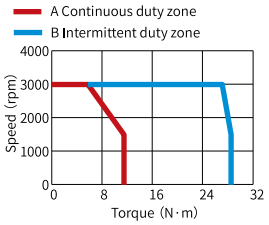
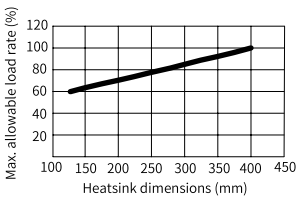
Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	73	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	$Ø110h7^{0}_{-0.035}$	22	M6 × 20	36	$18^{0}_{-0.2}$	8	8	7	8.5 (10.3)

4.4.18 MS1H3-18C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	130		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	1.8		
Voltage (V)	380		
Rated torque (N·m)	11.5		
Maximum torque (N·m)	28.75		
Rated current (Arms)	6.75		Heatsink-based derating curve
Maximum current (Arms)	17.7		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.87		
Rotor moment of inertia (kg·cm²)	Motor without brake	24.9	
	Motor with brake	27.2	

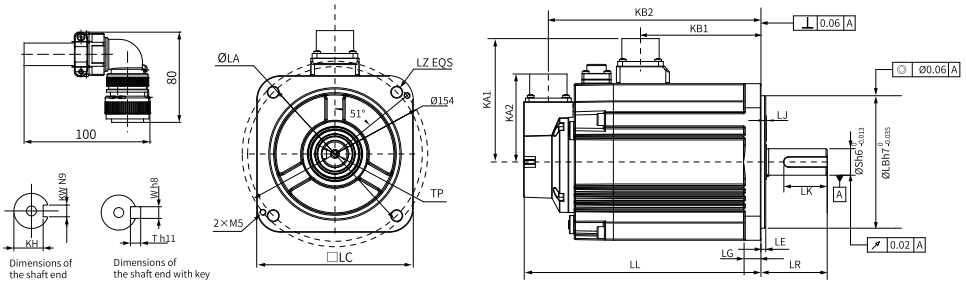
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
16	24	24	24	1	⩽ 120	⩽ 60	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
55	686	196

Dimensions (mm)



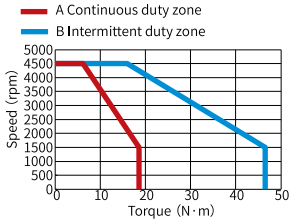
LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
130	172 (197)	55±1	145	4-Ø9	103	100	74	151.5 (176.5)	14	4

LJ	LB	S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø110h7$^{0}_{-0.035}$	22	M6 × 20	36	18$^{0}_{-0.2}$	8	8	7	8.5 (10.3)

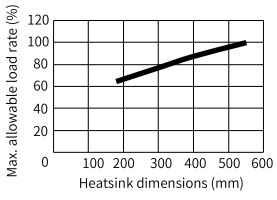
4.4.19 MS1H3-29C15CB-A6/S63*R

Motor specifications		
Flange size (mm)	180	
Inertia, capacity	Medium inertia, medium capacity	
Rated power (kW)	2.9	
Voltage (V)	220	
Rated torque (N·m)	18.6	
Maximum torque (N·m)	46.5	
Rated current (Arms)	18	
Maximum current (Arms)	52.5	
Rated speed (rpm)	1500	
Maximum speed (rpm)	4500	
Torque coefficient (N·m/Arms)	1.16	
Rotor moment of inertia (kg·cm^2)	Motor without brake	44.7
	Motor with brake	52.35

Torque-Speed characteristics



Heatsink-based derating curve



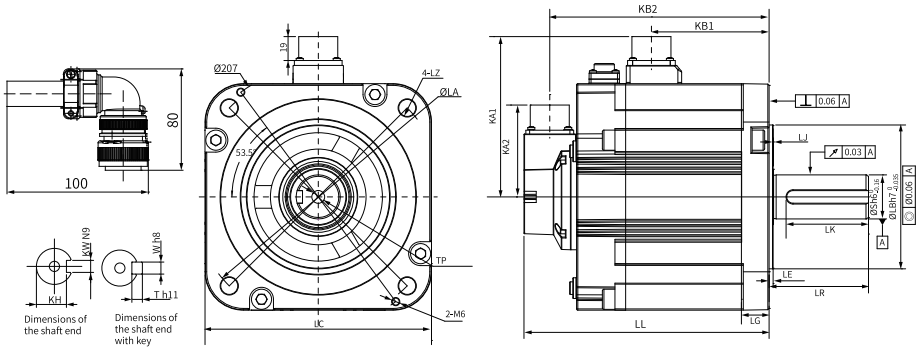
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

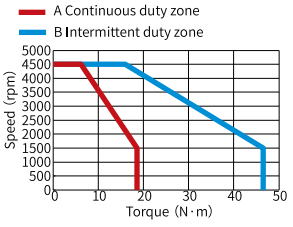
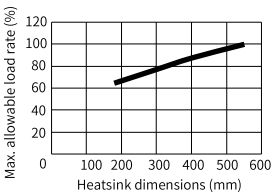
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	161 (194.8)	79±1	200	4-Ø13.5	127.4	93.5	73	140.5 (174.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	13.8 (17.9)

4.4.20 MS1H3-29C15CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	2.9		
Voltage (V)	220		
Rated torque (N·m)	18.6		
Maximum torque (N·m)	46.5		
Rated current (Arms)	18		Heatsink-based derating curve
Maximum current (Arms)	52.5		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.16		
Rotor moment of inertia (kg·cm^2)	Motor without brake	44.7	
	Motor with brake	52.35	

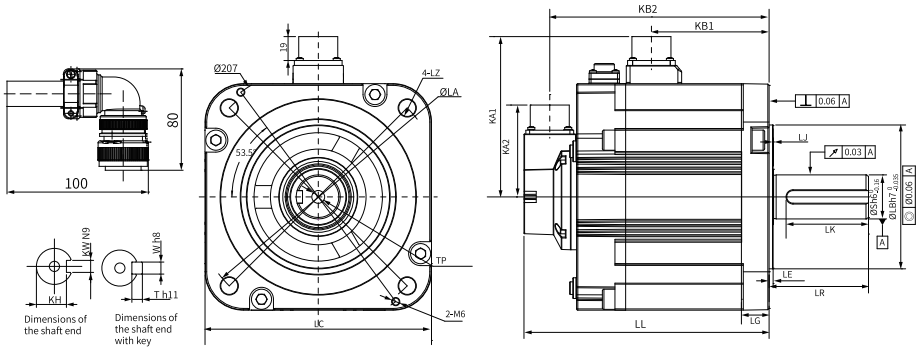
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

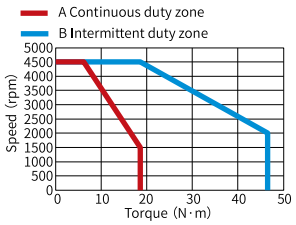
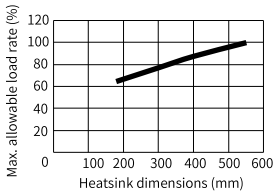
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	161 (194.8)	79±1	200	4-Ø13.5	127.4	93.5	73	140.5 (174.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	13.8 (17.9)

4.4.21 MS1H3-29C15CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	2.9		
Voltage (V)	380		
Rated torque (N·m)	18.6		
Maximum torque (N·m)	46.5		
Rated current (Arms)	10.5		Heatsink-based derating curve
Maximum current (Arms)	29.75		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.94		
Rotor moment of inertia (kg·cm^2)	Motor without brake	44.7	
	Motor with brake	52.35	

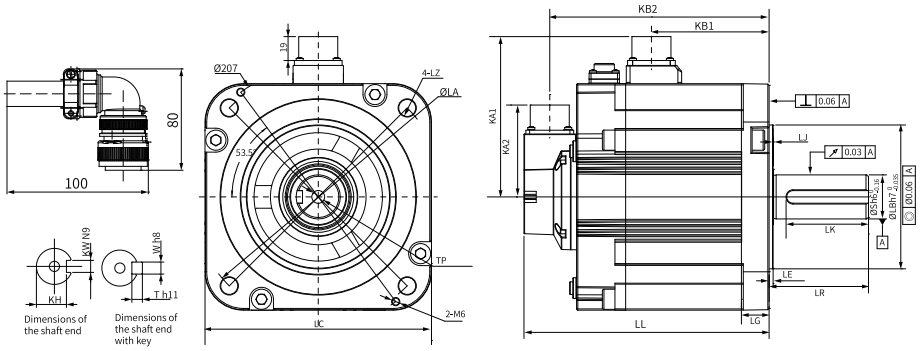
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

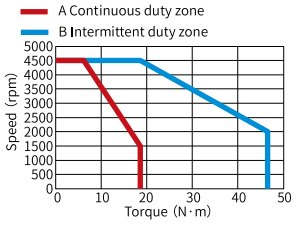
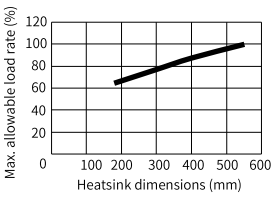
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	161 (194.8)	79±1	200	4-Ø13.5	127.4	93.5	73	140.5 (174.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	13.8 (17.9)

4.4.22 MS1H3-29C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	2.9		
Voltage (V)	380		
Rated torque (N·m)	18.6		
Maximum torque (N·m)	46.5		
Rated current (Arms)	10.5		Heatsink-based derating curve
Maximum current (Arms)	29.75		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.94		
Rotor moment of inertia (kg·cm^2)	Motor without brake	44.7	
	Motor with brake	52.35	

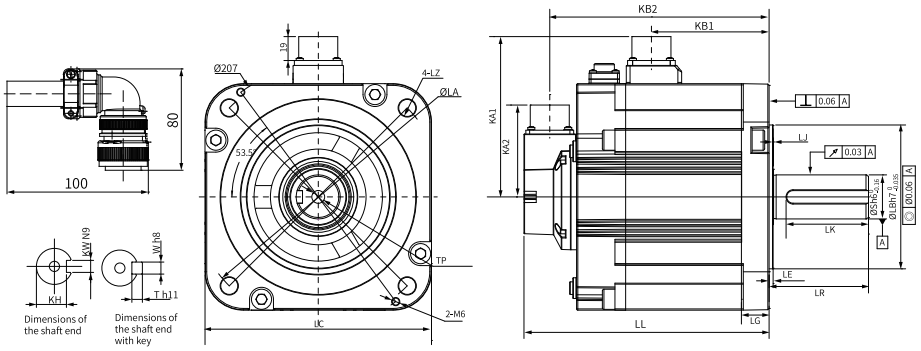
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

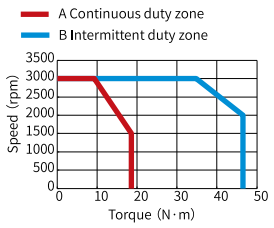
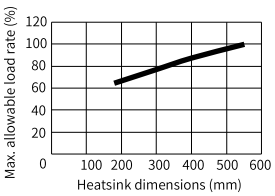
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	161 (194.8)	79±1	200	4-Ø13.5	127.4	93.5	73	140.5 (174.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	13.8 (17.9)

4.4.23 MS1H3-29C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	2.9		
Voltage (V)	380		
Rated torque (N·m)	18.6		
Maximum torque (N·m)	46.5		
Rated current (Arms)	10.5		Heatsink-based derating curve
Maximum current (Arms)	29.75		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.94		
Rotor moment of inertia (kg·cm^2)	Motor without brake	44.7	
	Motor with brake	52.35	

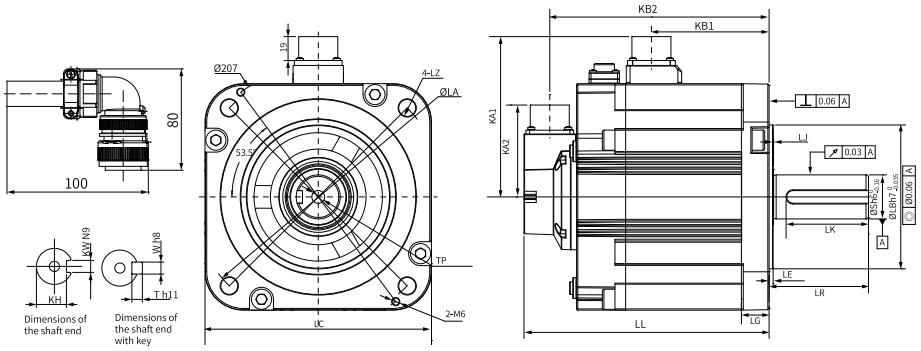
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

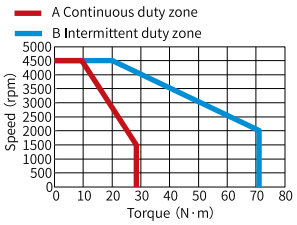
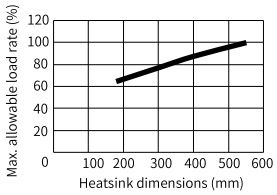
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	161 (194.8)	79±1	200	4-Ø13.5	127.4	93.5	74	140.5 (174.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	13.8 (17.9)

4.4.24 MS1H3-44C15CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	4.4		
Voltage (V)	220		
Rated torque (N·m)	28.4		
Maximum torque (N·m)	71.1		
Rated current (Arms)	25.5		Heatsink-based derating curve
Maximum current (Arms)	67		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.25		
Rotor moment of inertia (kg·cm^2)	Motor without brake	64.9	
	Motor with brake	72.55	

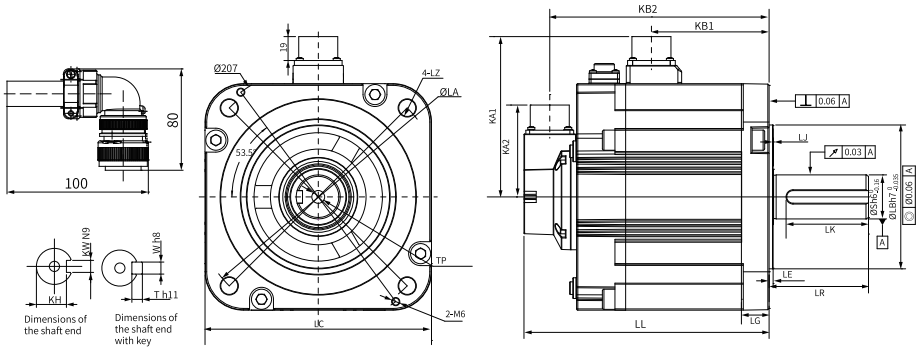
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

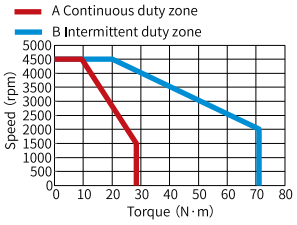
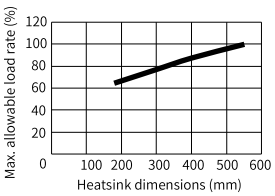
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	184.5 (218.3)	79±1	200	4-Ø13.5	127.4	117	73	164 (197.8)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	17.4 (21.9)

4.4.25 MS1H3-44C15CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	4.4		
Voltage (V)	220		
Rated torque (N·m)	28.4		
Maximum torque (N·m)	71.1		
Rated current (Arms)	25.5		Heatsink-based derating curve
Maximum current (Arms)	67		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.25		
Rotor moment of inertia (kg·cm^2)	Motor without brake	64.9	
	Motor with brake	72.55	

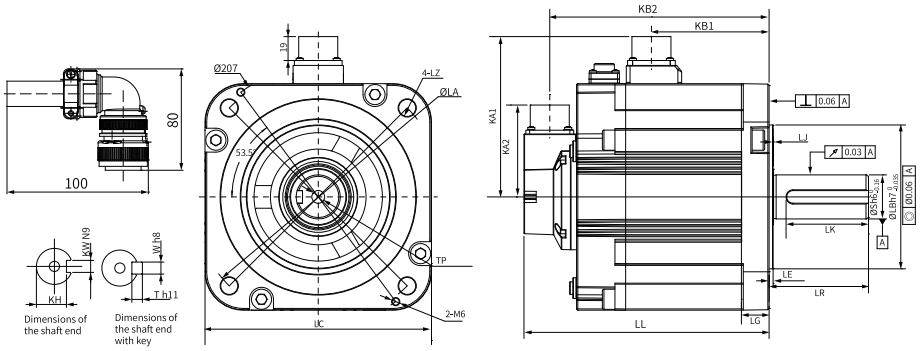
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

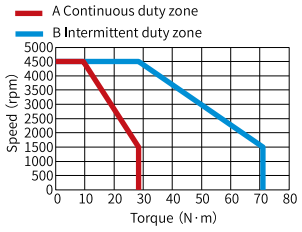
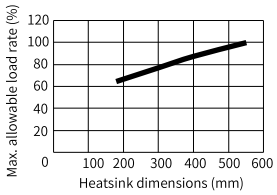
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	184.5 (218.3)	79±1	200	4-Ø13.5	127.4	117	73	164 (197.8)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	17.4 (21.9)

4.4.26 MS1H3-44C15CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	4.4		
Voltage (V)	380		
Rated torque (N·m)	28.4		
Maximum torque (N·m)	71.1		
Rated current (Arms)	16		Heatsink-based derating curve
Maximum current (Arms)	42		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.96		
Rotor moment of inertia (kg·cm^2)	Motor without brake	64.9	
	Motor with brake	72.55	

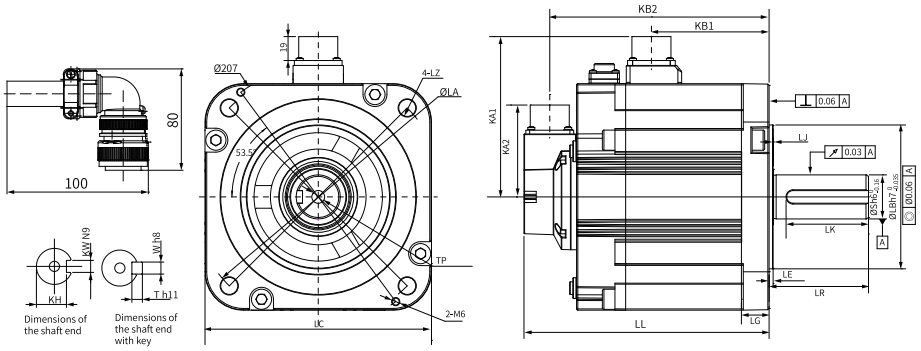
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

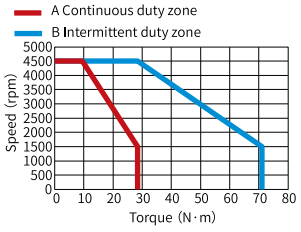
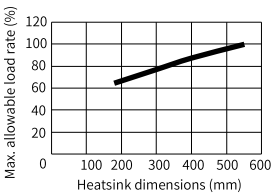
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	184.5 (218.3)	79±1	200	4-Ø13.5	127.4	117	73	164 (197.8)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	17.4 (21.6)

4.4.27 MS1H3-44C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	4.4		
Voltage (V)	380		
Rated torque (N·m)	28.4		
Maximum torque (N·m)	71.1		
Rated current (Arms)	16		Heatsink-based derating curve
Maximum current (Arms)	42		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.96		
Rotor moment of inertia (kg·cm^2)	Motor without brake	64.9	
	Motor with brake	72.55	

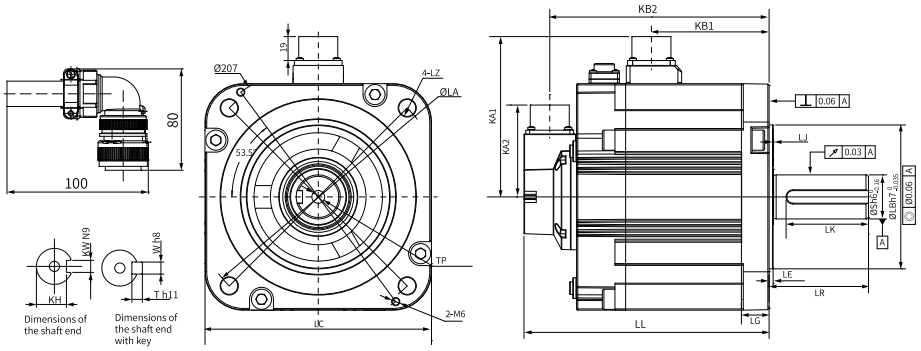
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

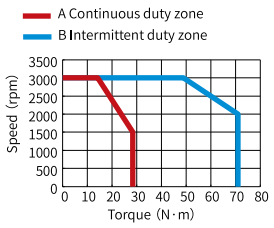
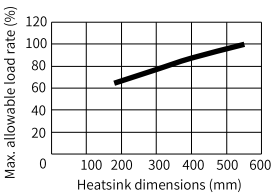
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	184.5 (218.3)	79±1	200	4-Ø13.5	127.4	117	73	164 (197.8)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	17.4 (21.6)

4.4.28 MS1H3-44C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	4.4		
Voltage (V)	380		
Rated torque (N·m)	28.4		
Maximum torque (N·m)	71.1		
Rated current (Arms)	16		Heatsink-based derating curve
Maximum current (Arms)	42		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.96		
Rotor moment of inertia (kg·cm^2)	Motor without brake	64.9	
	Motor with brake	72.55	

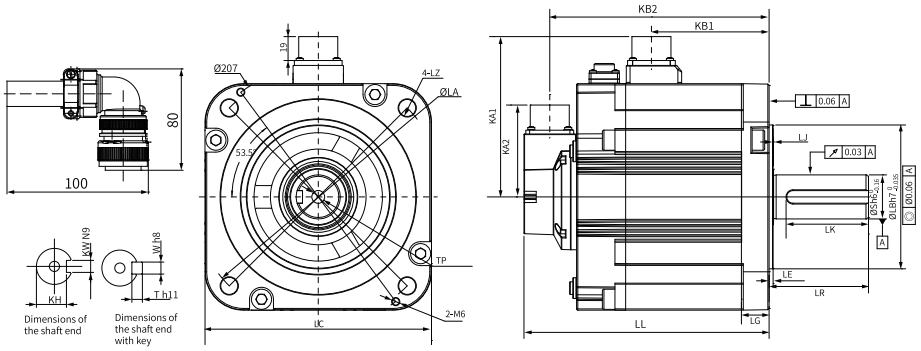
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

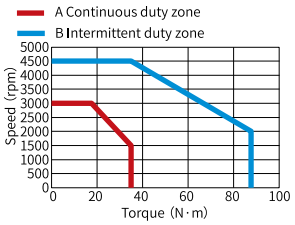
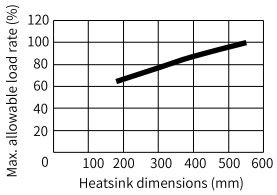
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
79	1470	490

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	184.5 (218.3)	79±1	200	4-Ø13.5	127.4	117	74	164 (197.8)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		35	M12x25	65	30$^{0}_{-0.2}$	10	10	8	17.4 (21.6)

4.4.29 MS1H3-55C15CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	5.5		
Voltage (V)	380		
Rated torque (N·m)	35		
Maximum torque (N·m)	87.6		
Rated current (Arms)	20.7		Heatsink-based derating curve
Maximum current (Arms)	52		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.92		
Rotor moment of inertia (kg·cm^2)	Motor without brake	86.9	
	Motor with brake	94.55	

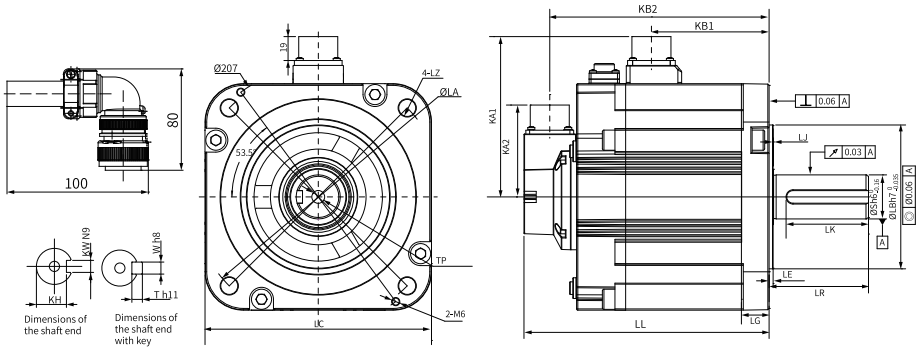
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

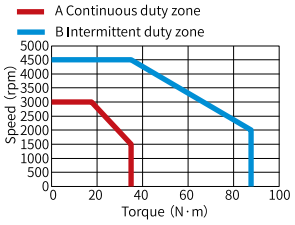
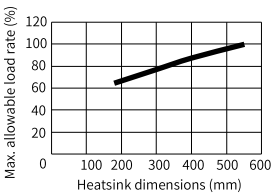
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	208 (241.8)	113±1	200	4-Ø13.5	127.4	140.5	73	187.5 (221.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	21.7 (25.9)

4.4.30 MS1H3-55C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	5.5		
Voltage (V)	380		
Rated torque (N·m)	35		
Maximum torque (N·m)	87.6		
Rated current (Arms)	20.7		Heatsink-based derating curve
Maximum current (Arms)	52		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	1.92		
Rotor moment of inertia (kg·cm^2)	Motor without brake	86.9	
	Motor with brake	94.55	

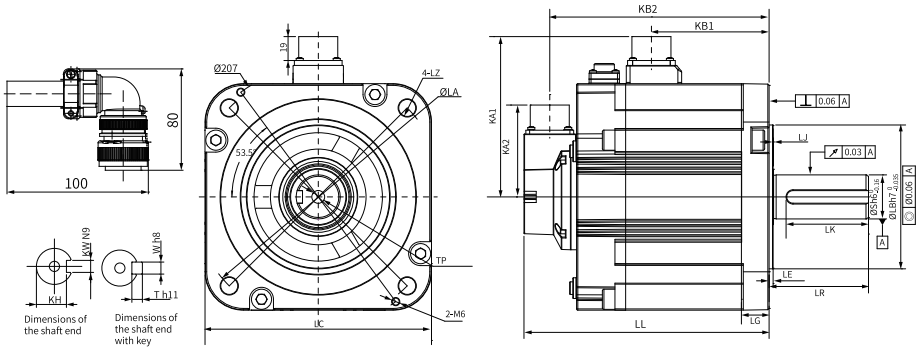
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

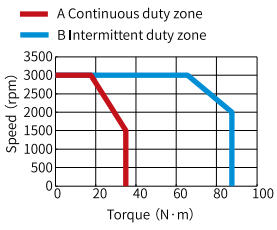
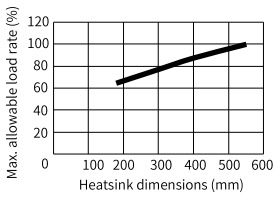
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	208 (241.8)	113±1	200	4-Ø13.5	127.4	140.5	73	187.5 (221.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	21.7 (25.9)

4.4.31 MS1H3-55C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	5.5		
Voltage (V)	380		
Rated torque (N·m)	35		
Maximum torque (N·m)	87.6		
Rated current (Arms)	20.7		Heatsink-based derating curve
Maximum current (Arms)	52		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	1.92		
Rotor moment of inertia (kg·cm^2)	Motor without brake	86.9	
	Motor with brake	94.55	

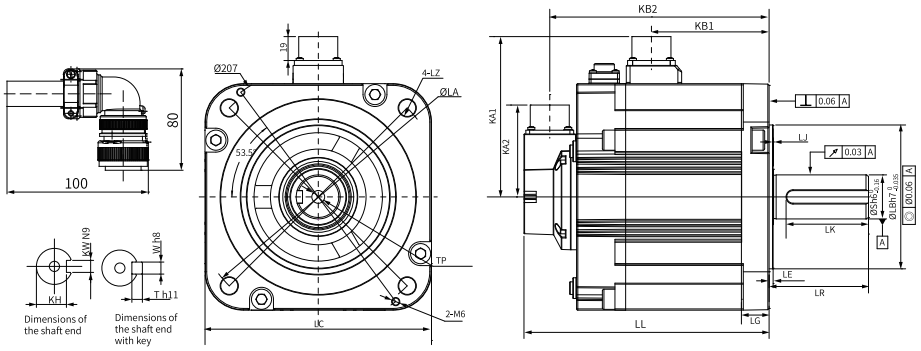
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

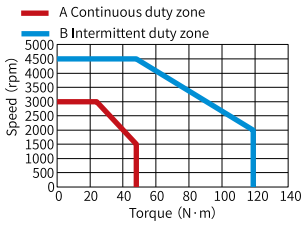
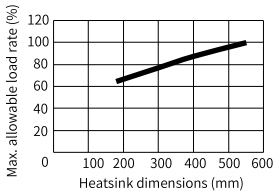
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	208 (241.8)	113±1	200	4-Ø13.5	127.4	140.5	74	187.5 (221.3)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	21.7 (25.9)

4.4.32 MS1H3-75C15CD-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	7.5		
Voltage (V)	380		
Rated torque (N·m)	48		
Maximum torque (N·m)	119		
Rated current (Arms)	25		Heatsink-based derating curve
Maximum current (Arms)	65		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	2.13		
Rotor moment of inertia (kg·cm^2)	Motor without brake	127.5	
	Motor with brake	135.15	

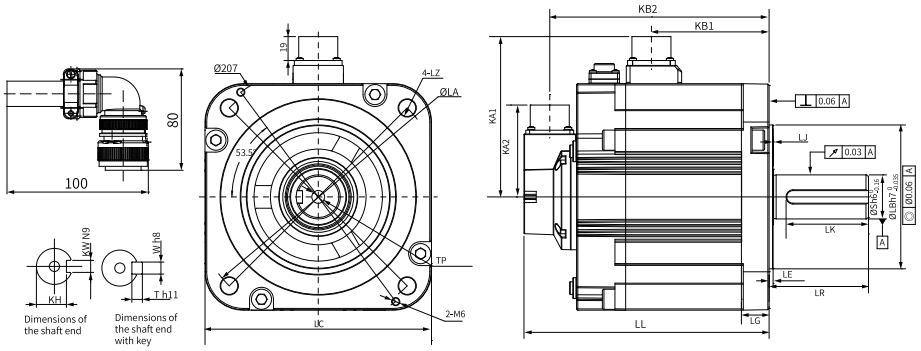
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

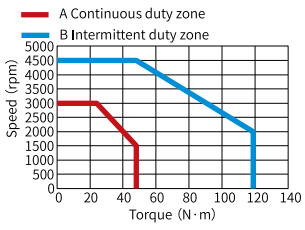
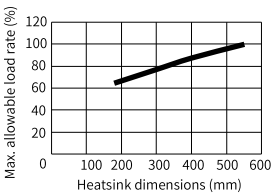
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	255 (288.8)	113±1	200	4-Ø13.5	127.4	187.5	73	234.5 (234.5)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	29 (33.2)

4.4.33 MS1H3-75C15CD-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	7.5		
Voltage (V)	380		
Rated torque (N·m)	48		
Maximum torque (N·m)	119		
Rated current (Arms)	25		Heatsink-based derating curve
Maximum current (Arms)	65		
Rated speed (rpm)	1500		
Maximum speed (rpm)	4500		
Torque coefficient (N·m/Arms)	2.13		
Rotor moment of inertia (kg·cm^2)	Motor without brake	127.5	
	Motor with brake	135.15	

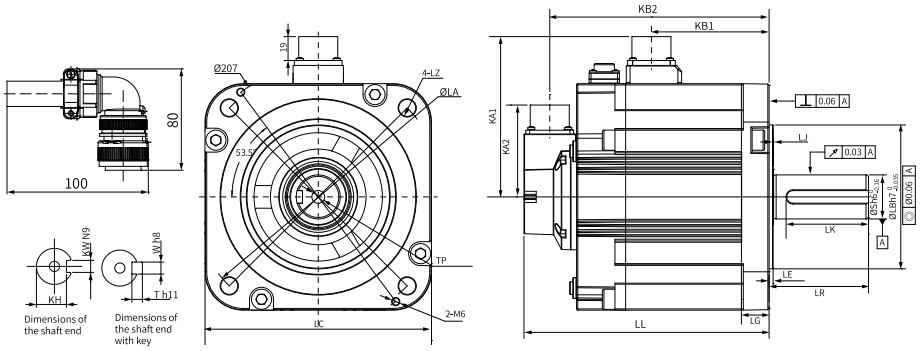
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

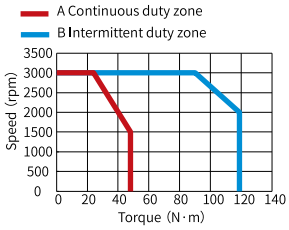
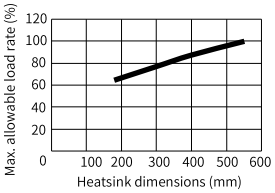
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

Dimensions (mm)



LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	255 (288.8)	113±1	200	4-Ø13.5	127.4	187.5	73	234.5 (234.5)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	29 (33.2)

4.4.34 MS1H3-75C15CD-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	180		
Inertia, capacity	Medium inertia, medium capacity		
Rated power (kW)	7.5		
Voltage (V)	380		
Rated torque (N·m)	48		
Maximum torque (N·m)	119		
Rated current (Arms)	25		Heatsink-based derating curve
Maximum current (Arms)	65		
Rated speed (rpm)	1500		
Maximum speed (rpm)	3000		
Torque coefficient (N·m/Arms)	2.13		
Rotor moment of inertia (kg·cm^2)	Motor without brake	127.5	
	Motor with brake	135.15	

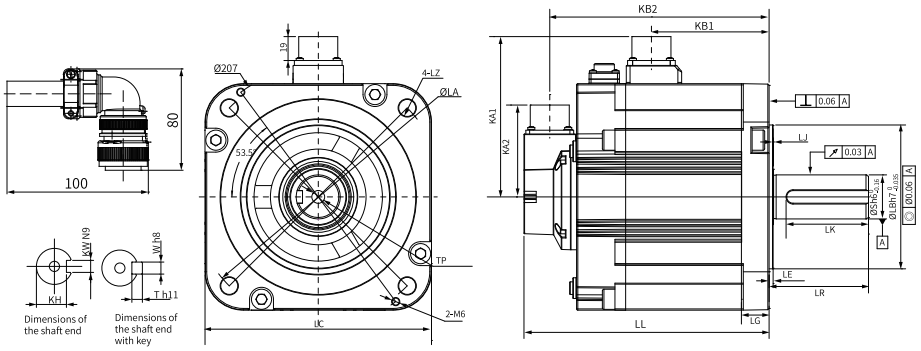
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
50	24	31	18.58	1.29	⩽ 200	⩽ 100	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
113	1764	588

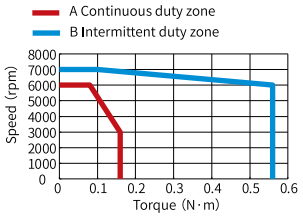
Dimensions (mm)

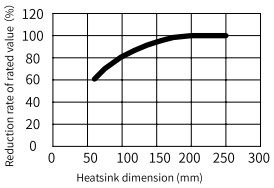


LC	LL	LR	LA	LZ	KA1	KB1	KA2	KB2	LG	LE
180	255 (288.8)	113±1	200	4-Ø13.5	127.4	187.5	74	234.5 (234.5)	22	3.2±0.3
LJ	LB		S	TP	LK	KH	KW	W	T	Weight (kg)
0.5±0.75	Ø114.3h7$^{0}_{-0.035}$		42	M16x32	97	37$^{0}_{-0.2}$	12	12	8	29 (33.2)

4.5 MS1H4 Motors with Medium Inertia and Small Capacity

4.5.1 MS1H4-05B30CB-A6/S63*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.05	
Voltage (V)	220	
Rated torque (N·m)	0.16	
Maximum torque (N·m)	0.56	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.126		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.038	
	Brake motor	0.04	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

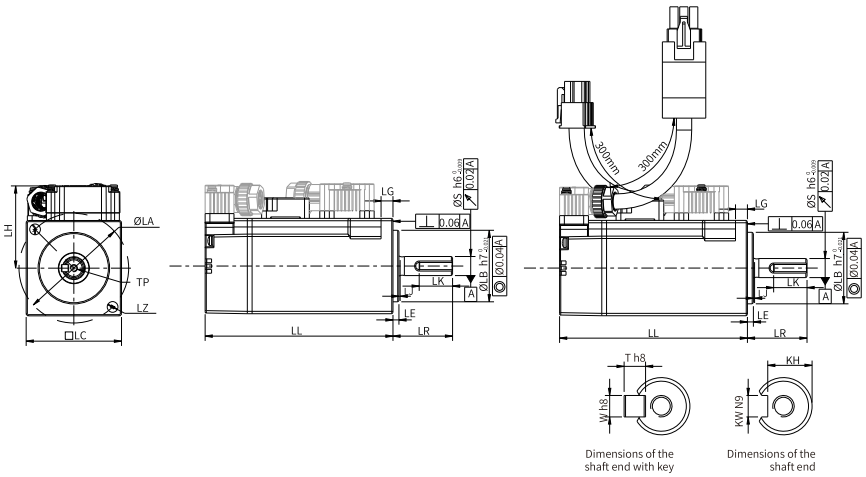


Figure 4-1 MS1H4-05B30CB-A6/S630R and MS1H4-05B30CB-A6/S632R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
51.5 (78.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.24 (0.40)

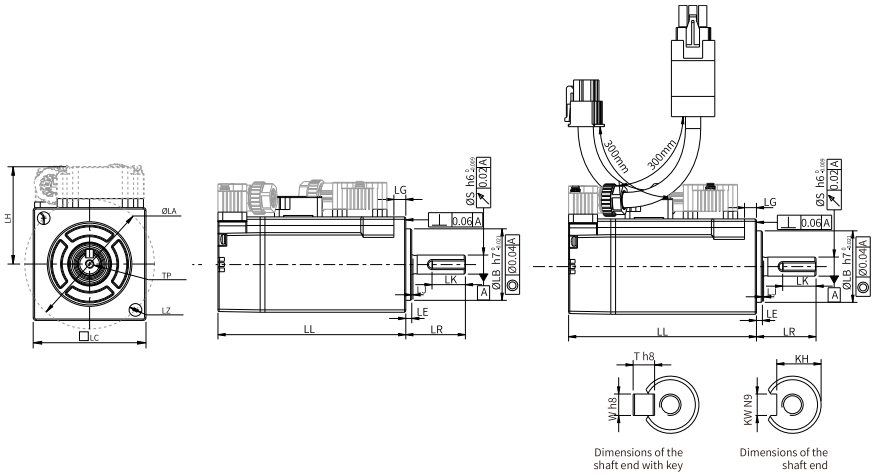
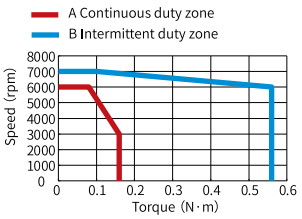
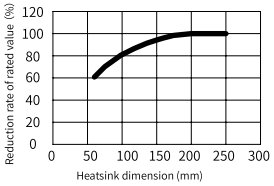


Figure 4-2 MS1H4-05B30CB-A6/S631R and MS1H4-05B30CB-A6/S634R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
54.2 (81.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26 (0.42)

4.5.2 MS1H4-05B30CB-A33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.05	
Voltage (V)	220	
Rated torque (N·m)	0.16	
Maximum torque (N·m)	0.56	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.126		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.038	
	Brake motor	0.04	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

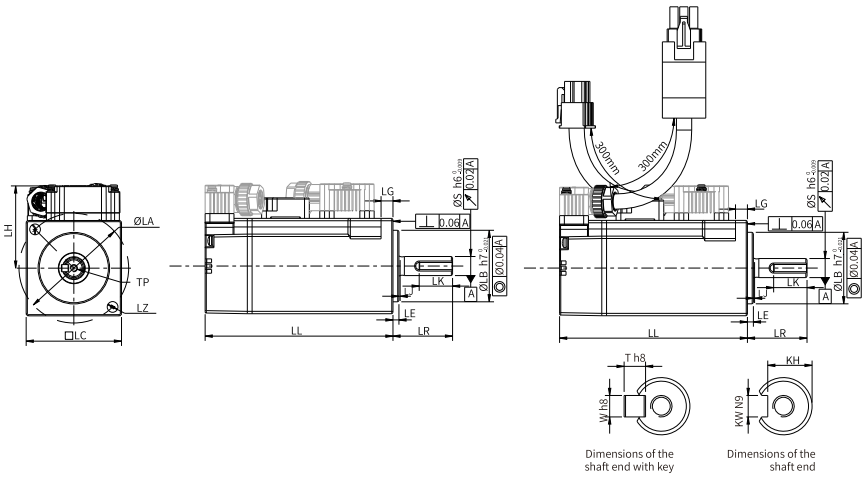


Figure 4-3 MS1H4-05B30CB-A330R and MS1H4-05B30CB-A332R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
51.5 (78.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.24 (0.40)

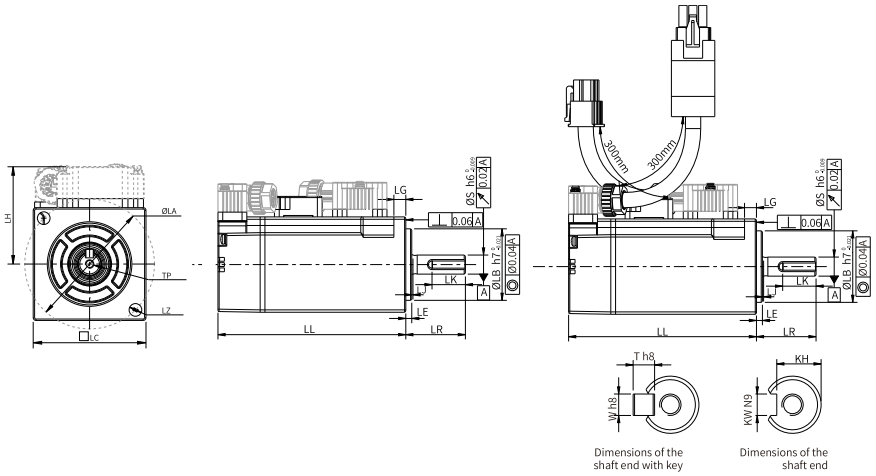
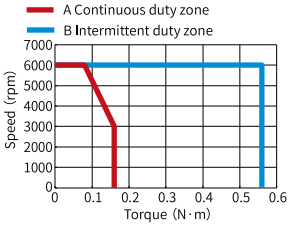
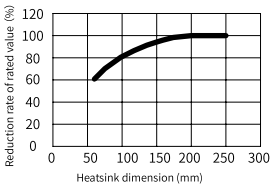


Figure 4-4 MS1H4-05B30CB-A331R and MS1H4-05B30CB-A334R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
54.2 (81.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26 (0.42)

4.5.3 MS1H4-05B30CB-T33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.05	
Voltage (V)	220	
Rated torque (N·m)	0.16	
Maximum torque (N·m)	0.56	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.126		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.038	
	Brake motor	0.04	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

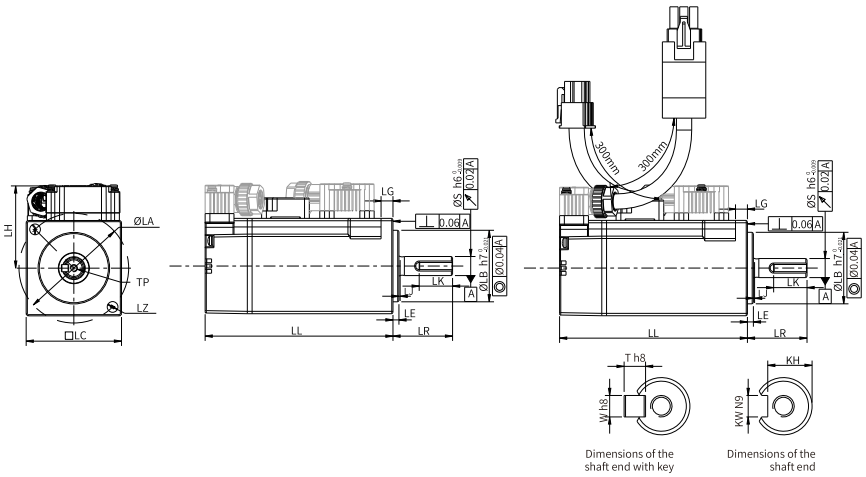


Figure 4-5 MS1H4-05B30CB-T330R and MS1H4-05B30CB-T332R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
51.5 (78.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.24 (0.40)

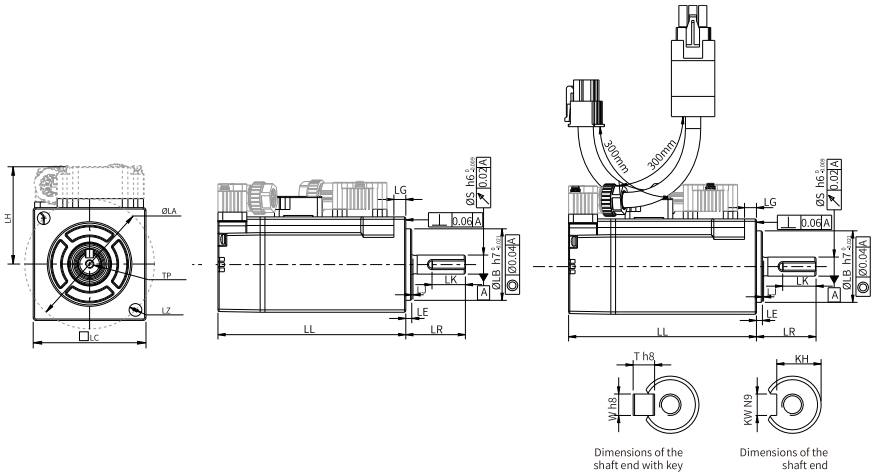
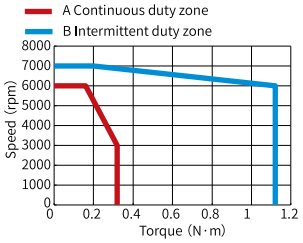
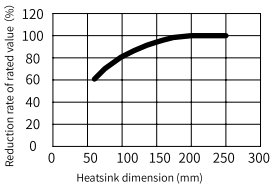


Figure 4-6 MS1H4-05B30CB-T331R and MS1H4-05B30CB-T334R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
54.2 (81.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.26 (0.42)

4.5.4 MS1H4-10B30CB-A6/S63*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.1	
Voltage (V)	220	
Rated torque (N·m)	0.32	
Maximum torque (N·m)	1.12	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.252		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.072	
	Brake motor	0.074	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

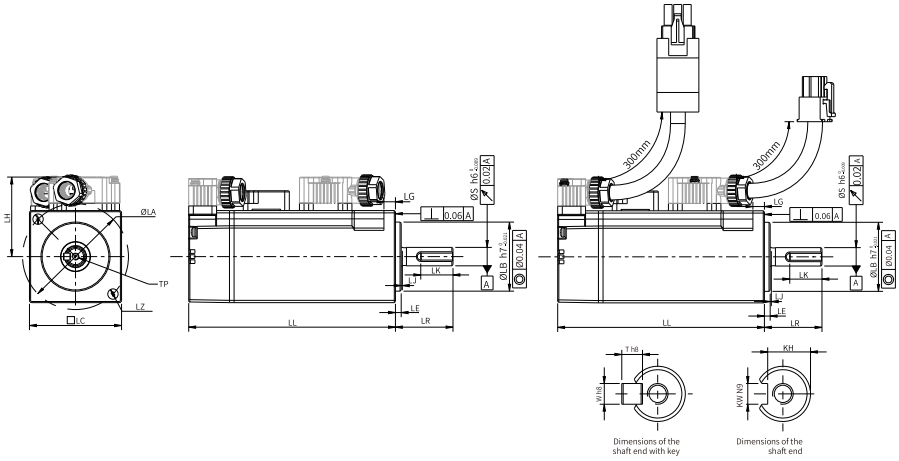


Figure 4-7 MS1H4-10B30CB-A6/S630R and MS1H4-10B30CB-A6/S632R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
62.5 (89.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.32 (0.48)

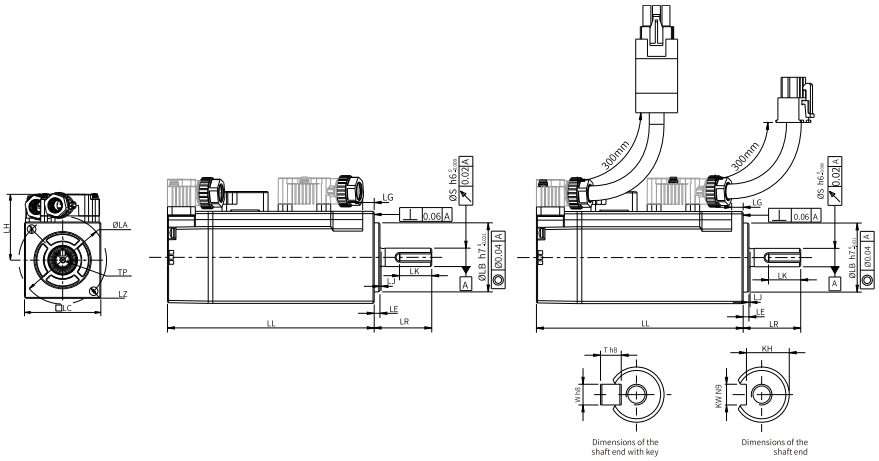
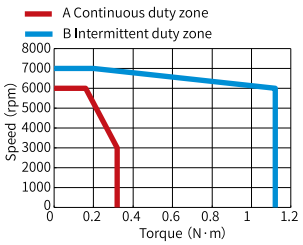
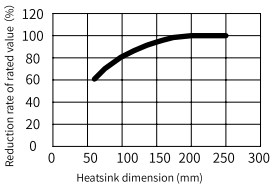


Figure 4-8 MS1H4-10B30CB-A6/S631R and MS1H4-10B30CB-A6/S634R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
65.2 (92.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.34 (0.50)

4.5.5 MS1H4-10B30CB-A33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.1	
Voltage (V)	220	
Rated torque (N·m)	0.32	
Maximum torque (N·m)	1.12	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.252		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.072	
	Brake motor	0.074	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

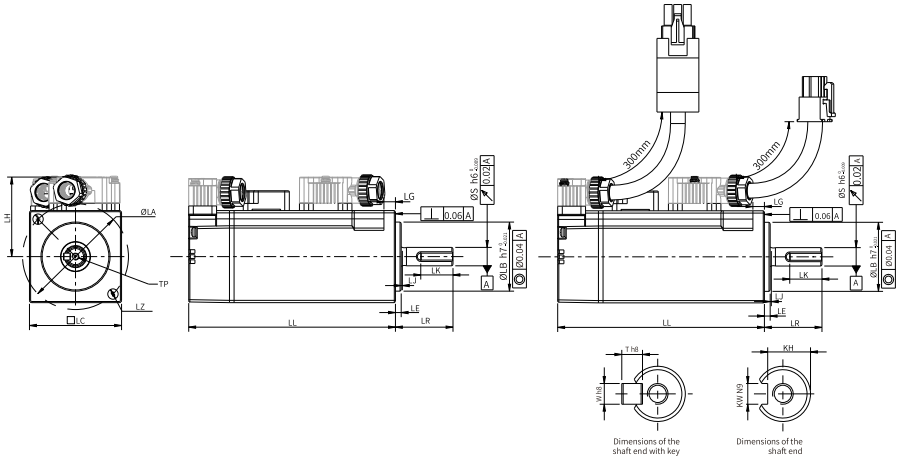


Figure 4-9 MS1H4-10B30CB-A330R and MS1H4-10B30CB-A332R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
62.5 (89.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.32 (0.48)

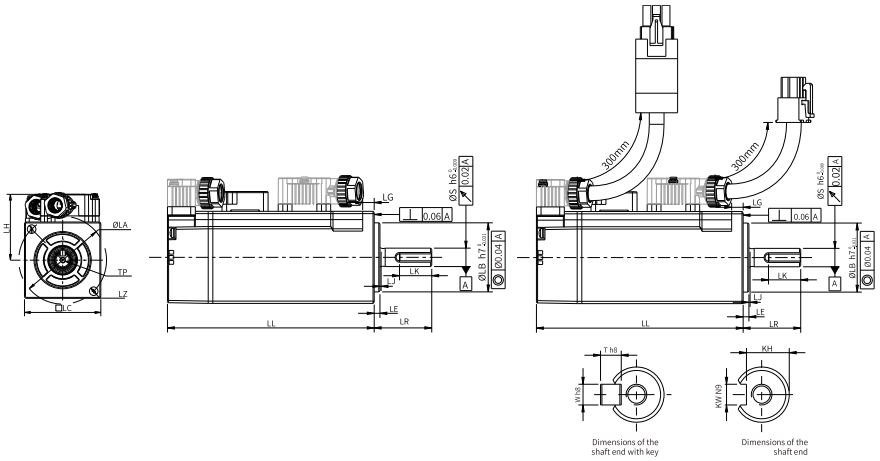
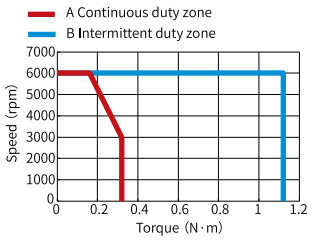
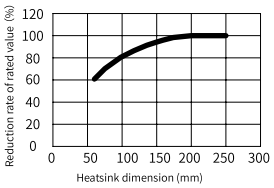


Figure 4-10 MS1H4-10B30CB-A331R and MS1H4-10B30CB-A334R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
65.2 (92.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.34 (0.50)

4.5.6 MS1H4-10B30CB-T33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	40	
Inertia, capacity	Medium inertia, low capacity	
Rated output (kW)	0.1	
Voltage (V)	220	
Rated torque (N·m)	0.32	
Maximum torque (N·m)	1.12	
Rated current (Arms)	1.27	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	4.78		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.252		
Rotor moment of inertia ($kg \cdot cm^2$)	Brake-less motor	0.072	
	Brake motor	0.074	

Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
0.32	24	6.9	83.5	0.29	⩽ 40	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
20	78	54

Product dimensions (mm)

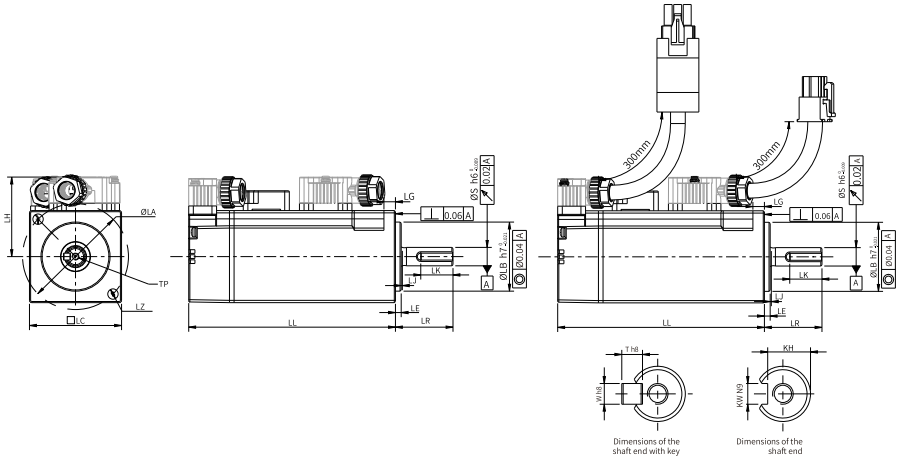


Figure 4-11 MS1H4-10B30CB-T330R and MS1H4-10B30CB-T332R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
62.5 (89.8)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.32 (0.48)

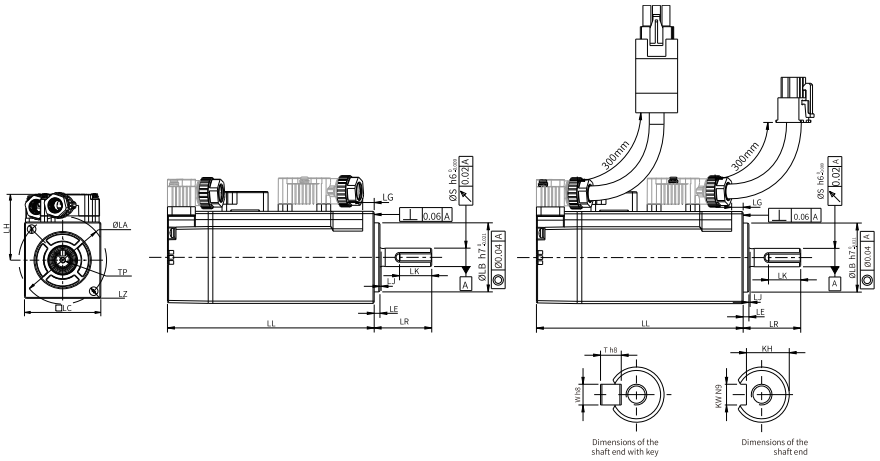
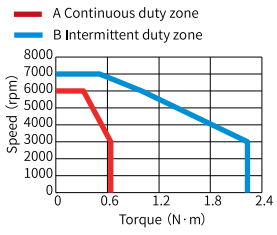
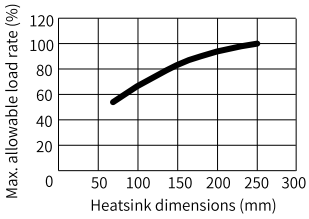


Figure 4-12 MS1H4-10B30CB-T331R and MS1H4-10B30CB-T334R

LL	LC	LR	LA	LZ	LH	LG	LE	LJ
65.2 (92.5)	40	25±0.5	46	2-Ø4.5	34.5	5	2.5±0.5	0.5±0.35
S	LB	TP	LK	KH	kW	W	T	Weight (kg)
8	$Ø30h7^{0}_{-0.021}$	M3×6	14	$6.2^{0}_{-0.1}$	3	3	3	0.34 (0.50)

4.5.7 MS1H4-20B30CB-A6/S63*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.2	
Voltage (V)	220	
Rated torque (N·m)	0.64	
Maximum torque (N·m)	2.24	
Rated current (Arms)	1.3	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	5.3		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.22	
	Motor with brake	0.23	

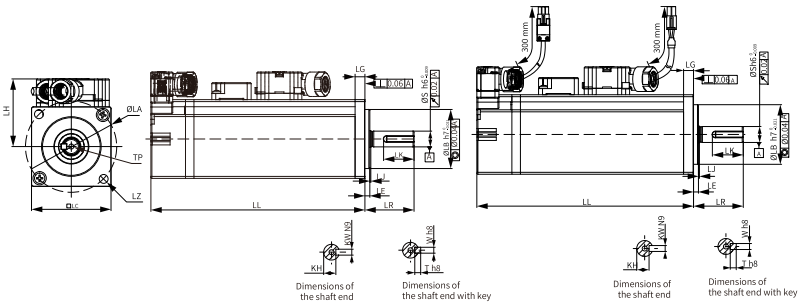
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

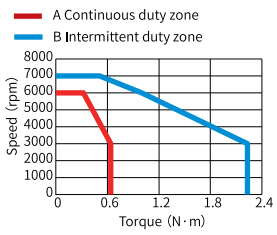
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

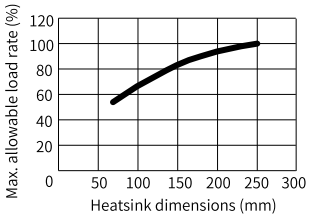
Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	73.5 (101.1)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	0.78 (1.16)

4.5.8 MS1H4-20B30CB-A33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.2	
Voltage (V)	220	
Rated torque (N·m)	0.64	
Maximum torque (N·m)	2.24	
Rated current (Arms)	1.3	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	5.3		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.22	
	Motor with brake	0.23	

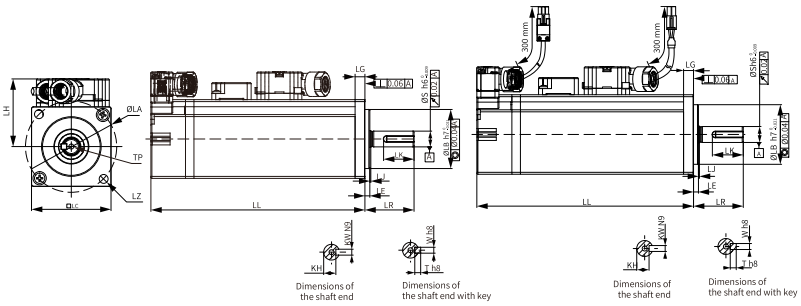
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

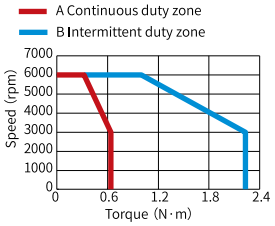
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

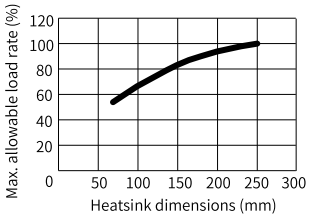
Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	73.5 (101.1)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	0.78 (1.16)

4.5.9 MS1H4-20B30CB-T33*R

Motor specifications		Torque-Speed characteristics
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.2	
Voltage (V)	220	
Rated torque (N·m)	0.64	
Maximum torque (N·m)	2.24	
Rated current (Arms)	1.3	Heatsink-based derating curve

Motor specifications			Torque-Speed characteristics
Maximum current (Arms)	5.3		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	0.22	
	Motor with brake	0.23	

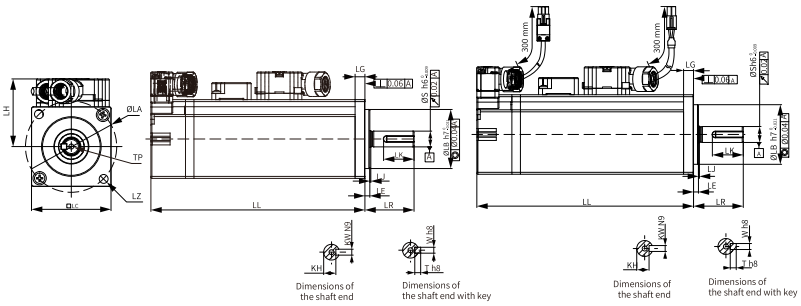
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)

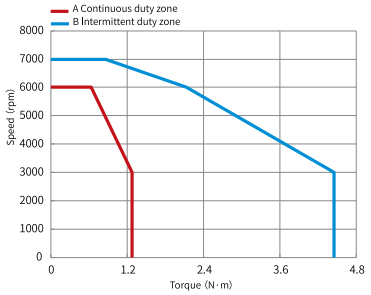


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	73.5 (101.1)	30±0.5	70	4-Ø5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	0.78 (1.16)

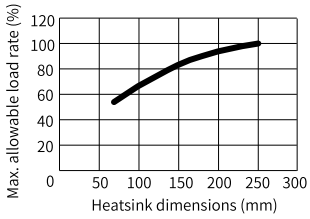
4.5.10 MS1H4-40B30CB-A6/S63*R

Motor specifications		
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.4	
Voltage (V)	220	
Rated torque (N·m)	1.27	
Maximum torque (N·m)	4.45	
Rated current (Arms)	2.4	
Maximum current (Arms)	9.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.53	
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	0.43
	Motor with brake	0.44

Torque-Speed characteristics



Heatsink-based derating curve



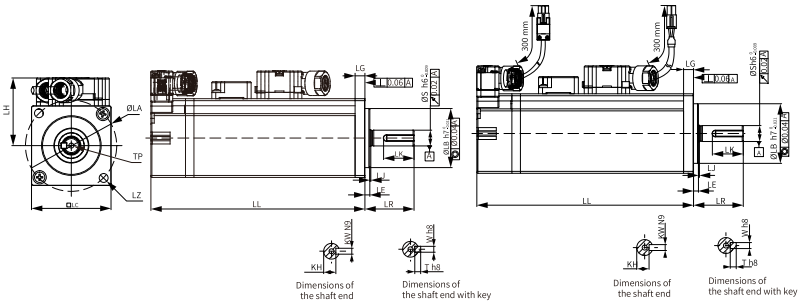
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)

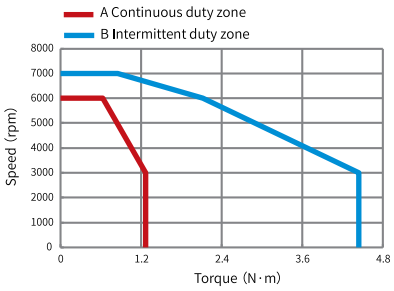


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	92 (119.8)	30±0.5	70	4- Ø 5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	1.11 (1.48)

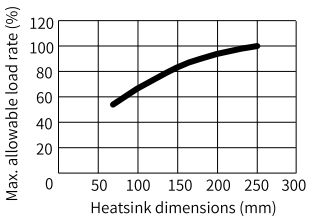
4.5.11 MS1H4-40B30CB-A33*R

Motor specifications		
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.4	
Voltage (V)	220	
Rated torque (N·m)	1.27	
Maximum torque (N·m)	4.45	
Rated current (Arms)	2.4	
Maximum current (Arms)	9.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.53	
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	0.43
	Motor with brake	0.44

Torque-Speed characteristics



Heatsink-based derating curve



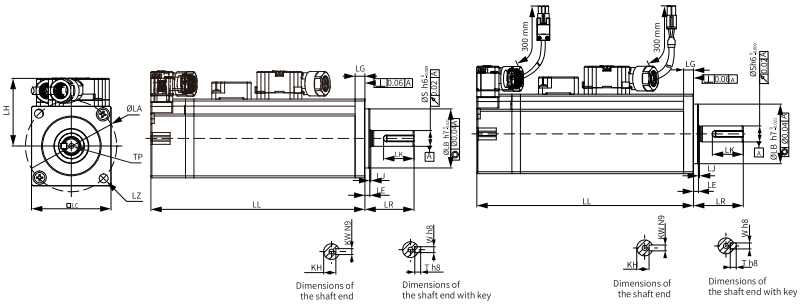
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)

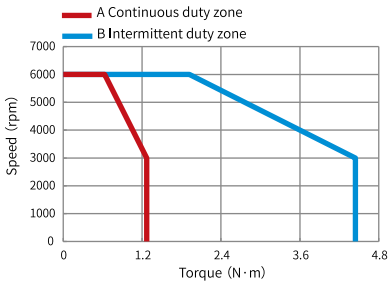


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	92 (119.8)	30 ± 0.5	70	4- Ø 5.5	44	8.0	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	1.11 (1.48)

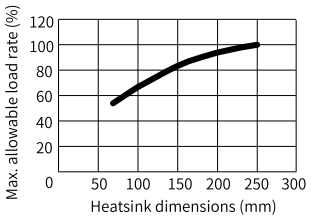
4.5.12 MS1H4-40B30CB-T33*R

Motor specifications		
Flange size (mm)	60	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.4	
Voltage (V)	220	
Rated torque (N·m)	1.27	
Maximum torque (N·m)	4.45	
Rated current (Arms)	2.4	
Maximum current (Arms)	9.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.53	
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	0.43
	Motor with brake	0.44

Torque-Speed characteristics



Heatsink-based derating curve



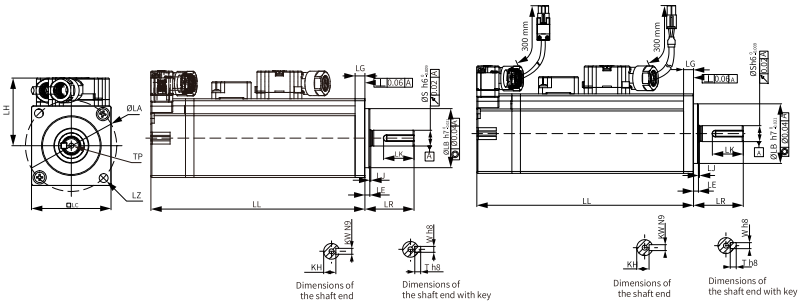
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
1.5	24	7.6	75.79	0.32	⩽ 60	⩽ 20	⩽ 1.5

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
25	245	74

Dimensions (mm)

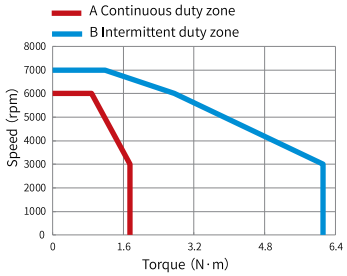


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
60	92 (119.8)	30±0.5	70	4-Ø5.5	44	8.0	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø50h7$^{0}_{-0.025}$	14	M5x8	16.5	11$^{0}_{-0.1}$	5	5	5	1.11 (1.48)

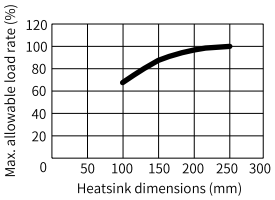
4.5.13 MS1H4-55B30CB-A6/S63*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.55	
Voltage (V)	220	
Rated torque (N·m)	1.75	
Maximum torque (N·m)	6.13	
Rated current (Arms)	3.3	
Maximum current (Arms)	13.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.49	
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.12
	Motor with brake	-

Torque-Speed characteristics



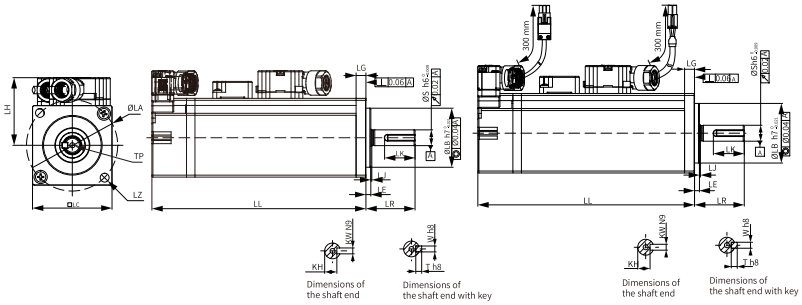
Heatsink-based derating curve



Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

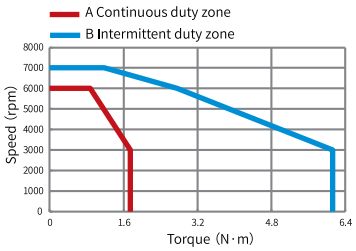


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	96.7	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6 x 20	26	15.5$^{0}_{-0.1}$	6	6	6	1.85

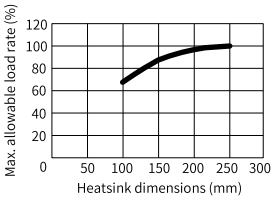
4.5.14 MS1H4-55B30CB-A33*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.55	
Voltage (V)	220	
Rated torque (N·m)	1.75	
Maximum torque (N·m)	6.13	
Rated current (Arms)	3.3	
Maximum current (Arms)	13.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.49	
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	1.12
	Motor with brake	-

Torque-Speed characteristics



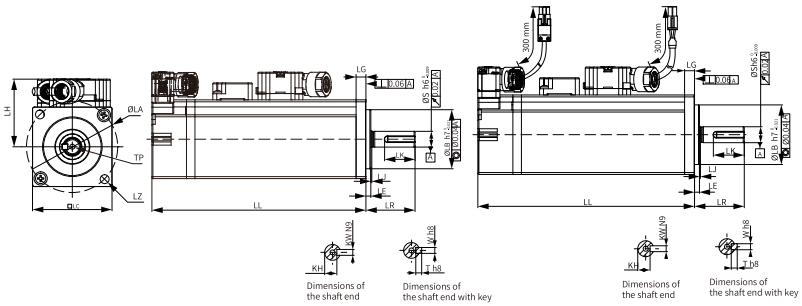
Heatsink-based derating curve



Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

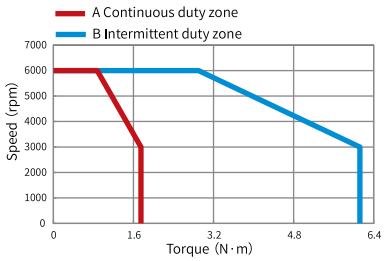


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	96.7	25±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
$Ø70h7^{0}_{-0.03}$	19	M6 x 20	26	$15.5^{0}_{-0.1}$	6	6	6	1.85

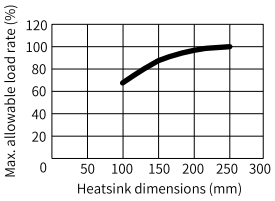
4.5.15 MS1H4-55B30CB-T33*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.55	
Voltage (V)	220	
Rated torque (N·m)	1.75	
Maximum torque (N·m)	6.13	
Rated current (Arms)	3.3	
Maximum current (Arms)	13.2	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.49	
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.12
	Motor with brake	-

Torque-Speed characteristics



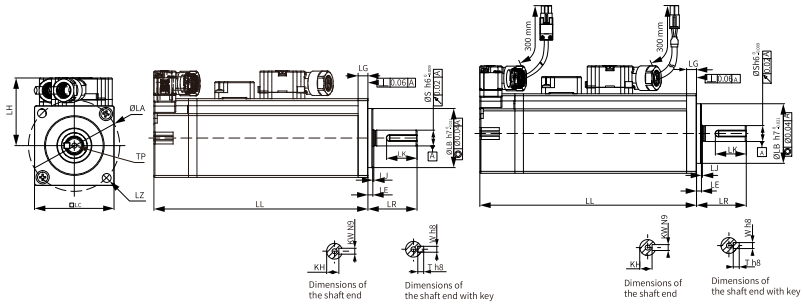
Heatsink-based derating curve



Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

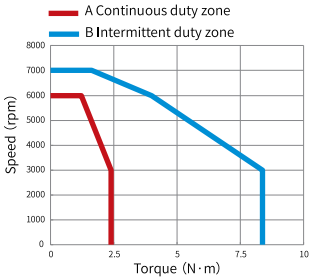


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	96.7	25±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6 x 20	26	15.5$^{0}_{-0.1}$	6	6	6	1.85

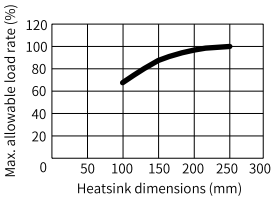
4.5.16 MS1H4-75B30CB-A6/S63*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.75	
Voltage (V)	220	
Rated torque (N·m)	2.39	
Maximum torque (N·m)	8.37	
Rated current (Arms)	4.4	
Maximum current (Arms)	16.9	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.58	
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.46
	Motor with brake	1.51

Torque-Speed characteristics



Heatsink-based derating curve



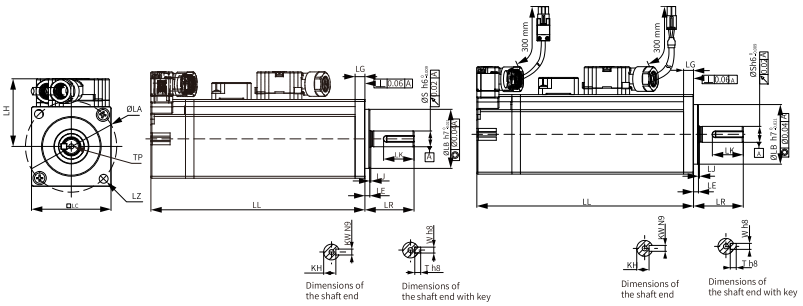
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

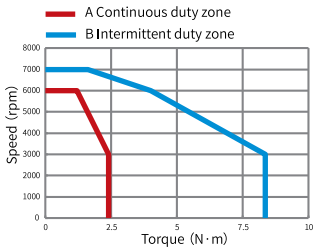


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	107.3 (141.5)	35±0.5	90	4- Ø 7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.18 (2.82)

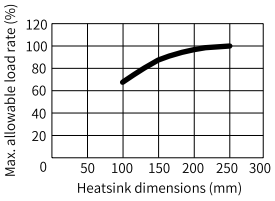
4.5.17 MS1H4-75B30CB-A33*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.75	
Voltage (V)	220	
Rated torque (N·m)	2.39	
Maximum torque (N·m)	8.37	
Rated current (Arms)	4.4	
Maximum current (Arms)	16.9	
Rated speed (rpm)	3000	
Maximum speed (rpm)	7000	
Torque coefficient (N·m/Arms)	0.58	
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.46
	Motor with brake	1.51

Torque-Speed characteristics



Heatsink-based derating curve



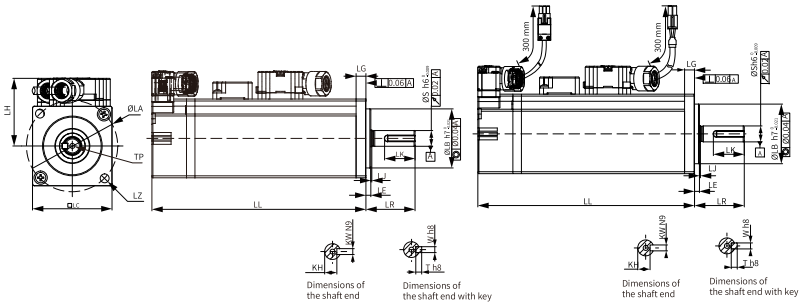
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)

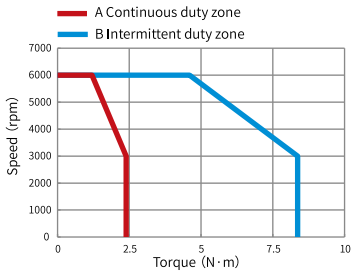


LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	107.3 (141.5)	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.18 (2.82)

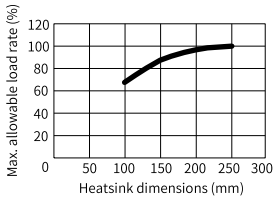
4.5.18 MS1H4-75B30CB-T33*R

Motor specifications		
Flange size (mm)	80	
Inertia, capacity	Medium inertia, low capacity	
Rated power (kW)	0.75	
Voltage (V)	220	
Rated torque (N·m)	2.39	
Maximum torque (N·m)	8.37	
Rated current (Arms)	4.4	
Maximum current (Arms)	16.9	
Rated speed (rpm)	3000	
Maximum speed (rpm)	6000	
Torque coefficient (N·m/Arms)	0.58	
Rotor moment of inertia ($kg \cdot cm^2$)	Motor without brake	1.46
	Motor with brake	1.51

Torque-Speed characteristics



Heatsink-based derating curve



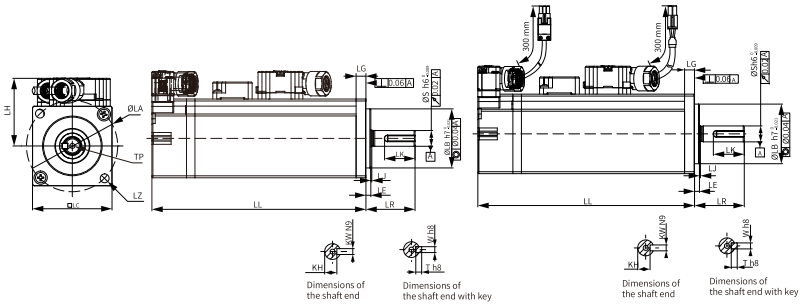
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

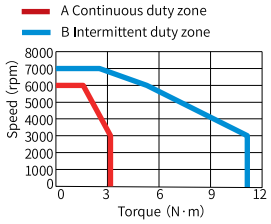
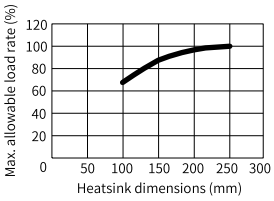
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	107.3 (140.5)	25±0.5	90	4-Ø7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.18 (2.82)

4.5.19 MS1H4-10C30CB-A6/S63*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Medium inertia, low capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	11.13		
Rated current (Arms)	6.5		Heatsink-based derating curve
Maximum current (Arms)	24		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.87	
	Motor with brake	1.97	

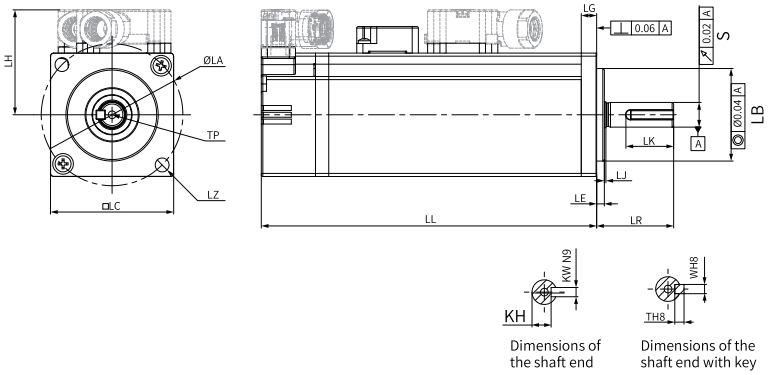
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

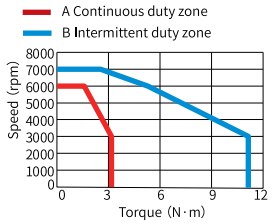
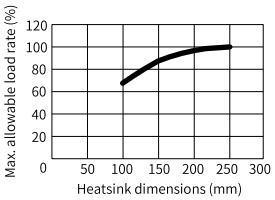
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	118.7 (153.2)	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 × 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.55 (2.9)

4.5.20 MS1H4-10C30CB-A33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Medium inertia, low capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	11.13		
Rated current (Arms)	6.5		Heatsink-based derating curve
Maximum current (Arms)	24		
Rated speed (rpm)	3000		
Maximum speed (rpm)	7000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Motor without brake	1.87	
	Motor with brake	1.97	

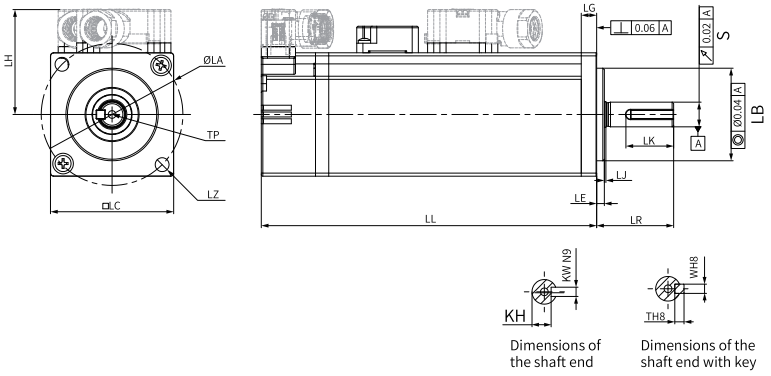
Electrical specifications of the motor with brake

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

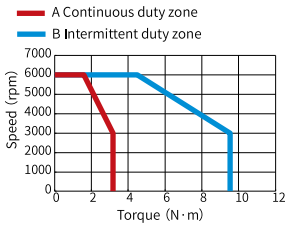
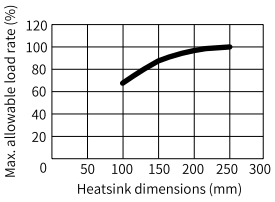
LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	118.7 (153.2)	25±0.5	90	4- Ø 7	54	7.5	3 ± 0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø 70h7$^{0}_{-0.03}$	19	M6 x 20	26	15.5$^{0}_{-0.1}$	6	6	6	2.55 (2.9)

4.5.21 MS1H4-10C30CB-T33*R

Motor specifications			Torque-Speed characteristics
Flange size (mm)	80		
Inertia, capacity	Medium inertia, low capacity		
Rated power (kW)	1.0		
Voltage (V)	220		
Rated torque (N·m)	3.18		
Maximum torque (N·m)	9.54		
Rated current (Arms)	6.5		Heatsink-based derating curve
Maximum current (Arms)	24		
Rated speed (rpm)	3000		
Maximum speed (rpm)	6000		
Torque coefficient (N·m/Arms)	0.46		
Rotor moment of inertia (kg·cm^2)	Brake-less motor	1.87	
	Brake motor	1.97	

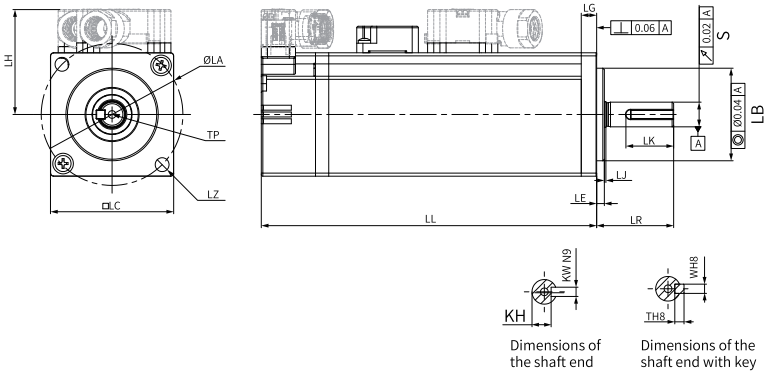
Electrical specifications of the brake motor

Holding torque (N·m)	Supply voltage (VDC)±10%	Rated power (W)	Coil resistance (Ω) (±7%)	Exciting current (A)	Apply time (ms)	Release time (ms)	Backlash (°)
3.2	24	10	57.6	0.42	⩽ 60	⩽ 40	⩽ 1

Allowable load

LF (mm)	Allowable radial load (N)	Allowable axial load (N)
35	392	147

Product dimensions (mm)



LC	LL	LR	LA	LZ	LH	LG	LE	LJ
80	118.7 (153.2)	35±0.5	90	4-Ø7	54	7.5	3±0.5	0.5±0.35
LB	S	TP	LK	KH	KW	W	T	Weight (kg)
Ø70h7$^{0}_{-0.03}$	19	M6×20	26	15.5$^{0}_{-0.1}$	6	6	6	2.55 (2.9)

5 Cable Selection

5.1 Model description

Power cable

S6-L-M ① 0 ② 0 ③ 0 ④ - 3.0 ⑤ -ZJ ⑥ - INT ⑦

① **Cable type** S6-L-B/M: Motion control power cable B: With brake M: Without brake	③ **Cross sectional area (mm²)** 0: Flange sizes 25/40/60/80 1: Flange sizes 100/130/180 2: Flange size 180 (motors of 4.4 kW and above)	⑤ **Cable length (m)** 3.0: 3 m 5.0: 5 m 10.0: 10 m
② **Connector type at drive side** 0: U-shaped cable lug 1: Needle-shaped cable lug	④ **Connector type at motor side** 0: 6-core plastic connector 1: 9-core aviation connector 2: 6-core aviation connector 7: SDC-06T series aviation connector (front outlet) 8: SDC-06T series aviation connector (rear outlet)	⑥ **Special requirements** ZJ: With shield bracket ⑦ **Special requirements** INT: Global version[1]

Note

[1]: The material of the global version cables complies with CE and UL certification.

Model of encoder cables

S6-L-P ① 0 ② 0 ③ 0 ④ - 3.0 ⑤ - T ⑥

① **Cable type** S6-L-P: Motion control encoder cable	③ **Encoder** 1: Communication-type incremental encoder 2: Communication-type multi-turn absolute encoder	⑤ **Cable length (m)** 3.0: 3 m 5.0: 5 m 10.0: 10 m
② **Connector type at drive side** 0: DB9 1: USB	④ **Connector type at motor side** 0: 9-core plastic connector 1: 9-core aviation connector 4: SDC-06T series aviation connector (front outlet) 5: SDC-06T series aviation connector (rear outlet)	⑥ **Special requirements** T: Flexible cable TS: Shielded flexible cable

Model number of communication cables

S6N-L-T ① 00 ② - 3.0 ③

① Cable type	② Cable type	③ Cable length (m)
S6-L-T: Motion control communication cable S6N-L-T: IS620F motion control encoder cable (only for servo drive to PC communication cable)	00: Servo drive to PC communication cable 01: Servo drive network communication cable (CAN&485) 02: Servo drive to PLC communication cable 03: Servo drive termination resistor cable (CAN&485) 04: Servo drive network communication cable (EtherCAT)	3.0: 3 m 5.0: 5 m 10.0: 10 m

Note

For cable selection, see Chapter Cable Model Selection List.

5.2 Cable Type

Regular cables

Do not bend or move regular cables during use. Bending or moving regular cables may damage the cables and lead to a series of cable-related faults such as poor contact. Secure regular cables by binding them with ties or similar. During binding, reserve certain bending radius for the cables to prevent stress.

Flexible cables

Flexible cables can move along with the drag chain without a high risk of abrasion.

Note

- Do not twist or wind the cables in the drag chain.
- Ensure cables can move freely within the bending radius. Relative movement must be allowed between cables or between cables and the guiding device.
- Cables in the drag chain can be fixed or bundled through the two unmovable ends of the drag chain.

Oil-resistant cables

Oil-resistant cables apply to applications requiring shielded power cables, such as machine tools, cutting fluids, and cutting compounds.

More information

Cables of MS1–R series motors are the same as MS1–Z series motors.

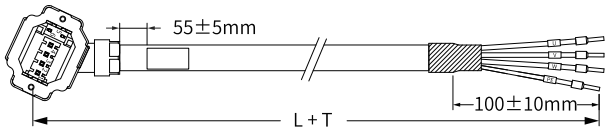
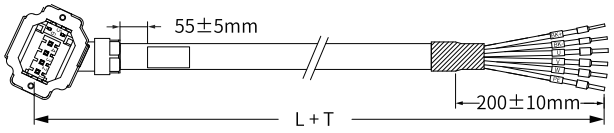
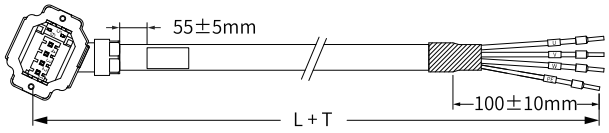
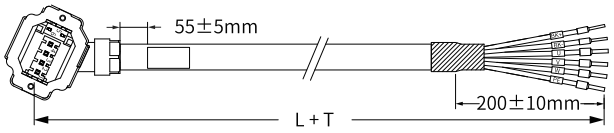
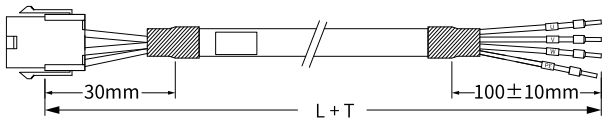
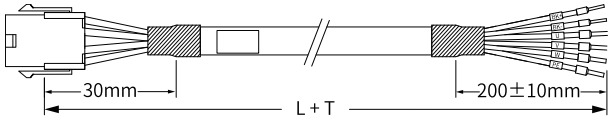
Power cables and encoder cables for terminal-type motors must be installed with specialized devices and jigs. Order the finished cables from distributors authorized by Inovance.

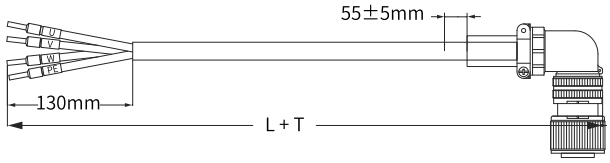
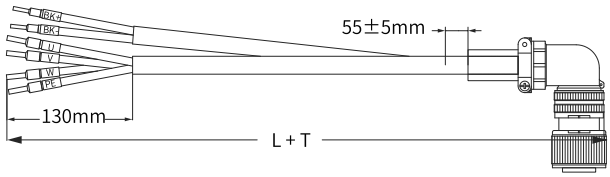
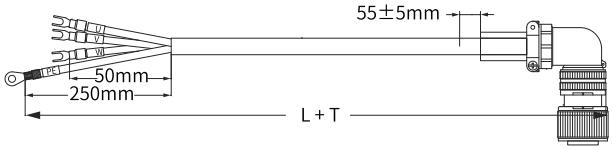
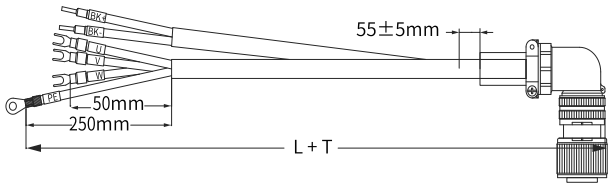
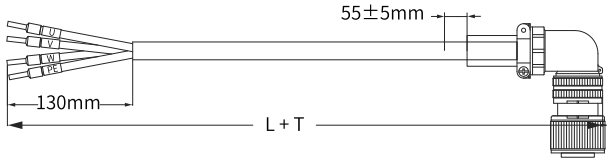
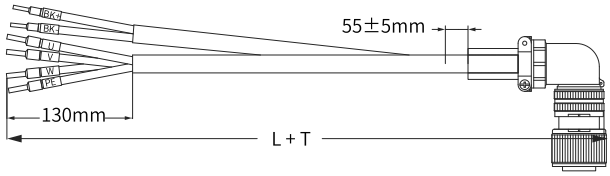
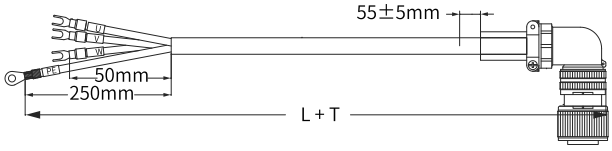
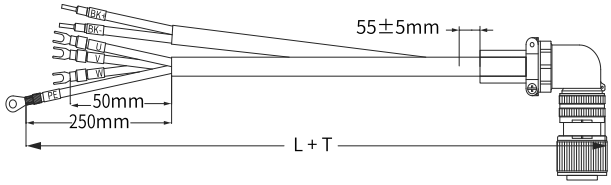
For more cable information, see "Cable Specifications and Models" in the hardware manual for the servo drive.

5.3 Cable Model Selection

5.3.1 SV680 Series

Power cable

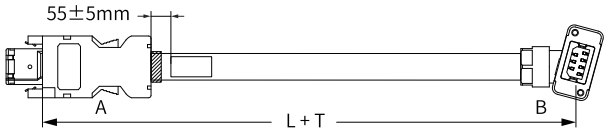
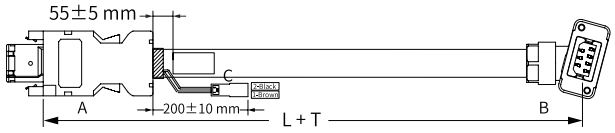
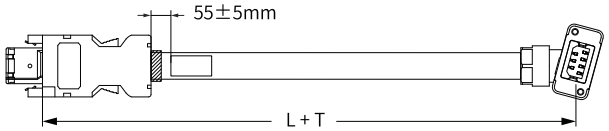
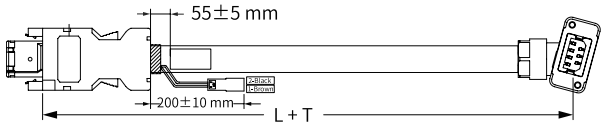
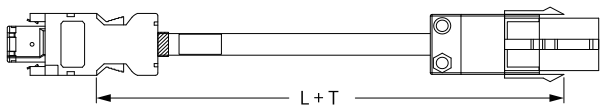
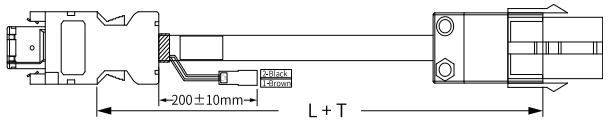
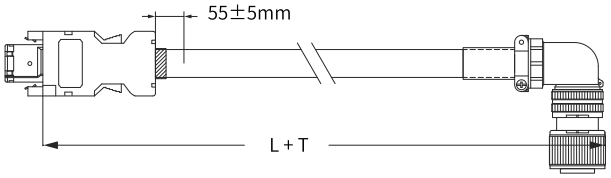
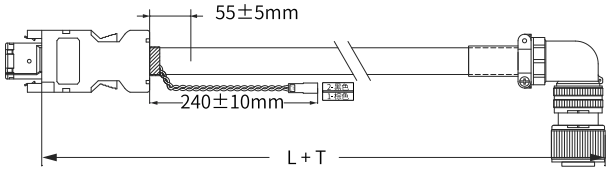
Motor model	Cable name		Cable model	Cable length (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Brake-less	S6-L-M107-3.0	3000	
			S6-L-M107-5.0	5000	
			S6-L-M107-10.0	10000	
		With brake	S6-L-B107-3.0	3000	
			S6-L-B107-5.0	5000	
			S6-L-B107-10.0	10000	
	Rear outlet	Brake-less	S6-L-M108-3.0	3000	
			S6-L-M108-5.0	5000	
			S6-L-M108-10.0	10000	
		With brake	S6-L-B108-3.0	3000	
			S6-L-B108-5.0	5000	
			S6-L-B108-10.0	10000	
MS1H1/ MS1H4 flying leads type (-S) motor	Brake-less		S6-L-M100-3.0	3000	
			S6-L-M100-5.0	5000	
			S6-L-M100-10.0	10000	
	With brake		S6-L-B100-3.0	3000	
			S6-L-B100-5.0	5000	
			S6-L-B100-10.0	10000	

Motor model	Cable name	Cable model	Cable length (mm)	Drawing
MS1H2 motor rated 3 kW or below/ MS1H3 motor rated 1.8 kW or below	Brake-less	S6-L-M111-3.0	3000	
		S6-L-M111-5.0	5000	
		S6-L-M111-10.0	10000	
	With brake	S6-L-B111-3.0	3000	
		S6-L-B111-5.0	5000	
		S6-L-B111-10.0	10000	
MS1H2 motor rated 4 kW/5 kW	Brake-less	S6-L-M011-3.0	3000	
		S6-L-M011-5.0	5000	
		S6-L-M011-10.0	10000	
	With brake	S6-L-B011-3.0	3000	
		S6-L-B011-5.0	5000	
		S6-L-B011-10.0	10000	
MS1H3 motor rated 2.9 kW	Brake-less	S6-L-M112-3.0	3000	
		S6-L-M112-5.0	5000	
		S6-L-M112-10.0	10000	
	With brake	S6-L-B112-3.0	3000	
		S6-L-B112-5.0	5000	
		S6-L-B112-10.0	10000	
MS1H3 motor rated 4.4 kW or above	Brake-less	S6-L-M022-3.0	3000	
		S6-L-M022-5.0	5000	
		S6-L-M022-10.0	10000	
	With brake	S6-L-B022-3.0	3000	
		S6-L-B022-5.0	5000	
		S6-L-B022-10.0	10000	

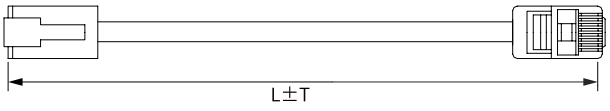
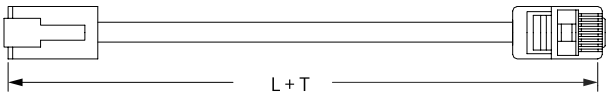
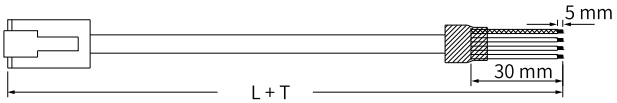
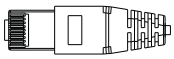
Note

- For 50 W terminal type models, use rear outlet for power cables.
- For 100 W models, if the mounting flange face is internally stepped type, only terminal-type models can be used, which are equipped with power cables with rear outlet.

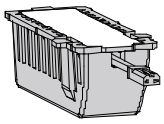
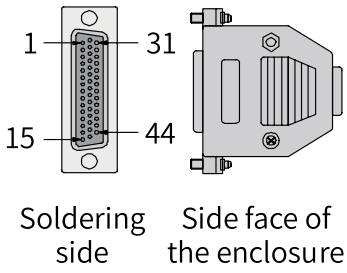
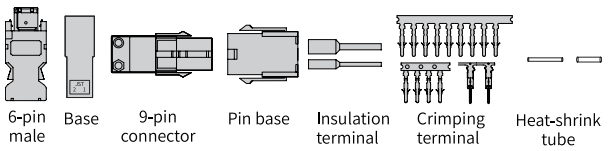
Encoder cable

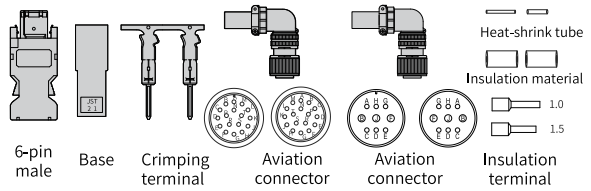
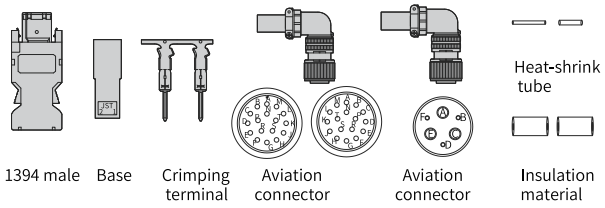
Motor model	Cable name		Cable model	Cable length (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Single-turn absolute encoder cable	S6-L-P114-3.0	3000	
			S6-L-P114-5.0	5000	
			S6-L-P114-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P124-3.0	3000	
			S6-L-P124-5.0	5000	
			S6-L-P124-10.0	10000	
	Rear outlet	Single-turn absolute encoder cable	S6-L-P115-3.0	3000	
			S6-L-P115-5.0	5000	
			S6-L-P115-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P125-3.0	3000	
			S6-L-P125-5.0	5000	
			S6-L-P125-10.0	10000	
MS1H1/MS1H4 flying leads type (-S) motor		Single-turn absolute encoder cable	S6-L-P110-3.0	3000	
			S6-L-P110-5.0	5000	
			S6-L-P110-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P120-3.0	3000	
			S6-L-P120-5.0	5000	
			S6-L-P120-10.0	10000	
MS1H2 motor		Single-turn absolute encoder cable	S6-L-P111-3.0	3000	
			S6-L-P111-5.0	5000	
			S6-L-P111-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P121-3.0	3000	
			S6-L-P121-5.0	5000	
			S6-L-P121-10.0	10000	

Communication cables

Cable name	Cable model	Cable length (mm)	Drawing
Servo drive communication cable (for SV680N models)	S6-L-T04-0.3	300	
Multi-drive communication cable (for SV680P models)	S6-L-T01-0.3	300	
Servo drive to host controller communication cable	S6-L-T02-2.0	2000	
Servo drive termination resistor connector	S6-L-T03-0.0	-	

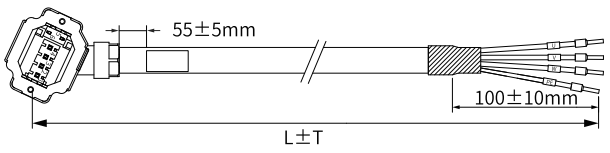
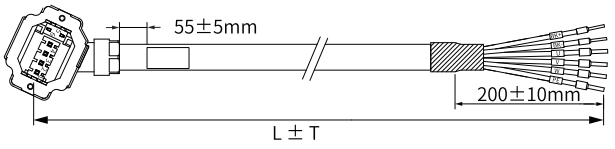
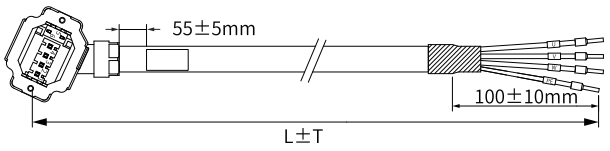
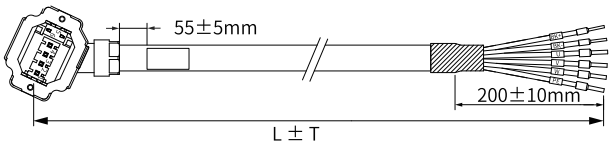
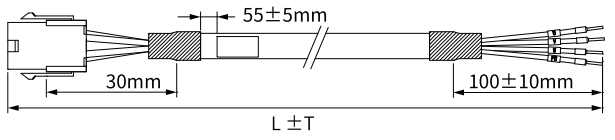
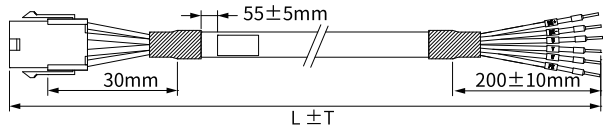
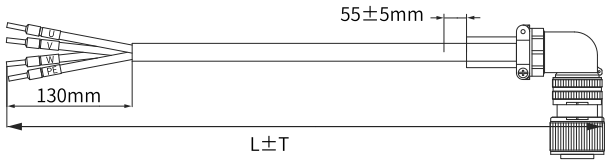
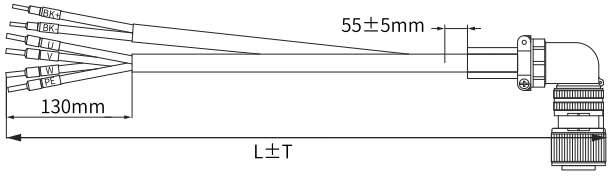
Connector Kit

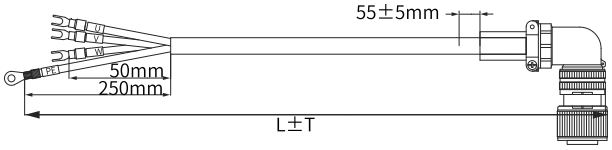
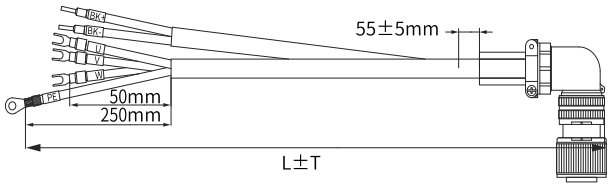
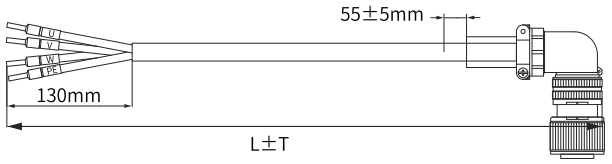
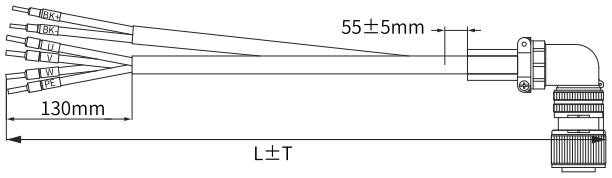
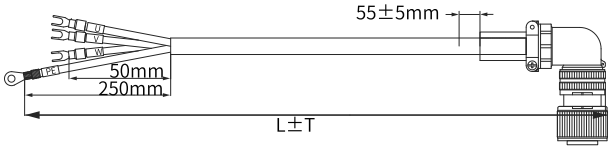
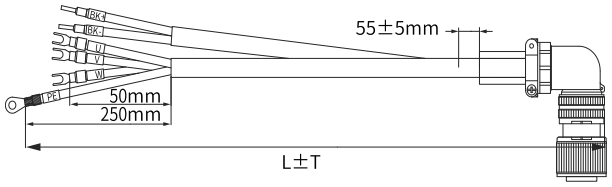
Cable name	Cable model	Cable length (mm)	Drawing
Battery kit	S6-C4A	-	
CN1 terminal (DB44) (for SV680P models)	S6-C8	-	
MS1H1 flying leads type (-S) motor connector	S6-C26	-	

Cable name	Cable model	Cable length (mm)	Drawing
MS1H2/MS1H3 (1.8 kW and below) motor connectors	S6-C29	-	
MS1H3 (2.9 kW and above) motor connectors	S6-C39	-	

5.3.2 SV670 Series

Power cable

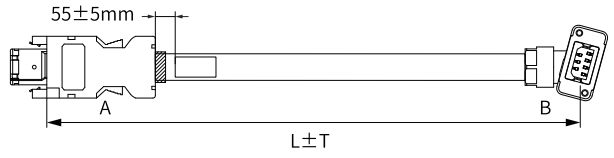
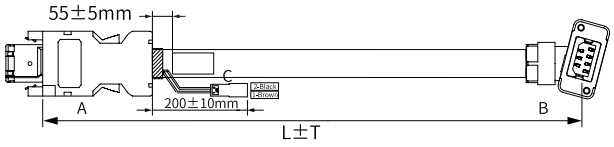
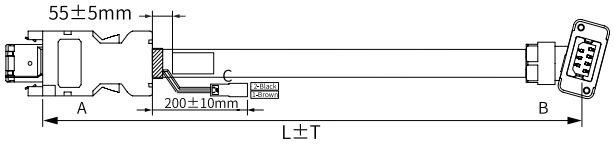
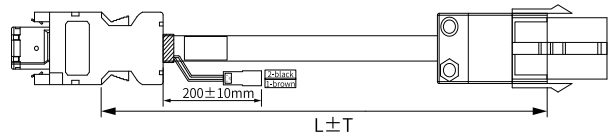
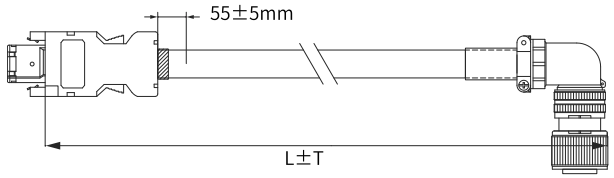
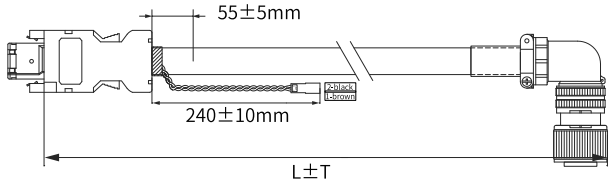
Motor model	Cable name		Cable model	Cable length (mm)	Tolerance (T) (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Brake-less	S6-L-M107-3.0	3000	(-30,30)	
			S6-L-M107-5.0	5000	(-30,50)	
			S6-L-M107-10.0	10000	(-30,80)	
		With brake	S6-L-B107-3.0	3000	(-30,30)	
			S6-L-B107-5.0	5000	(-30,50)	
			S6-L-B107-10.0	10000	(-30,80)	
	Rear outlet	Brake-less	S6-L-M108-3.0	3000	(-30,30)	
			S6-L-M108-5.0	5000	(-30,50)	
			S6-L-M108-10.0	10000	(-30,80)	
		With brake	S6-L-B108-3.0	3000	(-30,30)	
			S6-L-B108-5.0	5000	(-30,50)	
			S6-L-B108-10.0	10000	(-30,80)	
MS1H1/ MS1H4 flying leads type (-S) motor	Brake-less		S6-L-M100-3.0	3000	(-30,30)	
			S6-L-M100-5.0	5000	(-30,50)	
			S6-L-M100-10.0	10000	(-30,80)	
	With brake		S6-L-B100-3.0	3000	(-30,30)	
			S6-L-B100-5.0	5000	(-30,50)	
			S6-L-B100-10.0	10000	(-30,80)	
MS1H2 motor rated 3 kW or below/ MS1H3 motor rated 1.8 kW or below	Brake-less		S6-L-M111-3.0	3000	(-30,30)	
			S6-L-M111-5.0	5000	(-30,50)	
			S6-L-M111-10.0	10000	(-30,80)	
	With brake		S6-L-B111-3.0	3000	(-30,30)	
			S6-L-B111-5.0	5000	(-30,50)	
			S6-L-B111-10.0	10000	(-30,80)	

Motor model	Cable name	Cable model	Cable length (mm)	Tolerance (T) (mm)	Drawing
MS1H2 motor rated 4 kW/5 kW	Brake-less	S6-L-M011-3.0	3000	(-30,30)	
		S6-L-M011-5.0	5000	(-30,50)	
		S6-L-M011-10.0	10000	(-30,80)	
	With brake	S6-L-B011-3.0	3000	(-30,30)	
		S6-L-B011-5.0	5000	(-30,50)	
		S6-L-B011-10.0	10000	(-30,80)	
MS1H3 motor rated 2.9 kW	Brake-less	S6-L-M112-3.0	3000	(-30,30)	
		S6-L-M112-5.0	5000	(-30,50)	
		S6-L-M112-10.0	10000	(-30,80)	
	With brake	S6-L-B112-3.0	3000	(-30,30)	
		S6-L-B112-5.0	5000	(-30,50)	
		S6-L-B112-10.0	10000	(-30,80)	
MS1H3 motor rated 4.4 kW or above	Brake-less	S6-L-M022-3.0	3000	(-30,30)	
		S6-L-M022-5.0	5000	(-30,50)	
		S6-L-M022-10.0	10000	(-30,80)	
	With brake	S6-L-B022-3.0	3000	(-30,30)	
		S6-L-B022-5.0	5000	(-30,50)	
		S6-L-B022-10.0	10000	(-30,80)	

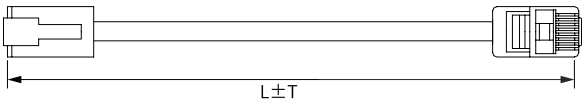
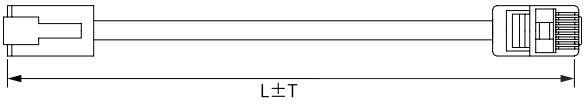
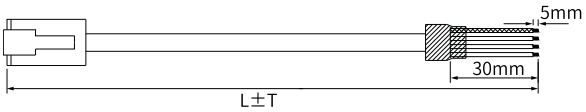
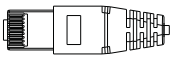
Note

- For 50 W terminal type models, use rear outlet for power cables.
- For 100 W models, if the mounting flange face is internally stepped type, only terminal-type models can be used, which are equipped with power cables with rear outlet.

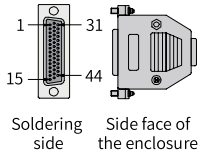
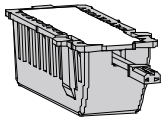
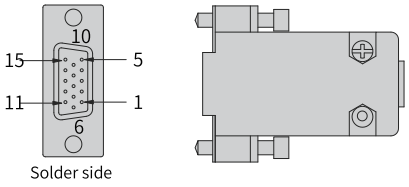
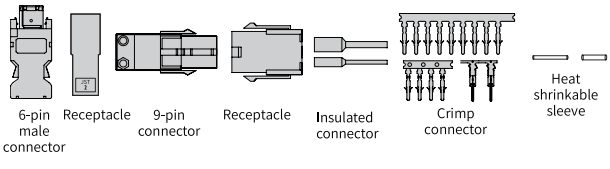
Encoder cable

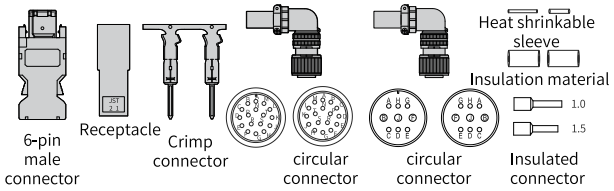
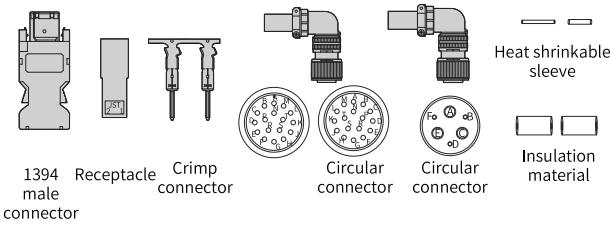
Motor model	Cable name		Cable model	Cable length (mm)	Tolerance (T) (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Single-turn absolute encoder cable	S6-L-P114-3.0	3000	(-30,30)	
			S6-L-P114-5.0	5000	(-30,50)	
			S6-L-P114-10.0	10000	(-30,80)	
		Multi-turn absolute encoder cable	S6-L-P124-3.0	3000	(-30,30)	
			S6-L-P124-5.0	5000	(-30,50)	
			S6-L-P124-10.0	10000	(-30,80)	
	Rear outlet	Single-turn absolute encoder cable	S6-L-P115-3.0	3000	(-30,30)	
			S6-L-P115-5.0	5000	(-30,50)	
			S6-L-P115-10.0	10000	(-30,80)	
		Multi-turn absolute encoder cable	S6-L-P125-3.0	3000	(-30,30)	
			S6-L-P125-5.0	5000	(-30,50)	
			S6-L-P125-10.0	10000	(-30,80)	
MS1H1/MS1H4 flying leads type (-S) motor		Single-turn absolute encoder cable	S6-L-P110-3.0	3000	(-30,30)	
			S6-L-P110-5.0	5000	(-30,50)	
			S6-L-P110-10.0	10000	(-30,80)	
		Multi-turn absolute encoder cable	S6-L-P120-3.0	3000	(-30,30)	
			S6-L-P120-5.0	5000	(-30,50)	
			S6-L-P120-10.0	10000	(-30,80)	
MS1H2/MS1H3 motor		Single-turn absolute encoder cable	S6-L-P111-3.0	3000	(-30,30)	
			S6-L-P111-5.0	5000	(-30,50)	
			S6-L-P111-10.0	10000	(-30,80)	
		Multi-turn absolute encoder cable	S6-L-P121-3.0	3000	(-30,30)	
			S6-L-P121-5.0	5000	(-30,50)	
			S6-L-P121-10.0	10000	(-30,80)	

Communication cables

Cable name	Cable model	Cable length (mm)	Tolerance (T) (mm)	Drawing
Multi-drive communication cable (for SV670P models)	S6-L-T01-0.3	300	(-10,10)	
Servo drive communication cable (for SV670N models)	S6-L-T04-0.3	300	(-10,10)	
Servo drive to host controller communication cable	S6-L-T02-2.0	2000	(-20,20)	
Servo drive termination resistor connector	S6-L-T03-0.0	-	-	

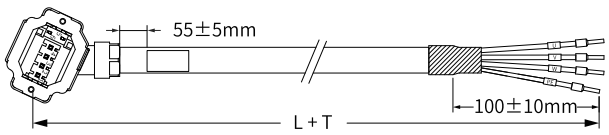
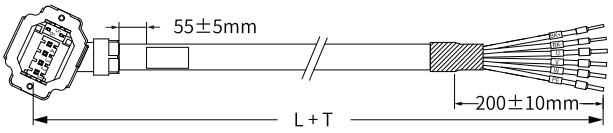
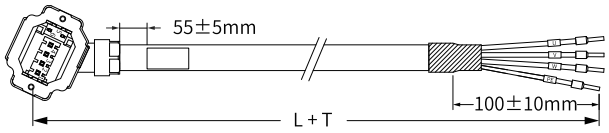
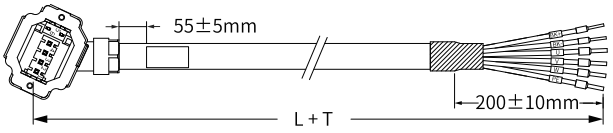
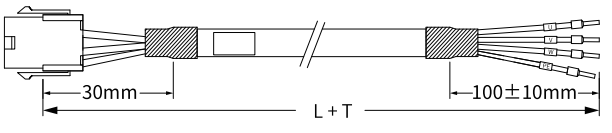
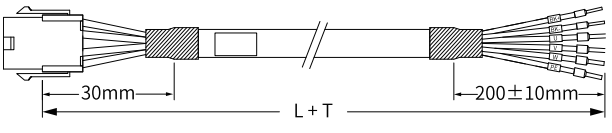
Connector Kit

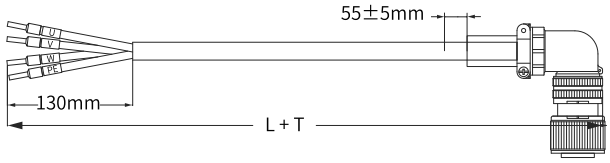
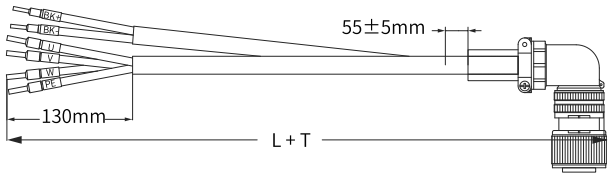
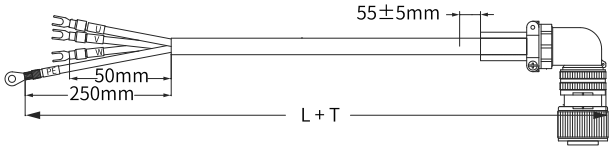
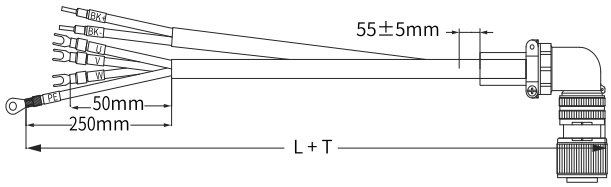
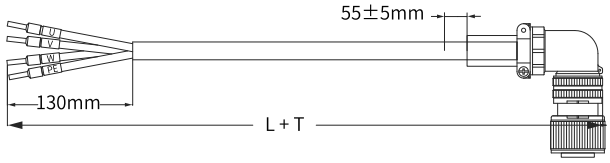
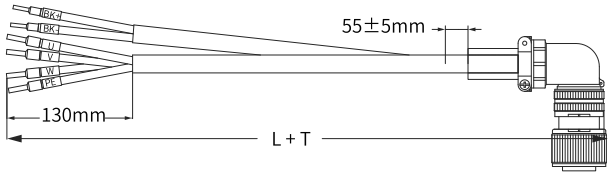
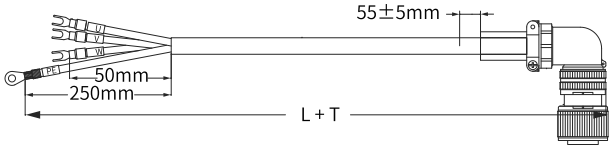
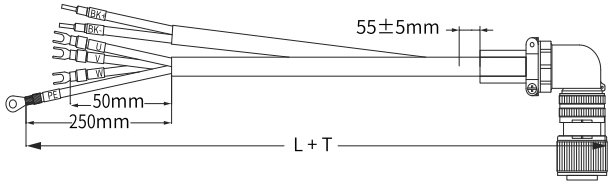
Name	Model	Drawing
CN1 terminal (DB44) (for SV670P models)	S6-C8	
Battery kit	S6-C4A	
CN7 terminal (DB15)	S6-C6	
MS1H1 flying leads type (-S) motor connector	S6-C26	

Name	Model	Drawing
MS1H2/MS1H3 (1.8 kW and below) motor connectors	S6-C29	
MS1H3 (2.9 kW and above) motor connectors	S6-C39	

5.3.3 SV660 Series and SV630 Series

Power cable

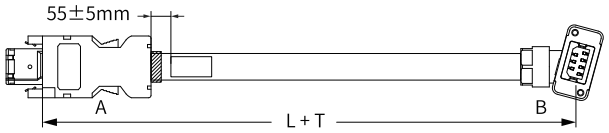
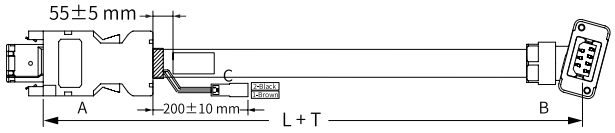
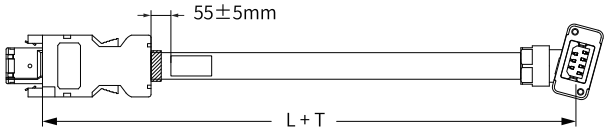
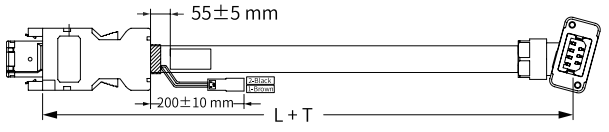
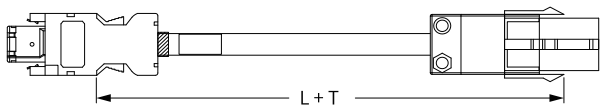
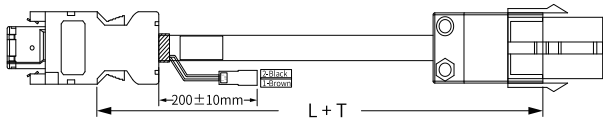
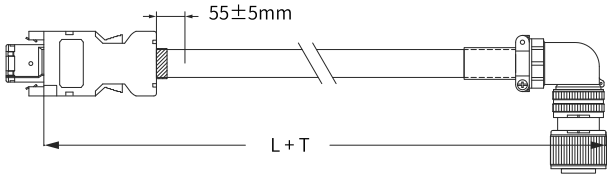
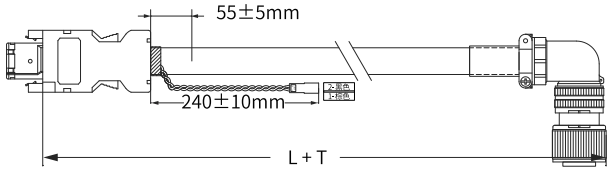
Motor model	Cable name		Cable model	Cable length (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Brake-less	S6-L-M107-3.0	3000	
			S6-L-M107-5.0	5000	
			S6-L-M107-10.0	10000	
		With brake	S6-L-B107-3.0	3000	
			S6-L-B107-5.0	5000	
			S6-L-B107-10.0	10000	
	Rear outlet	Brake-less	S6-L-M108-3.0	3000	
			S6-L-M108-5.0	5000	
			S6-L-M108-10.0	10000	
		With brake	S6-L-B108-3.0	3000	
			S6-L-B108-5.0	5000	
			S6-L-B108-10.0	10000	
MS1H1/ MS1H4 flying leads type (-S) motor	Brake-less		S6-L-M100-3.0	3000	
			S6-L-M100-5.0	5000	
			S6-L-M100-10.0	10000	
	With brake		S6-L-B100-3.0	3000	
			S6-L-B100-5.0	5000	
			S6-L-B100-10.0	10000	

Motor model	Cable name	Cable model	Cable length (mm)	Drawing
MS1H2 motor rated 3 kW or below/ MS1H3 motor rated 1.8 kW or below	Brake-less	S6-L-M111-3.0	3000	
		S6-L-M111-5.0	5000	
		S6-L-M111-10.0	10000	
	With brake	S6-L-B111-3.0	3000	
		S6-L-B111-5.0	5000	
		S6-L-B111-10.0	10000	
MS1H2 motor rated 4 kW/5 kW	Brake-less	S6-L-M011-3.0	3000	
		S6-L-M011-5.0	5000	
		S6-L-M011-10.0	10000	
	With brake	S6-L-B011-3.0	3000	
		S6-L-B011-5.0	5000	
		S6-L-B011-10.0	10000	
MS1H3 motor rated 2.9 kW	Brake-less	S6-L-M112-3.0	3000	
		S6-L-M112-5.0	5000	
		S6-L-M112-10.0	10000	
	With brake	S6-L-B112-3.0	3000	
		S6-L-B112-5.0	5000	
		S6-L-B112-10.0	10000	
MS1H3 motor rated 4.4 kW or above	Brake-less	S6-L-M022-3.0	3000	
		S6-L-M022-5.0	5000	
		S6-L-M022-10.0	10000	
	With brake	S6-L-B022-3.0	3000	
		S6-L-B022-5.0	5000	
		S6-L-B022-10.0	10000	

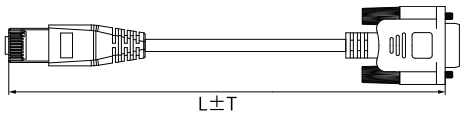
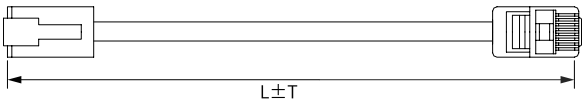
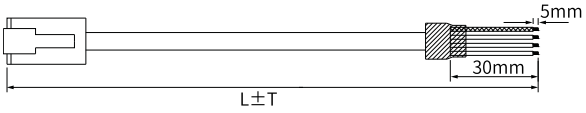
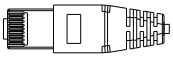
Note

- For 50 W terminal type models, use rear outlet for power cables.
- For 100 W models, if the mounting flange face is internally stepped type, only terminal-type models can be used, which are equipped with power cables with rear outlet.

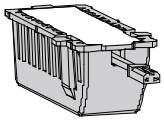
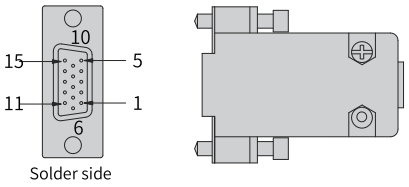
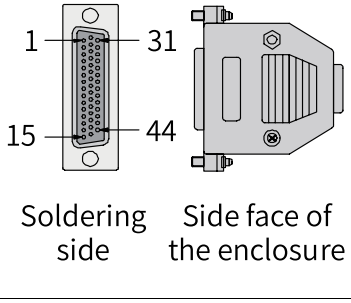
Encoder cable

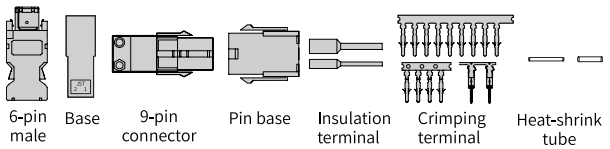
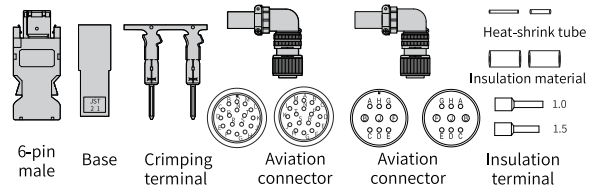
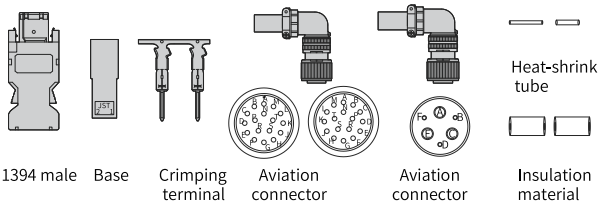
Motor model	Cable name		Cable model	Cable length (mm)	Drawing
MS1H1/ MS1H4 terminal-type motors	Front outlet	Single-turn absolute encoder cable	S6-L-P114-3.0	3000	
			S6-L-P114-5.0	5000	
			S6-L-P114-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P124-3.0	3000	
			S6-L-P124-5.0	5000	
			S6-L-P124-10.0	10000	
	Rear outlet	Single-turn absolute encoder cable	S6-L-P115-3.0	3000	
			S6-L-P115-5.0	5000	
			S6-L-P115-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P125-3.0	3000	
			S6-L-P125-5.0	5000	
			S6-L-P125-10.0	10000	
MS1H1/MS1H4 flying leads type (-S) motor		Single-turn absolute encoder cable	S6-L-P110-3.0	3000	
			S6-L-P110-5.0	5000	
			S6-L-P110-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P120-3.0	3000	
			S6-L-P120-5.0	5000	
			S6-L-P120-10.0	10000	
MS1H2 motor		Single-turn absolute encoder cable	S6-L-P111-3.0	3000	
			S6-L-P111-5.0	5000	
			S6-L-P111-10.0	10000	
		Multi-turn absolute encoder cable	S6-L-P121-3.0	3000	
			S6-L-P121-5.0	5000	
			S6-L-P121-10.0	10000	

Communication cables

Cable name	Cable model	Cable length (mm)	Tolerance (T) (mm)	Drawing
Drive to PC communication cable	S6-L-T00-3.0	3000	(-30,30)	
Multi-drive communication cable (for SV660P models)	S6-L-T01-0.3	300	(-10,10)	
Servo drive to host controller communication cable (for SV660P models)	S6-L-T02-2.0	2000	(-20,20)	
Termination resistor connector (for SV660P models)	S6-L-T03-0.0	-	-	
Servo drive network communication cable	S6-L-T04-0.3	300	(-20.20)	
Servo drive to host controller communication cable	S6-L-T04-3.0	3000	(-30.30)	

Connector Kit

Cable name	Cable model	Cable length (mm)	Drawing
Battery kit	S6-C4A	-	
CN1 terminal (DB15)	S6-C6	-	
CN1 terminal (DB44) (for SV660P models)	S6-C8	-	

Cable name	Cable model	Cable length (mm)	Drawing
MS1H1 flying leads type (-S) motor connector	S6-C26	-	
MS1H2/MS1H3 (1.8 kW and below) motor connectors	S6-C29	-	
MS1H3 (2.9 kW and above) motor connectors	S6-C39	-	

5.4 Cable Terminals

5.4.1 Power Cable Terminals

- The following figure shows the wiring diagram for a terminal-type motor.

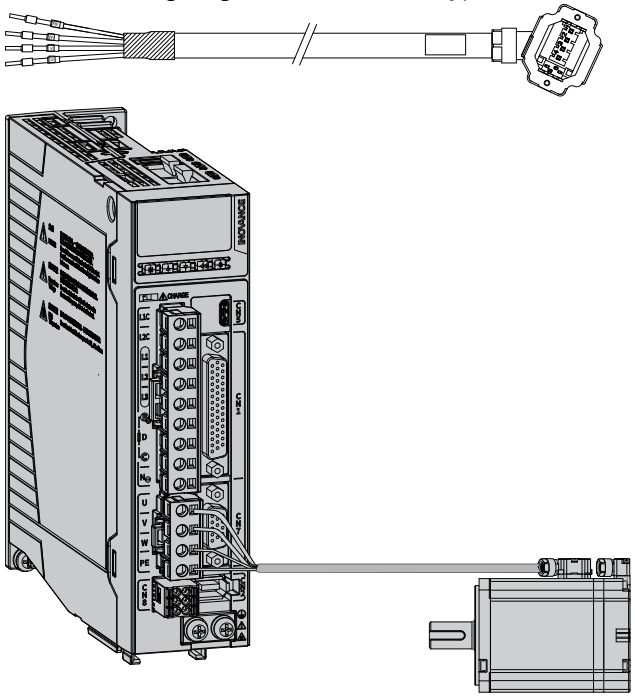
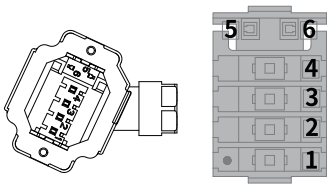


Figure 5-1 Wiring between the drive and terminal-type motor

Table 5–1 Description of the power cable connector (motor side)

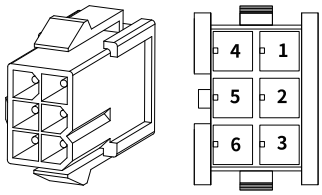
Applicable motor flange size [1]	Outline drawing of the connector	Terminal pin layout		
		Pin No.	Name	Color
Terminal-type: 40 60 80	 Black 6-pin connector	1	PE	Yellow/Green
		2	W	Red
		3	V	Black
		4	U	White
		5	Brake (polarity insensitive)	Brown
		6		Blue

Note

- [1] The flange size refers to the width of the mounting flange (in mm).
- Power cable colors are subject to the actual product. All cable colors mentioned in this guide refer to Inovance cable colors.

- The following tables describes the power cable connector for a flying leads type motor.

Table 5–2 Description of the power cable connector (motor side)

Applicable motor flange size [1]	Outline drawing of the connector	Terminal pin layout		
		Pin No.	Name	Color
Flying leads type: 40 60 80	 Black 6-pin connector Recommendation: Plastic housing: MOLEX-50361736 Terminal: MOLEX-39000061	1	U	White
		2	V	Black
		4	W	Red
		5	PE	Yellow/Green
		3	Brake (polarity insensitive)	Brown
		6		Blue

Note

- [1]: The flange size refers to the width of the mounting flange.
- Power cable colors are subject to the actual product. All cable colors mentioned in this guide refer to Inovance cable colors.

- The following table describes the connector for high-power motor power cables.

Table 5–3 Description of the power cable connector (motor side)

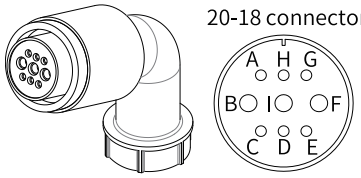
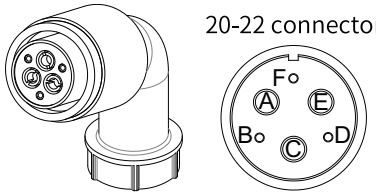
Applicable motor flange size [1]	Outline drawing of the connector	Terminal pin layout		
		Pin No.	Name	Color
100 130	 MIL-DTL-5015 series 3108E20-18S aviation connector	B	U	Blue
		I	V	Black
		F	W	Red
		G	PE	Yellow/Green
		C	Brake (polarity insensitive)	Red
		E		Black

Table 5–4 Description of the power cable connector (motor side)

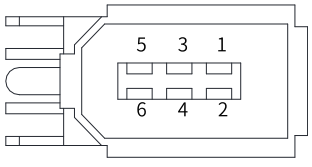
Applicable motor flange size [1]	Outline drawing of the connector	Terminal pin layout		
		Pin No.	Name	Color
180	 MIL-DTL-5015 series 3108E20-22S aviation connector	A	U	Blue
		C	V	Black
		E	W	Red
		F	PE	Yellow/Green
		B	Brake (polarity insensitive)	Red
		D		Black

Note

- [1]: The flange size refers to the width of the mounting flange.
- Power cable colors are subject to the actual product. All cable colors mentioned in this guide refer to Inovance cable colors.

5.4.2 Encoder Cable Terminals

Layout of terminals



Encoder signal terminal CN2

Figure 5-2 Layout of encoder terminal pins

Table 5–5 Description of encoder terminal pins

Pin No.	Assignment	Description
1	+5V	5 V power supply
2	GND	
3	Reserved	-
4	Reserved	-

Pin No.	Assignment	Description
5	PS+	Gantry synchronization signal
6	PS-	
Enclosure	PE	Hide

Terminal descriptions

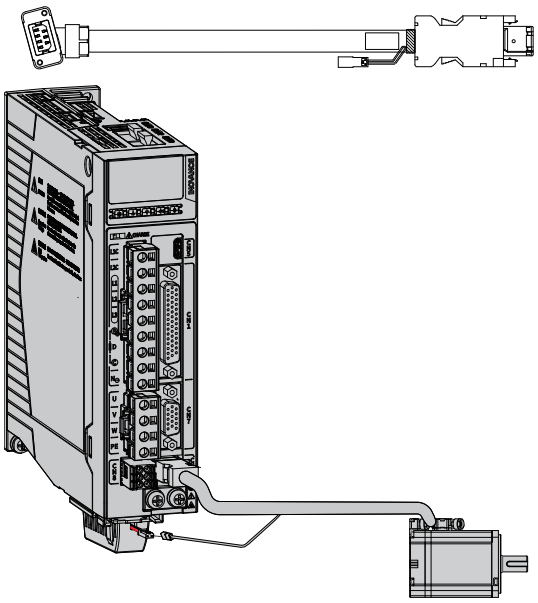


Figure 5-3 Wiring example of absolute encoder signals [1]

Note

- [1]: The preceding figure shows the wiring of a 26-bit multi-turn absolute encoder.
- The encoder cable color is subject to the color of the actual product. Cable colors mentioned in this guide all refer to Inovance cables.

Drain wires of the battery box:

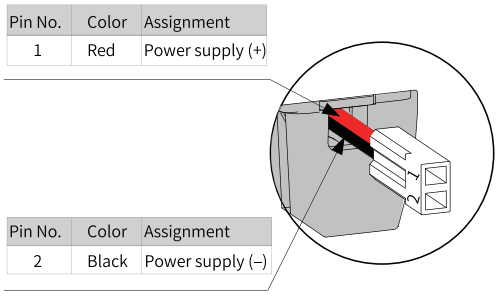


Figure 5-4 Description of the drain wire color of the battery box

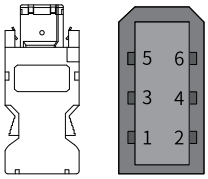
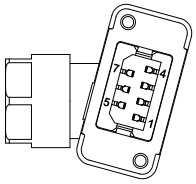
Note

- Keep the battery in environments within the required ambient temperature range and ensure the battery is in reliable contact and carries sufficient power capacity. Otherwise, encoder data loss may occur.
- Model of the battery box (battery included): S6-C4A

Note

[1] The flange size refers to the width of the mounting flange.

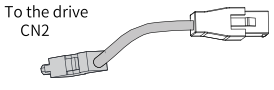
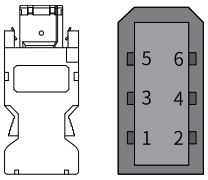
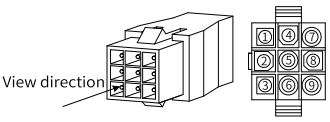
Table 5–6 Terminal-type motor encoder cable connector

Applicable motor flange size [1]	Outline drawing of the connector		Terminal pin layout			
			Pin No.	Name	Color	Type
Terminal-type: 40 60 80	Drive side	 6-pin male (right side as the joining side)	1	+5V	Red	Twisted pair
			2	GND	Orange	
			5	PS+	Blue	Twisted pair
			6	PS-	Purple	
			Enclosure	PE	-	-
	Mo tor side	 7-pin connector	1	PS+	Blue	Twisted pair
			2	PS-	Purple	
			3	DC+	Brown	Twisted pair
			4	DC-	Black	
			5	+5V	Red	Twisted pair
			6	GND	Orange	
			7	PE	-	-

Note

[1] The flange size refers to the width of the mounting flange.

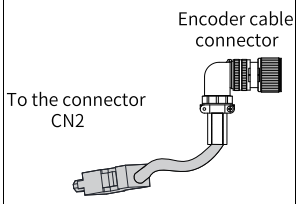
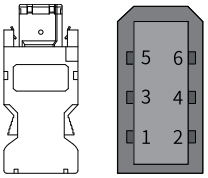
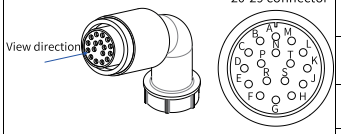
Table 5–7 Encoder cable connector of flying leads type motors

Applicable motor flange size [1]	Outline drawing of the connector			Terminal pin layout			
				Pin No.	Name	Color	Type
Flying leads type: 40 60 80		Drive side	 6-pin male (right side as the joining side)	1	+5V	Red	Twisted pair
				2	GND	Orange	
				5	PS+	Blue	Twisted pair
				6	PS-	Purple	
				Enclosure	PE	-	-
		Motor side	 9-pin connector Recommended: Plastic enclosure: AMP 172161-1; terminal: AMP 770835-1	1	Battery +	Brown	Twisted pair
				4	Battery -	Black	
				3	PS+	Blue	
				6	PS-	Purple	
				9	+5V	Red	-
				8	GND	Orange	
				7	Hide	-	

Note

[1] The flange size refers to the width of the mounting flange.

Table 5–8 High power motor encoder cable connector

Applicable motor flange size [1]	Outline drawing of the connector			Terminal pin layout			
				Pin No.	Name	Color	Type
100 130 180		Drive side	 6-pin male (right side as the joining side)	1	+5V	Red	Twisted pair
				2	GND	Orange	
				5	PS+	Blue	Twisted pair
				6	PS-	Purple	
				Enclosure	PE	-	-
		Motor side		A	PS+	Blue	Twisted pair
				B	PS-	Purple	
				E	Battery +	Brown	-
				F	Battery -	Black	
				G	+5V	Red	-
				H	GND	Orange	
				J	Hide	-	

Note

[1] The flange size refers to the width of the mounting flange (in mm).

5.5 Connectors

Power cable connector

Note

Check that the connector cushion is in place before connection.

Align pins 5 and 6 with corresponding holes (as shown in the following figure) and insert them into the holes. Do not insert pins 5 and 6 forcibly. After insertion, screw down with a tightening torque of 1.5 ±0.5 kgf.cm.

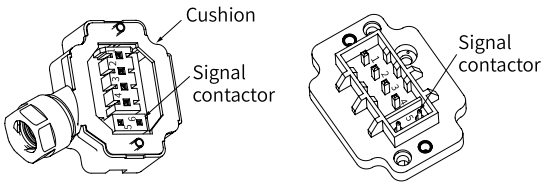


Figure 5-5 Power connector

Encoder connector

Note

Check that the connector cushion is in place before connection.

Plugs and sockets are designed with fool-proof chamfers (as shown below). Align the fool-proof chamfer before insertion. After insertion, screw down the two screws on the connector with a tightening torque of 1.5±0.5 kgf.cm·m.

Check that the connector cushion is in place before connection.

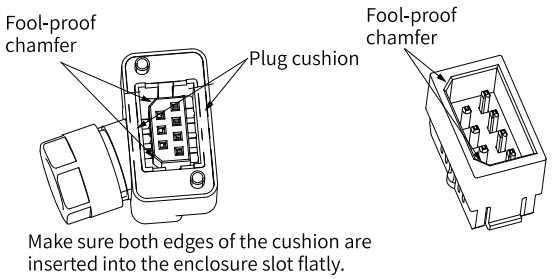


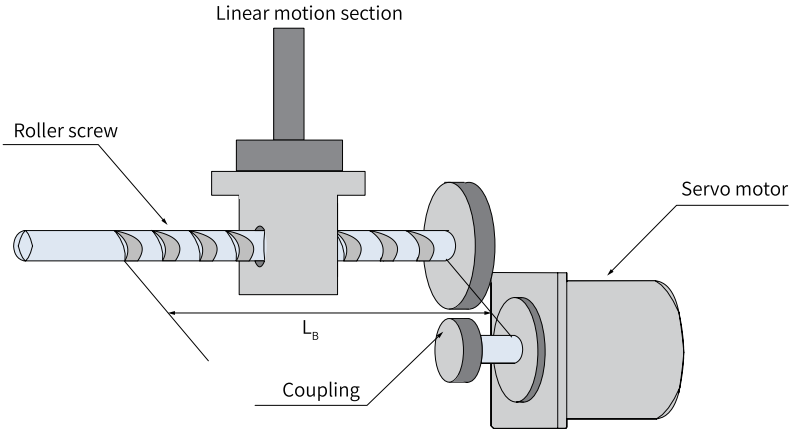
Figure 5-6 Encoder connector

Note

- The assembly direction of the connector insulator is subject to the actual direction.
- Do not energize an electrical connector connected loosely. Plug-in/out is not allowed when the power is on.
- The mating life of the electrical connector is 50 cycles. Keep the connector and socket clean without greasy dirt during use. Handle the connector and socket with care to prevent damage.
- Before connecting the male and female connectors, ensure they are free from condensation and pollutants. Take protective measures for idled connectors to prevent intrusion of dust and liquid.

6 Motor Capacity Selection

6.1 Capacity Selection Example for Position Control



Load Speed V_L =15 m/min

Linear motion section mass (m): 80 kg

Roller screw length L_B =0.8 m

Roller screw diameter (d_B): 0.016 m

Roller screw lead (P_B): 0.005 m

Coupler weight m_c = 0.3 kg

Coupler O.D. d_c =0.03 m

Number of feeding operations (n): 40/min

Feeding distance (L): 0.25 m

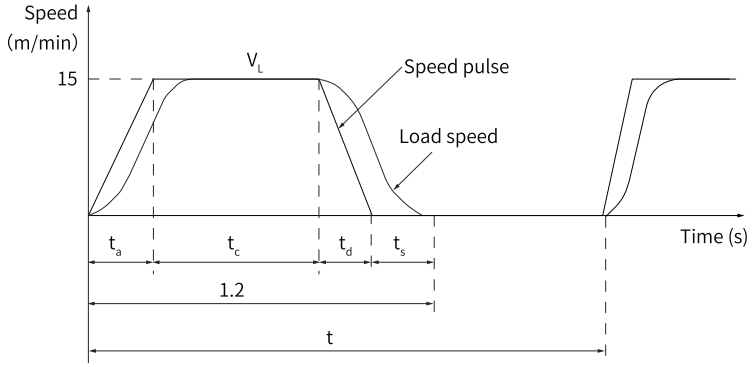
Feeding time t_m = less than 1.2s

Electrical stopping precision (δ): ±0.01 mm

Friction coefficient (μ): 0.2

Mechanical efficiency (η): 0.9 (90%)

1. **Speed diagram**



$$t = \frac{60}{n} = \frac{60}{40} = 1.5(s)$$

$$T_a = t_d, t_s = 0.1(s)$$

$$Ta = t_m - t_s - \frac{60L}{V_L} = 1.2 - 0.1 - \frac{60 \times 0.25}{15} = 0.1(s)$$

$$t_c = 1.2 - 0.1 - 0.1 \times 2 = 0.9(s)$$

2. **Speed**

- Load shaft speed

$$n_L = \frac{V_L}{P_B} = \frac{15}{0.005} = 3000\ (\text{rpm})$$

- Motor shaft speed

As the coupler is directly connected, the gear ratio (1/R) is 1:1.

$$n_M = n_L \times R = 3000 \times 1 = 3000\ (\text{rpm})$$

3. **Load torque**

$$T_L = \frac{9.8\,\mu \times m \times P_B}{2\pi R \times \eta} = \frac{9.8 \times 0.2 \times 80 \times 0.005}{2\pi \times 1 \times 0.9} = 0.139\ (\text{N}\cdot\text{m})$$

4. **Load moment of inertia**

- Linear motion section

$$J_{LI} = m \times \left(\frac{P_B}{2\pi R}\right)^2 = 80 \times \left(\frac{0.005}{2\pi \times 1}\right)^2 = 0.507 \times 10^{-4}\ (\text{kg}\cdot\text{m}^2)$$

- Roller screw

$$J_B = \frac{\pi}{32} P \times L_B \times d_B^4 = \frac{\pi}{32} \times 7.87 \times 10^3 \times 0.8 \times (0.016)^4 = 0.405 \times 10^{-4}(\text{kg}\cdot\text{m}^2)$$

- Coupler

$$J_C = \frac{1}{8} m_c \times d_c^4 = \frac{1}{8} \times 0.3 \times (0.03)^2 = 0.338 \times 10^{-4}(\text{kg}\cdot\text{m}^2)$$

5. **Load moving power**

$$P_O = \frac{2\pi \times n_M \times T_L}{60} = \frac{2\pi \times 3000 \times 0.139}{60} = 43.7\ (\text{W})$$

6. **Load acceleration power**

$$P_a = \left(\frac{2\pi}{60} \times n_m\right)^2 \frac{J_L}{t_a} = \left(\frac{2\pi}{60} \times n_m\right)^2 \times \frac{J_{LI} + J_B + J_C}{t_a}$$

$$= \left(\frac{2\pi}{60} \times 3000\right)^2 \times \frac{1.25 \times 10^{-4}}{0.1} = 123.4\ (\text{W})$$

7. **Provisional settings of the servo motor**

- Selection condition

$T_L \leqslant$ Motor rated torque

$P_a + P_o =$ (1 to 2) x motor rated output

$n_M \leqslant$ motor rated speed

$J_L \leqslant$ Allowable load moment of inertia of the servo unit

Perform the following provisional selections according to preceding conditions:

Servo motor: MS1H1-20B30CB-A630R

Servo drive: SV670PS1R6I

- Specifications of the servo motor and servo drive

Rated output: 200 (W)

Rated speed: 3000 (rpm)

Rated torque: 0.64 (N · m)

Maximum transient torque: 1.95 (N · m)

Rotor moment of inertia: 0.082 x 10^{-4}kg (m^2)

Allowable load moment of inertia: 1.64 x 10^{-4} (kg · m^2)

Pulses per revolution of the encoder: 67108864 (P/R)

8. **Verification of the servo motor selected provisionally**

Verify the start torque required

$$T_p = \frac{2\pi \times n_M \times (J_M + J_L)}{60 \times t_a} + T_L = \frac{2\pi \times 3000 \times (0.082 + 1.25) \times 10^{-4}}{60 \times 0.1} + 0.139$$

$$= 0.557\ (N \cdot m) < \text{Max. instantaneous torque...Satisfactory}$$

Verify the braking torque required

$$T_s = \frac{2\pi \times n_M \times (J_M + J_L)}{60 \times t_a} - T_L = \frac{2\pi \times 3000 \times (0.082 + 1.25) \times 10^{-4}}{60 \times 0.1} - 0.139$$

$$= 0.279(N \cdot m) < \text{Max. instantaneous torque...Satisfactory}$$

Verify the effective torque value

$$T_{rms} = \sqrt{\frac{T_p^2 \times t_a + T_L^2 \times t_c + T_s^2 \times t_d}{t}}$$

$$= \sqrt{\frac{(0.557)^2 \times 0.1 + (0.139)^2 \times 0.9 + (0.279)^2 \times 0.1}{1.5}}$$

$$= 0.19\ (N \cdot m) < \text{Rated torque...Satisfactory}$$

The servo motor and servo drive selected provisionally are applicable in terms of capacity. The following analyzes position control.

9. **Electronic gear ratio (B/A)**

The electrical stopping precision (δ) is ±0.01 mm, so the position detection unit (△L) is 0.01 mm/pulse.

$$\frac{P_B}{\Delta L} \times \frac{B}{A} = \frac{5}{0.01} \times \frac{B}{A} = 67108864$$

$$\frac{B}{A} = \frac{67108864 \times 0.01}{5} = \frac{67108864}{500}$$

10. **Reference pulse frequency**

$$V_s = \frac{1000 \times V_L}{60 \times \Delta L} = \frac{1000 \times 15}{60 \times 0.01} = 25000\ (pps)$$

11. **Offset counter droop pulse**

- Set the position loop gain (K_p) to 30 (l/s).

$$\varepsilon = \frac{V_s}{K_p} = \frac{25000}{30} = 833\ (pulse)$$

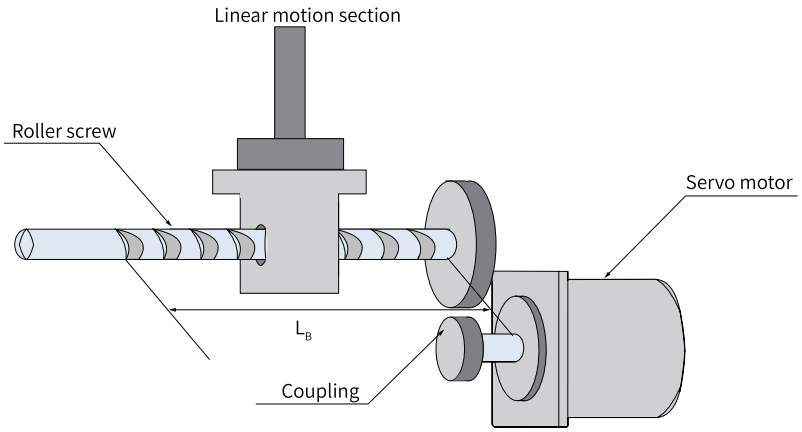
- Electrical stopping precision

$$\pm\Delta\varepsilon = \pm\frac{\varepsilon}{(\text{Servo drive control range}) \times \frac{n_M}{n_R}} = \pm\frac{833}{5000 \times \frac{3000}{3000}}$$

$$= \pm 0.17 < \pm 1\,(\text{pulse}) \pm 0.01\,(\text{mm/pulse})$$

The servo motor and servo drive selected provisionally are applicable for position control.

6.2 Capacity Selection Example for Speed Control



Load Speed V_L =15 m/min

Linear motion section mass (m): 80 kg

Roller screw length L_B =0.8 m

Roller screw diameter (d_B): 0.04 m

Roller screw lead (P_B): 0.01 m

Coupler mass (m_c): 1 kg

Coupler O.D. d_c =0.06 m

Number of feeding operations (n): 40/min

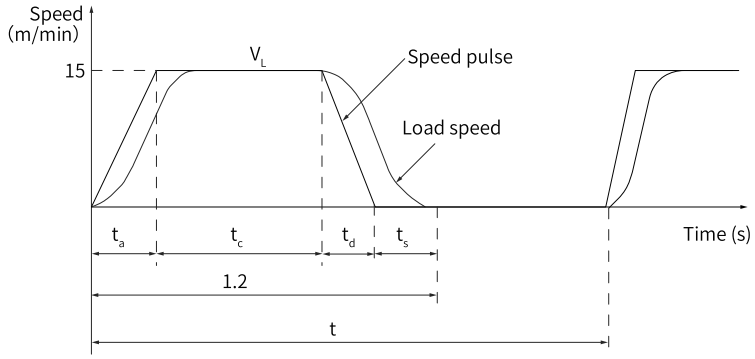
Feeding distance (L): 0.25 m

Feeding time t_m = less than 1.2s

Friction coefficient (μ): 0.2

Mechanical efficiency (η): 0.9 (90%)

1. **Speed diagram**



$$t = \frac{60}{n} = \frac{60}{40} = 1.5(s)$$

Set $t_a = t_d$

$$t_a = t_m - t_s - \frac{60 \times L}{V_L} = 1.2 - 0.1 - \frac{60 \times 0.25}{15} = 0.1(s)$$

$$t_c = 1.2 - 0.1 - 0.1 \times 2 = 0.9(s)$$

2. **Speed**

- Load shaft speed

$$n_L = \frac{V_L}{P_B} = \frac{15}{0.01} = 1500\ (rpm)$$

- Motor shaft speed

  As the coupler is directly connected, the gear ratio (1/R) is 1:1.

$$n_M = n_L \times R = 1500 \times 1 = 1500\ (rpm)$$

3. **Load torque**

$$T_L = \frac{9.8\ \mu \times m \times P_B}{2\pi \times R \times \eta} = \frac{9.8 \times 0.2 \times 80 \times 0.01}{2\pi \times 1 \times 0.9} = 0.277\ (N \cdot m)$$

4. **Load moment of inertia**

- Linear motion section

$$J_{LI} = m \times \left(\frac{P_B}{2\pi R}\right)^2 = 80 \times \left(\frac{0.01}{2\pi \times 1}\right)^2 = 2.02 \times 10^{-4}\ (kg \cdot m^2)$$

- Roller screw

$$J_B = \frac{\pi}{32} P \times L_B \times d_B^4 = \frac{\pi}{32} \times 7.87 \times 10^3 \times 1.4 \times (0.04)^4 = 27.7 \times 10^{-4}\ (kg \cdot m^2)$$

- Coupler

$$J_C = \frac{1}{8} m_c \times d_c^4 = \frac{1}{8} \times 1 \times (0.06)^2 = 4.5 \times 10^{-4}\ (kg \cdot m^2)$$

5. **Load moving power**

$$P_O = \frac{2\pi \times n_M \times T_L}{60} = \frac{2\pi \times 1500 \times 0.277}{60} = 43.6\ (W)$$

6. **Load acceleration power**

$$P_a = \left(\frac{2\pi}{60} \times n_m\right)^2 \times \frac{J_L}{t_a} = \left(\frac{2\pi}{60} \times n_m\right)^2 \times \frac{J_C + J_B + J_{LI}}{t_a}$$

$$= \left(\frac{2\pi}{60} \times 1500\right)^2 \times \frac{34.22 \times 10^{-4}}{0.1} = 844\ (W)$$

7. **Provisional settings of the servo motor**

- Selection condition

  $T_L \leqslant$ Motor rated torque

  $P_a + P_o$ = (1 to 2) x motor rated output

  $n_M \leqslant$ motor rated speed

  $J_L \leqslant$ Allowable load moment of inertia of the servo unit

  Perform the following provisional selections according to preceding conditions:

Servo motor: MS1H4-75B30CB-A630R

Servo drive: SV670PS5R5I

- Specifications of the servo motor and servo drive

Rated output: 750 (W)

Rated speed: 3000 (rpm)

Rated torque: 2.39 (N·m)

Maximum transient torque: 8.365 (N·m)

Rotor moment of inertia: 1.38×10^{-4} ($kg \cdot m^2$)

Allowable load moment of inertia: 69.58×10^{-4}kg (m^2)

8. **Verification of the servo motor selected provisionally**

Verify the start torque required

$$T_p = \frac{2\pi \times n_M \times (J_M + J_L)}{60 \times t_a} + T_L = \frac{2\pi \times 1500 \times (1.38 + 34.22) \times 10^{-4}}{60 \times 0.1} + 0.277$$

$= 5.87\ (N \cdot m) < $ Max. instantaneous torque...Satisfactory

Verify the braking torque required

$$T_s = \frac{2\pi \times n_M \times (J_M + J_L)}{60 \times t_a} - T_L = \frac{2\pi \times 1500 \times (1.38 + 34.22) \times 10^{-4}}{60 \times 0.1} - 0.277$$

$= 5.32\ (N \cdot m) <$ Max. instantaneous torque...Satisfactory

Verify the effective torque value

$$T_{rms} = \sqrt{\frac{T_p^2 \times t_a + T_L^2 \times t_c + T_s^2 \times t_d}{t}}$$

$$= \sqrt{\frac{(5.87)^2 \times 0.1 + (0.277)^2 \times 0.9 + (5.32)^2 \times 0.1}{1.5}}$$

$= 2.06(N \cdot m) <$ Rated torque…Satisfactory

9. **Selection result**

The servo motor and servo drive selected temporarily according to preceding steps are available for use. The torque diagram is as follows.

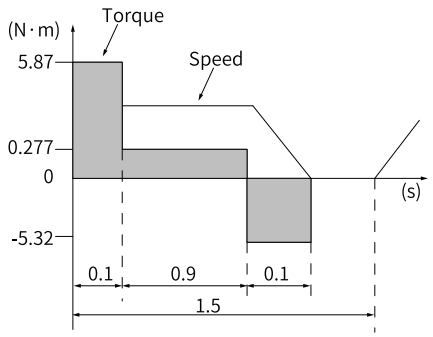


Figure 6-1 Torque diagram

7 Compliance List

CE Certification

Directive	Standard	
EMC directive 2014/30/EU	Servo drive	EN 61800-3
	Servo motor	EN 61800-6-2 EN 61800-6-4 EN 55011
Low Voltage Directive 2014/35/EU	Servo drive	EN 61800-5-1
	Servo motor	EN 60034-1 EN 60034-5
RoHS Directive 2011/65/EU	Servo drive	EN 50581
	Servo motor	

UL/cUL certification

Certification	Standard	
UL/cUL certification	Servo drive	UL61800-5-1 C22.2 No.274-17
	Servo motor	UL 1004-1 UL 1004-6 CSA C22.2 No. 100-14

Note

- The product complies with the latest version of directives and standards for CE and UL/cUL certifications.
- The product complies with UKCA certification.

China Energy Label

Mark	Description
	① The China Energy Label is attached to the motor. You can scan the QR code on the label to get the filing information. ② The motor model only represents one specific model in MS1 series motors. ③ Motor efficiency values ④ Name of the standard: GB30253-2013 (Minimum allowable value of energy efficiency and energy efficiency grades for permanent magnet synchronous motors)
	⑤ Scan the QR code to access China Energy Label website, which shows the main model in the list of filing models. ⑥ Click View More to view the list of other filing models. ⑦ Displays the list of filing models and related efficiency values.

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