PRODUCT NUMBER CODE

Motor

5	I	K	40	R	GN	-	C	T
①	②	③	④	⑤	⑥		⑦	⑧

①	Motor frame size	0: 42mm 2: 60mm 3: 70mm 4: 80mm 5: 90mm 6: 104mm
②	Motor type I : Induction motor R : Reversible motor T : Torque motor	
③	Series	K : K series
④	Output power (W)	(Example) 40 : 40W
⑤	R : The auffix "-R" after the output power means speed adjustable motor.	
⑥	Motor shaft type GN : GN type pinion shaft GU : GU type pinion shat A : Round shaft A1 : Keyway	
⑦	Voltage·Poles A : Single-phase 110V50/60Hz 4P E : Single-phase 110V/120V60Hz 4P S3 : Three-phase 380/400/415V50/60Hz 4P B : Single-phase 110V50Hz 2P H : Single-phase 220/230V60Hz 4P T : Three-phase 200/220/230V50/60Hz 2P C : Single-phase 220/230V50Hz S : Three-phase 200/220/230V50/60Hz 4P T3 : Three-phase 380/400/415V50/60Hz 2P 4P D : Single-phase 220V50Hz 2P	
⑧	T : Terminal box type F : W/Fan FF : W/Forced fan M : Power off activated type electromagnetic brake motor	

Description Of Reducer Model

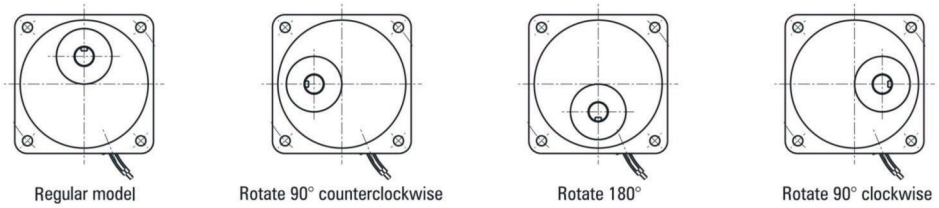
5	GN	50	K
①	②	③	④

①	Gearhead frame size	0: 42mm 2: 60mm 3: 70mm 4: 80mm 5: 90mm 6: 104mm
②	Type of pinion	GN : GN type gear GU : GU type gear
③	Gear ratio	(e.g) 50 : Gear ratio of 1 : 50 10x denotes the decimal gearhead of ratio 1 : 10
④	Bearing type	K : Bearing (Make KB for type GU square case)

Note: If the motor assembly with parallel gear box pls cancel item no 5, if assembly with right angle gear box pls cancel item no 4.

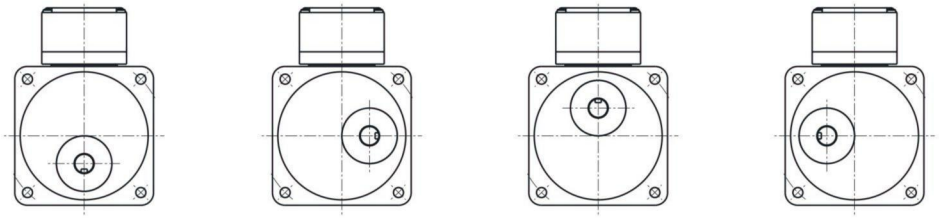
Parallel Shaft Series

● Lead Style



Regular model | Rotate 90° counterclockwise | Rotate 180° | Rotate 90° clockwise

● Junction Box



Regular model | Rotate 90° counterclockwise | Rotate 180° | Rotate 90° clockwise

GENERAL SPECIFICATIONS OF MOTORS

6W～150W、2P・High Speed

Item	Specifications
Insulation Resistance	In the circumstance of normal temperature and humidity, the resistance can be up to 100MΩ, measured DC 500vinsulation resistance measurer between the motor wiring and motor shell while the motor is working.
Insulation Voltage	In the circumstance of normal temperature and humidity, there will be no problem supplying the power of 1. 5kV (three-phase 400V is 2kV) at 50Hz/60Hz between the metal wiring and motor shell for 1 minute while the motor is working.
Temperature Rise	The temperature rise of winding are 80℃ or less measured by the resistance change method after rated motor operation under normal ambient temperature and humidity, with connecting a gearhead or equivalent heat radiation plate※.
Insulation Class	UL/CSA Standards: Class A (105℃)EN Standards: Class B (130℃)
Overheat Protection	Thermal protector inside (automatic return) Class B (opening: 120℃±5℃、75℃±15℃) Class F (opening: 145℃±5℃、100℃±15℃)
Ambient Temperature	Single-phase 100VAC、Three-phase 200VAC: -10～+50℃ (Non Freezing) Others: -10～+40℃ (Non Freezing)
Ambient Humidity	≤85% (Non condensing)
Protection Class	Lead wire type: IP20 Terminal box type Single-phase 100V50/60HZ、110/120V60HZ、220/230V50HZ、220/230V60HZ 25W-180W Type: IP54 (Excluing the installation surface of the round shaft type) Three-phase 200/220 /230V50/60HZ、380/400/415V50/60HZ 25W-180W Type: IP54 (Excluing the installation surface of the round shaft type)

Heat Radiation Plate (Material: Aluminum)

Motor Type	Size	Thickness (mm)
3W type	80X80	5
6W type	115X115	
15W type	125X125	
25W(2P·high-speed 4IK40 type, 4IK60 type)	135X135	
40W、60W type	165X165	
60W、90W、120W type (2P·High-speed 5IK150 type)	200X200	
120W、140W、200W type	230X230	

Power Off Activated Type Electromagnetic Brake Motor Features

1、 Structure and operation principle

Table 3 is the structure for the electromagnetic brake motor. We produce the power off activated type. Exerting the voltage on the winding, it will magnetize the armature pressed by the spring. The motor will be in a stage of rotating, when there is a backlash between the armature and brake rim. Once the winding voltage is cut down, under the influence of spring, the armature press the brake rim, which will create a brake force. Then the motor gets to a stop.

2、 The characteristics of the electromagnetic brake

It is an AC power off activated type electromagnetic brake which is connected directly with the motor. It will get to a blink stop and keep load when the supply is power off. It will keep the torque between 0.05～2.0Nm. It is especially suitable for the safety brake in the circumstance of unconsciously power off. The electromagnetic can change its direction frequently. It can be stopped 6 times in a minute. But be sure that it lasts for 3 seconds or more.

After we set a commutating loop in the brake, it can share the power supply with the motor.

※The value is standard. It will be change in different condition. When actually used, be sure to make the surface temperature of the motor less than 90℃.

3、 The features for the starting time and brake time

The starting time means the time for the motor's starting time plus the electromagnetic brake release time. The brake time means the time from power cut off to the time of motor completely stop. The over-run, starting time and brake time will be different according to the different applications.

Electromagnetic Brake (Power Off Activated Type)

Phase	Size	Output	Voltage	Frequency	Current	Input	Keep Torque		Over-run
	MM	W	V	Hz	A	W	N.cm	Kgf.cm	Cycles
1Phase	70	15	110 120 220 230	50/60	0.091	8.20	0.50	50	3.5
	80	25							
	90	40							
		60			0.111	10.0	1.00	100	
		90							
		120							
	100	120							
		140							
		200			0.144	13.0	2.00	200	
3Phase	60	6	220～230	50/60	0.073	6.60	0.25	25	
	70	15	380～415		0.037	6.60	0.25	25	
	80	25	200～230 380～415		0.091	8.20	0.50	50	
	90	40							
		60			0.046	8.20	0.50	50	
		90	200～230 380～415		0.111	10.0	1.00	100	
		120							
	100	120			0.056	10.0	1.00	100	
		140							
		200	200～230 380～415		0.144	13.0	2.00	200	
					0.144	13.0	2.00	200	

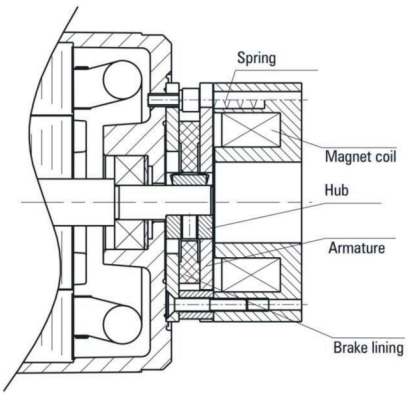


Fig.3

The Features Of The Speed Control Motor

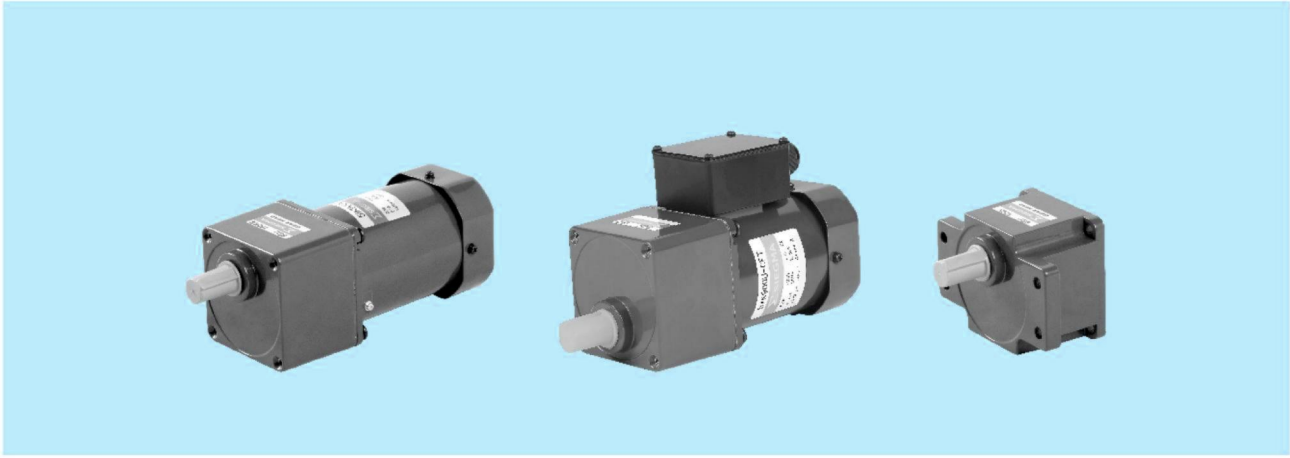
1、 It is a unit of the controller and motor. It only needs to connect one time. The speed can be easily adjusted by the potentiometer. The controller is fixed with speed-control loop, capacitor, speed enactment and etc. There is no function of instant stop in the unit.

2、 The controller can make the speed variable between 90-1400r/min at 50Hz and 90-1700r/min at 60Hz.

3、 Please don't run motor at low speed for long time avoiding overheat.

INDUCTION MOTORS

90W □90mm



Specs Continuous Rating

Model・Type Upper:Pinion Shaft Below:Round Shaft		Output power	Voltage	Frequency	Current	Starting Torque	Rated Torque	Rated Speed	Capacitor
Lead Wire Type Dimensions①	Terminal Box Type Dimensions②	W	V	Hz	A	mN.m	mN.m	r/min	μF
5IK90GU-AF (5IK90A-AF)	5IK90GU-AFT (5IK90A-AFT)	90	1ph 100	50	1.55	450	700	1250	25.0
				60	1.85		570	1550	
5IK90GU-EF (5IK90A-EF)	5IK90GU-EFT (5IK90A-EFT)	90	1ph 110	60	1.40	500	570	1550	20.0
			1ph 120		1.45				
5IK90GU-CF (5IK90A-CF)	5IK90GU-CFT (5IK90A-CFT)	90	1ph 220	50	0.72	450	700	1250	5.0
			1ph 230		0.70				
5IK90GU-HF (5IK90A-HF)	5IK90GU-HFT (5IK90A-HFT)	90	1ph 220	60	0.71	450	570	1550	5.0
			1ph 230		0.75				
5IK90GU-SF (5IK90A-SF)	5IK90GU-SFT (5IK90A-SFT)	90	3ph 220	50	0.60	1350	700	1250	-
				60	0.55	1100	570	1550	
5IK90GU-SF (5IK90A-S3F)	5IK90GU-SFT (5IK90A-S3FT)	90	3ph 380	50	0.35	1350	700	1250	-
				60	0.32	1100	570	1550	

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

●Note: "-A" it means the voltage 110V, the assembly capacitor vaule it is according the label.

Type

● Motor

Type	Model	
	Pinion Shaft	Round Shaft
Lead Wire Type	5IK90GU-AF	5IK90A-AF
	5IK90GU-EF	5IK90A-EF
	5IK90GU-CF	5IK90A-CF
	5IK90GU-HF	5IK90A-HF
	5IK90GU-SF	5IK90A-SF
	5IK90GU-S3F	5IK90A-S3F
Terminal Box Type	5IK90GU-AFT	5IK90A-AFT
	5IK90GU-EFT	5IK90A-EFT
	5IK90GU-CFT	5IK90A-CFT
	5IK90GU-HFT	5IK90A-HFT
	5IK90GU-SFT	5IK90A-SFT
	5IK90GU-S3FT	5IK90A-S3FT

● Parallel Shaft Gearhead (Sold Separately)

Gearhead Type	Gearhead Model	Gear Ratio
Long Life ● Low Noise	5GU□KB	3、3.6、5、6、7.5、9、10、12.5、15、18、20、25、30、36、40、50、60、75、90、100、120、150、180、200
	5GU10XK (Decimal Gearhead)	

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

Gear Motor-Torque Table

- Gearhead and mid-gearbox can be 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.

- The colored background ▭ indicates the same rotating direction of the motor while the rotating direction of others are opposite.
- The speed is calculated by dividing the motor's synchronous speed (50Hz：1500r/min、60Hz：1800r/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 motor. In that case, the permissible torque is 20N·m.

Allowance Torque Unit：Upside（N.m）/ Belowside（kgf.cm）

Type Motor/Gearhead	Gear Ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
	Speed r/min	50Hz	500	417	300	250	200	166	150	120	100	83	75	60	50	41	37	30	25	20	16	15	12.5	10	8.3	7.5
		60Hz	600	500	360	300	240	200	180	144	120	100	90	72	60	50	45	36	30	24	20	18	15	12	10	9
5IK90GU-AF□	5GU□KB	50Hz	1.10	2.00	2.80	3.40	4.30	5.10	5.31	6.40	7.70	9.20	9.55	11.6	13.6	16.6	18.1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5IK90GU-EF□			17.3	20.4	28.6	34.7	43.9	52.0	54.2	65.3	78.6	93.3	97.4	118	142	169	184	200	200	200	200	200	200	200	200	200
5IK90GU-CF□	5GU□K	60Hz	1.40	1.70	2.30	2.80	3.50	4.20	4.43	5.20	6.20	7.50	7.81	9.40	11.3	13.5	14.5	18.8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5IK90GU-HF□			14.3	17.3	23.5	28.6	35.7	42.9	45.2	53.1	63.3	76.5	79.6	95.9	115	138	148	192	200	200	200	200	200	200	200	200
5IK90GU-SF□																										

To Allow The Hoisting Of The Load Allow Axial Load

Motor (Round shaft) →P215
Gearhead→P215

J Permissible Load Inertia J For Gearhead

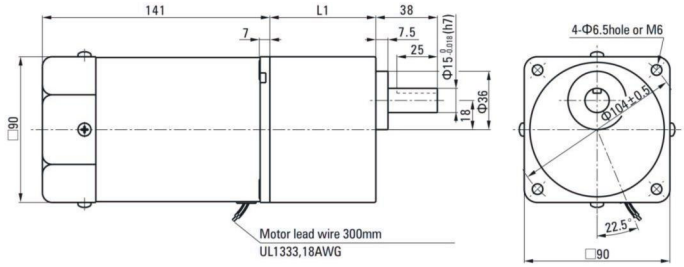
→P215

Dimensions (Unit mm)

Mounting screws are included with gearhead.

● Lead Wiring Type ①

Weight：Motor： 3.2kg　　Gearhead： 1.5kg

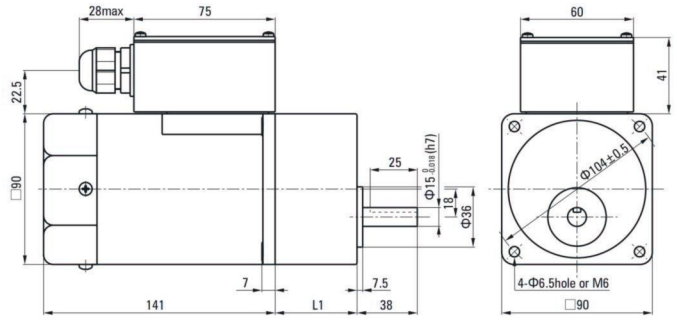


Motor Model	Gearhead Model	Gear Ratio	L1
5IK90GU-AF 5IK90GU-EF 5IK90GU-CF 5IK90GU-HF 5IK90GU-SF 5IK90GU-S3F	5GU□KB	3～200	65.5

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

● Terminal Box Type ②

Weight：Motor： 3.35kg　　Gearhead： 1.5kg



Motor Model	Gearhead Model	Gear Ratio	L1
5IK90GU-AFT 5IK90GU-EFT 5IK90GU-CFT 5IK90GU-HFT 5IK90GU-SFT 5IK90GU-S3FT	5GU□KB	3～200	65.5

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

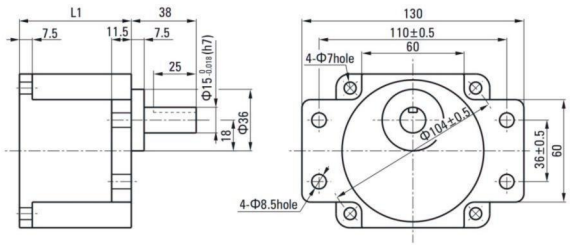
●Use cable with a diameter of Φ6～Φ12mm

● Flange Mounting Reducer

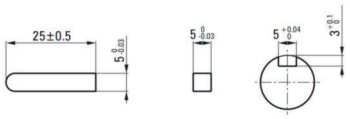
Can be mounted on GU type gear shaft

5GU□K

Weight:1.5kg

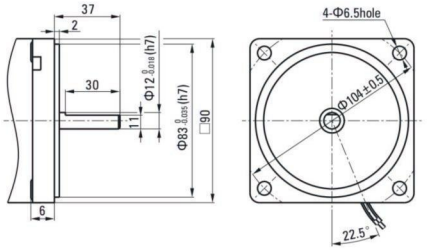


● Key・Keyway (Accessory Of Gearhead)



● Shaft Section Of Round Shaft Type

Excluding weight and the shaft section motor shape are the same as those of the pinion shaft type.

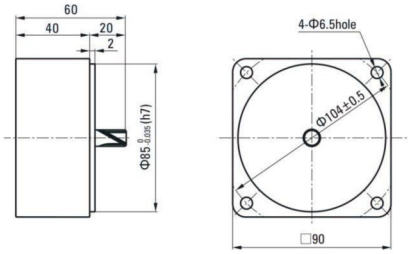


● Decimal Gearhead

Can be connected to GU pinion shaft type

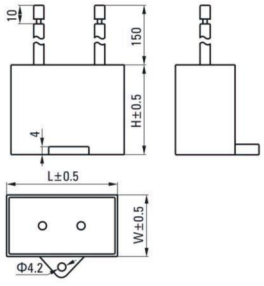
5GU10XK

Weight：0.65kg



Formal Dimension Of Capacitor

Model		Capacitor Model	L	W	H
Pinion Shaft	Round Shaft				
5IK90GU-AF□	5IK90A-AF□	ZD250CFAUL	47	27	37
5IK90GU-EF□	5IK90A-EF□	ZD200CFAUL	47	23	35
5IK90GU-CF□	5IK90A-CF□	ZD50BFAUL	47	20	31



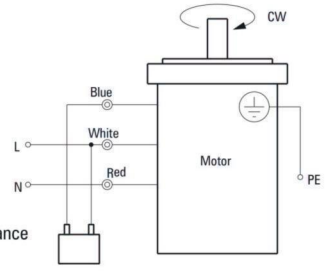
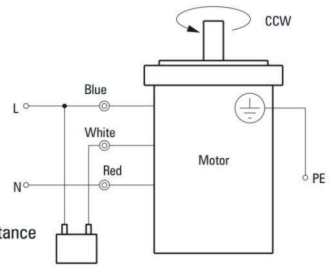
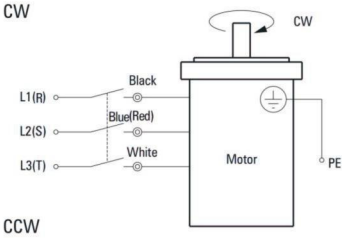
● Note: Conventional capacitor is a lead wire type. Inserted 187# is optional

● Enter the code that represents the terminal box type (T) in the box (□) within the model name

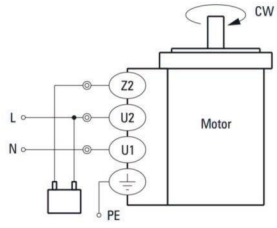
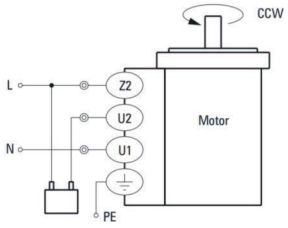
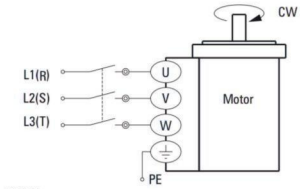
Wiring Diagram

- The direction of motor rotation is as viewed from the shaft end of motor. CW represents the clockwise direction, while CCW represents the counterclockwise direction.
- Name indicated in the list is pinion shaft type, also valid for the equivalent round shaft type.

Lead Wire Type

5IK90GU-AF、5IK90GU-EF、 5IK90GU-HF、5IK90GU-CF		5IK90GU-SF(S3F)
CW  Capacitance	CCW  Capacitance	CW  CCW To change the rotation direction change any two connections among R, S and T

Terminal Box Type

5IK90GU-AFT、5IK90GU-EFT、 5IK90GU-HFT、5IK90GU-CFT		5IK90GU-SFT(S3FT)
CW  Capacitance	CCW  Capacitance	CW  CCW To change the rotation direction change any two connections among U, V and W

Note:

Change the direction of single-phase motor rotation only after bring 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.