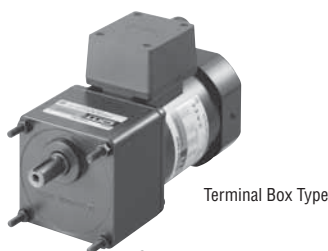




Lead Wire Type



Terminal Box Type

(Gearhead sold separately)

Right-angle gearheads (hollow shaft or solid shaft) can be combined.

Right-Angle Gearheads → Page 108



## Specifications – Continuous Rating (RoHS)



Model		Output Power W	Voltage VAC	Frequency Hz	Current A	Starting Torque mN·m	Rated Torque mN·m	Rated Speed r/min	Capacitor μF
Upper Model Name: Pinion Shaft Type Lower Model Name ( ): Round Shaft Type									
Lead Wire Type Dimension ①	Terminal Box Type Dimension ②								
TP 5IK90GE-AW2J (5IK90A-AW2J)	5IK60GE-AW2TJ (5IK90A-AW2TJ)	90	Single-Phase 100	50	1.64	450	700	1250	28
				60	1.67		585	1500	
TP 5IK90GE-AW2U (5IK90A-AW2U)	5IK90GE-AW2TU (5IK90A-AW2TU)	90	Single-Phase 110 Single-Phase 115	60	1.45	450	585	1500	20
					1.44				
TP 5IK90GE-CW2J (5IK90A-CW2J)	5IK90GE-CW2TJ (5IK90A-CW2TJ)	90	Single-Phase 200	50	0.80	450	730	1200	7.0
				60	0.93		605	1450	
TP 5IK90GE-CW2E (5IK90A-CW2E)	5IK90GE-CW2TE (5IK90A-CW2TE)	90	Single-Phase 220	50	0.74	450	730	1200	6.0
				60	0.82		605	1450	
			Single-Phase 230	50	0.76		730	1200	
				60	0.81		605	1450	
TP 5IK90GE-SW2 (5IK90A-SW2)	5IK90GE-SW2T (5IK90A-SW2T)	90	Three-Phase 200	50	0.64	850	680	1300	—
				60	0.59	700	570	1550	
			Three-Phase 220	60	0.60	700	570	1600	
TP —	5IK90GE-UT4F* (5IK90A-UT4F*)	90	Three-Phase 230	60	0.61	700	570	1600	—
			Three-Phase 400	50	0.35	850	700	1250	

● The **J**, **U** and **E** at the end of the model name indicate that the unit includes a capacitor. These letters are not listed on the motor nameplate.

When the motor is approved under various safety standards, the model name on the nameplate is the approved model name.

\* Conforms to EN/IEC standards only. Bears the CE Marking.

### Note:

A three-phase 400 VAC motor cannot be used with an inverter. Using them together may lead to deterioration of the motor wiring insulation and damage the products.

TP: Contains a built-in thermal protector. If a motor overheats for any reason, the thermal protector is opened and the motor stops.

When the motor temperature drops, the thermal protector closes and the motor restarts. Be sure to turn the motor off before inspecting.

## Product Line

### Motor (RoHS)

Type	Model	
	Pinion Shaft Type	Round Shaft Type
Lead Wire	5IK90GE-AW2J	5IK90A-AW2J
	5IK90GE-AW2U	5IK90A-AW2U
	5IK90GE-CW2J	5IK90A-CW2J
	5IK90GE-CW2E	5IK90A-CW2E
	5IK90GE-SW2	5IK90A-SW2
Terminal Box	5IK90GE-AW2TJ	5IK90A-AW2TJ
	5IK90GE-AW2TU	5IK90A-AW2TU
	5IK90GE-CW2TJ	5IK90A-CW2TJ
	5IK90GE-CW2TE	5IK90A-CW2TE
	5IK90GE-SW2T	5IK90A-SW2T
	5IK90GE-UT4F	5IK90A-UT4F

### Gearhead/Right-Angle Gearhead (Sold Separately) (RoHS)

Type	Gearhead Model	Gear Ratio
Long Life/ Parallel Shaft	5GE□S	3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180
	5GE10XS (Decimal gearhead)	
Right-Angle/ Hollow Shaft	5GE□RH	3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180
Right-Angle/ Solid Shaft	5GE□RA	3, 3.6, 5, 6, 7.5, 9, 12.5, 15, 18, 25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180

● Enter the gear ratio in the box (□) within the model name.

## Gearmotor – Torque Table

- Gearheads and decimal gearheads are sold separately.
- Enter the code that represents the terminal box type "T" in the box (□) within the model name.
- Enter the gear ratio in the box (□) within the model name.
- A colored background □ indicates gear shaft rotation in the same direction as the motor shaft, while the others rotate in the opposite direction.
- 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 - 20% less than the displayed value, depending on the size of the load.
- To reduce the speed beyond the gear ratio in the table, attach a decimal gearhead (gear ratio: 10) between the gearhead and the motor.  
In that case, the permissible torque is 20 N·m.

### ◇ 50 Hz

Unit = N·m

Model	Speed r/min	500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
Motor/ Gearhead	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
5IK90GE-AW2□J	5GE□S	1.7	2.0	2.8	3.4	4.3	5.1	6.4	7.7	9.2	11.6	13.9	16.6	20	20	20	20	20	20	20	20
5IK90GE-CW2□J	5GE□S	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	12.0	14.5	17.3	20	20	20	20	20	20	20	20
5IK90GE-CW2□E	5GE□S	1.7	2.0	2.8	3.3	4.1	5.0	6.2	7.4	8.9	11.2	13.5	16.2	20	20	20	20	20	20	20	20
5IK90GE-SW2□	5GE□S	1.7	2.0	2.8	3.3	4.1	5.0	6.2	7.4	8.9	11.2	13.5	16.2	20	20	20	20	20	20	20	20
5IK90GE-UT4F	5GE□S	1.7	2.0	2.8	3.4	4.3	5.1	6.4	7.7	9.2	12	14	17	20	20	20	20	20	20	20	20

### ◇ 60 Hz

Unit = N·m

Model	Speed r/min	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
Motor/ Gearhead	Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
5IK90GE-AW2□J	5GE□S	1.4	1.7	2.4	2.8	3.6	4.3	5.3	6.4	7.7	9.7	11.6	13.9	19.3	20	20	20	20	20	20	20
5IK90GE-AW2□U	5GE□S	1.4	1.7	2.4	2.8	3.6	4.3	5.3	6.4	7.7	9.7	11.6	13.9	19.3	20	20	20	20	20	20	20
5IK90GE-CW2□J	5GE□S	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10.0	12.0	14.4	20	20	20	20	20	20	20	20
5IK90GE-CW2□E	5GE□S	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10.0	12.0	14.4	20	20	20	20	20	20	20	20
5IK90GE-SW2□	5GE□S	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11.3	13.5	18.8	20	20	20	20	20	20	20

## Permissible Overhung Load and Permissible Thrust Load

Motor (Round shaft type) → Page 107

Gearhead → Page 107

## Permissible Load Inertia J for Gearhead

→ Page 107

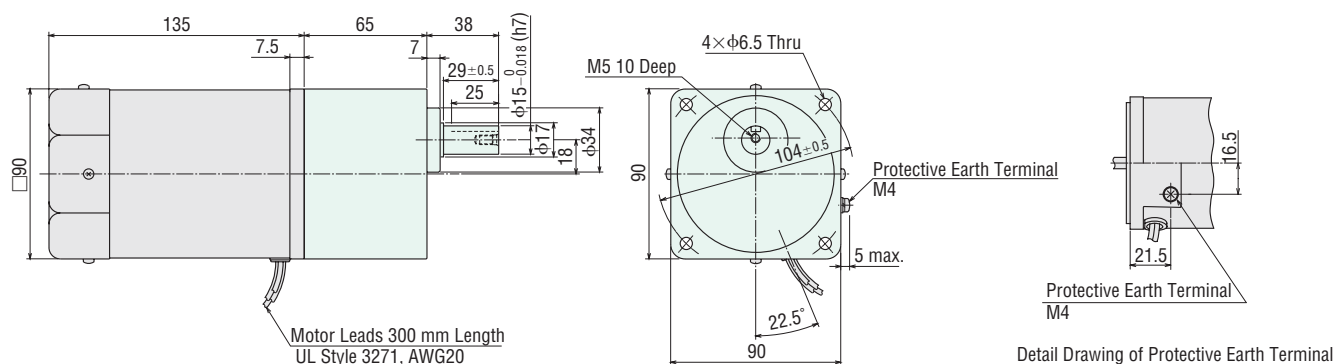
## Dimensions (Unit = mm)

Mounting screws are included with gearheads.

### ◇ Lead Wire Type ①

Mass: Motor 3.2 kg

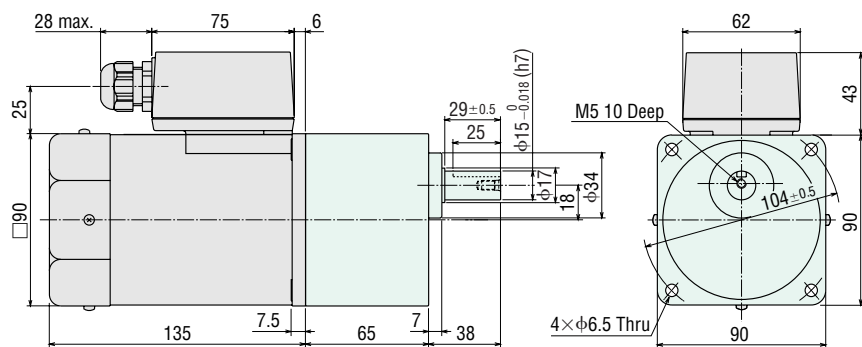
Gearhead 1.5 kg



### ◇ Terminal Box Type ②

Mass: Motor 3.3 kg

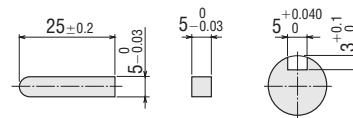
Gearhead 1.5 kg



● Use cable with a diameter of  $\phi 6 \sim \phi 12$  mm.

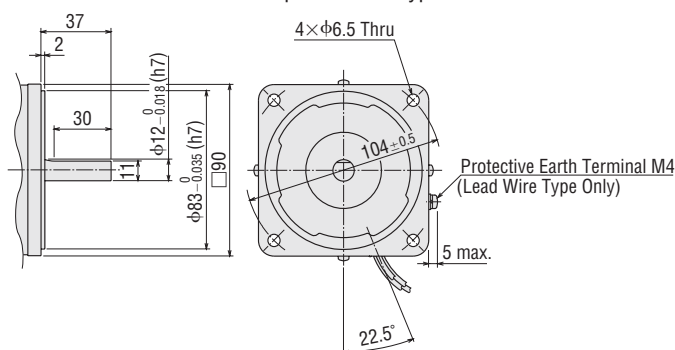
### ◇ Key and Key Slot

(The key is included with the gearhead)



### ◇ Shaft Section of Round Shaft Type

The mass and motor's dimensions (excluding the shaft section) are the same as those of the pinion shaft type.

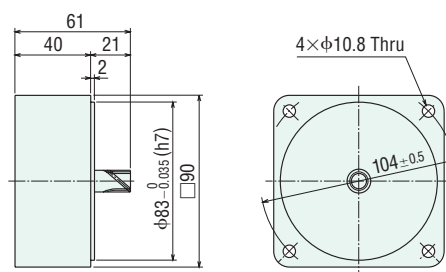


### ◇ Decimal Gearhead

Can be connected to **GE** pinion shaft type.

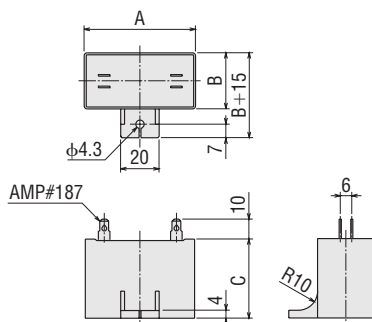
**5GE10XS**

Mass: 0.6 kg



### ◇ Capacitor

(Included with single-phase motors)



### ◇ Capacitor Dimensions (mm)

Model Upper Model Name: Pinion Shaft Type Lower Model Name ( ): Round Shaft Type		Capacitor Model	A	B	C	Mass (g)	Capacitor Cap
Lead Wire Type	Terminal Box Type						
<b>5IK90GE-AW2J</b> (5IK90A-AW2J)	<b>5IK90GE-AW2TJ</b> (5IK90A-AW2TJ)	CH280CFAUL2	58	35	50	140	Included
<b>5IK90GE-AW2U</b> (5IK90A-AW2U)	<b>5IK90GE-AW2TU</b> (5IK90A-AW2TU)	CH200CFAUL2	58	29	41	95	
<b>5IK90GE-CW2J</b> (5IK90A-CW2J)	<b>5IK90GE-CW2TJ</b> (5IK90A-CW2TJ)	CH70BFAUL	58	35	50	130	
<b>5IK90GE-CW2E</b> (5IK90A-CW2E)	<b>5IK90GE-CW2TE</b> (5IK90A-CW2TE)	CH60BFAUL	58	29	41	85	

## Connection Diagrams

- The direction of motor rotation is as viewed from the shaft end of the motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Connection diagrams are also valid for the equivalent round shaft type.
- Specify the type of the capacitor to be included by entering **J**, **U** or **E** in the box (□) within the model name.

Lead Wire Type		Terminal Box Type	
5IK90GE-AW2□ 5IK90GE-CW2□	5IK90GE-SW2	5IK90GE-AW2T□ 5IK90GE-CW2T□	5IK90GE-SW2T 5IK90GE-UT4F
<b>Clockwise</b> 	<b>Clockwise</b>  <b>Counterclockwise</b> To change the rotation direction, change any two connections between R, S and T.	<b>Clockwise</b> 	<b>Clockwise</b>  <b>Counterclockwise</b> To change the rotation direction, change any two connections between U, V and W.

PE: Protective Earth

### 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, motor may ignore reversing command or change its direction of rotation after some delay.