

Orientalmotor

KII KIS



Standard AC Motors

Single-Phase Induction Motors

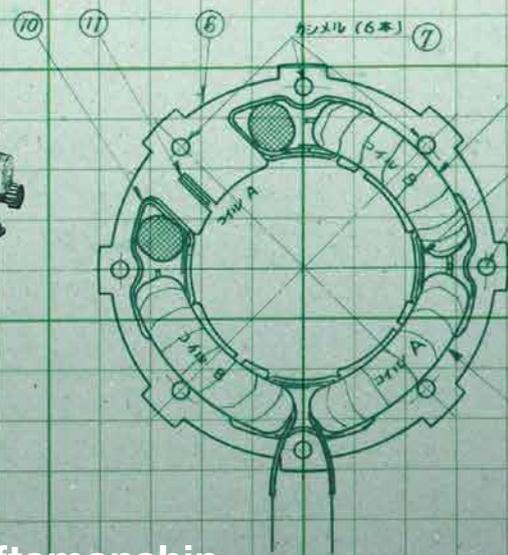
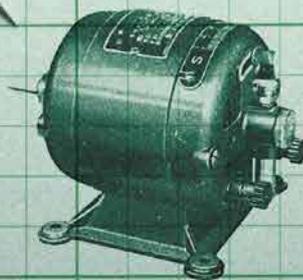
KII Series

Three-Phase High-Efficiency Induction Motors

KIS Series



Since 1885



Founded In 1885. Legendary Craftsmanship.

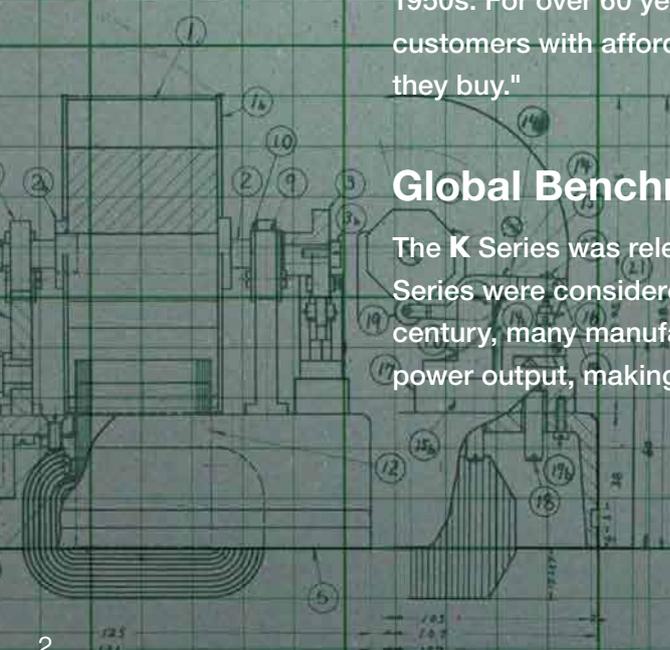
Oriental Motor was founded in 1885. We were successful in making the prototype of an electric motor in 1909, when we started our business as a manufacturer of small motors. Since then, in our century-long history of continuing to evolve with the changing of the times, our basic concept of "having the heart to love things and people" has been passed down from generation to generation.

Pioneer In Standardization Of Motors

As a pioneer, Oriental Motor started the standardization of motors in the 1950s. For over 60 years, we have maintained the belief of "providing many customers with affordably priced, excellent motors regardless of the quantity they buy."

Global Benchmark Of Standard AC Motors

The K Series was released in 1966 followed by the World K Series. These two Series were considered the standard of all AC Motors. Even now, after half a century, many manufacturers are producing motors with the same shape and power output, making these Series the global benchmark to meet.



Challenge for Standardization of Next-Generation Motors

Oriental Motor has been positioned as the global benchmark of the Standard AC Motors for half a century. New products are now available with the performance and usability required for compact standard AC motors of the new generation. These products reflect our legendary advanced technology and the voices of countless customers. High-Strength gears stretch the limits of the motor, while highly efficient motors are designed specially for the new generation. In addition, prices are kept affordable with great usability for our customers. The **KII** and **KIS** Series are setting a new benchmark for Standard AC Motors all over the world.

- /// High Reliability with High-Strength Gearhead
- /// High-Performance Motor with High Energy Efficiency
- /// User-Friendly Design Reflecting the Voices of countless Customers
- /// Guaranteed Support from Model Selection to After-Sales Service



New Generation/New Standard AC Motors

Single-Phase Induction Motors

KII Series

Three-Phase High-Efficiency Induction Motors

KIS Series

High-Intensity Gear Head, High Reliability.

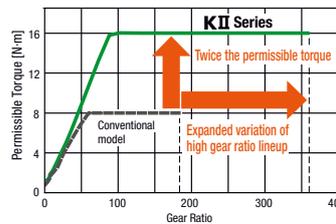


High Permissible Torque

The permissible torque is twice that of conventional models

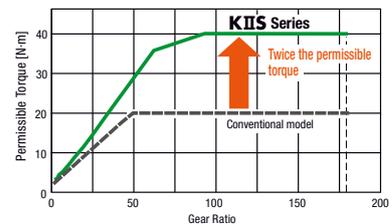
Increase in the strength of the gear raises the maximum permissible torque to twice the torque when compared with conventional models. A torque range that was unavailable can now be used.

● Gearhead output (permissible) torque for 25 W



KII Series

● Gearhead output (permissible) torque for 100 W



KIIS Series

High Strength

Permissible load is twice that of conventional models*

The strength of the permissible radial load and the permissible axial load is twice that of the conventional model.

*Remains the same in some products.

Permissible radial load



Permissible axial load

Conventional model **4GN-K**

Permissible radial load
200 N
Permissible axial load
50 N

Permissible radial load



Permissible axial load

KII Series 4GV

Permissible radial load
450 N
Permissible axial load
100 N

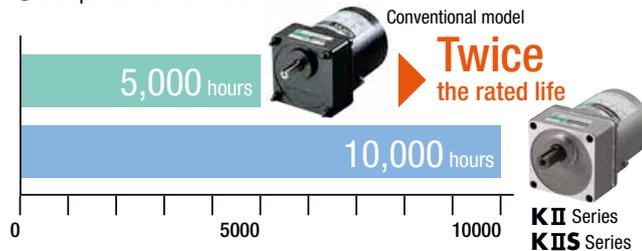
Long Life

The rated life is twice that of the conventional model

The large bore bearing used for this model extends the gearhead's rated life to 10,000 hours, which is twice that of the conventional model. This reduces the maintenance work for the device.

Rated life hours: Definition determined by Oriental Motor. For details, contact Oriental Motor.

● Comparison of the rated life hours

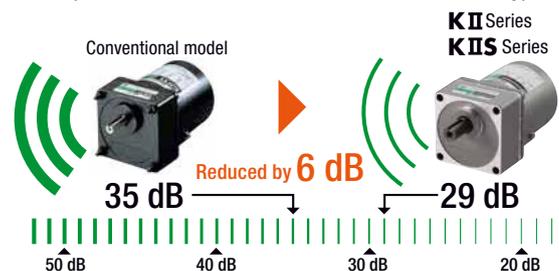


Silent

Reduced gear contact noise by 6 dB

Noises from motor/gearhead contact have been reduced by 6 dB compared with the conventional standard motor.

● Comparison of the noise level in the 80 mm frame size type



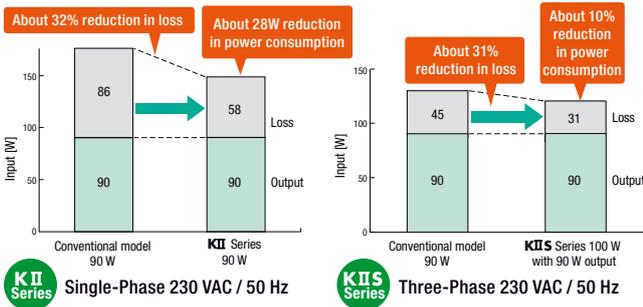
The Highest Level of Highly Efficient Motor.



High Performance Motor Installed

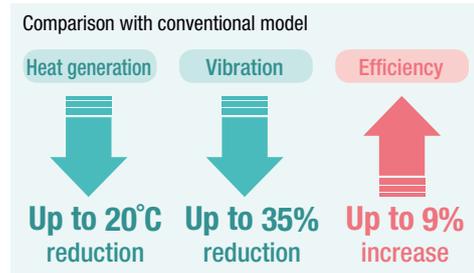
High efficiency

The optimal magnetic design and dedicated parts have dramatically reduced losses, achieving high efficiency. Compared with the conventional model under the same conditions, this model needs less power, contributing to a labor-saving device.



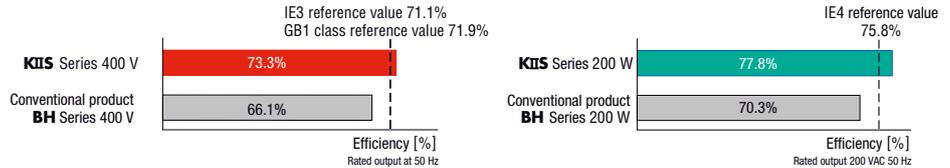
Low heat generation and low vibration

With less heat generation and vibration of the motor, achieved by reduced losses, the reliability of the device has increased.



High Efficiency Type IE3 and IE4

A motor efficiency of 77.8% (IE4, rated output power) and 73.3% (IE3) is achieved with optimal magnet design and specialized parts. Loss is greatly reduced, the motor's output is increased, and it is fanless.



Environmental Resistance

Fan-less structure

Reduction in loss has reduced the heat generation in the motor. Therefore, the KII Series's single-phase 220/230 VAC 50 Hz type and the KIS Series do not require the cooling fan that was installed in the conventional models of 60 W or higher, resolving the problem of raising dust.



IP66 water resistance specification

The sealing structure of the motor, gearhead, and terminal box has been strengthened. The terminal box type* conforms to the IP66 rating degree of protection.



* Excluding the installation surface of the round shaft type

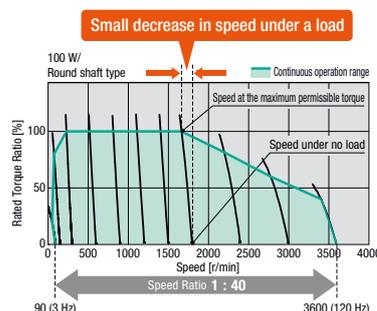
IP66: The IP indication that shows the water-resistant and dust-resistant performance is specified under IEC 60529 and IEC 60034-5.

- Main specification**
- Material Case and terminal box: Aluminum Output shaft: S45C Screw: Stainless steel (Exposed part only)
 - Surface treatment Case and terminal box: Painted (Except the installation surface)

Best For Combination With An Inverter (KIS Series only)

Variable speed control

By combining with an inverter, you can control the speed in a wide range from the low speed at 3 Hz to the high speed at 100 Hz. Even at a low speed, high torque is produced. In addition, less variation under loads enables more stable speed control.



● About use with an inverter of other manufacturers

For easy use of an inverter, we provide, for your reference, the "Speed - Torque characteristics" and "Parameter settings for the inverter" when this product is combined with an inverter of another manufacturer. For details, contact our customer support center.

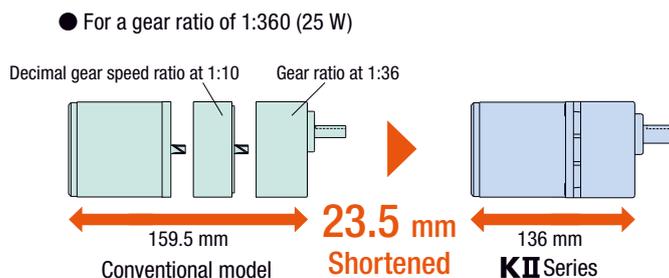
User-Friendly Design of The Gears and Motors.

High Gear Ratio

The overall length is reduced by the removal of the decimal gearhead

The gearhead lineup offers a wide range of gear ratios from low gear ratios up to a maximum of 1:360. For the high gear ratio at 1:180, the decimal gearhead was previously required. Now, only one gearhead is required, achieving a saving of space.

- **KII Series** For the output of 6 W to 25 W
- **KII Series** For 40 W and 60 W, up to 1:300; For 90 W, up to 1:180
- **KIS Series** For 60 W, up to 1:300; For 100 W, 1:180



Output Axis Tapping

For motors with 25 W output power or higher, tapping has been applied to the output shaft end. This prevents the pulley and other transmission parts from coming off.



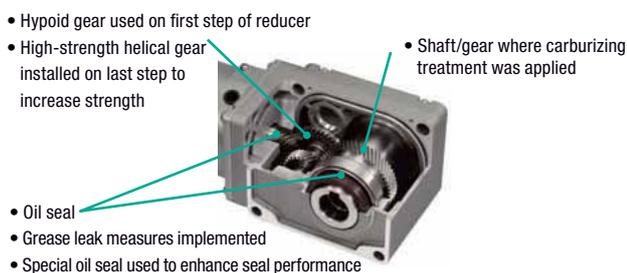
Increase In Installation Accuracy

The installation surface and pilot of the gearhead are polished. The gearhead can be installed into the device more accurately.

Uses a hypoid gear with built-In Oil Seal

Less grease leakage

Oil seal is installed in the final stage of the output shaft. This prevents grease from leaking. Furthermore, 40 W and higher motors use a special oil seal with high sealing performance. This provides highly reliable measures against grease leakage.



Combination Type

Pre-assembled gearhead

The combination type comes with a motor and a gearhead pre-assembled. This type makes the installation into the device easy, and you no longer have to worry about giving damage to the shaft, which may cause abnormal noise.



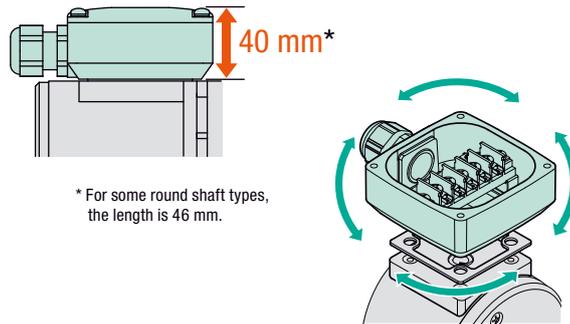
< What is the combination type? >

The combination type comes with the motor and gearhead pre-assembled with dedicated screws. Motors and gearheads are also available individually for maintenance.

Slim Terminal Box

Improvement in workability

A slim terminal box is used to make wiring work easier. The box is slimmer than conventional products. The cable outlet can be changed by 90 degrees to four different directions. The slim terminal box type conforms to the IP66 rating degree of protection. (Except the installation surface of the round shaft type)



Cost Performance

High performance at an affordable price

This model is affordably priced, equivalent to or less than conventional models, while increasing in strength and efficiency.



International Standards

Conforms to safety standards

This series conforms to the UL/CSA Standards and the China Compulsory Certification System (CCC System), and is also affixed with the CE Marking (Low Voltage Directive).



Energy Efficiency Regulation in China

Conforms to the First Grade (GB25958-2010) (**KII** Series only)

KII Series 220 VAC/230 VAC 50 Hz (except the 6 W type), we provide products obtaining certification under the China Certificate for Energy Conservation Products (CQC31-461113-2011).

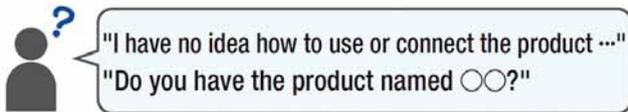


Services Before Purchasing Our Products

How to Inquire on Our Products.



Inquiries



● Customer Center

Dedicated staff can assist you with any inquiries regarding product selection, use of motors and any other technical issues by phone, e-mail or fax.

Support in German & English
Tel.: 00800-22 55 66 22*
CALL OM CC
* Free Call Europe

Mon-Thu: 08:00 - 17:30 CET
Friday: 08:00 - 16:00 CET
E-mail address: info@orientalmotor.de

Please refer to page 11 to contact us from the UK, France or Italy.



No Minimum Order Quantity

We have developed the business base in the whole world.

You can purchase our products directly from us by telephone, fax or through our website. Minimum order is one item.

Direct Backup in Various Situations

We continue to provide information related to "movement" and directly support our customers from the moment they consider "movement" until after they purchase the product.

We have exhibitions and technical seminars at various locations, and provide the latest product information through publications, website and e-mail newsletter. Face to Face - We support customers anytime, anywhere.

Services Before Purchasing Our Products To Understand More on Our Products.

Technical Seminars



"I want to know how the motor operates"
"I want to use motors appropriately depending on their application."

Please attend our Technical Seminar.



► Technical Seminars

Dedicated trainers will go through from basic motor knowledge to the applied technology and selection of the right motor. In addition, on-site seminars are also available.

You can register for our seminars from our website.



Demonstration, Confirmation and Operation of Products



"I want to know about the latest models."
"I want to check the actual movements and sounds."
"Can I check the operations with a sample?"

You can check our products at motor fairs and exhibitions.



► Exhibitions

We participate in major exhibitions in order to reach our customers and make our products better known. For information on exhibition schedules, feel free to contact us.



Motor Selection Service



"Which one is suitable for this application?"
"It's a hassle to calculate torque for selection."

Please use our selection service.



► Motor Selection Service

We provide motor selection service, such as calculation of torque, to assist our customers in selecting the right product.

*Motor selection service available on Oriental Motor website.



Types of Support and Services During- and After- Purchases

Purchasing

You can purchase our products through the telephone, Fax or the internet from one item onward!

Inquiries for Orders and Quotation



"I want estimates of price and delivery."
"I want to order a product."
"I want to ask about payment."

For inquiries on purchase and modes of transaction, and for orders, please contact or use below:

Customer Support
Website
Sales Offices



Internet

Get prices and delivery times for small quantities directly in the webshop, for higher quantities use the "Saved Items" function to get a quotation.



After Purchase (Technical Support)



"Suddenly the motor stopped working."
"An error seems to have occurred,
but I have no idea of the cause and how to handle it."

To avail a visit from a service engineer and for inspection and troubleshooting, please use below:

Inspection and Repair Service



Inspection and Repair

Oriental Motor offers free inspection services. Feel free to contact us if you have encountered any problems with or damage to Oriental Motor products. If repair is required, we will advice on the applicable charges. Kindly note that free repair is available if products are used in accordance with the warranty conditions.



Sales Network Europe



● Oriental Motor Headquarters
● Subsidiary Sales Office

Germany

- Düsseldorf
- Hamburg
- Jena
- Frankfurt
- Stuttgart
- Munich

United Kingdom

- London
- Birmingham

France

- Paris
- Lyon

Italy

- Milan
- Bologna
- Verona

Spain

- Madrid

For more information, kindly contact us at:

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Italy Headquarters



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Fax: 02 9390 6348
info@orientalmotor.it

Features

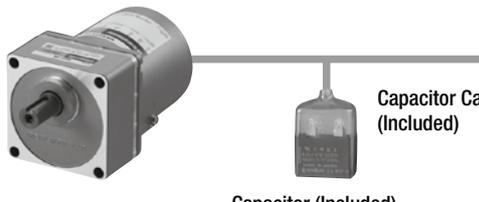
| Series Name | Features and Lineup | | | | | | | | | |
|---|--|--|------------|-------------|--------------|--|---------|--|------|-----------------------------------|
| KII Series   | <ul style="list-style-type: none"> ● Excellent motor characteristics <ul style="list-style-type: none"> • The motors were specifically designed according to the power supply voltage of each country, achieving the increase in the motor efficiency by up to 9%. • With less heat generation and vibration of the motor, the reliability of the device has increased. ● High Permissible Torque <p>The maximum permissible torque is up to twice as much as the conventional model.</p> ● High strength <p>The permissible radial load and the permissible axial load are twice as much as the conventional model.</p> ● High gear ratio gearhead <p>The gearhead lineup offers a wide range of gear ratio up to a maximum of 1:360.</p> | <ul style="list-style-type: none"> ● Combination type of pre-assembled gearhead <p>The combination type comes with a gearhead and a motor pre-assembled.</p> ● Slim terminal box (Terminal box type) <p>A slim terminal box is installed for easy wiring. This box conforms to the Degree of Protection IP66. (Excluding the installation surface of the round shaft type)</p> ● Lineup <table border="1"> <tr> <td>Frame Size</td> <td>60 mm~90 mm</td> </tr> <tr> <td>Output Power</td> <td>Terminal Box Type: 25 W~90 W Lead Wire Type: 6 W~90 W</td> </tr> <tr> <td>Voltage</td> <td>Single-Phase 110/115 VAC, Single-Phase 220/230 VAC</td> </tr> <tr> <td>Type</td> <td>Combination Type/Round Shaft Type</td> </tr> </table> | Frame Size | 60 mm~90 mm | Output Power | Terminal Box Type: 25 W~90 W Lead Wire Type: 6 W~90 W | Voltage | Single-Phase 110/115 VAC, Single-Phase 220/230 VAC | Type | Combination Type/Round Shaft Type |
| | Frame Size | 60 mm~90 mm | | | | | | | | |
| Output Power | Terminal Box Type: 25 W~90 W Lead Wire Type: 6 W~90 W | | | | | | | | | |
| Voltage | Single-Phase 110/115 VAC, Single-Phase 220/230 VAC | | | | | | | | | |
| Type | Combination Type/Round Shaft Type | | | | | | | | | |

System Configuration

KII Series

Peripheral Equipment (Sold separately)

Combination Type (Motor/Gearhead)



AC Power Supply (Main power supply)

Capacitor (Included)

Capacitor Cap (Included)

Accessories (Sold separately)



Flexible Couplings
→ page 58



Mounting Brackets
→ page 58

Peripheral Equipment (Sold separately)



Brake Pack
SB50W*

*For details, see the WEB site. <http://www.orientalmotor.eu>

System Configuration Example

| | | | |
|-------------------|---|-------------------|--------------------|
| Induction Motor | + | Sold Separately | |
| 4IK25UC-25 | | Mounting Brackets | Flexible Couplings |
| | | SOL4M6F | MCL401515 |

● The system configuration shown above is an example. Other combinations are available.

Product Number Code

Combination Type

5 I K 40 GC T2 - 100

① ② ③ ④ ⑤ ⑥ ⑦

Round Shaft Type

5 I K 40 A - GC T2

① ② ③ ④ ⑦ ⑤ ⑥

| | | |
|---|--------------------------------|---|
| ① | Motor Frame Size | 2: 60 mm 3: 70 mm 4: 80 mm 5: 90 mm |
| ② | Model Name | I: Induction Motor |
| ③ | Series Name | K: KII Series |
| ④ | Output Power (W) | (Example) 40: 40 W |
| ⑤ | Power Supply Voltage | UA: Single-Phase 110/115 VAC (60 Hz) GC: Single-Phase 220/230 VAC (50 Hz) UC: Single-Phase 220/230 VAC (60 Hz) |
| ⑥ | T2: Terminal Box Type | |
| ⑦ | Gear Ratio/Shaft Configuration | Number: Gear Ratio for Combination Types A: Round Shaft Type |

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General Specifications

| Item | Specifications |
|-------------------------------|---|
| Insulation Resistance | The measured value is 100 MΩ or more when a 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity. |
| Insulation Resistance | No abnormality is judged even with application of AC1.5 kV at 50 Hz or 60 Hz between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity. |
| Temperature Rise | A gearhead or equivalent heat sink*1 is connected and the winding temperature rise is measured at 80°C or less using the resistance change method after rated operation under normal ambient temperature and humidity. |
| Heat-Resistant Class | 130 (B) |
| Overheat Protection Device | 6 W Type Impedance Protected Other Types Built-in Thermal Protector (Automatic return type) Open: 130±5°C Close: 85±20°C |
| Operating Ambient Temperature | -10~+40°C (non-freezing) |
| Operating Ambient Humidity | 85% or less (non-condensing) |
| Degree of Protection | Lead Wire Type : IP20 Terminal Box Type : 25 W, 40 W Type IP66*2 (Excluding the installation surface of the round shaft type) : 60 W, 90 W Type IP54 (Excluding the installation surface of the round shaft type), 60 W GC type is IP66*2 (Excluding the installation surface of the round shaft type) |

*1 Heat sink size (Material: Aluminum)

| Motor Type | Size (mm) | Thickness (mm) |
|-----------------|-----------|----------------|
| 6 W Type | 115×115 | 5 |
| 15 W Type | 125×125 | |
| 25 W Type | 135×135 | |
| 40 W Type | 165×165 | |
| 60 W, 90 W Type | 200×200 | |

*2 Material and surface treatment

● Material

Case and terminal box: Aluminum

Output shaft: S45C

Screw: Stainless steel (Exposed part only)

● Surface treatment

Case and terminal box: Painted (Except the installation surface)

KII/KIIS Series lineup

Each model is specifically designed according to the power supply specification, delivering the optimal performance in your power source environment.

| Series | KII | | | | | | KIIS | | |
|------------------|--|-----|--------------------------------|----|-----|----|---|--------------------------------|--|
| | 6 | 15 | 25 | 40 | 60 | 90 | 60 | 100 | 200 |
| Output Power [W] | 6 | 15 | 25 | 40 | 60 | 90 | 60 | 100 | 200 |
| Frame Size [mm] | □60 | □70 | □80 | | □90 | | □90 | | □110 |
| Power Supply | Single-Phase 110/115 VAC 60 Hz Single-Phase 220/230 VAC 50 Hz Single-Phase 220/230 VAC 60 Hz | | | | | | Three-Phase 220/230 VAC 50/60 Hz | | Three-Phase 220/230 VAC 50/60 Hz Three-Phase 380/400/415 VAC 50/60 Hz |
| Motor Type | Induction Motor | | | | | | Induction Motor Electromagnetic Brake Motor | Induction Motor | |
| Type | Combination Type Round Shaft Type | | | | | | | | Hollow Shaft Type Solid Shaft Type |
| Wire Type | Lead Wire | | Lead Wire Terminal Box Type | | | | Terminal Box Type | Lead Wire Terminal Box Type | |

| Series | KII | | | | KIIS | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|
| | Induction Motor | | | | Induction Motor | | | Electromagnetic Brake Motor | |
| Model | | | | | | | | | |
| Lead Wire Type |  |  |  |  |  |  |  |  |  |
| | Combination Type | | Round Shaft Type | | Combination Type | Round Shaft Type | Hollow Shaft Type | Combination Type | Round Shaft Type |
| Terminal Box Type |  |  |  |  |  |  |  |  |  |
| | Combination Type | | Round Shaft Type | | Combination Type | Round Shaft Type | Solid Shaft Type | Combination Type | Round Shaft Type |

KII Series

6 W
110-230 VAC

15 W
110-230 VAC

25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

With Electromagnetic Brake

Induction Motors

6 W

□ 60 mm

Combination Type, Round Shaft Type



Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type Lead Wire Type | Output Power W | Voltage VAC | Frequency Hz | Current* A | Starting Torque mN-m | Rated Torque mN-m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|-------------------|------------------|-----------------|---------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| 2IK6UA -□ 2IK6A-UA | 6 | Single-Phase 110 | 60 | 0.185 (0.179) | 40 | 41 | 1450 | 2.5 | ZP |
| | | Single-Phase 115 | | 0.189 (0.184) | | | | | |
| 2IK6GC -□ 2IK6A-GC | 6 | Single-Phase 220 | 50 | 0.088 | 32 | 49 | 1150 | 0.6 | |
| | | Single-Phase 230 | | 0.090 | | | 1200 | | |
| 2IK6UC -□ 2IK6A-UC | 6 | Single-Phase 220 | 60 | 0.093 (0.090) | 40 | 41 | 1450 | 0.6 | |
| | | Single-Phase 230 | | 0.096 (0.093) | | | | | |

* () indicates the value of the round shaft type.

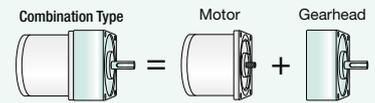
● The specifications apply to the motor only.

ZP: These products are impedance protected.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled.
The combination of the motor and the gearhead can be changed.
They are also available separately.
You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Product Name | Gear Ratio |
|------------------|---|
| 2IK6UA -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300, 360 |
| 2IK6GC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300, 360 |
| 2IK6UC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300, 360 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Product Name |
|-----------------|
| 2IK6A-UA |
| 2IK6A-GC |
| 2IK6A-UC |

The following items are included in each product.

Motor, Capacitor, Capacitor Cap, Operating Manual

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio. The actual speed is 2 to 20% less, depending on the load.

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 | 4.1 |
|--------------|-------------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 2IK6GC-□ | | 0.22 | 0.26 | 0.33 | 0.40 | 0.55 | 0.66 | 0.79 | 1.1 | 1.3 | 1.5 | 2.1 | 2.5 | 3.2 | 3.8 | 4.2 | 5.1 | 6 | 6 | 6 | 6 | 6 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 | 5 |
|--------------|-------------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 2IK6U-□ | | 0.18 | 0.22 | 0.28 | 0.33 | 0.46 | 0.55 | 0.66 | 0.92 | 1.1 | 1.3 | 1.8 | 2.1 | 2.6 | 3.2 | 3.5 | 4.2 | 5.0 | 6 | 6 | 6 | 6 |

6 W
110-230 VAC

15 W
110-230 VAC

25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

60 W
220, 230 VAC

100 W
220, 230 VAC

With Electromagnetic Brake

Permissible Radial Load/Permissible Axial Load

→ page 32

Permissible Inertia J of Combination Types

→ page 32

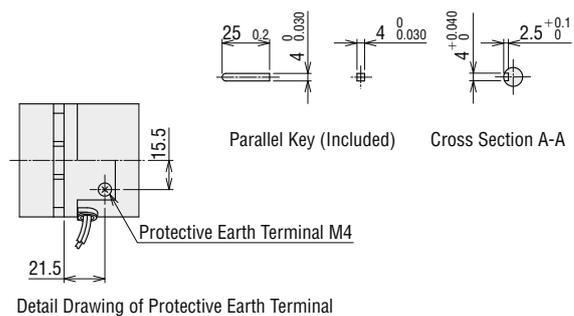
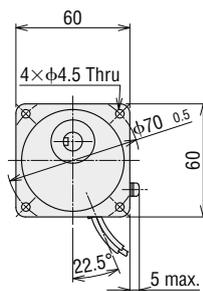
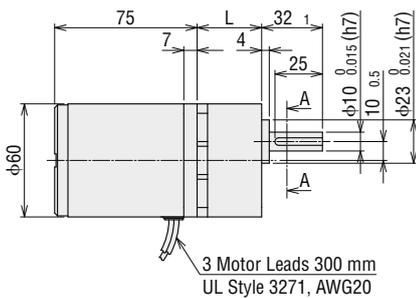
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 31

Lead Wire Type

◇ Combination Type

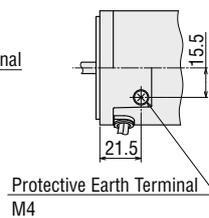
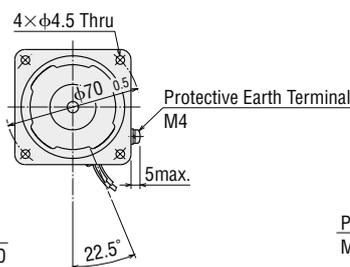
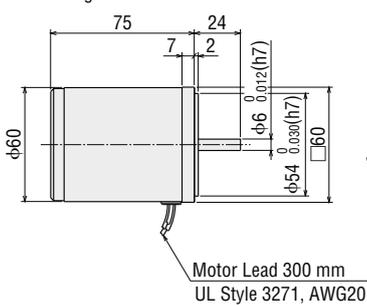
| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|---------------------|-----------------------|-----------------------|------------|----|---------|
| 2IK6U-□ 2IK6GC-□ | 2IK6GV-U 2IK6GV-GC | 2GV□B | 5~25 | 34 | 1.2 |
| | | | 30~120 | 38 | |
| | | | 150~360 | 43 | |



◇ Round Shaft Type

2IK6A-U, 2IK6A-GC

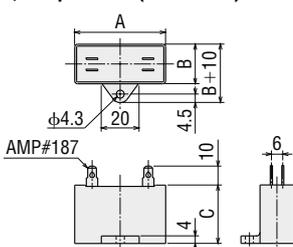
Mass: 0.7 kg



Detail Drawing of Protective Earth Terminal

◇ Capacitor (Included)

Unit : mm



| Product Name | | Capacitor Product Name | A | B | C | Mass g |
|------------------|------------------|------------------------|----|------|------|--------|
| Combination Type | Round Shaft Type | | | | | |
| 2IK6UA-□ | 2IK6A-UA | CH25FAUL2 | 31 | 17 | 27 | 21 |
| 2IK6GC-□ | 2IK6A-GC | CHO6BFAUL | 31 | 14.5 | 23.5 | 18 |
| 2IK6UC-□ | 2IK6A-UC | CHO6BFAUL | 31 | 14.5 | 23.5 | 18 |

- Capacitor Cap is included.

- Either **A** or **C** indicating the power supply voltage is replaced with the box \square in the product name. A number indicating the gear ratio is entered where the box \square is located within the product name.

Induction Motors

15 W

□ 70 mm

Combination Type, Round Shaft Type



Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type Lead Wire Type | Output Power W | Voltage VAC | Frequency Hz | Current A | Starting Torque mN·m | Rated Torque mN·m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|-------------------|------------------|-----------------|--------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| 3IK15UA-□ 3IK15A-UA | 15 | Single-Phase 110 | 60 | 0.31 | 65 | 105 | 1450 | 4.0 | TP |
| | | Single-Phase 115 | | 0.31 | | | | | |
| 3IK15GC-□ 3IK15A-GC | 15 | Single-Phase 220 | 50 | 0.156 | 80 | 125 | 1200 | 1.2 | |
| | | Single-Phase 230 | | 0.157 | | | | | |
| 3IK15UC-□ 3IK15A-UC | 15 | Single-Phase 220 | 60 | 0.154 | 65 | 105 | 1450 | 1.0 | |
| | | Single-Phase 230 | | 0.155 | | | | | |

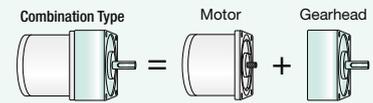
● The specifications apply to the motor only.

TP: This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled. The combination of the motor and the gearhead can be changed. They are also available separately. You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Product Name | Gear Ratio |
|------------------|---|
| 3IK15UA-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 3IK15GC-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 3IK15UC-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Product Name |
|------------------|
| 3IK15A-UA |
| 3IK15A-GC |
| 3IK15A-UC |

The following items are included in each product.

Motor, Capacitor, Capacitor Cap, Operating Manual

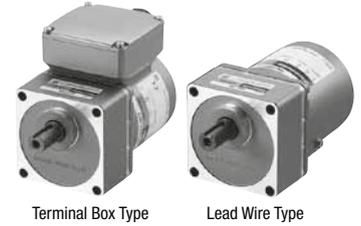
● A number indicating the gear ratio is entered where the box □ is located within the product name.

Induction Motors

25 W

□ 80 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power W | Voltage VAC | Frequency Hz | Current A | Starting Torque mN·m | Rated Torque mN·m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|---------------------------------------|-------------------|------------------|-----------------|--------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| Terminal Box Type | Lead Wire Type | | | | | | | | | |
| 4IK25UAT2 -□ 4IK25A-UAT2 | 4IK25UA -□ 4IK25A-UA | 25 | Single-Phase 110 | 60 | 0.44 | 120 | 170 | 1450 | 6.0 | TP |
| | | | Single-Phase 115 | | 0.43 | | | | | |
| 4IK25GCT2 -□ 4IK25A-GCT2 | 4IK25GC -□ 4IK25A-GC | 25 | Single-Phase 220 | 50 | 0.23 | 120 | 205 | 1200 | 1.8 | |
| | | | Single-Phase 230 | | 0.23 | 130 | | | | |
| 4IK25UCT2 -□ 4IK25A-UCT2 | 4IK25UC -□ 4IK25A-UC | 25 | Single-Phase 220 | 60 | 0.22 | 110 | 170 | 1450 | 1.5 | |
| | | | Single-Phase 230 | | 0.22 | 120 | | | | |

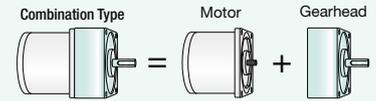
● The specifications apply to the motor only.

TP: This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled. The combination of the motor and the gearhead can be changed. They are also available separately. You can also remove the gearhead to change the installation position by 90°.



Combination Type

◇ Terminal Box Type

| Product Name | Gear Ratio |
|---------------------|---|
| 4IK25UAT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 4IK25GCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 4IK25UCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300, 360 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

◇ Lead Wire Type

| Product Name | Gear Ratio |
|-------------------|---|
| 4IK25UA -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 4IK25GC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 4IK25UC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300, 360 |

The following items are included in each product.

Motor, Capacitor, Capacitor Cap, Operating Manual

Round Shaft Type

◇ Terminal Box Type

| Product Name |
|--------------------|
| 4IK25A-UAT2 |
| 4IK25A-GCT2 |
| 4IK25A-UCT2 |

◇ Lead Wire Type

| Product Name |
|------------------|
| 4IK25A-UA |
| 4IK25A-GC |
| 4IK25A-UC |

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
- The actual speed is 2 to 20% less, depending on the load.

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 | 4.1 |
|--------------|-------------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------|-----|------|-----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 4IK25GC□-□ | | 0.92 | 1.1 | 1.4 | 1.7 | 2.3 | 2.8 | 3.3 | 4.6 | 5.3 | 6.3 | 8.8 | 10.6 | 13.2 | 15.9 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 | 5 |
|--------------|-------------|------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
| 4IK25U□□-□ | | 0.77 | 0.92 | 1.1 | 1.4 | 1.9 | 2.3 | 2.8 | 3.8 | 4.4 | 5.3 | 7.3 | 8.8 | 11.0 | 13.2 | 14.6 | 16 | 16 | 16 | 16 | 16 | 16 |

Permissible Radial Load/Permissible Axial Load

→ page 32

Permissible Inertia J of Combination Types

→ page 32

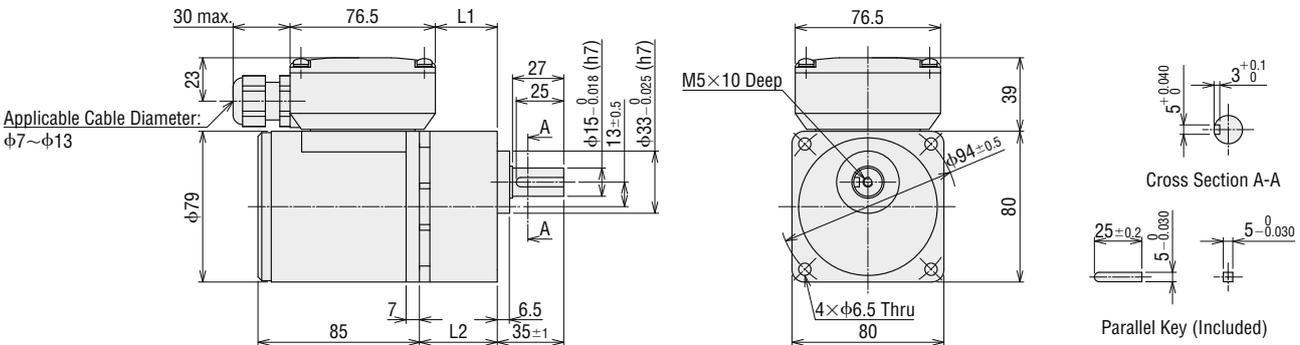
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 31
- The cable outlet of the terminal box can be changed and fixed to four different directions.

Terminal Box Type

◇ Combination Type

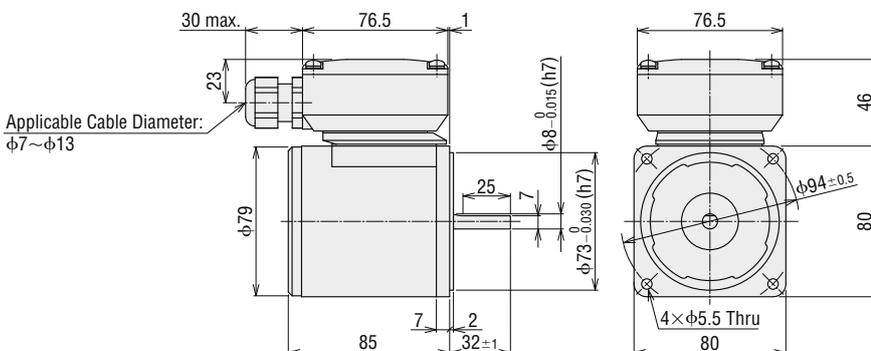
| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L1 | L2 | Mass kg |
|--------------|--------------------|-----------------------|------------|------|----|---------|
| 4IK25U□T2-□ | 4IK25GV-U□T2 | 4GV□B | 5~25 | 32.6 | 41 | 2.75 |
| 4IK25GCT2-□ | 4IK25GV-GCT2 | | 30~120 | 37.6 | 46 | |
| | | | 150~360 | 42.6 | 51 | |



◇ Round Shaft Type

4IK25A-U□T2, 4IK25A-GCT2

Mass: 1.8 kg



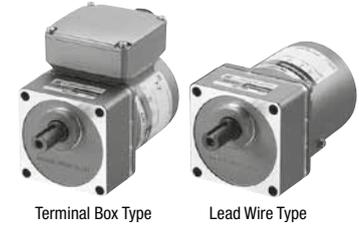
- Either **A** or **C** indicating the power supply voltage is replaced with the box **■** in the product name.
- A code (**T2**) indicating the terminal box type is replaced with the box **□** in the product name.
- A number indicating the gear ratio is entered where the box **□** is located within the product name.

Induction Motors

40 W

90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

KII Series

6 W
110-230 VAC

15 W
110-230 VAC

25 W
110-230 VAC

Induction

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power W | Voltage VAC | Frequency Hz | Current A | Starting Torque mN·m | Rated Torque mN·m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|------------------------|-------------------|------------------|-----------------|--------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| Terminal Box Type | Lead Wire Type | | | | | | | | | |
| 5IK40UAT2-□ 5IK40A-UAT2 | 5IK40UA-□ 5IK40A-UA | 40 | Single-Phase 110 | 60 | 0.66 | 200 | 260 | 1500 | 9.0 | TP |
| | | | Single-Phase 115 | | 0.65 | | | | | |
| 5IK40GCT2-□ 5IK40A-GCT2 | 5IK40GC-□ 5IK40A-GC | 40 | Single-Phase 220 | 50 | 0.34 | 170 | 315 | 1250 | 2.5 | |
| | | | Single-Phase 230 | | 0.33 | | | | | |
| 5IK40UCT2-□ 5IK40A-UCT2 | 5IK40UC-□ 5IK40A-UC | 40 | Single-Phase 220 | 60 | 0.33 | 200 | 260 | 1500 | 2.0 | |
| | | | Single-Phase 230 | | 0.32 | | | | | |

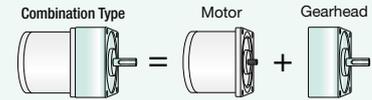
● The specifications apply to the motor only.

TP: This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled. The combination of the motor and the gearhead can be changed. They are also available separately. You can also remove the gearhead to change the installation position by 90°.



Combination Type

Terminal Box Type

| Product Name | Gear Ratio |
|--------------|------------------------------------|
| 5IK40UAT2-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 5IK40GCT2-□ | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| 5IK40UCT2-□ | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |
| 5IK40UA-□ | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300 |
| 5IK40GC-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 5IK40UC-□ | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| 5IK40A-UC | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |

Lead Wire Type

| Product Name | Gear Ratio |
|--------------|------------------------------------|
| 5IK40UA-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| 5IK40GC-□ | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36 |
| 5IK40UC-□ | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300 |
| | 5, 6, 7.5, 9, 12.5, 15, 18 |
| 5IK40A-UC | 25, 30, 36 |
| | 50, 60, 75, 90, 100, 120, 150, 180 |
| | 250, 300 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

Terminal Box Type

| Product Name |
|--------------|
| 5IK40A-UAT2 |
| 5IK40A-GCT2 |
| 5IK40A-UCT2 |

Lead Wire Type

| Product Name |
|--------------|
| 5IK40A-UA |
| 5IK40A-GC |
| 5IK40A-UC |

The following items are included in each product.

Motor, Capacitor, Capacitor Cap, Operating Manual

KIIS Series

60 W
220, 230 VAC

Induction

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

KIIS Series

With Electromagnetic Brake

60 W
220, 230 VAC

100 W
220, 230 VAC

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
- The actual speed is 2 to 20% less, depending on the load.

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 |
|--|-------------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 |
| 5IK40GC □-□ (Single-Phase 230VAC) | | 1.4 | 1.6 | 2.0 | 2.4 | 3.4 | 4.1 | 4.9 | 6.5 | 7.7 | 9.3 | 12.9 | 15.5 | 19.4 | 23.2 | 25.8 | 29.2 | 30 | 30 | 30 | 30 |
| 5IK40GC □-□ (Single-Phase 220VAC) | | 1.4 | 1.7 | 2.1 | 2.6 | 3.5 | 4.3 | 5.1 | 6.8 | 8.1 | 9.8 | 13.5 | 16.3 | 20.3 | 24.4 | 27.1 | 30 | 30 | 30 | 30 | 30 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 |
|-------------------|-------------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 |
| 5IK40U □-□ | | 1.2 | 1.4 | 1.8 | 2.1 | 2.9 | 3.5 | 4.2 | 5.6 | 6.7 | 8.0 | 11.2 | 13.4 | 16.8 | 20.1 | 22.4 | 25.3 | 30 | 30 | 30 | 30 |

Permissible Radial Load/Permissible Axial Load

→ page 32

Permissible Inertia J of Combination Types

→ page 32

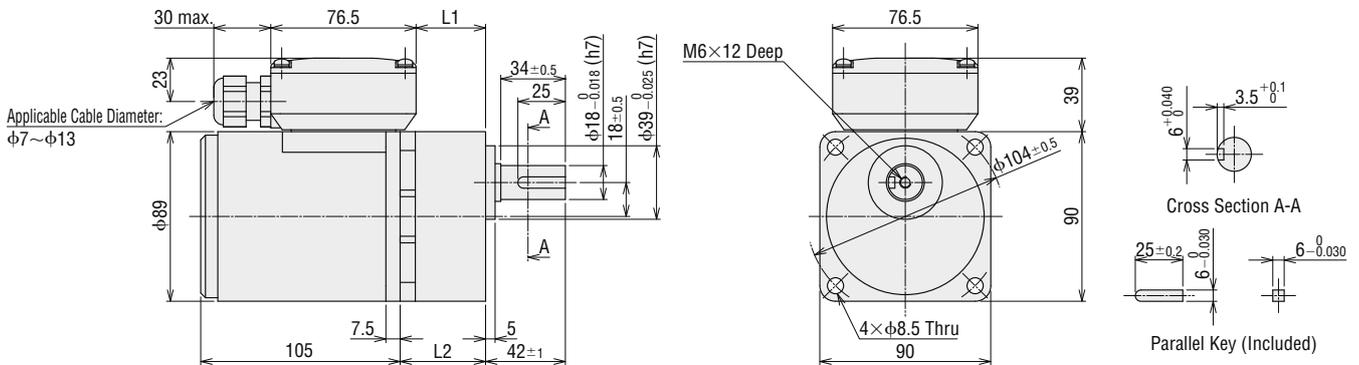
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 31
- The cable outlet of the terminal box can be changed and fixed to four different directions.

Terminal Box Type

◇ Combination Type

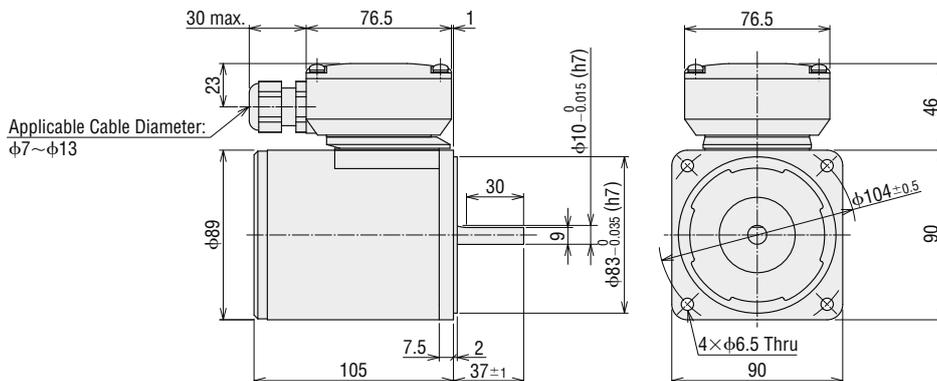
| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L1 | L2 | Mass kg |
|--|------------------------------|-----------------------|------------|------|----|---------|
| 5IK40U □T2-□ 5IK40GCT2 -□ | 5IK40GV-U□T2 5IK40GV-GCT2 | 5GV□B | 5~18 | 36.6 | 45 | 4.3 |
| | | | 25~100 | 49.6 | 58 | |
| | | | 120~300 | 55.6 | 64 | |



◇ Round Shaft Type

5IK40A-U□T2, **5IK40A-GCT2**

Mass: 2.8 kg

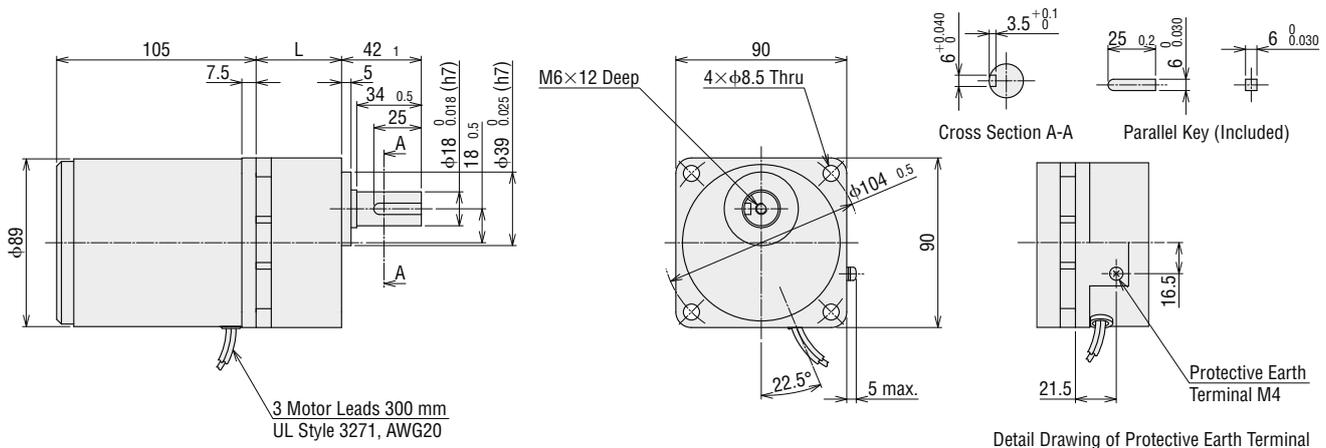


- Either **A** or **C** indicating the power supply voltage is replaced with the box □ in the product name.
- A code (**T2**) indicating the terminal box type is replaced with the box □ in the product name.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

● Lead Wire Type

◇ Combination Type

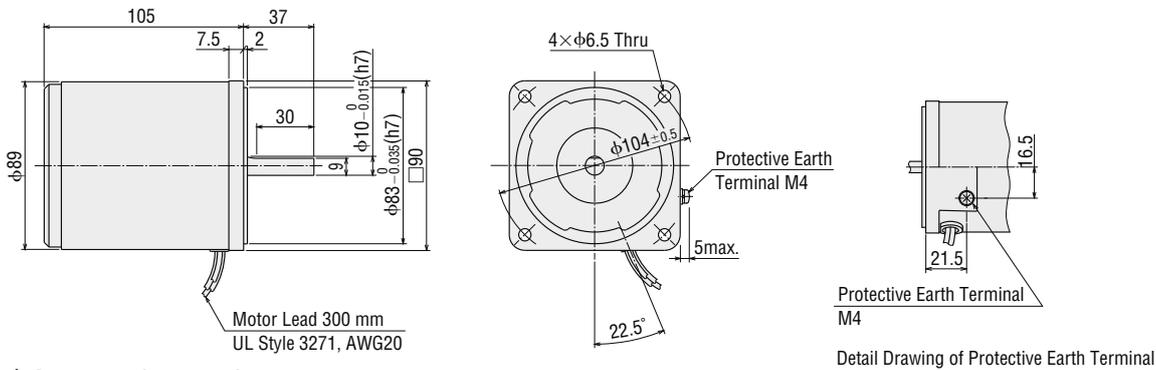
| Product Name | Motor Product Name | Gearhead Product Name | Mass kg | Gear Ratio 5~18 | Gear Ratio 25~100 | Gear Ratio 120~300 |
|--|--------------------------|-----------------------|---------|------------------------|--------------------------|---------------------------|
| | | | | L | L | L |
| 5IK40U □-□ 5IK40GC -□ | 5IK40GV-U□ 5IK40GV-GC | 5GV□B | 4.0 | 45 | 58 | 64 |



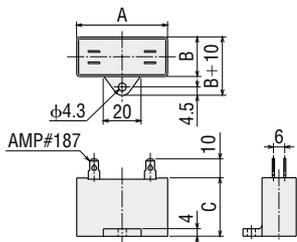
◇ Round Shaft Type

5IK40A-U□, **5IK40A-GC**

Mass: 2.5 kg



◇ Capacitor (Included)



Unit : mm

| Product Name | | Capacitor Product Name | A | B | C | Mass g |
|--|--|------------------------|----|------|------|--------|
| Combination Type | Round Shaft Type | | | | | |
| 5IK40UAT2 -□ 5IK40UA -□ | 5IK40A-UAT2 5IK40A-UA | CH90CFAUL2 | 48 | 22.5 | 31.5 | 45 |
| 5IK40GCT2 -□ 5IK40GC -□ | 5IK40A-GCT2 5IK40A-GC | CH25BFAUL | 48 | 21 | 31 | 42 |
| 5IK40UCT2 -□ 5IK40UC -□ | 5IK40A-UCT2 5IK40A-UC | CH20BFAUL | 48 | 19 | 29 | 36 |

● Capacitor Cap is included.

KII Series

6 W

110-230 VAC

15 W

110-230 VAC

25 W

110-230 VAC

Induction

40 W

110-230 VAC

60 W

110-230 VAC

90 W

110-230 VAC

KIIS Series

60 W

220, 230 VAC

100 W

220, 230 VAC

Induction

100 W

220, 230 VAC

Hollow/Solid Shaft

200 W

220-400 VAC

KIIS Series

With Electromagnetic Brake

60 W

220, 230 VAC

100 W

220, 230 VAC

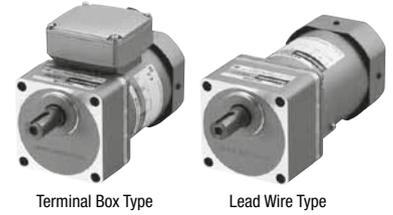
● Either **A** or **C** indicating the power supply voltage is replaced with the box □ in the product name.
A number indicating the gear ratio is entered where the box □ is located within the product name.

Induction Motors

60 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power W | Voltage VAC | Frequency Hz | Current A | Starting Torque mN·m | Rated Torque mN·m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|---------------------------------------|-------------------|------------------|-----------------|--------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| Terminal Box Type | Lead Wire Type | | | | | | | | | |
| 5IK60UAT2 -□ 5IK60A-UAT2 | 5IK60UA -□ 5IK60A-UA | 60 | Single-Phase 110 | 60 | 1.09 | 320 | 405 | 1450 | 16 | TP |
| | | | Single-Phase 115 | | 1.09 | | | | | |
| 5IK60GCT2 -□ 5IK60A-GCT2 | 5IK60GC -□ 5IK60A-GC | 60 | Single-Phase 220 | 50 | 0.49 | 290 | 490 | 1200 | 4.0 | |
| | | | Single-Phase 230 | | 0.49 | | | | | |
| 5IK60UCT2 -□ 5IK60A-UCT2 | 5IK60UC -□ 5IK60A-UC | 60 | Single-Phase 220 | 60 | 0.53 | 320 | 405 | 1450 | 4.0 | |
| | | | Single-Phase 230 | | 0.52 | | | | | |

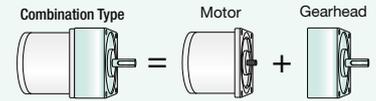
● The specifications apply to the motor only.

TP: This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled. The combination of the motor and the gearhead can be changed. They are also available separately. You can also remove the gearhead to change the installation position by 90°.



● Combination Type

◇ Terminal Box Type

| Product Name | Gear Ratio |
|---------------------|--|
| 5IK60UAT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |
| 5IK60GCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |
| 5IK60UCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

◇ Lead Wire Type

| Product Name | Gear Ratio |
|-------------------|--|
| 5IK60UA -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |
| 5IK60GC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |
| 5IK60UC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60, 75, 90, 100 |
| | 120, 150, 180 |
| | 250, 300 |

The following items are included in each product.

Motor, Capacitor, Capacitor Cap, Operating Manual

● Round Shaft Type

◇ Terminal Box Type

| Product Name |
|--------------------|
| 5IK60A-UAT2 |
| 5IK60A-GCT2 |
| 5IK60A-UCT2 |

◇ Lead Wire Type

| Product Name |
|------------------|
| 5IK60A-UA |
| 5IK60A-GC |
| 5IK60A-UC |

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
- The actual speed is 2 to 20% less, depending on the load.

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 | |
|--------------|-------------|-----|-----|-----|-----|------|-----|-----|------|------|------|------|------|----|------|-----|------|-----|-----|-----|-----|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60GC□-□ | | 2.2 | 2.6 | 3.3 | 4.0 | 5.5 | 6.6 | 7.9 | 10.5 | 12.6 | 15.2 | 21.1 | 25.3 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 | |
|--------------|-------------|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|------|----|-----|-----|-----|-----|-----|-----|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60U□-□ | | 1.8 | 2.2 | 2.7 | 3.3 | 4.6 | 5.5 | 6.6 | 8.7 | 10.4 | 12.5 | 17.4 | 20.9 | 26.1 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

Permissible Radial Load/Permissible Axial Load

→ page 32

Permissible Inertia J of Combination Types

→ page 32

Dimensions (Unit = mm)

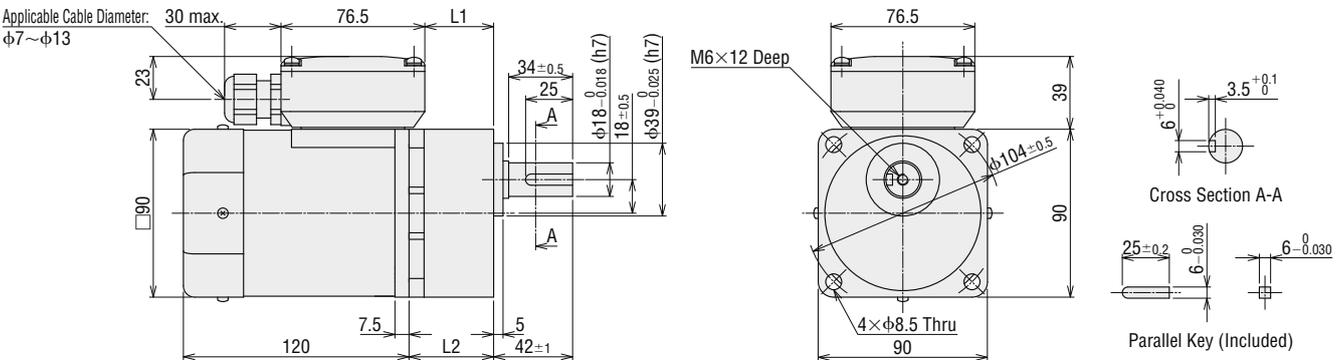
- "Installation screws" are included with the combination type. Dimensions of installation screws → page 31
- The cable outlet of the terminal box can be changed and fixed to four different directions.

Terminal Box Type

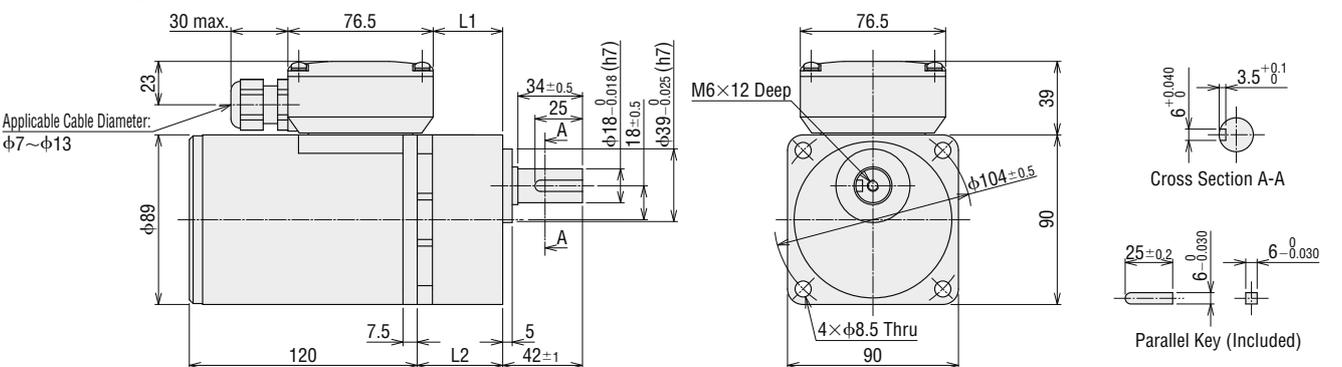
◇ Combination Type

| Dimensions No. | Product Name | Motor Product Name | Gearhead Product Name | Mass kg | Gear Ratio 5~18 | | Gear Ratio 25~100 | | Gear Ratio 120~300 | |
|----------------|--------------|--------------------|-----------------------|---------|-----------------|----|-------------------|----|--------------------|----|
| | | | | | L1 | L2 | L1 | L2 | L1 | L2 |
| ① | 5IK60U□T2-□ | 5IK60GVH-U□T2 | 5GVH□B | 4.5 | 36.6 | 45 | 49.6 | 58 | 55.6 | 64 |
| ② | 5IK60GCT2-□ | 5IK60GVH-GCT2 | | 4.7 | | | | | | |

● Dimensions ①



● Dimensions ②

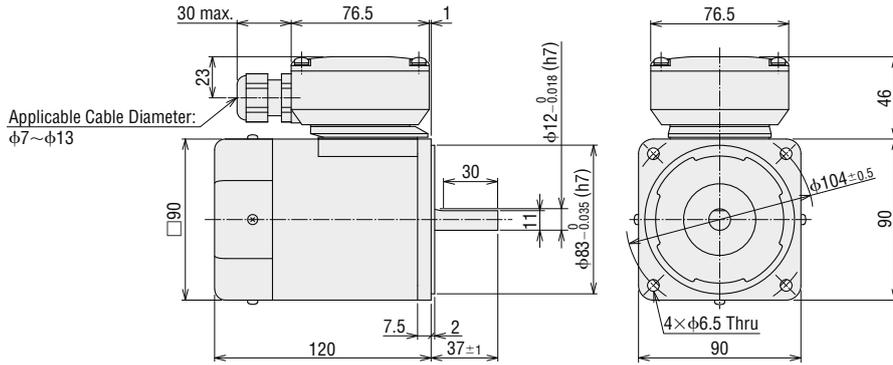


- Either **A** or **C** indicating the power supply voltage is replaced with the box \square in the product name.
- A code (**T2**) indicating the terminal box type is replaced with the box \square in the product name.
- A number indicating the gear ratio is entered where the box \square is located within the product name.

◇ Round Shaft Type

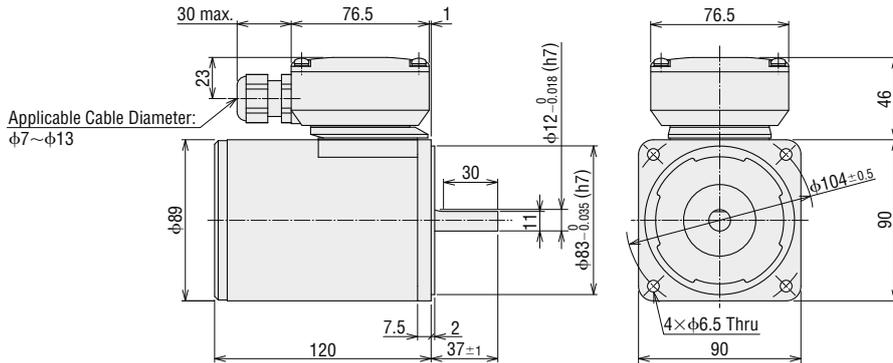
5IK60A-U□T2

Mass: 3.0 kg



5IK60A-GCT2

Mass: 3.2 kg

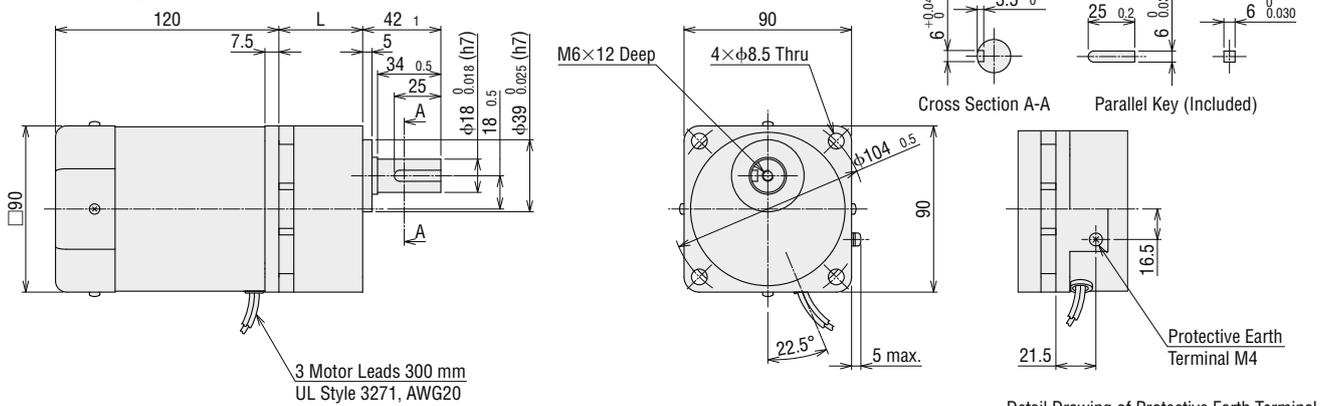


● Lead Wire Type

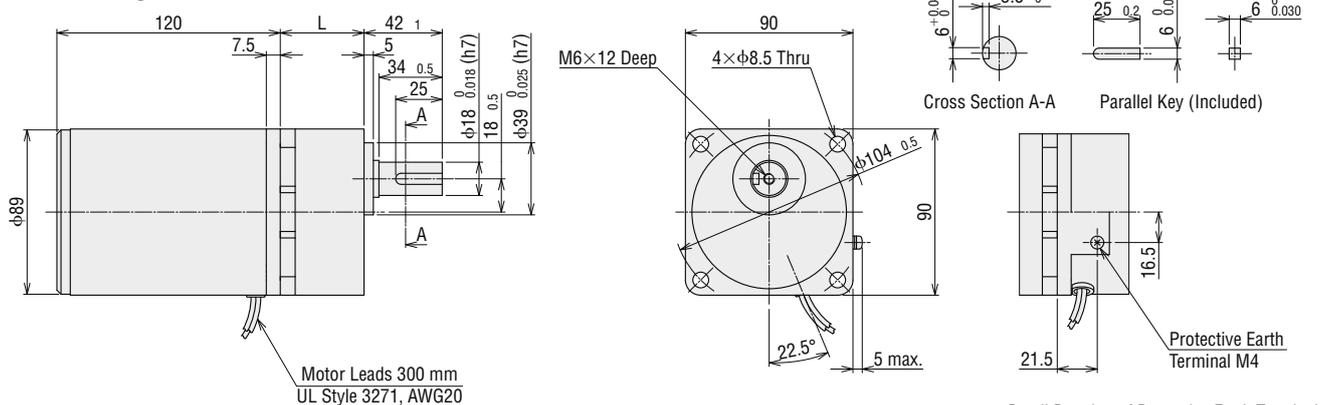
◇ Combination Type

| Dimensions No. | Product Name | Motor Product Name | Gearhead Product Name | Mass kg | Gear Ratio 5~18 | Gear Ratio 25~100 | Gear Ratio 120~300 |
|----------------|-------------------|--------------------|-----------------------|---------|------------------------|--------------------------|---------------------------|
| | | | | | L | L | L |
| ③ | 5IK60U □-□ | 5IK60GVH-U□ | 5GVH□B | 4.2 | 45 | 58 | 64 |
| ④ | 5IK60GC -□ | 5IK60GVH-GC | | 4.4 | | | |

● Dimensions ③



● Dimensions ④

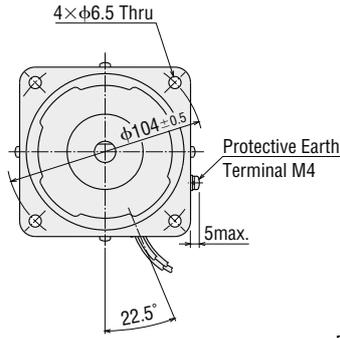
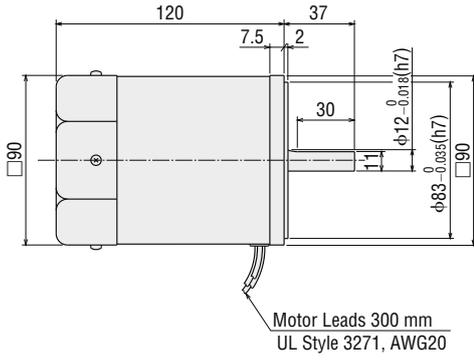


● Either **A** or **C** indicating the power supply voltage is replaced with the box □ in the product name.
A number indicating the gear ratio is entered where the box □ is located within the product name.

◇ Round Shaft Type

5IK60A-U □

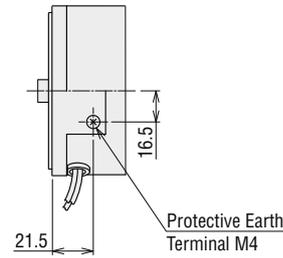
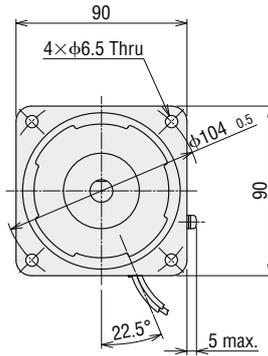
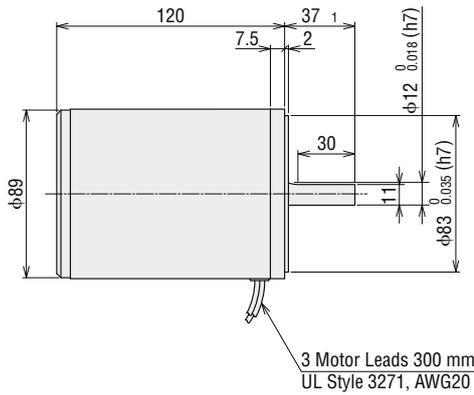
Mass: 2.7 kg



Detail Drawing of Protective Earth Terminal

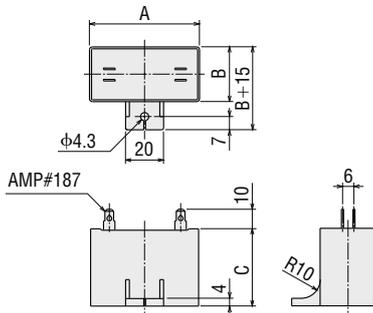
5IK60A-GC

Mass: 2.9 kg



Detail Drawing of Protective Earth Terminal

◇ Capacitor (Included)



Unit : mm

| Product Name | | Capacitor Product Name | A | B | C | Mass g |
|---------------------|--------------------|------------------------|----|------|----|--------|
| Combination Type | Round Shaft Type | | | | | |
| 5IK60UAT2 -□ | 5IK60A-UAT2 | CH160CFAUL2 | 58 | 23.5 | 37 | 71 |
| 5IK60UA -□ | 5IK60A-UA | | | | | |
| 5IK60GCT2 -□ | 5IK60A-GCT2 | CH40BFAUL | 58 | 23.5 | 37 | 73 |
| 5IK60GC -□ | 5IK60A-GC | | | | | |
| 5IK60UCT2 -□ | 5IK60A-UCT2 | CH40BFAUL | 58 | 23.5 | 37 | 73 |
| 5IK60UC -□ | 5IK60A-UC | | | | | |

● Capacitor Cap is included.

KII
Series

6 W
110-230 VAC

15 W
110-230 VAC

Induction
25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

KIIS
Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

KIIS
Series

60 W
220, 230 VAC

100 W
220, 230 VAC

With Electromagnetic Brake

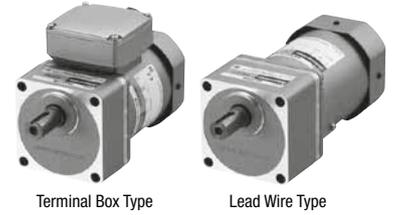
● Either **A** or **C** indicating the power supply voltage is replaced with the box □ in the product name.
A number indicating the gear ratio is entered where the box □ is located within the product name.

Induction Motors

90 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power W | Voltage VAC | Frequency Hz | Current A | Starting Torque mN·m | Rated Torque mN·m | Rated Speed r/min | Capacitor μF | Overheat Protection Device |
|--|---------------------------------------|-------------------|------------------|-----------------|--------------|-------------------------|----------------------|----------------------|-----------------|----------------------------|
| Terminal Box Type | Lead Wire Type | | | | | | | | | |
| 5IK90UAT2 -□ 5IK90A-UAT2 | 5IK90UA -□ 5IK90A-UA | 90 | Single-Phase 110 | 60 | 1.44 | 450 | 585 | 1500 | 20 | TP |
| | | | Single-Phase 115 | | 1.44 | | | | | |
| 5IK90GCT2 -□ 5IK90A-GCT2 | 5IK90GC -□ 5IK90A-GC | 90 | Single-Phase 220 | 50 | 0.70 | 480 | 730 | 1200 | 6.0 | |
| | | | Single-Phase 230 | | 0.70 | | | | | |
| 5IK90UCT2 -□ 5IK90A-UCT2 | 5IK90UC -□ 5IK90A-UC | 90 | Single-Phase 220 | 60 | 0.71 | 450 | 605 | 1450 | 5.0 | |
| | | | Single-Phase 230 | | 0.71 | | | | | |

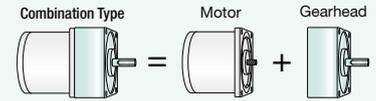
● The specifications apply to the motor only.

TP: This indicates that there is a built-in thermal protector (automatic return type). If a motor overheats for any reason, the thermal protector is activated and the motor is stopped. When the motor temperature drops, the thermal protector closes and the motor restarts automatically. Be sure to turn the power supply off before inspecting.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled. The combination of the motor and the gearhead can be changed. They are also available separately. You can also remove the gearhead to change the installation position by 90°.



● Combination Type

◇ Terminal Box Type

| Product Name | Gear Ratio |
|---------------------|-----------------------------------|
| 5IK90UAT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |
| 5IK90GCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |
| 5IK90UCT2 -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |

The following items are included in each product.

Motor, Gearhead, Capacitor, Capacitor Cap, Installation Screws, Parallel Key, Operating Manual

◇ Lead Wire Type

| Product Name | Gear Ratio |
|-------------------|-----------------------------------|
| 5IK90UA -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |
| 5IK90GC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |
| 5IK90UC -□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | 25, 30, 36, 50, 60 |
| | 75, 90, 100, 120, 150, 180 |

● Round Shaft Type

◇ Terminal Box Type

| Product Name |
|--------------------|
| 5IK90A-UAT2 |
| 5IK90A-GCT2 |
| 5IK90A-UCT2 |

◇ Lead Wire Type

| Product Name |
|------------------|
| 5IK90A-UA |
| 5IK90A-GC |
| 5IK90A-UC |

The following items are included in each product.
Motor, Capacitor, Capacitor Cap, Operating Manual

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
- The actual speed is 2 to 20% less, depending on the load.

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 |
|--------------|-------------|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|----|------|-----|------|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK90GC□-□ | | 3.3 | 3.9 | 4.9 | 5.9 | 8.2 | 9.9 | 11.3 | 15.7 | 18.8 | 22.6 | 31.4 | 37.7 | 40 | 40 | 40 | 40 | 40 | 40 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 |
|--------------|-------------|-----|-----|-----|-----|------|-----|-----|------|------|------|------|------|------|----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK90UA□-□ | | 2.6 | 3.2 | 3.9 | 4.7 | 6.6 | 7.9 | 9.1 | 12.6 | 15.1 | 18.1 | 25.2 | 30.2 | 35.5 | 40 | 40 | 40 | 40 | 40 |
| 5IK90UC□-□ | | 2.7 | 3.3 | 4.1 | 4.9 | 6.8 | 8.2 | 9.4 | 13.0 | 15.6 | 18.7 | 26.0 | 31.2 | 36.8 | 40 | 40 | 40 | 40 | 40 |

Permissible Radial Load/Permissible Axial Load

→ page 32

Permissible Inertia J of Combination Types

→ page 32

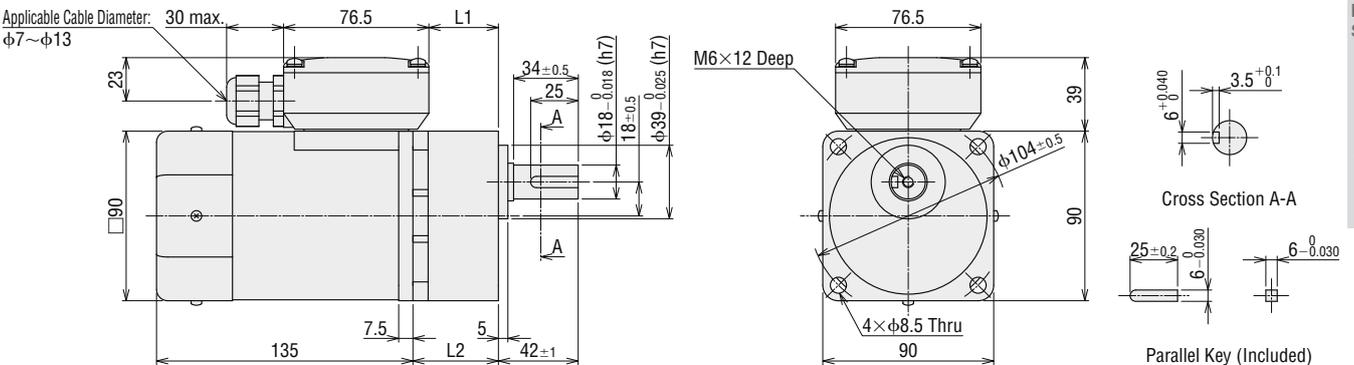
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 31
- The cable outlet of the terminal box can be changed and fixed to four different directions.

Terminal Box Type

◇ Combination Type

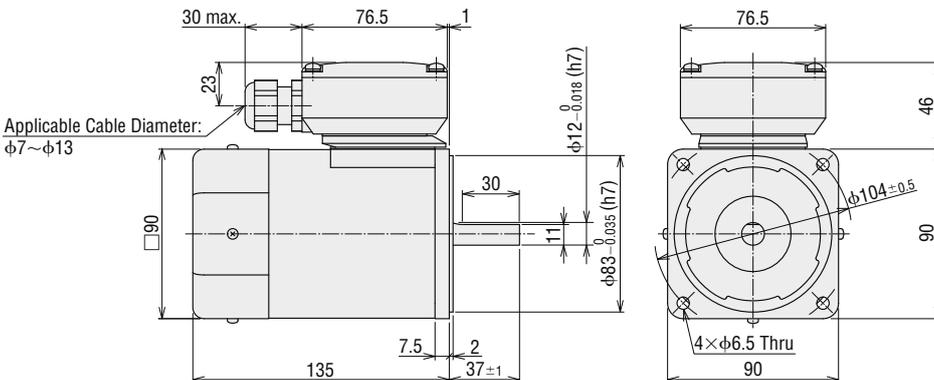
| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L1 | L2 | Mass kg |
|--------------|--------------------|-----------------------|------------|------|----|---------|
| 5IK90U□T2-□ | 5IK90GVR-U□T2 | 5GVR□B | 5~15 | 36.6 | 45 | 5.0 |
| 5IK90GCT2-□ | 5IK90GVR-GCT2 | | 18~36 | 49.6 | 58 | |
| | | | 50~180 | 61.6 | 70 | |



◇ Round Shaft Type

5IK90A-U□T2, 5IK90A-GCT2

Mass: 3.5 kg

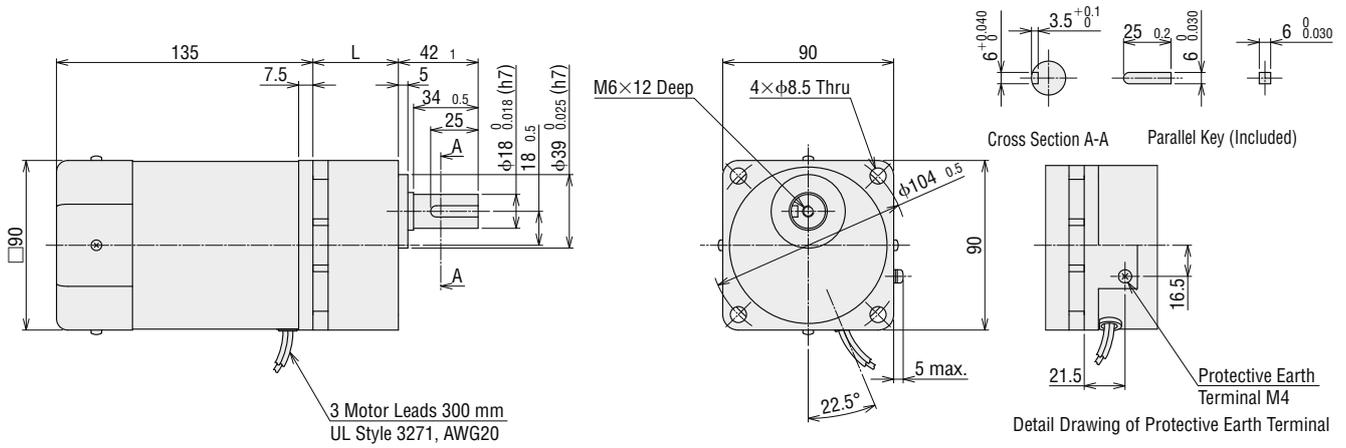


- Either **A** or **C** indicating the power supply voltage is replaced with the box **□** in the product name.
- A code (**T2**) indicating the terminal box type is replaced with the box **□** in the product name.
- A number indicating the gear ratio is entered where the box **□** is located within the product name.

● Lead Wire Type

◇ Combination Type

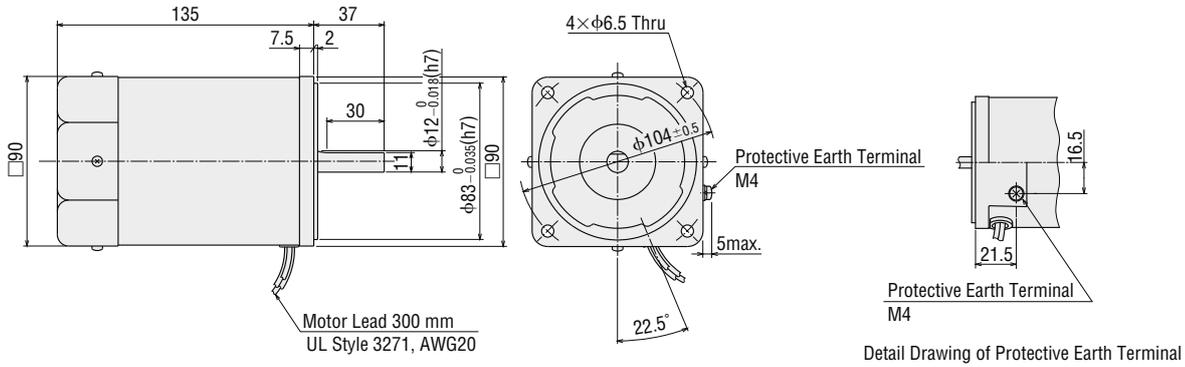
| Product Name | Motor Product Name | Gearhead Product Name | Mass kg | Gear Ratio 5~15 | Gear Ratio 18~36 | Gear Ratio 50~180 |
|--|----------------------------|-----------------------|---------|------------------------|-------------------------|--------------------------|
| | | | | L | L | L |
| 5IK90U □-□ 5IK90GC -□ | 5IK90GVR-U□ 5IK90GVR-GC | 5GVR□B | 4.7 | 45 | 58 | 70 |



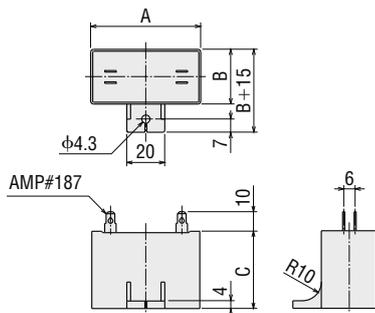
◇ Round Shaft Type

5IK90A-U□, **5IK90A-GC**

Mass: 3.2 kg



◇ Capacitor (Included)



Unit : mm

| Product Name | | Capacitor Product Name | A | B | C | Mass g |
|--|--|------------------------|----|----|----|--------|
| Combination Type | Round Shaft Type | | | | | |
| 5IK90UAT2 -□ 5IK90UA -□ | 5IK90A-UAT2 5IK90A-UA | CH200CFAUL2 | 58 | 29 | 41 | 91 |
| 5IK90GCT2 -□ 5IK90GC -□ | 5IK90A-GCT2 5IK90A-GC | CH60BFAUL | 58 | 29 | 41 | 92 |
| 5IK90UCT2 -□ 5IK90UC -□ | 5IK90A-UCT2 5IK90A-UC | CH50BFAUL | 58 | 29 | 41 | 93 |

● Capacitor Cap is included.

● Either **A** or **C** indicating the power supply voltage is replaced with the box □ in the product name.
● A number indicating the gear ratio is entered where the box □ is located within the product name.

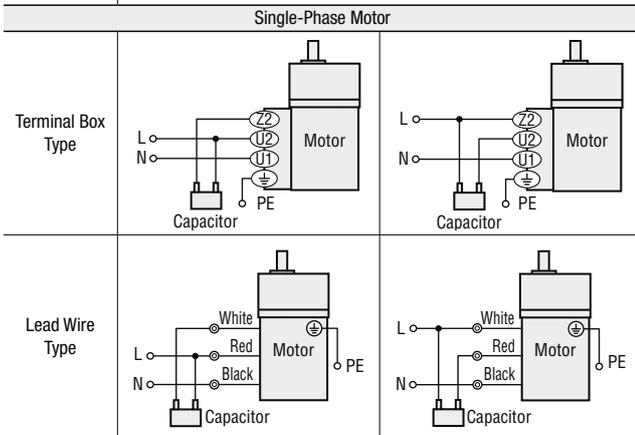
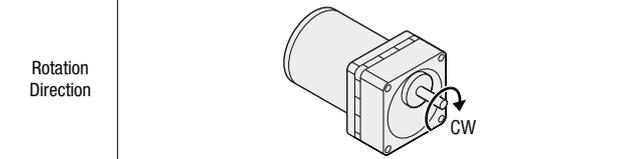
Connection Diagram

The rotation direction of the motor is as viewed from the output shaft of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.

Combination Type/Round Shaft Type

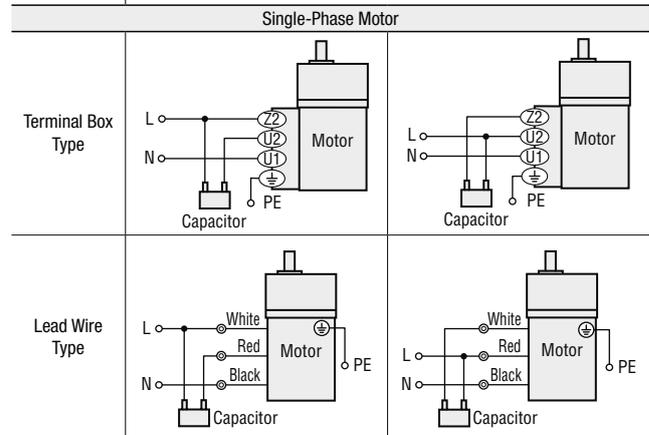
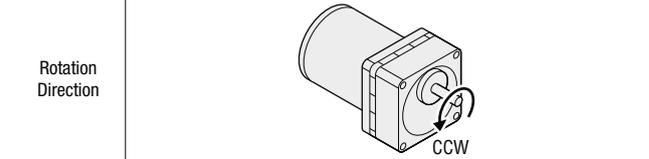
◇ CW Rotation

| Output Power | Type/Gear Ratio | |
|---------------------|---|---------------------------|
| 6 W 15 W 25 W | Gear Ratio: 5~25 , 150~360 Round Shaft Type | Gear Ratio: 30~120 |
| 40 W 60 W | Gear Ratio: 5~18 , 120~300 Round Shaft Type | Gear Ratio: 25~100 |
| 90 W | Gear Ratio: 5~15 , 75~180 Round Shaft Type | Gear Ratio: 18~60 |



◇ CCW Rotation

| Output Power | Type/Gear Ratio | |
|---------------------|---|---------------------------|
| 6 W 15 W 25 W | Gear Ratio: 5~25 , 150~360 Round Shaft Type | Gear Ratio: 30~120 |
| 40 W 60 W | Gear Ratio: 5~18 , 120~300 Round Shaft Type | Gear Ratio: 25~100 |
| 90 W | Gear Ratio: 5~15 , 75~180 Round Shaft Type | Gear Ratio: 18~60 |

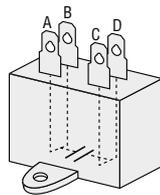


Note

- Change the direction of single-phase motor rotation only after bringing the motor to a stop. If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction of rotation after some delay.

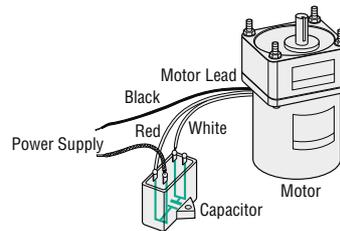
How to connect a capacitor

The capacitor has four terminals. As shown in the figure, the terminal A is internally connected with the terminal B, and the terminal C with the terminal D. Electrically, these are handled as two terminals.



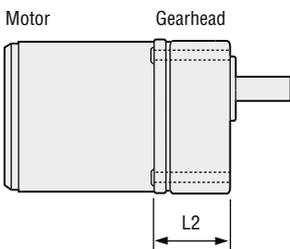
Inner Wiring Diagram for 4-Terminal Capacitor

How to connect a motor/capacitor (For induction motor/clockwise rotation)



Dimensions of installation screws

The following screws are included with the combination type.



| Gearhead Product Name | Installation Screws | | L2 (mm) |
|-----------------------------|---------------------|------------|---------|
| | L1 (mm) | Screw Size | |
| 2GV5B~25B | 50 | M4 P0.7 | 41 |
| 2GV30B~120B | 55 | | 45 |
| 2GV150B~360B | 60 | | 50 |
| 3GV5B~25B | 60 | M6 P1.0 | 45 |
| 3GV30B~120B | 65 | | 50 |
| 3GV150B~360B | 70 | | 55 |
| 4GV5B~25B | 60 | | 48 |
| 4GV30B~120B | 65 | | 53 |
| 4GV150B~360B | 70 | | 58 |
| 5GV5B~18B, 5GVH5B~18B | 70 | M8 P1.25 | 52.5 |
| 5GV25B~100B, 5GVH25B~100B | 85 | | 65.5 |
| 5GV120B~300B, 5GVH120B~300B | 90 | | 71.5 |
| 5GVR5B~15B | 70 | | 52.5 |
| 5GVR18B~36B | 85 | | 65.5 |
| 5GVR50B~180B | 95 | | 77.5 |

- Installation Screws: 4 plain washers and 4 spring washers are included.
- The installation screw material is stainless steel.

KII Series

6 W
110~230 VAC

15 W
110~230 VAC

Induction
25 W
110~230 VAC

40 W
110~230 VAC

60 W
110~230 VAC

90 W
110~230 VAC

KIIS Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220~400 VAC

KIIS Series

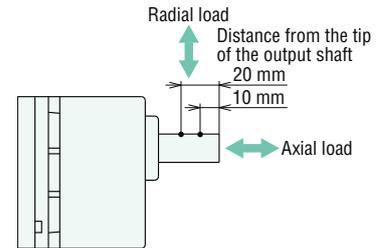
With Electromagnetic Brake
60 W
220, 230 VAC

100 W
220, 230 VAC

Permissible Radial Load/Permissible Axial Load

Combination Type

| Product Name | Gear Ratio | Permissible Radial Load N | | Permissible Axial Load N |
|------------------------------|----------------|--|-------|--------------------------|
| | | Distance from the tip of the gearhead output shaft | | |
| | | 10 mm | 20 mm | |
| 2IK6 | 5~25 | 150 | 200 | 40 |
| | 30~360 | 200 | 300 | |
| 3IK15 | 5~25 | 200 | 300 | 80 |
| | 30~360 | 300 | 400 | |
| 4IK25 | 5~25 | 300 | 350 | 100 |
| | 30~360 | 450 | 550 | |
| 5IK40 5IK60 | 5~9 | 400 | 500 | 150 |
| | 12.5~18 | 450 | 600 | |
| | 25~300 | 500 | 700 | |
| 5IK90 | 5~9 | 400 | 500 | 150 |
| | 12.5~18 | 450 | 600 | |
| | 25~180 | 500 | 700 | |



Round Shaft Type

| Product Name | Permissible Radial Load N | | Permissible Axial Load | |
|--------------|---|-------|------------------------|-----------------------------|
| | Distance from the tip of the motor output shaft | | | |
| | | 10 mm | 20 mm | |
| 2IK6 | | 50 | 110 | Half of motor mass or less* |
| 3IK15 | | 40 | 60 | |
| 4IK25 | | 90 | 140 | |
| 5IK40 | | 140 | 200 | |
| 5IK60 | | 240 | 270 | |
| 5IK90 | | 240 | 270 | |

*Avoid axial loads as much as possible.

If axial load is unavoidable, keep it at half or less of the motor mass.

Permissible Inertia J of Combination Types

Unit : $\times 10^{-4} \text{kg}\cdot\text{m}^2$

| Product Name | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | 360 |
|--------------|-----------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 2IK6 | | 12 | 18 | 28 | 40 | 78 | 110 | 160 | 260 | 370 | 540 | 920 | 1300 | 1700 | 2000 | 2500 | 3600 | 5000 | 5000 | 5000 |
| | At Instantaneous Stop | 1.55 | 2.23 | 3.49 | 5.02 | 9.69 | 14 | 20.1 | 38.8 | 55.8 | 80.4 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 |
| 3IK15 | | 20 | 28 | 45 | 65 | 120 | 180 | 260 | 440 | 630 | 900 | 1500 | 2100 | 2800 | 3200 | 4000 | 5700 | 8000 | 8000 | 8000 | 8000 | 8000 |
| | At Instantaneous Stop | 3.5 | 5.04 | 7.88 | 11.3 | 21.9 | 31.5 | 45.4 | 87.5 | 126 | 181 | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 |
| 4IK25 | | 22 | 32 | 50 | 72 | 150 | 220 | 310 | 550 | 800 | 1100 | 2200 | 3200 | 4000 | 5000 | 6200 | 8900 | 12000 | 12000 | 12000 | 12000 | 12000 |
| | At Instantaneous Stop | 7.75 | 11.2 | 17.4 | 25.1 | 48.4 | 69.8 | 100 | 194 | 279 | 402 | 775 | 775 | 775 | 775 | 775 | 775 | 775 | 775 | 775 | 775 | 775 |
| 5IK40 | | 45 | 65 | 100 | 150 | 300 | 420 | 620 | 1100 | 1600 | 2300 | 4500 | 6000 | 8000 | 10000 | 12000 | 17000 | 25000 | 25000 | 25000 | 25000 | — |
| 5IK60 | At Instantaneous Stop | 27.5 | 39.6 | 61.9 | 89.1 | 172 | 248 | 356 | 688 | 990 | 1426 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | — |
| 5IK90 | | 45 | 65 | 100 | 150 | 300 | 420 | 620 | 1100 | 1600 | 2300 | 4500 | 6000 | 8000 | 10000 | 12000 | 17000 | 25000 | 25000 | — | — | — |
| | At Instantaneous Stop | 27.5 | 39.6 | 61.9 | 89.1 | 172 | 248 | 356 | 688 | 990 | 1426 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | — | — | — |

Combination Type Motor and Gearhead Combinations

Terminal Box Type

| Product Name | Motor Product Name | Gearhead Product Name |
|---------------------|--------------------|-----------------------|
| 4IK25UAT2 -□ | 4IK25GV-UAT2 | 4GV□B |
| 4IK25GCT2 -□ | 4IK25GV-GCT2 | |
| 4IK25UCT2 -□ | 4IK25GV-UCT2 | |
| 5IK40UAT2 -□ | 5IK40GV-UAT2 | 5GV□B |
| 5IK40GCT2 -□ | 5IK40GV-GCT2 | |
| 5IK40UCT2 -□ | 5IK40GV-UCT2 | |
| 5IK60UAT2 -□ | 5IK60GVH-UAT2 | 5GVH□B |
| 5IK60GCT2 -□ | 5IK60GVH-GCT2 | |
| 5IK60UCT2 -□ | 5IK60GVH-UCT2 | |
| 5IK90UAT2 -□ | 5IK90GVR-UAT2 | 5GVR□B |
| 5IK90GCT2 -□ | 5IK90GVR-GCT2 | |
| 5IK90UCT2 -□ | 5IK90GVR-UCT2 | |

Lead Wire Type

| Product Name | Motor Product Name | Gearhead Product Name |
|-------------------|--------------------|-----------------------|
| 2IK6UA -□ | 2IK6GV-UA | 2GV□B |
| 2IK6GC -□ | 2IK6GV-GC | |
| 2IK6UC -□ | 2IK6GV-UC | |
| 3IK15UA -□ | 3IK15GV-UA | 3GV□B |
| 3IK15GC -□ | 3IK15GV-GC | |
| 3IK15UC -□ | 3IK15GV-UC | |
| 4IK25UA -□ | 4IK25GV-UA | 4GV□B |
| 4IK25GC -□ | 4IK25GV-GC | |
| 4IK25UC -□ | 4IK25GV-UC | |
| 5IK40UA -□ | 5IK40GV-UA | 5GV□B |
| 5IK40GC -□ | 5IK40GV-GC | |
| 5IK40UC -□ | 5IK40GV-UC | |
| 5IK60UA -□ | 5IK60GVH-UA | 5GVH□B |
| 5IK60GC -□ | 5IK60GVH-GC | |
| 5IK60UC -□ | 5IK60GVH-UC | |
| 5IK90UA -□ | 5IK90GVR-UA | 5GVR□B |
| 5IK90GC -□ | 5IK90GVR-GC | |
| 5IK90UC -□ | 5IK90GVR-UC | |

● A number indicating the gear ratio is replaced with the box □ in the product name.

KII Series

6 W
110–230 VAC

15 W
110–230 VAC

25 W
110–230 VAC

40 W
110–230 VAC

60 W
110–230 VAC

90 W
110–230 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220–400 VAC

KIIS Series

60 W
220, 230 VAC

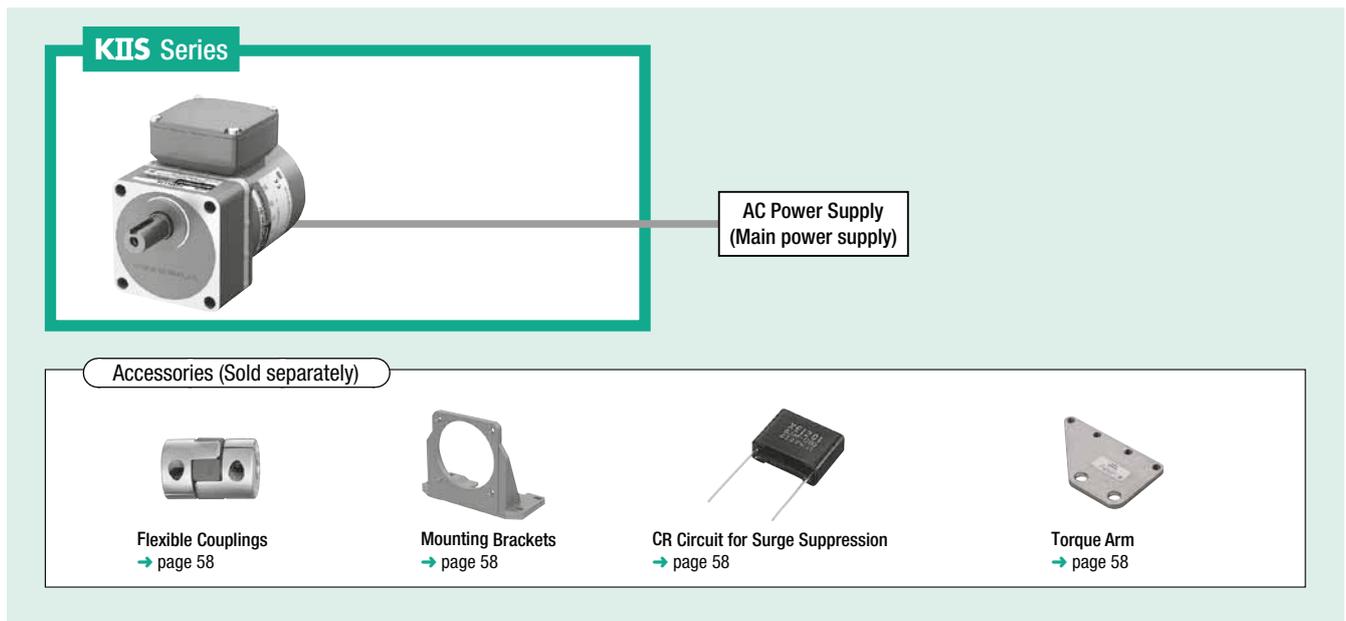
100 W
220, 230 VAC

With Electromagnetic Brake

Features

| Series Name | Features and Lineup | | | | | | | | | | | |
|--|---|---|------------|--------------|--------------|--------------------|---------|--|------|---|-------|---|
| <p>KIS Series</p>  <p>UL us CCC CE</p> | <ul style="list-style-type: none"> ● High-efficiency three-phase motor The optimal magnetic design and dedicated parts provide high efficiency of up to 73%. This model also has reduced the power consumption by up to around 10%. ● Best for combination with an inverter You can control the speed in a wide range from low speeds to high speeds. In addition, speed regulation under loads is small, enabling stable speed control. ● Increase in motor power output For the frame size of 90 mm, the output of 100 W has been achieved through high efficiency. ● Fanless Reduction in loss has suppressed heat generation. This eliminates the cooling fan installed in the conventional model of 60 W or higher. With less total length, less installation space is required. | <ul style="list-style-type: none"> ● Slim terminal box (Terminal box type) A slim terminal box is installed for easy wiring. This box conforms to the Degree of Protection IP66. (Excluding the installation surface of the round shaft type) ● Combination type of pre-assembled gearhead The combination type comes with a gearhead and a motor pre-assembled. ● Shaft Configurations of Solid Shaft Type An output shaft direction of left or right can be selected for the solid shaft type. ● Lineup <table border="1" data-bbox="991 548 1455 795"> <tr> <td>Frame Size</td> <td>90 mm, 110mm</td> </tr> <tr> <td>Output Power</td> <td>60 W, 100 W, 200 W</td> </tr> <tr> <td>Voltage</td> <td>Three-Phase 220/230 VAC Three-Phase 380 VAC Three-Phase 400 VAC Three-Phase 415 VAC</td> </tr> <tr> <td>Type</td> <td>Combination Type/Round Shaft Type/Right-angle Shaft Geared Type</td> </tr> <tr> <td>Model</td> <td>Induction Motor Electromagnetic Brake Type Motor</td> </tr> </table> | Frame Size | 90 mm, 110mm | Output Power | 60 W, 100 W, 200 W | Voltage | Three-Phase 220/230 VAC Three-Phase 380 VAC Three-Phase 400 VAC Three-Phase 415 VAC | Type | Combination Type/Round Shaft Type/Right-angle Shaft Geared Type | Model | Induction Motor Electromagnetic Brake Type Motor |
| Frame Size | 90 mm, 110mm | | | | | | | | | | | |
| Output Power | 60 W, 100 W, 200 W | | | | | | | | | | | |
| Voltage | Three-Phase 220/230 VAC Three-Phase 380 VAC Three-Phase 400 VAC Three-Phase 415 VAC | | | | | | | | | | | |
| Type | Combination Type/Round Shaft Type/Right-angle Shaft Geared Type | | | | | | | | | | | |
| Model | Induction Motor Electromagnetic Brake Type Motor | | | | | | | | | | | |

System Configuration



System Configuration Example

| | | | | |
|--|---|--|---|--|
| <p>Three-Phase High-Efficiency Induction Motor</p> <p>5IK60VEST2-25</p> | + | Sold Separately | | |
| | | <p>Mounting Brackets</p> <p>SOL5M8F</p> | <p>Flexible Couplings</p> <p>MCL551818</p> | <p>CR Circuit for Surge Suppression</p> <p>EPCR1201-2</p> |

● The system configuration shown above is an example. Other combinations are available.

Product Number Code

Combination Type

5 I K 100 V ES M T2 - 15

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑩

Right-angle Shaft Geared Type (Induction motor)

7 I K 200 V EU T2 - GHR 15

① ② ③ ④ ⑤ ⑥ ⑧ ⑨ ⑩

Round Shaft Type

5 I K 100 V A - ES T2

① ② ③ ④ ⑤ ⑨ ⑥ ⑧

| | | |
|---|---|--|
| ① | Motor Frame Size | 5 : 90 mm, 7 : 110 mm |
| ② | Model Name | I : Induction Motor |
| ③ | Series Name | K : KIIS Series |
| ④ | Output Power (W) | (Example) 100 : 100 W |
| ⑤ | V : Three-Phase High-Efficiency Motor | |
| ⑥ | Power Supply Voltage and Number of Poles | ES : Three-Phase 220/230 VAC 4 poles EU : Three-phase 380/400/415 VAC 4 poles |
| ⑦ | M : Power Off Activated Type Electromagnetic Brake | |
| ⑧ | T2 : Terminal Box Type | |
| ⑨ | Output Shaft Type & Direction | A : Round Shaft Type GHR : Hollow shaft type GAR : Solid shaft type (R shaft) GAL : Solid shaft type (L shaft) |
| ⑩ | Gear Ratio | Number: Gear Ratio of gearhead |

General Specifications

| Item | Specifications |
|-------------------------------|--|
| Insulation Resistance | The measured value is 100 MΩ or more when a 500 VDC megger is applied between the motor windings and the case after continuous operation under normal ambient temperature and humidity. |
| Dielectric Voltage | No abnormality is judged even with application of AC1.5 kV at 50Hz or 60Hz between the motor windings and the case for 1 minute after continuous operation under normal ambient temperature and humidity. |
| Temperature Rise | A gearhead or equivalent heat sink (200 × 200 mm, Thickness: 5 mm, Material: Aluminum) is connected and the winding temperature rise is measured at 80°C or less using the resistance change method after rated load continuous operation under normal ambient temperature and humidity. |
| Heat-Resistant Class | 130 (B) |
| Operating Ambient Temperature | -10~ +40 °C (non-freezing) |
| Operating Ambient Humidity | 85% or less (non-condensing) |
| Degree of Protection | Terminal Box Type: IP66* (Excluding the installation surface of the round shaft type) Lead Wire Type: IP20 |

*Material and surface treatment

● Material

Case and terminal box: Aluminum

Output shaft: S45C

Screw: Stainless steel (Exposed part only)

● Surface treatment

Case and terminal box: Painted (Except the installation surface)

Note

● There is no built-in overheat protection device (thermal protector).

To prevent the motor from burning out when an excess load is applied or the output shaft is locked, use the electrical thermal function of the electromagnetic switch or the inverter.

KIIS Series

6 W

110-230 VAC

15 W

110-230 VAC

25 W

110-230 VAC

40 W

110-230 VAC

60 W

110-230 VAC

90 W

110-230 VAC

KIIS Series

60 W

220, 230 VAC

100 W

220, 230 VAC

100 W

220, 230 VAC

Hollow/Solid Shaft

200 W

200, 400 VAC

KIIS Series

60 W

220, 230 VAC

100 W

220, 230 VAC

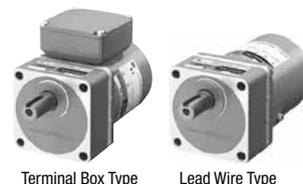
With Electromagnetic Brake

Induction Motors

60 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

Specifications - Continuous Rating



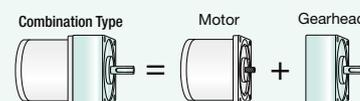
| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power | Voltage | Frequency | Current | Starting Torque | Rated Torque | Rated Speed |
|--|--|--------------|-----------------|-----------|---------|-----------------|--------------|-------------|
| Terminal Box Type | Lead Wire Type | W | VAC | Hz | A | mN-m | mN-m | r/min |
| 5IK60VEST2-□ 5IK60VA-EST2 | 5IK60VES-□ 5IK60VA-ES | 60 | Three-Phase 220 | 50 | 0.37 | 600 | 410 | 1400 |
| | | | | 60 | 0.33 | 500 | 350 | 1670 |
| | | 60 | Three-Phase 230 | 50 | 0.38 | 600 | 410 | 1400 |
| | | | | 60 | 0.33 | 500 | 350 | 1670 |

- The specifications apply to the motor only.
- There is no built-in overheat protection device (thermal protector).
To prevent the motor from burning out when an excess load is applied or the output shaft is locked, use the electrical thermal function of the electromagnetic switch or the inverter.
- To combine this model with an inverter, set the frequency of the inverter to 120 Hz or lower.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled.
The combination of the motor and the gearhead can be changed.
They are also available separately.
You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Type | Product Name | Gear Ratio |
|-------------------|---------------------|--|
| Terminal Box Type | 5IK60VEST2-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60, 75, 90, 100 |
| | | 120, 150, 180 |
| | | 250, 300 |
| Lead Wire Type | 5IK60VES-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60, 75, 90, 100 |
| | | 120, 150, 180 |
| | | 250, 300 |

The following items are included in each product.
Motor, Gearhead, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Type | Product Name |
|-------------------|---------------------|
| Terminal Box Type | 5IK60VA-EST2 |
| Lead Wire Type | 5IK60VA-ES |

The following items are included in each product.
Motor, Operating Manual

Permissible Torque on Combination Types

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 | |
|---------------------------------|-------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60VEST2-□, 5IK60VES-□ | | 1.8 | 2.2 | 2.8 | 3.3 | 4.6 | 5.5 | 6.6 | 8.8 | 10.6 | 12.7 | 17.6 | 21.2 | 26.4 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 | |
|---------------------------------|-------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60VEST2-□, 5IK60VES-□ | | 1.6 | 1.9 | 2.4 | 2.8 | 3.9 | 4.7 | 5.7 | 7.5 | 9.0 | 10.8 | 15.1 | 18.1 | 22.6 | 27.1 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
The actual speed is 2 to 10% less, depending on the load.

- A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Radial Load/Permissible Axial Load

→ page 56

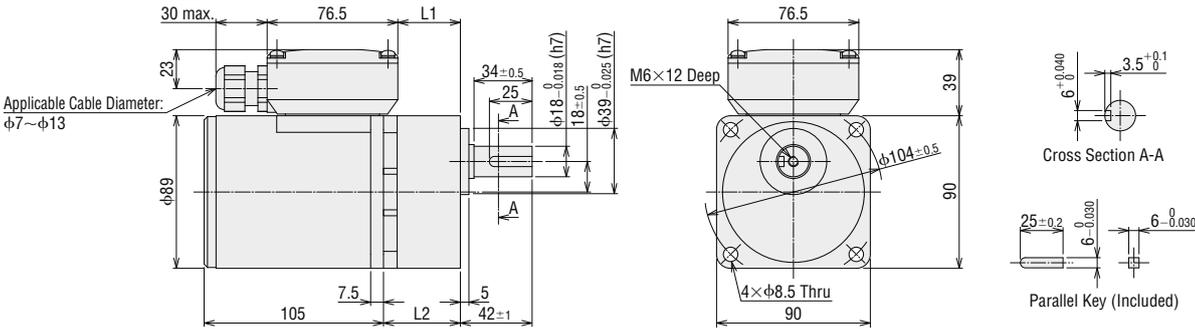
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 55
- The cable outlet of the terminal box can be changed and fixed to four different directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

Combination Type

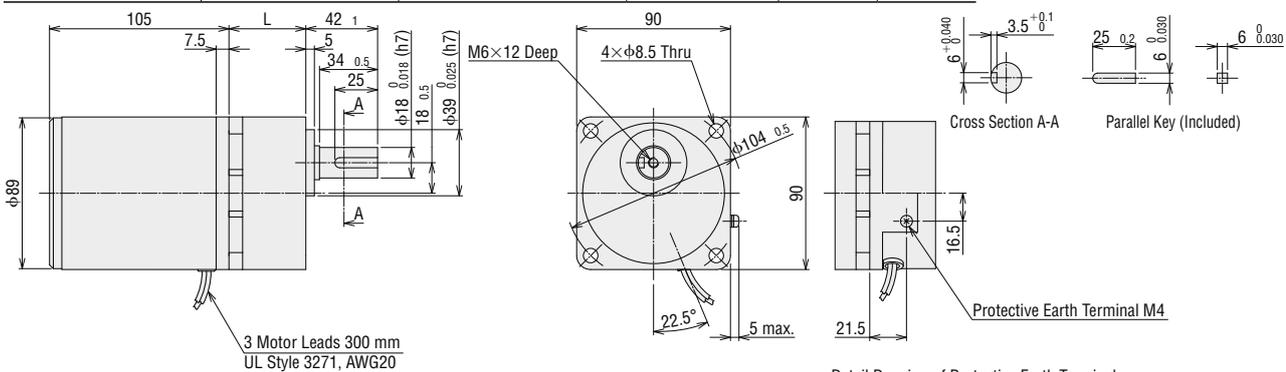
Terminal Box Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L1 | L2 | Mass kg |
|---------------------|--------------------|-----------------------|----------------|------|----|---------|
| 5IK60VEST2-□ | 5IK60VGVH-EST2 | 5GVH□B | 5~18 | 36.6 | 45 | 4.1 |
| | | | 25~100 | 49.6 | 58 | |
| | | | 120~300 | 55.6 | 64 | |



Lead Wire Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|-------------------|--------------------|-----------------------|----------------|----|---------|
| 5IK60VES-□ | 5IK60VGVH-ES | 5GVH□B | 5~18 | 45 | 3.8 |
| | | | 25~100 | 58 | |
| | | | 120~300 | 64 | |

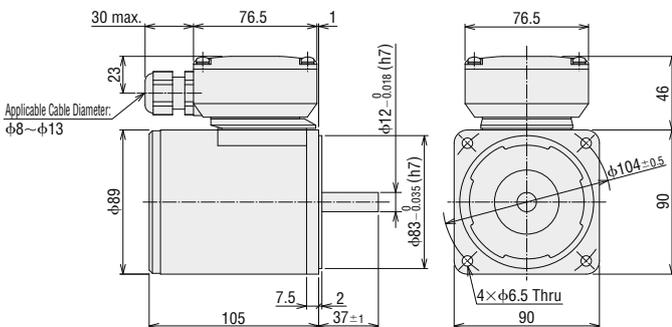


Round Shaft Type

Terminal Box Type

5IK60VA-EST2

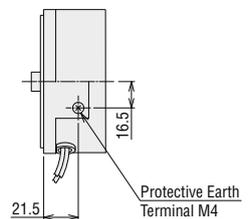
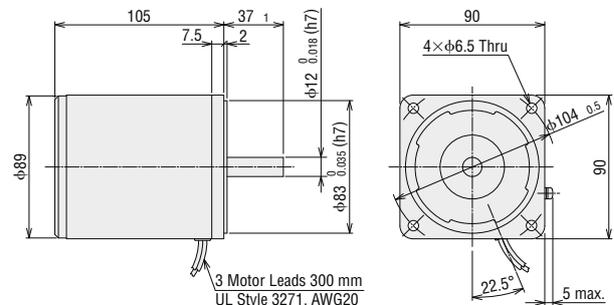
Mass: 2.6 kg



Lead Wire Type

5IK60VA-ES

Mass: 2.3 kg



Detail Drawing of Protective Earth Terminal

KIIS Series

6 W
110~230 VAC

15 W
110~230 VAC

Induction

25 W
110~230 VAC

40 W
110~230 VAC

60 W
110~230 VAC

90 W
110~230 VAC

KIIS Series

60 W
220, 230 VAC

Induction

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220~400 VAC

KIIS Series

With Electromagnetic Brake

60 W
220, 230 VAC

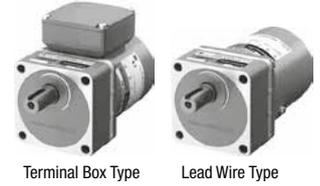
100 W
220, 230 VAC

Induction Motors

100 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Lead Wire Type

Specifications - Continuous Rating



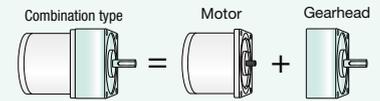
| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power | Voltage | Frequency | Current | Starting Torque | Rated Torque | Rated Speed |
|--|--|--------------|-----------------|-----------|---------|-----------------|--------------|-------------|
| Terminal Box Type | Lead Wire Type | W | VAC | Hz | A | mN·m | mN·m | r/min |
| 5IK100VEST2-□ 5IK100VA-EST2 | 5IK100VES-□ 5IK100VA-ES | 100 | Three-Phase 220 | 50 | 0.55 | 850 | 690 | 1400 |
| | | | | 60 | 0.48 | 700 | 570 | 1680 |
| | | 100 | Three-Phase 230 | 50 | 0.57 | 850 | 690 | 1400 |
| | | | | 60 | 0.48 | 700 | 570 | 1680 |

- The specifications apply to the motor only.
- There is no built-in overheat protection device (thermal protector).
To prevent the motor from burning out when an excess load is applied or the output shaft is locked, use the electrical thermal function of the electromagnetic switch or the inverter.
- To combine this model with an inverter, set the frequency of the inverter to 120 Hz or lower.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled.
The combination of the motor and the gearhead can be changed.
They are also available separately.
You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Type | Product Name | Gear Ratio |
|-------------------|----------------------|-----------------------------------|
| Terminal Box Type | 5IK100VEST2-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60 |
| | | 75, 90, 100, 120, 150, 180 |
| Lead Wire Type | 5IK100VES-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60 |
| | | 75, 90, 100, 120, 150, 180 |

The following items are included in each product.
Motor, Gearhead, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Type | Product Name |
|-------------------|----------------------|
| Terminal Box Type | 5IK100VA-EST2 |
| Lead Wire Type | 5IK100VA-ES |

The following items are included in each product.
Motor, Operating Manual

Permissible Torque on Combination Types

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 |
|-----------------------------------|-------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK100VEST2-□, 5IK100VES-□ | | 3.1 | 3.7 | 4.7 | 5.6 | 7.8 | 9.3 | 10.7 | 14.8 | 17.8 | 21.4 | 29.7 | 35.6 | 40 | 40 | 40 | 40 | 40 | 40 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 |
|-----------------------------------|-------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK100VEST2-□, 5IK100VES-□ | | 2.6 | 3.1 | 3.8 | 4.6 | 6.4 | 7.7 | 8.8 | 12.3 | 14.7 | 17.6 | 24.5 | 29.4 | 34.6 | 40 | 40 | 40 | 40 | 40 |

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
The actual speed is 2 to 10% less, depending on the load.

- A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Radial Load/Permissible Axial Load

→ page 56

Permissible Inertia J of Combination Types

→ page 55

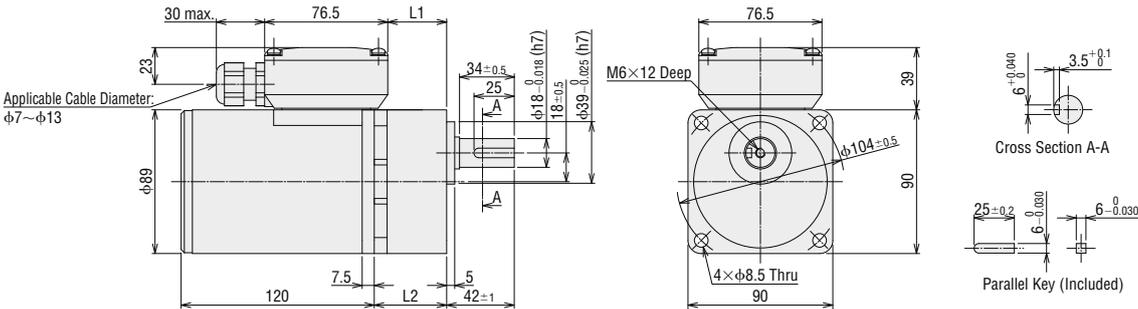
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 55
- The cable outlet of the terminal box can be changed and fixed to four different directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

Combination Type

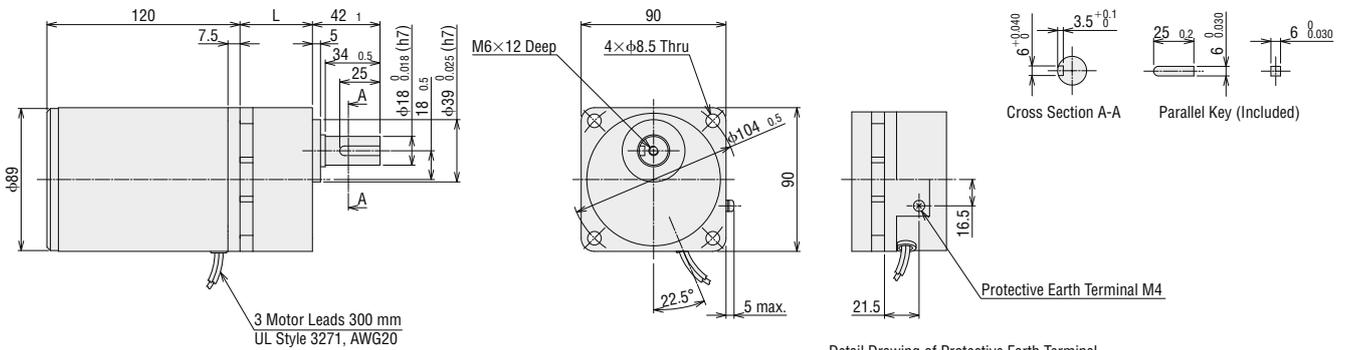
Terminal Box Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L1 | L2 | Mass kg |
|----------------------|--------------------|-----------------------|---------------|------|----|---------|
| 5IK100VEST2-□ | 5IK100VGVR-EST2 | 5GVR□B | 5~15 | 36.6 | 45 | 4.7 |
| | | | 18~36 | 49.6 | 58 | |
| | | | 50~180 | 61.6 | 70 | |



Lead Wire Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|--------------------|--------------------|-----------------------|---------------|----|---------|
| 5IK100VES-□ | 5IK100VGVR-ES | 5GVR□B | 5~15 | 45 | 4.4 |
| | | | 18~36 | 58 | |
| | | | 50~180 | 70 | |



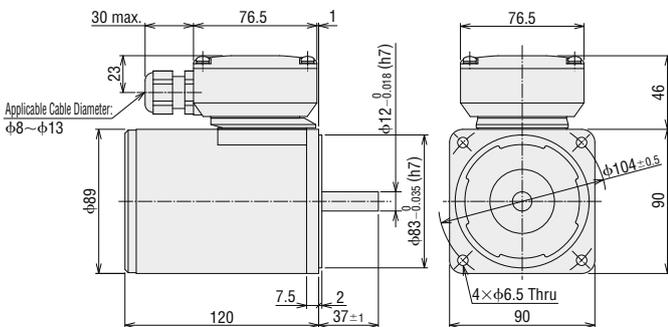
Detail Drawing of Protective Earth Terminal

Round Shaft Type

Terminal Box Type

5IK100VA-EST2

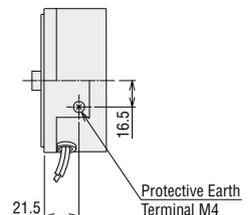
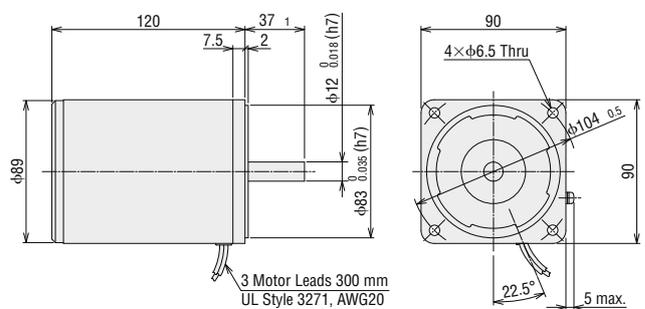
Mass: 3.2 kg



Lead Wire Type

5IK100VA-ES

Mass: 2.9 kg



Detail Drawing of Protective Earth Terminal

KIIS Series

6 W
110~230 VAC

15 W
110~230 VAC

Induction
25 W
110~230 VAC

40 W
110~230 VAC

60 W
110~230 VAC

90 W
110~230 VAC

KIIS Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220~400 VAC

KIIS Series

With Electromagnetic Brake

60 W
220, 230 VAC

100 W
220, 230 VAC

Induction Motors

100W

90 mm

Right-angle Shaft Geared Type



Hollow Shaft Type



Solid Shaft Type

Specifications - Continuous Rating



| Product Name | | | Output W | Voltage V | Frequency Hz | Current A | |
|------------------------|----------------------------|----------------------------|-------------|-----------------|-----------------|--------------|------|
| Hollow Shaft Type | Solid Shaft Type (R shaft) | Solid Shaft Type (L shaft) | | | | | |
| 5IK100VEST2-GHR | 5IK100VEST2-GAR | 5IK100VEST2-GAL | 100 | Three-phase 220 | 50 | 0.55 | |
| | | | | | 60 | 0.52 | |
| | | | | | Three-phase 230 | 50 | 0.57 |
| | | | | | | 60 | 0.52 |

- There is no built-in overheat protection device (thermal protector).
Please use an electromagnetic switch or the electron thermal function of the inverter to prevent burnout of the motor due to overload or locking of the output shaft.
- When driving in combination with an inverter, please use an inverter setting frequency of 100 Hz max.

Note

- Do not perform instantaneous bi-directional operation.

Product Line

Hollow shaft type

| Type | Product Name | Gear Ratio |
|-------------------|------------------------|------------------------------------|
| Terminal box type | 5IK100VEST2-GHR | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |

The following items are included in each product.
Geared motor, installation screws, machine key, safety cover, operating manual

- A number indicating the gear ratio is specified in the box in the product name.

Solid shaft type

| Type | Product Name | Gear Ratio |
|-------------------|--|------------------------------------|
| Terminal box type | 5IK100VEST2-GAR 5IK100VEST2-GAL | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |

The following items are included in each product.
Geared motor, installation screws, machine key, operating manual

Permissible Torque on Right-angle Shaft Geared Types

| Gear Ratio | | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 | 120 | 150 | 200 | 240 |
|--------------------------|-------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|-----|-----|
| Speed [r/min] | 50 Hz | 200 | 150 | 100 | 75 | 60 | 50 | 37 | 30 | 25 | 20 | 15 | 12.5 | 10 | 7.5 | 6.2 |
| | 60 Hz | 240 | 180 | 120 | 90 | 72 | 60 | 45 | 36 | 30 | 24 | 18 | 15 | 12 | 9 | 7.5 |
| Rated Torque [N·m] | 50 Hz | 3.3 | 4.5 | 7.0 | 9.4 | 11.8 | 14.3 | 19.2 | 24.0 | 28.9 | 36.2 | 48.4 | 58.2 | 67.9 | 70 | 70 |
| | 60 Hz | 3.0 | 4.2 | 6.4 | 8.7 | 10.9 | 13.2 | 17.7 | 22.2 | 26.7 | 33.4 | 44.7 | 53.7 | 62.7 | 70 | 70 |
| Starting Torque [N·m] | 50 Hz | 4.2 | 5.7 | 8.8 | 11.8 | 14.8 | 17.9 | 24.0 | 30.0 | 36.1 | 45.2 | 60.4 | 70 | 70 | 70 | 70 |
| | 60 Hz | 3.4 | 4.6 | 7.1 | 9.6 | 12.0 | 14.5 | 19.5 | 24.4 | 29.4 | 36.8 | 49.2 | 59.1 | 69.0 | 70 | 70 |

- Speed is calculated by dividing by the gear ratio with reference to the synchronous speed of the motor (50 Hz: 1500 r/min, 60 Hz: 1800 r/min).
Actual speed is 2~10% lower depending on the size of the load.

Permissible Radial Load/Permissible Axial Load

→ page 56

Permissible Inertia J of Combination Types

→ page 55

K11
Series

6 W
110-230 VAC

15 W
110-230 VAC

Induction
25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

K11S
Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

K11S
Series

With Electromagnetic Brake
60 W
220, 230 VAC

100 W
220, 230 VAC

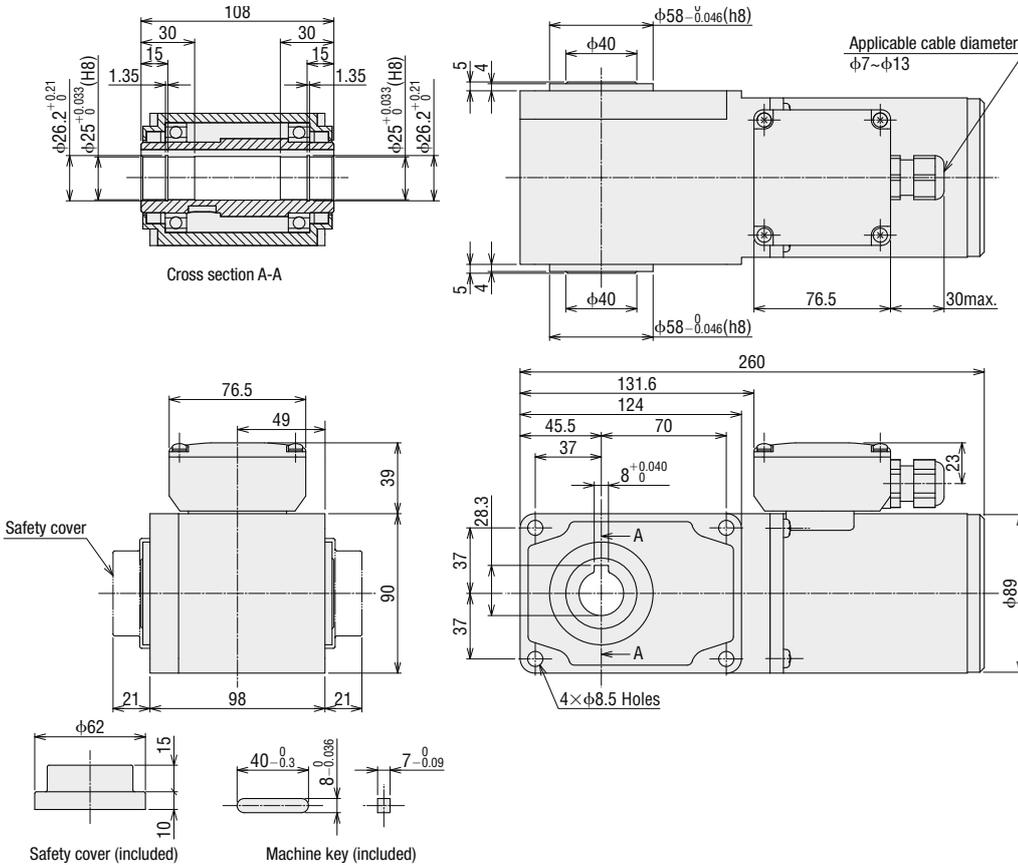
Dimensions (Unit = mm)

- Installation screws are included. → page 55
- The cable pull-out port of the terminal box can be changed and fixed in four directions.
- A number indicating the gear ratio is specified in the box □ in the product name.

Hollow Shaft Type

5IK100VEST2-GHR□

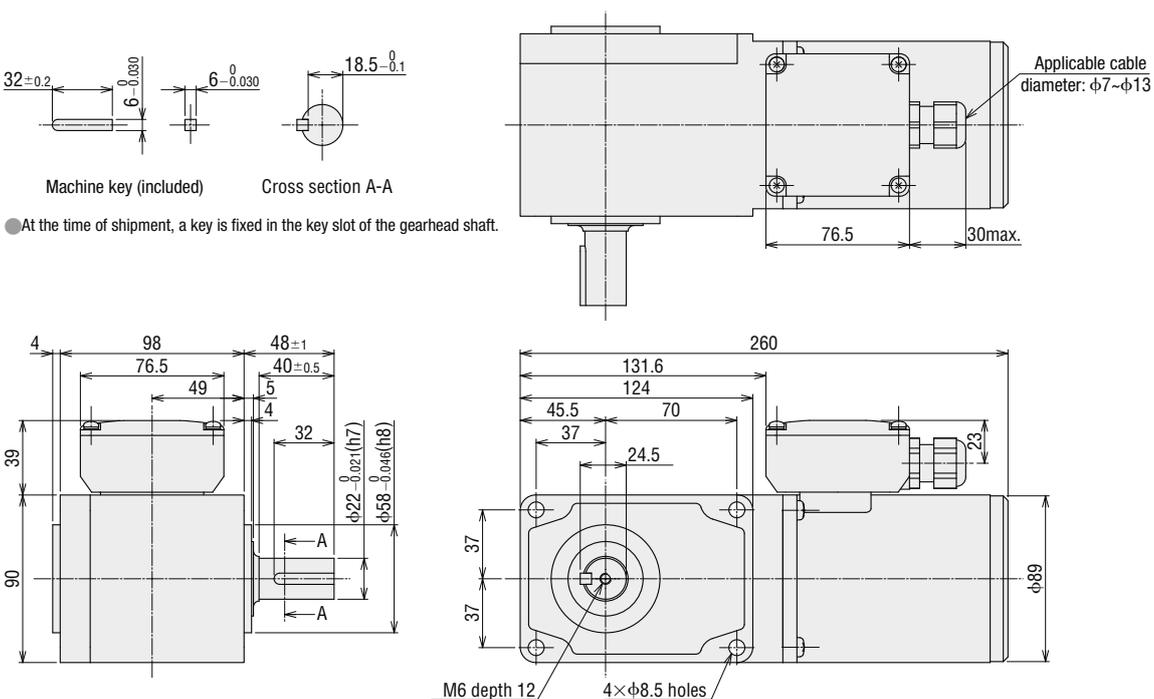
Mass: 7.1 kg



Solid Shaft Type (R shaft)

5IK100VEST2-GAR□

Mass: 7.1 kg

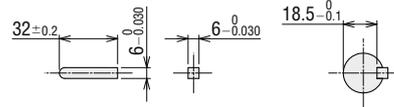
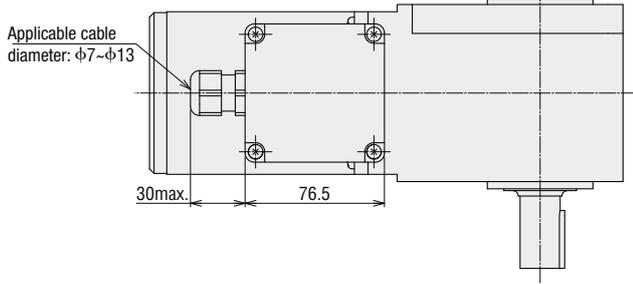


- At the time of shipment, a key is fixed in the key slot of the gearhead shaft.

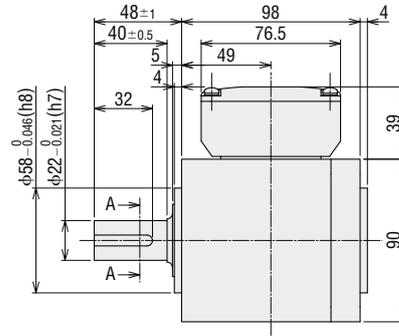
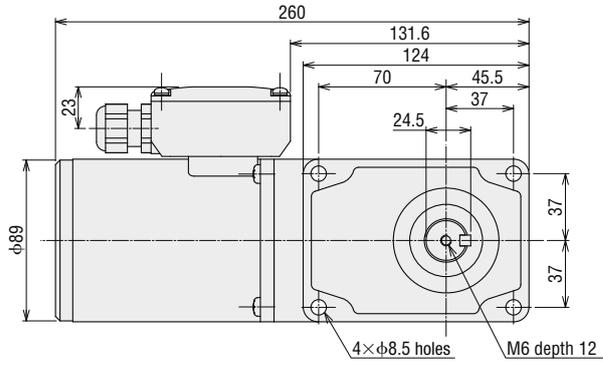
● Solid Shaft Type (L shaft)

5IK100VEST2-GAL□

Mass: 7.1 kg



● At the time of shipment, a key is fixed in the key slot of the gearhead shaft.



Induction Motors

200 W

□ 110 mm

Right-angle Shaft Geared Type



Hollow Shaft Type



Solid Shaft Type

KIIS Series

6 W
110–230 VAC

15 W
110–230 VAC

25 W
110–230 VAC

Induction

40 W
110–230 VAC

60 W
110–230 VAC

90 W
110–230 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

Induction

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220–400 VAC

KIIS Series

60 W
220, 230 VAC

With Electromagnetic Brake

100 W
220, 230 VAC

Specifications - Continuous Rating



| Product Name | | | Output W | Voltage V | Frequency Hz | Current A |
|--------------------------|----------------------------|----------------------------|-------------|-----------------|-----------------|--------------|
| Hollow Shaft Type | Solid Shaft Type (R shaft) | Solid Shaft Type (L shaft) | | | | |
| 7IK200VEST2-GHR □ | 7IK200VEST2-GAR □ | 7IK200VEST2-GAL □ | 200 | Three-phase 220 | 50 | 1.00 |
| | | | | | 60 | 0.90 |
| Three-phase 230 | 50 | 1.02 | | | | |
| | 60 | 0.89 | | | | |
| Three-phase 380 | 50 | 0.56 | | | | |
| | 60 | 0.52 | | | | |
| Three-phase 400 | 50 | 0.56 | | | | |
| | 60 | 0.51 | | | | |
| Three-phase 415 | 50 | 0.57 | | | | |
| | | | | | | |

● There is no built-in overheat protection device (thermal protector).

Please use an electromagnetic switch or the electron thermal function of the inverter to prevent burnout of the motor due to overload or locking of the output shaft.

● When driving in combination with an inverter, please use an inverter setting frequency of 100 Hz max.

Note

● Do not perform instantaneous bi-directional operation.

Product Line

Hollow shaft type

| Type | Product Name | Gear Ratio |
|-------------------|--------------------------|------------------------------------|
| Terminal box type | 7IK200VEST2-GHR □ | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |
| Terminal box type | 7IK200VEUT2-GHR □ | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |

The following items are included in each product.

Geared motor, installation screws, machine key, safety cover, operating manual

● A number indicating the gear ratio is specified in the box □ in the product name.

Solid shaft type

| Type | Product Name | Gear Ratio |
|-------------------|--|------------------------------------|
| Terminal box type | 7IK200VEST2-GAR □ 7IK200VEST2-GAL □ | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |
| Terminal box type | 7IK200VEUT2-GAR □ 7IK200VEUT2-GAL □ | 15, 20, 25, 30, 40, 50, 60 |
| | | 75, 100, 120, 150, 200, 240 |

The following items are included in each product.

Geared motor, installation screws, machine key, operating manual

Permissible Torque on Right-angle Shaft Geared Types

| Gear Ratio | | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 | 120 | 150 | 200 | 240 |
|-----------------------|------------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| Speed [r/min] | 50 Hz | 100 | 75 | 60 | 50 | 37 | 30 | 25 | 20 | 15 | 12.5 | 10 | 7.5 | 6.2 |
| | 60 Hz | 120 | 90 | 72 | 60 | 45 | 36 | 30 | 24 | 18 | 15 | 12 | 9 | 7.5 |
| Rated Torque [N·m] | 50 Hz | 15.5 | 20.8 | 26.1 | 31.4 | 42.1 | 52.7 | 63.3 | 79.3 | 105 | 127 | 159 | 190 | 190 |
| | 60 Hz | 12.8 | 17.3 | 21.7 | 26.1 | 35.0 | 43.9 | 52.8 | 66.1 | 88.3 | 106 | 132 | 177 | 190 |
| Starting Torque [N·m] | 50 / 60 Hz | 16.1 | 21.6 | 27.1 | 32.6 | 43.7 | 54.7 | 65.7 | 82.3 | 110 | 132 | 165 | 190 | 190 |

● Speed is calculated by dividing by the gear ratio with reference to the synchronous speed of the motor (50 Hz: 1500 r/min, 60 Hz: 1800 r/min).

Actual speed is 2–10% lower depending on the size of the load.

Permissible Radial Load/Permissible Axial Load

→ page 56

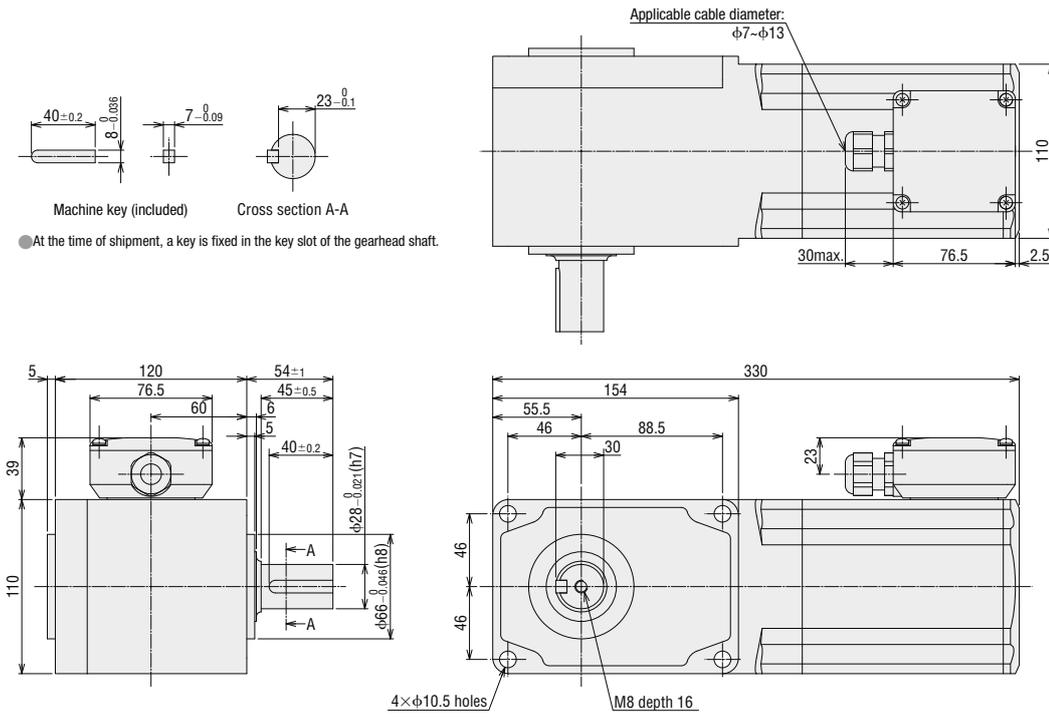
Permissible Inertia J of Combination Types

→ page 55

● Solid Shaft Type (R shaft)

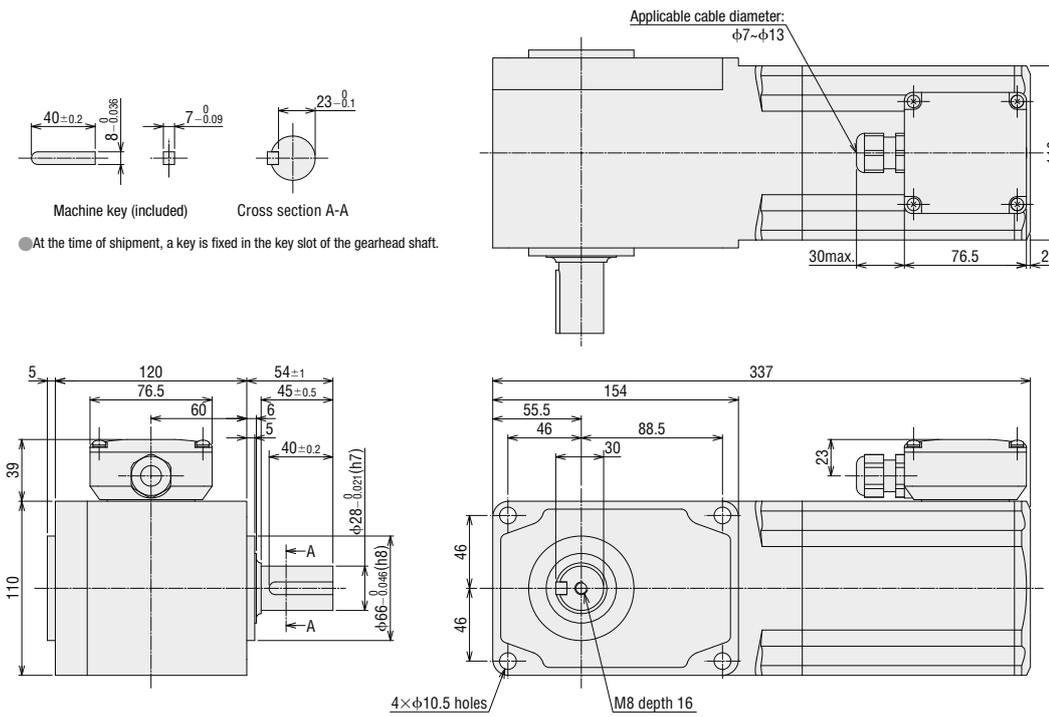
71K200VEST2-GAR□

Mass: 13.0 kg



71K200VEUT2-GAR□

Mass: 13.0 kg



K1I Series

6 W
110-230 VAC

15 W
110-230 VAC

25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

K1S Series

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

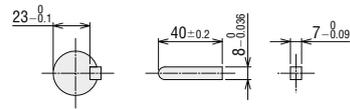
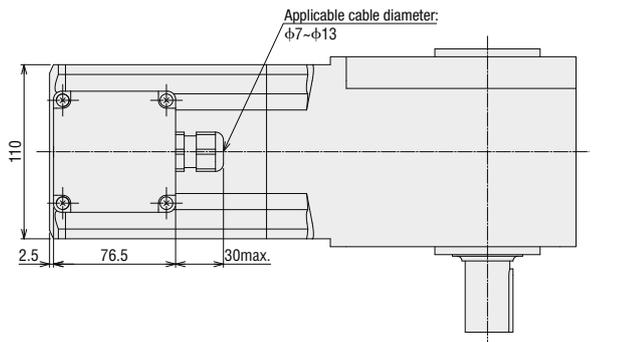
K1S Series

With Electromagnetic Brake
60 W
220, 230 VAC
100 W
220, 230 VAC

● Solid Shaft Type (L shaft)

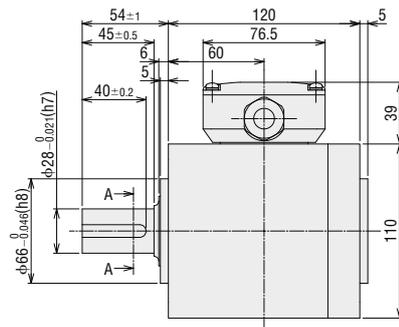
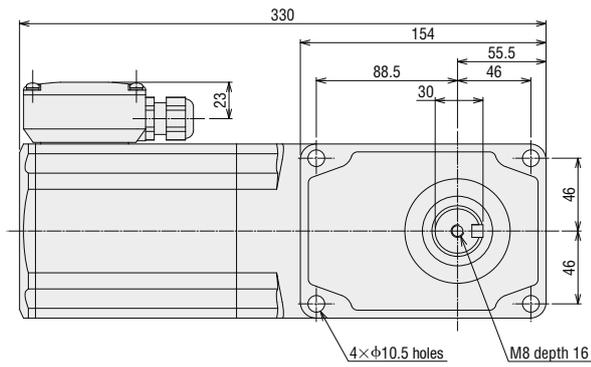
7IK200VEST2-GAL □

Mass: 13.0 kg



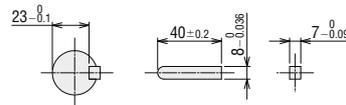
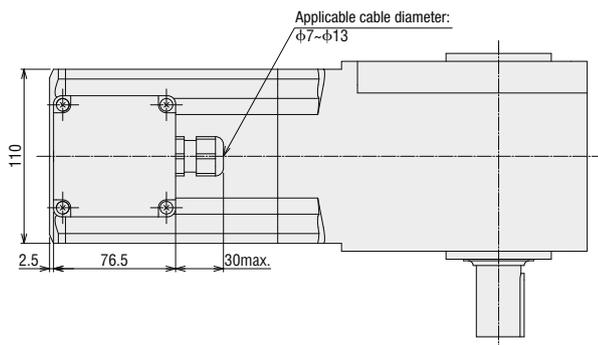
Cross section A-A Machine key (included)

● At the time of shipment, a key is fixed in the key slot of the gearhead shaft.



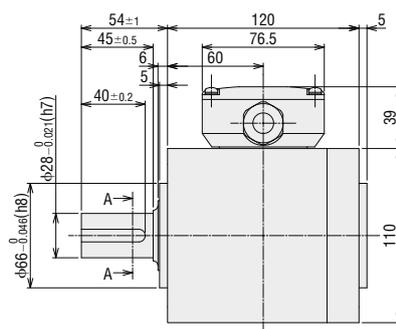
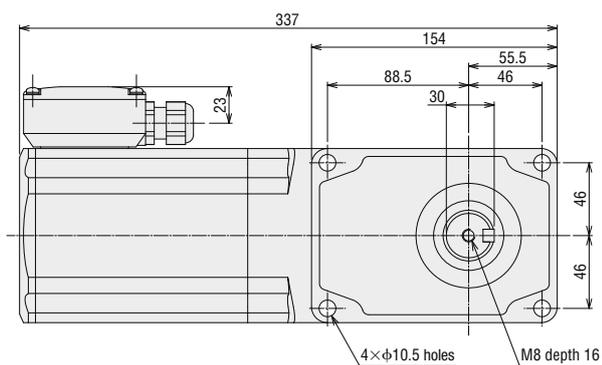
7IK200VEUT2-GAL □

Mass: 13.0 kg



Cross section A-A Machine key (included)

● At the time of shipment, a key is fixed in the key slot of the gearhead shaft.

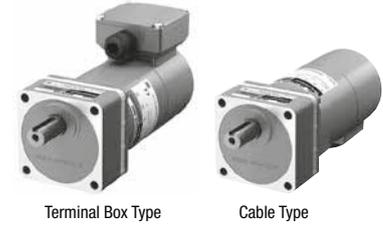


Electromagnetic Brake Type Motors

60 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Cable Type

KII Series

6 W
110–230 VAC

15 W
110–230 VAC

25 W
110–230 VAC

Induction

40 W
110–230 VAC

60 W
110–230 VAC

90 W
110–230 VAC

KII Series

60 W
220, 230 VAC

Induction

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220–400 VAC

KII Series

With Electromagnetic Brake

60 W
220, 230 VAC

100 W
220, 230 VAC

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power | Voltage | Frequency | Current | Starting Torque | Rated Torque | Rated Speed |
|--|--|--------------|-----------------|-----------|---------|-----------------|--------------|-------------|
| Terminal Box Type | Cable Type | W | VAC | Hz | A | mN-m | mN-m | r/min |
| 5IK60VESMT2-□ 5IK60VA-ESMT2 | 5IK60VESM-□ 5IK60VA-ESM | 60 | Three-Phase 220 | 50 | 0.37 | 600 | 410 | 1400 |
| | | | | 60 | 0.33 | 500 | 350 | 1670 |
| | | 60 | Three-Phase 230 | 50 | 0.38 | 600 | 410 | 1400 |
| | | | | 60 | 0.33 | 500 | 350 | 1670 |

- The specifications apply to the motor only.
- There is no built-in overheat protection device (thermal protector).
To prevent the motor from burning out when an excess load is applied or the output shaft is locked, use the electrical thermal function of the electromagnetic switch or the inverter.
- To combine this model with an inverter, set the frequency of the inverter to 120 Hz or lower.

Electromagnetic Brake (Power off activated type)

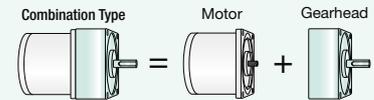
| Product Name | | Voltage | Frequency | Current | Input | Static Friction Torque |
|--|--|------------------|-----------|---------|-------|------------------------|
| Terminal Box Type | Cable Type | VAC | Hz | A | W | mN-m |
| 5IK60VESMT2-□ 5IK60VA-ESMT2 | 5IK60VESM-□ 5IK60VA-ESM | Single-Phase 220 | 50 | 0.04 | 6 | 500 |
| | | | 60 | | | |
| | | Single-Phase 230 | 50 | 0.04 | 6 | 500 |
| | | | 60 | | | |

- The specifications apply to the motor only.

Product Line

Combination Type

The combination type comes with a motor and a gearhead pre-assembled.
The combination of the motor and the gearhead can be changed.
They are also available separately.
You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Type | Product Name | Gear Ratio |
|-------------------|----------------------|--|
| Terminal Box Type | 5IK60VESMT2-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60, 75, 90, 100 |
| | | 120, 150, 180 |
| | | 250, 300 |
| Cable Type | 5IK60VESM-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60, 75, 90, 100 |
| | | 120, 150, 180 |
| | | 250, 300 |

The following items are included in each product.
Motor, Gearhead, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Type | Product Name |
|-------------------|----------------------|
| Terminal Box Type | 5IK60VA-ESMT2 |
| Cable Type | 5IK60VA-ESM |

The following items are included in each product.
Motor, Operating Manual

- A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 | 6 | 5 | |
|----------------------------|----------------|-----|-----|-----|-----|------|-----|-----|-----|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60VESMT2-□, 5IK60VESM-□ | | 1.8 | 2.2 | 2.8 | 3.3 | 4.6 | 5.5 | 6.6 | 8.8 | 10.6 | 12.7 | 17.6 | 21.2 | 26.4 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 | 7.2 | 6 | |
|----------------------------|----------------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|-----|----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 | |
| 5IK60VESMT2-□, 5IK60VESM-□ | | 1.6 | 1.9 | 2.4 | 2.8 | 3.9 | 4.7 | 5.7 | 7.5 | 9.0 | 10.8 | 15.1 | 18.1 | 22.6 | 27.1 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |

● The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
The actual speed is 2 to 10% less, depending on the load.

● A number indicating the gear ratio is entered where the box □ is located within the product name.

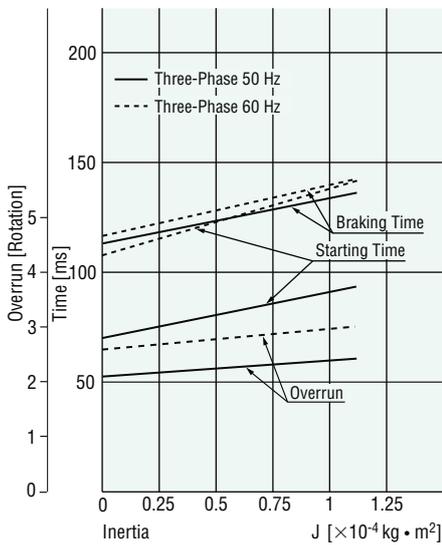
Permissible Radial Load/Permissible Axial Load

→ page 56

Permissible Inertia J of Combination Types

→ page 55

Starting and Braking Characteristics (Reference values for the motor only)



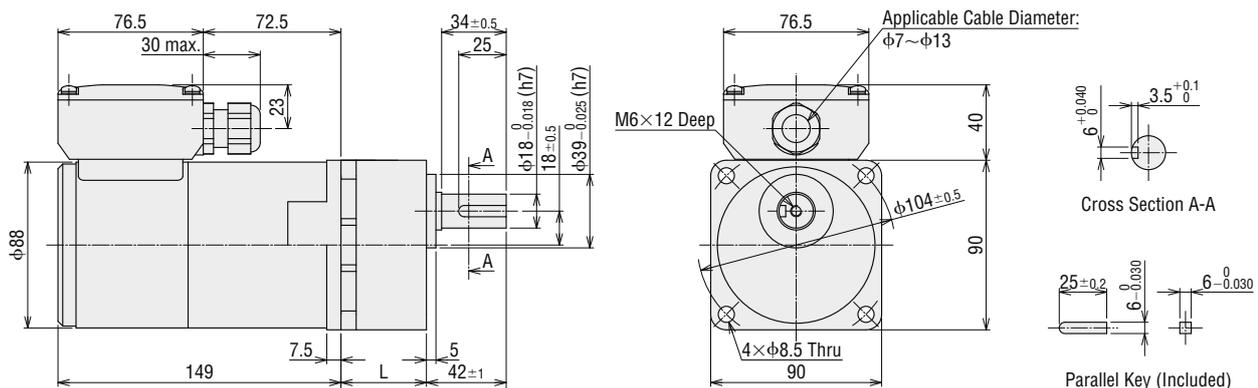
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 55
- The cable outlet of the terminal box can be changed and fixed to four different directions. The cable outlet of the cable type can be done so to two different directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

Combination Type

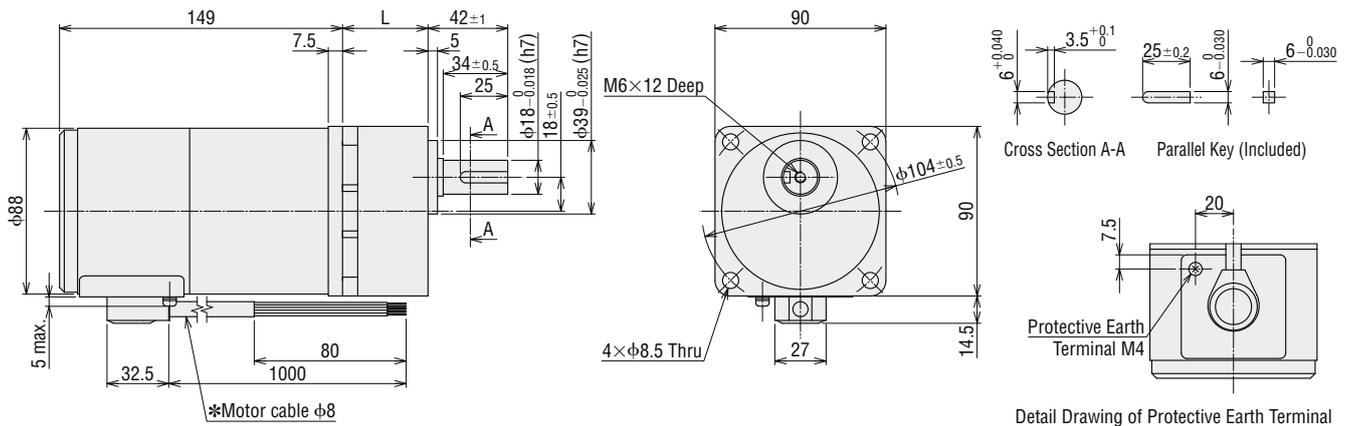
◇ Terminal Box Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|---------------|--------------------|-----------------------|------------|----|---------|
| 5IK60VESMT2-□ | 5IK60GVGH-ESMT2 | 5GVH□B | 5~18 | 45 | 4.8 |
| | | | 25~100 | 58 | |
| | | | 120~300 | 64 | |



◇ Cable Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|--------------------|--------------------|-----------------------|----------------|----|---------|
| 5IK60VESM-□ | 5IK60GVGH-ESM | 5GVH□B | 5~18 | 45 | 4.5 |
| | | | 25~100 | 58 | |
| | | | 120~300 | 64 | |



*Motor Cable Cores
3 Motor Leads UL Style 3271, AWG20
2 Electromagnetic Brake Leads UL Style 3266, AWG22

K11 Series

6 W
110~230 VAC

15 W
110~230 VAC

25 W
110~230 VAC

40 W
110~230 VAC

60 W
110~230 VAC

90 W
110~230 VAC

K11S Series

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220~400 VAC

K11S Series

With Electromagnetic Brake

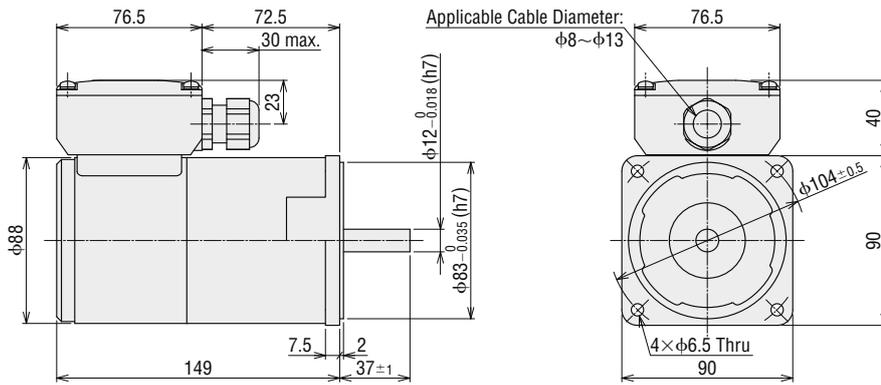
60 W
220, 230 VAC

100 W
220, 230 VAC

● Round Shaft Type

◇ Terminal Box Type

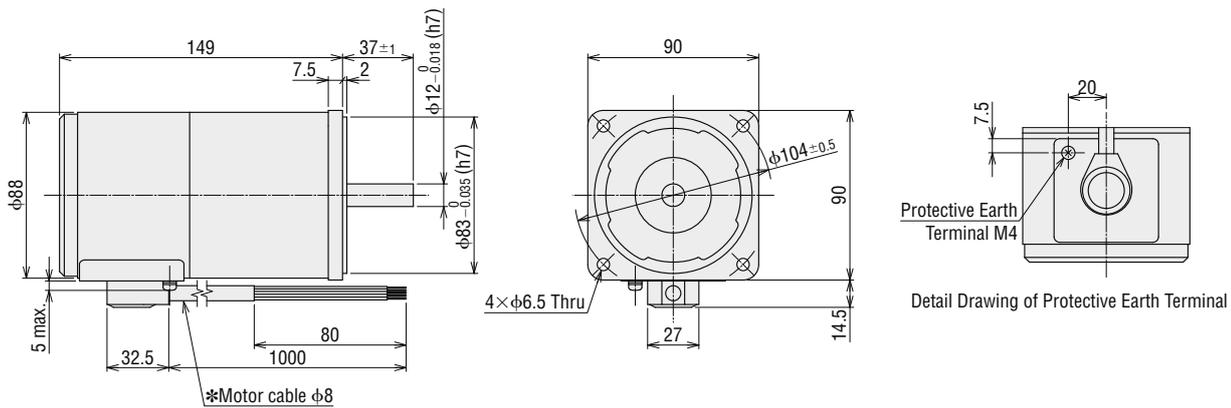
5IK60VA-ESMT2 Mass: 3.3 kg



*Motor Cable Cores
3 Motor Leads UL Style 3271, AWG20
2 Electromagnetic Brake Leads UL Style 3266, AWG22

◇ Cable Type

5IK60VA-ESM Mass: 3.0 kg



*Motor Cable Cores
3 Motor Leads UL Style 3271, AWG20
2 Electromagnetic Brake Leads UL Style 3266, AWG22

Electromagnetic Brake Type Motors

100 W

□ 90 mm

Combination Type, Round Shaft Type



Terminal Box Type

Cable Type

Specifications - Continuous Rating



| Product Name Upper Level: Combination Type Lower Level: Round Shaft Type | | Output Power | Voltage | Frequency | Current | Starting Torque | Rated Torque | Rated Speed |
|--|--|--------------|-----------------|-----------|---------|-----------------|--------------|-------------|
| Terminal Box Type | Cable Type | W | VAC | Hz | A | mN-m | mN-m | r/min |
| 5IK100VESMT2-□ 5IK100VA-ESMT2 | 5IK100VESM-□ 5IK100VA-ESM | 100 | Three-Phase 220 | 50 | 0.55 | 850 | 690 | 1400 |
| | | | | 60 | 0.48 | 700 | 570 | 1680 |
| | | 100 | Three-Phase 230 | 50 | 0.57 | 850 | 690 | 1400 |
| | | | | 60 | 0.48 | 700 | 570 | 1680 |

● The specifications apply to the motor only.

● There is no built-in overheat protection device (thermal protector).

To prevent the motor from burning out when an excess load is applied or the output shaft is locked, use the electrical thermal function of the electromagnetic switch or the inverter.

● To combine this model with an inverter, set the frequency of the inverter to 120 Hz or lower.

Electromagnetic Brake (Power off activated type)

| Product Name | | Voltage | Frequency | Current | Input | Static Friction Torque |
|--|--|------------------|-----------|---------|-------|------------------------|
| Terminal Box Type | Cable Type | VAC | Hz | A | W | mN-m |
| 5IK100VESMT2-□ 5IK100VA-ESMT2 | 5IK100VESM-□ 5IK100VA-ESM | Single-Phase 220 | 50 | 0.04 | 6 | 500 |
| | | | 60 | | | |
| | | Single-Phase 230 | 50 | 0.04 | 6 | 500 |
| | | | 60 | | | |

● The specifications apply to the motor only.

Product Line

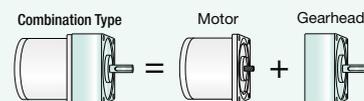
Combination Type

The combination type comes with a motor and a gearhead pre-assembled.

The combination of the motor and the gearhead can be changed.

They are also available separately.

You can also remove the gearhead to change the installation position by 90°.



Combination Type

| Type | Product Name | Gear Ratio |
|-------------------|-----------------------|-----------------------------------|
| Terminal Box Type | 5IK100VESMT2-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60 |
| | | 75, 90, 100, 120, 150, 180 |
| Cable Type | 5IK100VESM-□ | 5, 6, 7.5, 9, 12.5, 15, 18 |
| | | 25, 30, 36, 50, 60 |
| | | 75, 90, 100, 120, 150, 180 |

The following items are included in each product.

Motor, Gearhead, Installation Screws, Parallel Key, Operating Manual

Round Shaft Type

| Type | Product Name |
|-------------------|-----------------------|
| Terminal Box Type | 5IK100VA-ESMT2 |
| Cable Type | 5IK100VA-ESM |

The following items are included in each product.

Motor, Operating Manual

● A number indicating the gear ratio is entered where the box □ is located within the product name.

Permissible Torque on Combination Types

50 Hz

Unit : N·m

| Product Name | Speed r/min | 300 | 250 | 200 | 166 | 120 | 100 | 83 | 60 | 50 | 41 | 30 | 25 | 20 | 16.6 | 15 | 12.5 | 10 | 8.3 |
|-------------------------------------|-------------|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|----|------|-----|------|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK100VESMT2-□, 5IK100VESM-□ | | 3.1 | 3.7 | 4.7 | 5.6 | 7.8 | 9.3 | 10.7 | 14.8 | 17.8 | 21.4 | 29.7 | 35.6 | 40 | 40 | 40 | 40 | 40 | 40 |

60 Hz

Unit : N·m

| Product Name | Speed r/min | 360 | 300 | 240 | 200 | 144 | 120 | 100 | 72 | 60 | 50 | 36 | 30 | 24 | 20 | 18 | 15 | 12 | 10 |
|-------------------------------------|-------------|-----|-----|-----|-----|------|-----|-----|------|------|------|------|------|------|----|-----|-----|-----|-----|
| | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 |
| 5IK100VESMT2-□, 5IK100VESM-□ | | 2.6 | 3.1 | 3.8 | 4.6 | 6.4 | 7.7 | 8.8 | 12.3 | 14.7 | 17.6 | 24.5 | 29.4 | 34.6 | 40 | 40 | 40 | 40 | 40 |

● The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.
The actual speed is 2 to 10% less, depending on the load.

● A number indicating the gear ratio is entered where the box □ is located within the product name.

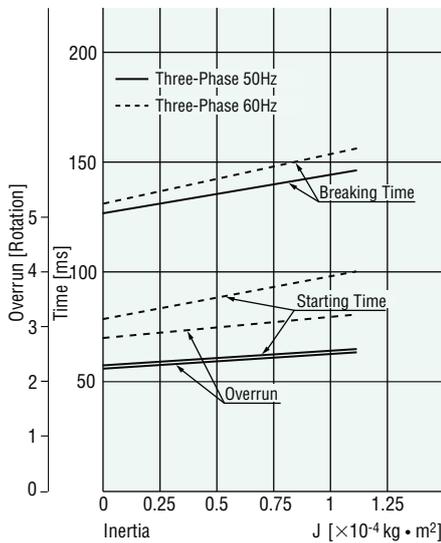
Permissible Radial Load/Permissible Axial Load

→ page 56

Permissible Inertia J of Combination Types

→ page 55

Starting and Braking Characteristics (Reference values for the motor only)



KII Series

6 W
110–230 VAC

15 W
110–230 VAC

Induction

25 W
110–230 VAC

40 W
110–230 VAC

60 W
110–230 VAC

90 W
110–230 VAC

KIIS Series

60 W
220, 230 VAC

Induction

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220–400 VAC

KIIS Series

With Electromagnetic Brake

60 W
220, 230 VAC

100 W
220, 230 VAC

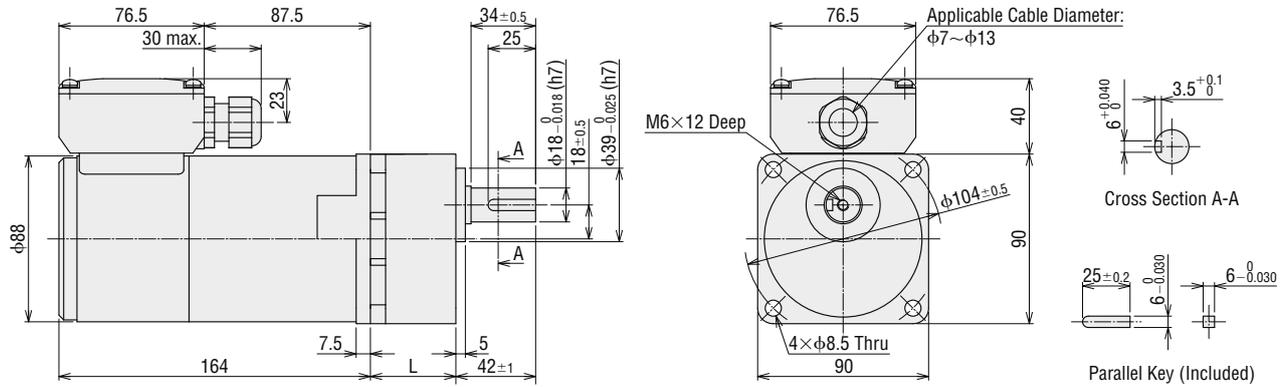
Dimensions (Unit = mm)

- "Installation screws" are included with the combination type. Dimensions of installation screws → page 55
- The cable outlet of the terminal box can be changed and fixed to four different directions. The cable outlet of the cable type can be done so to two different directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

Combination Type

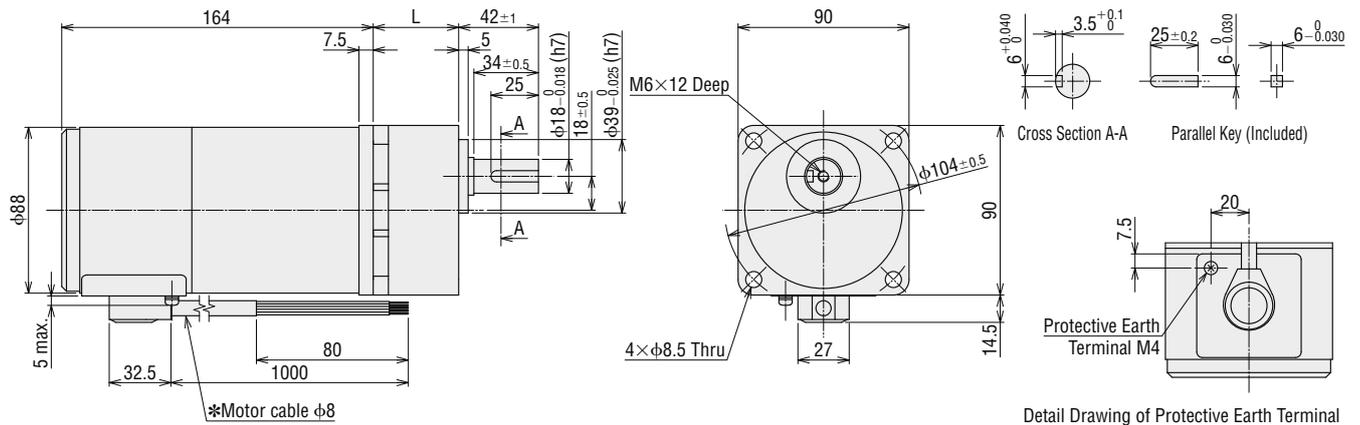
◇ Terminal Box Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|------------------------|--------------------|-----------------------|---------------|----|---------|
| 5IK100VESMT2 -□ | 5IK100VGVR-ESMT2 | 5GVR□B | 5~15 | 45 | 5.4 |
| | | | 18~36 | 58 | |
| | | | 50~180 | 70 | |



◇ Cable Type

| Product Name | Motor Product Name | Gearhead Product Name | Gear Ratio | L | Mass kg |
|----------------------|--------------------|-----------------------|---------------|----|---------|
| 5IK100VESM -□ | 5IK100VGVR-ESM | 5GVR□B | 5~15 | 45 | 5.1 |
| | | | 18~36 | 58 | |
| | | | 50~180 | 70 | |

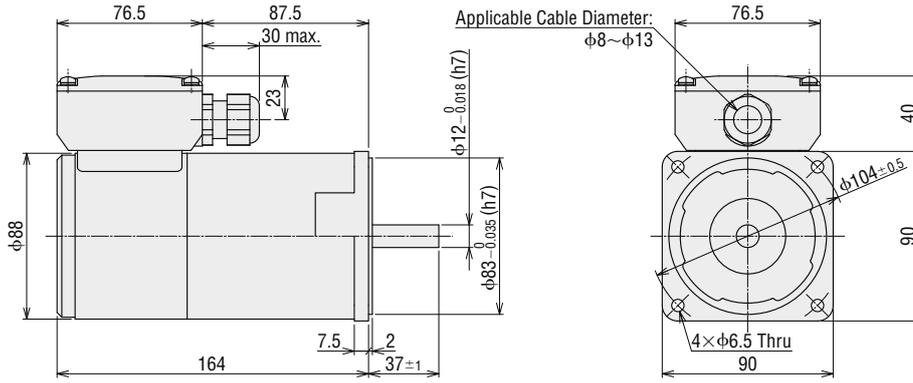


- *Motor Cable Cores
- 3 Motor Leads UL Style 3271, AWG20
- 2 Electromagnetic Brake Leads UL Style 3266, AWG22

● Round Shaft Type

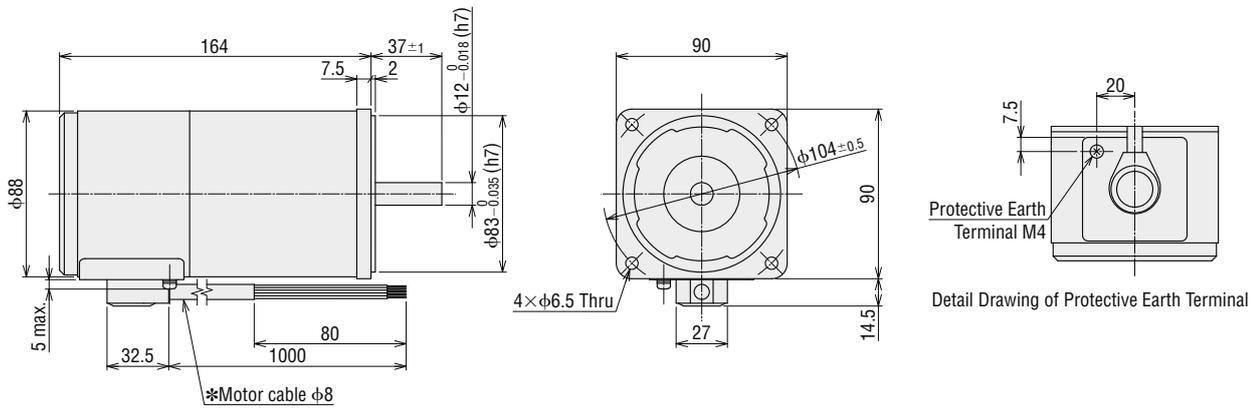
◇ Terminal Box Type

5IK100VA-ESMT2 Mass: 3.9 kg



◇ Cable Type

5IK100VA-ESM Mass: 3.6 kg



*Motor cable $\phi 8$
*Motor Cable Cores
3 Motor Leads UL Style 3271, AWG20
2 Electromagnetic Brake Leads UL Style 3266, AWG22

KII
Series

6 W
110-230 VAC

15 W
110-230 VAC

Induction
25 W
110-230 VAC
40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

KII
Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC
100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
220-400 VAC

KII
Series

With Electromagnetic Brake
60 W
220, 230 VAC

100 W
220, 230 VAC

Connection Diagram

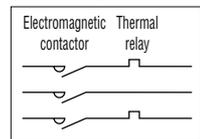
Combination Type, Round Shaft Type

| Type | Terminal Box Type | Lead Wire Type/Cable Type |
|----------------------------------|--|--|
| Induction Motor | <p>To change the rotation direction to counterclockwise, switch any two connections between R, S, T.</p> | <p>To change the rotation direction to counterclockwise, switch any two connections between R, S, T.</p> |
| | <p>Rotates in the opposite direction by switching any two of the R, S, and T wires.</p> | |
| Electromagnetic Brake Type Motor | <p>To change the rotation direction to counterclockwise, switch any two connections between R, S, T.</p> | <p>To change the rotation direction to counterclockwise, switch any two connections between R, S, T.</p> |

Note

To prevent the motor from burning out when an excess load is applied or the output shaft is locked, make sure to use the electromagnetic switch. For the recommended electromagnetic switch, see the following.

[Electromagnetic switch]



[Surge voltage measure]

Please connect a CR circuit for surge suppression ().

$R_0 = 5 \sim 200 \Omega$

$C_0 = 0.1 \sim 0.2 \mu F$ 200 W

For 200 W 400 V motor: $C_0 = 0.1 \sim 0.2 \mu F$ 500 W

● Oriental Motor also offers the **EPCR1201-2** as an accessory (sold separately).

[Contact capacity of the switch SW1] 250 VAC Inductive load 5A or more (Linked)

◇ **Rotation Direction (for the wiring diagram above)**

The rotation direction of the output shaft differs depending on the gear ratio as follows:

| Type | Gear Ratio 5~18, 120~300 Round Shaft Type | | Gear Ratio 25~100 | |
|-------------------|---|---------|--------------------------|---------|
| | 60 W | 60 W | 60 W | 60 W |
| Hollow Shaft Type | | | | |
| | [Clockwise] | | [Counterclockwise] | |
| Solid Shaft Type | | | | |
| | R Shaft | L Shaft | R Shaft | L Shaft |

About direct connection to power supply

When connecting the motor to a power supply, make sure to connect an electromagnetic switch.
For the setting current of the thermal relay, set the rated current of the motor.

| Rated specification of the motor | | | | | | | | | | | | | | | | | | |
|----------------------------------|------|------|------|------|-------|------|------|------|-------|------|------|------|------|------|------|------|------|------|
| Motor Output Power | 60 W | | | | 100 W | | | | 200 W | | | | | | | | | |
| Voltage VAC | 220 | | 230 | | 220 | | 230 | | 220 | | 230 | | 380 | | 400 | | 415 | |
| Frequency Hz | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 | 50 | 60 |
| Rated Current A | 0.37 | 0.33 | 0.38 | 0.33 | 0.55 | 0.48 | 0.57 | 0.48 | 1.00 | 0.90 | 1.02 | 0.89 | 0.56 | 0.56 | 0.57 | 0.52 | 0.51 | 0.51 |

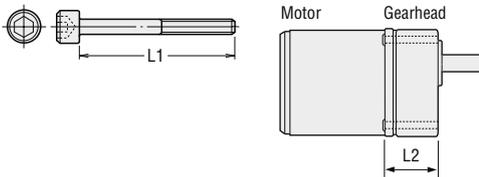
About use with an inverter

To combine with an inverter, meet the following condition on the frequency of the inverter.
· Combination type · Round shaft type: 120 Hz or less · Right-angle shaft geared type: 100 Hz max.
For details on the settings and notes concerning the motor, see the operating manual.

Dimensions of Installation Screws

Combination Type

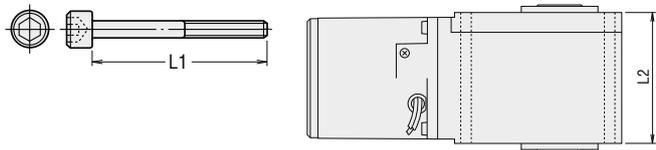
The following screws are included with the combination type.



| Gearhead Product Name | Installation Screws | | L2 (mm) |
|-----------------------|---------------------|------------|---------|
| | L1 (mm) | Screw Size | |
| 5GVH5B~18B | 70 | M8 P1.25 | 52.5 |
| 5GVH25B~100B | 85 | | 65.5 |
| 5GVH120B~300B | 90 | | 71.5 |
| 5GVR5B~15B | 70 | | 52.5 |
| 5GVR18B~36B | 85 | | 65.5 |
| 5GVR50B~180B | 95 | | 77.5 |

- Installation screws: 4 plain washers and 4 spring washers are included.
- The installation screw material is stainless steel.

Right-angle Shaft Geared Type



| Product Name | Installation screw | | L2 (mm) |
|--------------|--------------------|------------|---------|
| | L1 (mm) | Screw Size | |
| 7IK | 135 | M10 P1.5 | 120 |

Permissible Inertia J of Combination Types

Unit : $\times 10^{-4} \text{kg}\cdot\text{m}^2$

| Product Name | Gear Ratio | 5 | 6 | 7.5 | 9 | 12.5 | 15 | 18 | 25 | 30 | 36 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 250 | 300 |
|---------------|-----------------------|--------------|------|------|------|------|-----|-----|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| | | 5IK60 | | 45 | 65 | 100 | 150 | 300 | 420 | 620 | 1100 | 1600 | 2300 | 4500 | 6000 | 8000 | 10000 | 12000 | 17000 | 25000 | 25000 |
| | At Instantaneous Stop | 27.5 | 39.6 | 61.9 | 89.1 | 172 | 248 | 356 | 688 | 990 | 1426 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 |
| 5IK100 | | 45 | 65 | 100 | 150 | 300 | 420 | 620 | 1100 | 1600 | 2300 | 4500 | 6000 | 8000 | 10000 | 12000 | 17000 | 25000 | 25000 | — | — |
| | At Instantaneous Stop | 27.5 | 39.6 | 61.9 | 89.1 | 172 | 248 | 356 | 688 | 990 | 1426 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | — | — |

Permissible Inertia J of Right-angle Shaft Geared Types

| Product Name | Gear Ratio | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 | 120 | 150 | 200 | 240 |
|---------------|-----------------------|---------------|-----|-----|-----|------|------|------|------|------|------|------|------|-------|-------|-------|
| | | 5IK100 | | 100 | 190 | 420 | 700 | 1100 | 1600 | 2800 | 4500 | 6000 | 8000 | 12000 | 17000 | 25000 |
| | At Instantaneous Stop | 61.9 | 110 | 248 | 440 | 688 | 990 | 1760 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 | 2750 |
| 7IK200 | At Instantaneous Stop | — | — | 450 | 800 | 1250 | 1800 | 3200 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 |

Note

- Do not perform instantaneous bi-directional operations.

KIIS Series

6 W
110-230 VAC

15 W
110-230 VAC

Induction
25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

KIIS Series

60 W
220, 230 VAC

Induction
100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
200, 400 VAC

KIIS Series

With Electromagnetic Brake

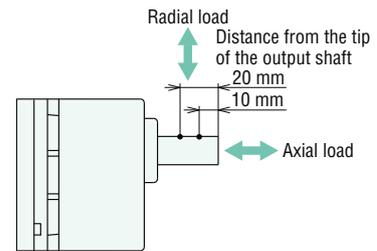
60 W
220, 230 VAC

100 W
220, 230 VAC

Permissible Radial Load/Permissible Axial Load

Combination Type

| Product Name | Gear Ratio | Permissible Radial Load N | | Permissible Axial Load N |
|--------------|------------|---|---|--------------------------|
| | | Distance from the tip of the output shaft 10 mm | Distance from the tip of the output shaft 20 mm | |
| 5IK60 | 5~9 | 400 | 500 | 150 |
| | 12.5~18 | 450 | 600 | |
| | 25~300 | 500 | 700 | |
| 5IK100 | 5~9 | 400 | 500 | 150 |
| | 12.5~18 | 450 | 600 | |
| | 25~180 | 500 | 700 | |

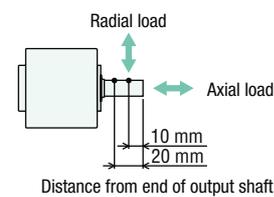


Round Shaft Type

| Product Name | Permissible Radial Load N | | Permissible Axial Load |
|--------------|---|---|----------------------------|
| | Distance from the tip of the output shaft 10 mm | Distance from the tip of the output shaft 20 mm | |
| 5IK60 | 240 | 270 | Half of motor mass or less |
| 5IK100 | | | |

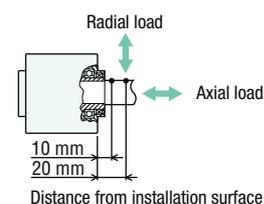
Solid Shaft Type

| Product Name | Gear Ratio | Permissible Radial Load N | | Permissible Axial Load N |
|--------------|------------|---|---|--------------------------|
| | | Distance from the tip of the output shaft 10 mm | Distance from the tip of the output shaft 20 mm | |
| 5IK100 | 7.5~40 | 900 | 1000 | 350 |
| | 50~240 | 1700 | 1850 | |
| 7IK200 | 15~40 | 1900 | 2000 | 800 |
| | 50~240 | 3200 | 3400 | |



Hollow Shaft Type

| Product Name | Gear Ratio | Permissible Radial Load N | | Permissible Axial Load N |
|--------------|------------|---|---|--------------------------|
| | | Distance from the tip of the output shaft 10 mm | Distance from the tip of the output shaft 20 mm | |
| 5IK100 | 7.5~40 | 1200 | 1100 | 350 |
| | 50~240 | 2200 | 2000 | |
| 7IK200 | 15~40 | 2400 | 2200 | 800 |
| | 50~240 | 3200 | 3000 | |



*The radial load from each distance can also be calculated with a formula.

◇ Calculation of permissible radial load for hollow shaft type

If one side of the load shaft is not borne by a bearing unit, etc. like in the diagram to the right, the formula for permissible radial load as follows. (This mechanism is the strictest in terms of radial load.)

• For a gear ratio of 15~40

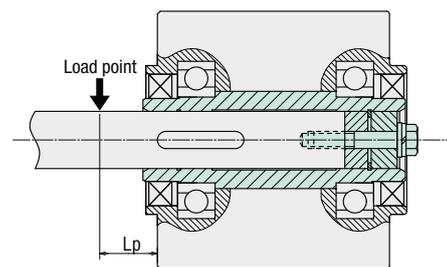
$$\text{Permissible radial load } W \text{ [N]} = \frac{105.5}{105.5 + L_p} \times 2620 \text{ [N]}$$

2620[N]: Permissible radial load on flange-installation surface

• For a gear ratio of 50~240

$$\text{Permissible radial load } W \text{ [N]} = \frac{105.5}{105.5 + L_p} \times 3500 \text{ [N]}$$

3500[N]: Permissible radial load on flange-installation surface



L_p [mm]: Distance from flange-installation surface to radial load point

Hollow Shaft Type Load Shaft Installation Method

Load shaft installation method example

Installation of the load shaft differs depending on the fixing method. Please install according to the figure below.

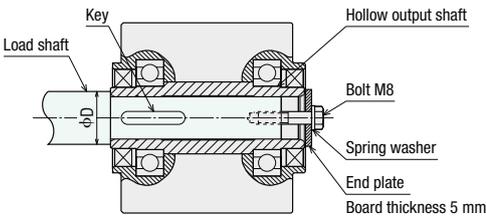
- When installing a load shaft onto a hollow output shaft, please align the center lines of the hollow shaft and the load shaft.
- The hollow output shaft is key slot-processed. Please also key slot-process the load shaft side and fix with the included key.
- A load shaft tolerance of h7 is recommended.
- Please use a stepped load shaft if there is a lot of shock due to frequent instantaneous stops or a large radial load.

Note

- When installing a load shaft onto a hollow output shaft, please ensure that the hollow output shaft and bearing are not damaged.
- Please apply grease to the surface of the load shaft and the inner surface of the hollow output shaft in order to prevent sticking.
- Please do not modify or machine-process the hollow output shaft. Doing so may cause damage to the bearing.

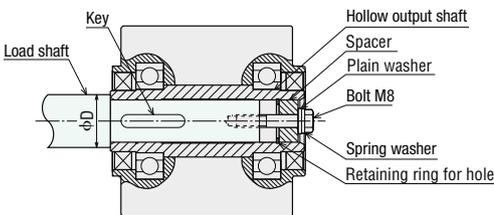
◇ Fixing method using an end plate

● If the load shaft has a stepped configuration



◇ Fixing method using a retaining ring for hole

● If the load shaft has a stepped configuration



- Please install a safety cover after installing the load shaft.

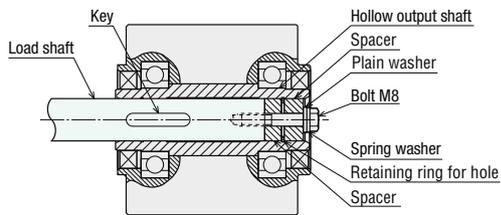
Recommended load shaft installation dimensions

Unit: mm

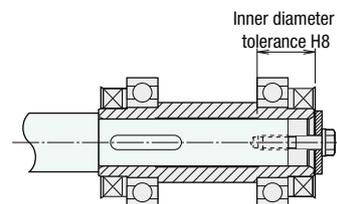
| Product Name | 7IK |
|---|---------------------------------|
| Inner diameter of hollow shaft (H8) | $\phi 30^{+0.033}_0$ |
| Load shaft diameter (h7) | $\phi 30^0_{-0.021}$ |
| Nominal diameter of retaining ring for hole | $\phi 30$ C type retaining ring |
| Outer diameter of stepped shaft ϕD | $\phi 44$ |
| Spacer thickness | 6 |

- A retaining ring for hole, spacer, bolts, etc. for installing the load shaft are not included. These must be arranged by the customer.

● If the load shaft does not have a stepped configuration



◇ Length of load shaft



8 mm min. is recommended for the inner diameter tolerance H8 on the fixing side of the load shaft.

Combination Type Motor and Gearhead Combinations

The combination type comes with a motor and a parallel shaft gearhead pre-assembled.

Induction Motor

| Product Name | Motor Product Name | Gearhead Product Name |
|-----------------------|--------------------|-----------------------|
| 5IK60VEST2 -□ | 5IK60GVH-EST2 | 5GVH□B |
| 5IK100VEST2 -□ | 5IK100GVR-EST2 | 5GVR□B |
| 5IK60VES -□ | 5IK60GVH-ES | 5GVH□B |
| 5IK100VES -□ | 5IK100GVR-ES | 5GVR□B |

Electromagnetic Brake Type Motor

| Product Name | Motor Product Name | Gearhead Product Name |
|------------------------|--------------------|-----------------------|
| 5IK60VESMT2 -□ | 5IK60GVH-ESMT2 | 5GVH□B |
| 5IK100VESMT2 -□ | 5IK100GVR-ESMT2 | 5GVR□B |
| 5IK60VESM -□ | 5IK60GVH-ESM | 5GVH□B |
| 5IK100VESM -□ | 5IK100GVR-ESM | 5GVR□B |

KIIS Series

6 W
110-230 VAC

15 W
110-230 VAC

25 W
110-230 VAC

40 W
110-230 VAC

60 W
110-230 VAC

90 W
110-230 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

100 W
220, 230 VAC
Hollow/Solid Shaft

200 W
200, 400 VAC

KIIS Series

60 W
220, 230 VAC

100 W
220, 230 VAC

With Electromagnetic Brake

Accessories (Sold separately)

Motor and Gearhead Mounting Brackets



These dedicated mounting brackets are for mounting motors and gearheads.

Product Line

| Product Name | Applicable Product |
|----------------|--|
| SOL2M4F | 2IK6 Round Shaft Type 2IK6 Combination Type |
| SOL3M5F | 3IK15 Round Shaft Type |
| SOL3M6F | 3IK15 Combination Type |
| SOL4M5F | 4IK25 Round Shaft Type |
| SOL4M6F | 4IK25 Combination Type |
| SOL5M6F | 5IK Round Shaft Type |
| SOL5M8F | 5IK Combination Type |

Flexible Couplings

A clamp type coupling for connecting the motor/gearhead shaft with the driven shaft. Once the gearhead is determined, the coupling can be selected.



- Couplings can also be used with round shaft types. Select a coupling with the same inner diameter size as the motor shaft diameter.

Product Line

| Motor | | Coupling Type |
|---|--------------|---------------|
| Uniform Load | Impact Load | |
| 2IK6 | | MCL30 |
| 3IK15 | — | MCL30 |
| — | 3IK15 | MCL40 |
| 4IK25 | — | MCL40 |
| — | 4IK25 | MCL55 |
| 5IK40, 5IK60 5IK90, 5IK100 | | MCL55 |

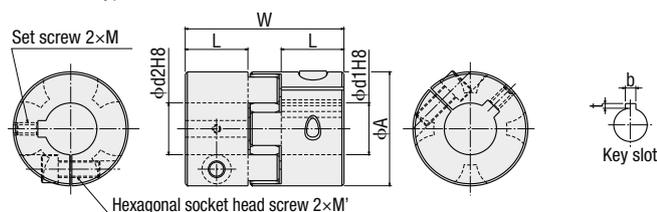
Specifications

| Product Name | Dimensions | | | | | | | Normal Torque | Mass | Inertia | Permissible Eccentricity | Permissible Declination | End Play |
|-------------------|-------------------------|------------------|----------------------------|----------------------------|----|-------------|--------------------------------|---------------|------|---------|--------------------------|-------------------------|-----------|
| | Outer Diameter ϕA | Overall Length W | Shaft Hole Diameter $d1H8$ | Shaft Hole Diameter $d2H8$ | L | Set screw M | Hexagonal socket head screw M' | | | | | | |
| MCL65M2528 | $\phi 65$ | 87.5 | 25 | 28 | 35 | M5 | M10 | 200 | 560 | 3.5 | 0.08 | 1.0 | +1.5 0 |
| MCL65M2828 | | | 28 | 28 | | | | | | | | | |

- The above specifications are the values when combined with an Oriental Motor geared motor.

Dimensions (Unit = mm)

MCL65M type



CR Circuit for Surge Suppression

Please use for the contact protection of switches and relays used on the bi-directional circuit of the motor.

◇ Product name: **EPCR1201-2**

List price: 300 yen

250 VAC (120 Ω , 0.1 μ F)



Product Line

| Product Name |
|-------------------|
| EPCR1201-2 |

250 VAC (120 Ω , 0.1 μ F)

A clamp type coupling for connecting the geared motor of a solid shaft type with a driven shaft.



Product Line

| Product Name | Applicable Product |
|-------------------|---|
| MCL65M2528 | 7IK200VJST2-GA <input type="checkbox"/> |
| MCL65M2828 | Right-angle shaft geared type Solid shaft type |

- Either **R** or **L** indicating the direction of the output shaft is specified in the box in the product name.
- A number indicating the gear ratio is specified in the box in the product name.

Torque Arm

This is an anti-spin mechanism that prevents the gearhead from rotating due to reactive force from the load shaft when installing the gearhead of a right-angle, hollow shaft geared type.



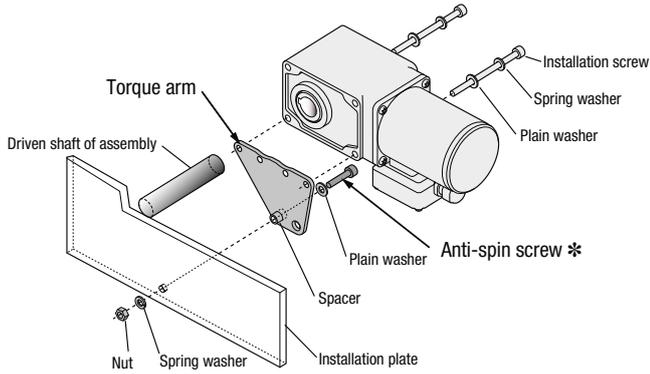
Product Line

Material: Stainless steel

| Product Name | Applicable Product |
|--------------|--|
| SOT7A | 7IK200VJST2-GHR Right-angle shaft geared type Hollow shaft type |

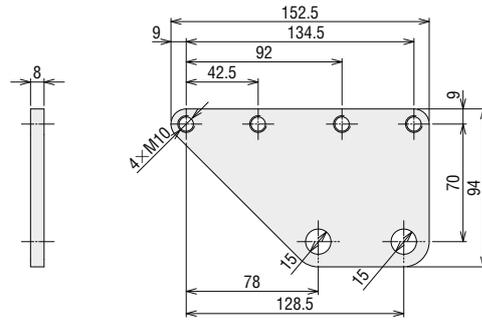
Installation Method

*Anti-spin M10 screws are not included. These must be arranged by the customer.



Dimensions (Unit = mm)

Mass: 620 g



For more details on the mounting brackets, dimensions of the flexible couplings, CAD data, and operating manual, visit our [WEB site](#).

Orientalmotor

These products are manufactured at plants certified with the international standards **ISO 9001** (for quality assurance) and **ISO 14001** (for systems of environmental management).

Specifications are subject to change without notice.
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