

Features of Reversible Motors

Reversible motors are capacitor-run induction motors. By simple switching, the direction of motor rotation can be reversed instantly. These motors are very suitable for applications that require frequent switching between clockwise and counterclockwise rotation thus the name "Reversible Motor". While basically the same as the induction motors described, they feature a high starting torque to improve previously instantaneous reversing characteristics and use a simple built-in friction brake to reduce motor overrun and shorten the time required for reversing. These motors are designed for applications where instantaneous reversal of direction is required. However, due to their inherently higher temperature rise compared to induction motors, they have a limited 30-minute duty cycle rating for worst case operating conditions. A 30-minute rating means that the motor may be operated continuously for 30 minutes without an excessive rise in motor temperature. In other respects, such as speed-torque, voltage and capacitor characteristics, reversible motors are similar to an induction motor.

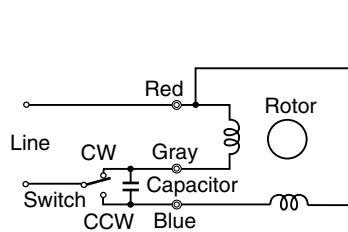
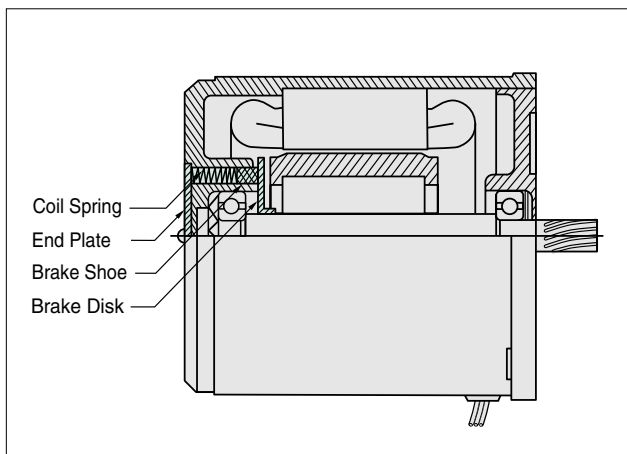
● Why do they have a Permanent Brake?

The brake mechanism provided on reversible motors consists of a teflon brake shoe that permanently applies friction to a brake plate by means of a coil spring. This means that in addition to the actual load, the motor must also overcome the friction load caused by the brake. The inevitable side effect of heat generation (which is the cause of the 30-minute duty rating of reversible motors) is outweighed by the following advantages of the brake:

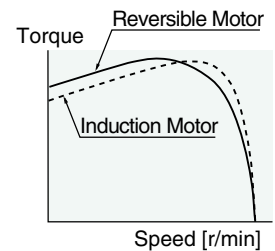
1. It reduces overrun
2. It provides a degree of holding torque
3. It shortens the time necessary for switching from clockwise to counterclockwise rotation.

With these motors, the limited braking force provided by the motor design equals approximately one-tenth of the torque output. Table 1 shows typical holding torque and overrun values which vary slightly with different models. The values also vary with operating time and temperature and should, therefore, be used as a guide only.

Note that values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied. Above described deviations from the theoretical figures should be taken into account when selecting a motor.



Wiring Diagram (CW direction)



Speed-Torque Characteristic

Table 1. Holding Torque and Overrun in Reversible Motors (Reference Values)

Motor Model	Holding Torque		Overrun (revolution)
	oz-in	mN · m	
ORK1GN-AUL	0.14	1	3
2RJ4GB-AUL	0.42	3	5
2RK6GN-AW(T)U	0.69	5	4
2RK6GN-CW(T)E			
2RK6GN-AUL	0.69	5	4
3RK15GN-AWU	1.8	13	5
3RK15GN-CWE			
3RK15GN-AUL	1.8	13	5
4RJ20GB-AUL	1.9	14	6
4RK25GN-AW(T)U	2.1	15	5
4RK25GN-CW(T)E			
4RK25GN-AUL	2.1	15	5
5RK40GN-AW(T)U	5.6	40	6
5RK40GN-CW(T)E			
5RK40GN-AUL	5.6	40	6
5RK60GU-AW(T)U	5.6	40	6
5RK60GU-CW(T)E			
5RK60GU-AFUL	5.6	40	6
5RK90GU-AW(T)U	5.6	40	6
5RK90GU-CW(T)E			
5RK90GU-AFUL	5.6	40	6

● Holding torque may be less than the value given in the table when first used.

Product Specifications

■ Reversible Motors

Output Power		Model		Voltage	Frequency	Starting Torque		Rated Torque		Rated Speed	Page	
HP	W	Lead	Wire Type	Terminal Box Type	V AC	Hz	oz-in	mN·m	oz-in	mN·m	r/min	
1/746	1			—	Single-Phase 115	60	1.1	8	1.1	8	1200	A-78
1/186	4			—	Single-Phase 115	60	3.5	25	3.7	27	1450	A-80
1/124	6				Single-Phase 110	60	6.2	45	5.7	41	1450	A-82
					Single-Phase 115	60						
					Single-Phase 220	60	6.2	45	5.7	41	1450	A-82
					Single-Phase 230	50						
					Single-Phase 230	60						
Single-Phase 115	60	5.1	37	5.6	40	1500	A-82					
1/50	15				Single-Phase 110	60	13.9	100	14.6	105	1450	A-85
					Single-Phase 115	60						
					Single-Phase 220	60	13.9	100	14.6	105	1450	A-85
					Single-Phase 230	50						
					Single-Phase 230	60						
Single-Phase 115	60	10.4	75	13.9	100	1500	A-85					
1/37	20			—	Single-Phase 115	60	14.6	105	18.7	135	1500	A-88
1/30	25				Single-Phase 110	60	19.4	140	23.6	170	1450	A-90
					Single-Phase 115	60						
					Single-Phase 220	60	22.2	160	28.5	205	1200	A-90
					Single-Phase 230	50						
Single-Phase 230	60	19.4	140	23.6	170	1450						
1/27.5	27			—	Single-Phase 115	60	16.0	115	23.6	170	1550	A-90
1/18.5	40				Single-Phase 110	60	36.1	260	37.5	270	1450	A-93
					Single-Phase 115	60						
					Single-Phase 220	60	37.5	270	43.7	315	1250	A-93
					Single-Phase 230	50						
					Single-Phase 230	60						
Single-Phase 115	60	36.1	260	36.1	260	1550	A-93					
1/12.5	60				Single-Phase 110	60	52.8	380	56.2	405	1450	A-96
					Single-Phase 115	60						
					Single-Phase 220	60	52.8	380	56.2	405	1450	A-96
					Single-Phase 230	50						
					Single-Phase 230	60						
Single-Phase 115	60	51.4	370	51.4	370	1600	A-96					
1/8	90				Single-Phase 110	60	81.9	590	81.2	585	1500	A-99
					Single-Phase 115	60						
					Single-Phase 220	60	81.9	590	84.0	605	1450	A-99
					Single-Phase 230	50						
					Single-Phase 230	60						
Single-Phase 115	60	81.9	590	79.2	570	1550	A-99					

- Products in this table have pinion shafts. Round shaft types are available for all models(excluding **5RK60GU-AFUL**, **5RK90GU-AFUL**). See the appropriate product pages for more information.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

■ General Specifications

For **-AW(T)U, -CW(T)E**

Item	Specifications
Insulation Resistance	100M Ω or more when 500V DC is applied between the windings and the frame.
Dielectric Strength	Sufficient to withstand 1.5kV at 50Hz and 60Hz applied between the windings and the frame.
Temperature Rise	144°F (80°C) or less measured by the resistance change method after rated motor operation with connecting a gearhead or equivalent heat radiation plate.
Insulation Class	Class B (266°F [130°C])
Overheat Protection	2RK have impedance protection. All others have a built-in thermal protector (Automatic return type) Operating temperature, open : 266°F±9°F (130°C±5°C) close: 179.6°F±27°F (82°C±15°C)
Ambient Temperature Range	14°F~104°F (-10°C~+40°C)
Ambient Humidity	85% maximum (noncondensing)

Equivalent heat radiation plate (material: Aluminum)

Type (output)	Size inch (mm)	Thickness inch (mm)
2RK Type (6W)	4.53×4.53 (115×115)	0.20 (5)
3RK Type (15W)	4.92×4.92 (125×125)	
4RK Type (25W)	5.31×5.31 (135×135)	
5RK40 Type (40W)	6.50×6.50 (165×165)	
5RK60 Type (60W)	7.87×7.87 (200×200)	
5RK90 Type (90W)	7.87×7.87 (200×200)	

For **-AUL, -AULA, -AFUL**

Item	Specifications
Insulation Resistance	100M Ω or more Insulation Resistance when 500V DC is applied between the windings and frame after the rated motor operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5kV at 50Hz and 60Hz applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity.
Temperature Rise	135°F (75°C) or less measured by the resistance change method after the temperature of the coil has stabilized under normal operation at the rated voltage and frequency.
Insulation Class	UL, CSA Standard Class A EN60950 Standard Class E
Overheat Protection	ORK and 2RK have impedance protection. All others have a built-in thermal protector. (Automatic return type) Operating temperature, open: 248°F±9°F (120°C±5°C) close: 170.6°F±27°F (77°C±15°C)
Ambient Temperature Range	14°F ~ 104°F (-10°C ~ +40°C)
Ambient Humidity	85% maximum (noncondensing)

■ Safety Standards and CE Marking

For **-AW(T)U, -CW(T)E**

Standards	Certification Body	Standards File No.	CE Marking
UL1004 UL519 (6W Type) UL547 (15W~90W Type) CAN/CSA C22.2 No.100 CAN/CSA C22.2 No.77	UL	E64199 (6W) E64197 (15W~90W)	Low Voltage Directive
EN60950	VDE	114919ÜG (6W) 6751ÜG (15W~90W)	
EN60034-1 EN60034-5 IEC60034-11	Conform to EN/IEC Standards (EN/IEC certifications are scheduled.)		

* Excluding terminal box types

For installation for EN/IEC standards, see Page D-2.

Recognized name and certified name of each safety standards are motor model name.

For **-AUL, -AULA** and **-AFUL** Type

Standards	Certification Body	Standards File No.	CE Marking
UL1004 UL519 (6W Type) UL547 (15W~90W Type)	UL	E64199 (1W~6W) E64197 (15W~90W)	Low Voltage Directive
CAN/CSA C22.2 No.100 CAN/CSA C22.2 No.77	CSA	LR47296	
EN60950	VDE	5876ÜG (1W~6W) 5877ÜG (15W~90W)	

For installation for EN/IEC standards, see Page D-2.

REVERSIBLE MOTORS

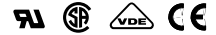
Single-Phase

1W (1/746 HP)

Frame Size 1.65 in.sq. (42mm sq.)



Specifications — 30 Minutes Rating



Model		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
ORK1GN-AUL	ORK1A-AUL	1/746	1	115	60	0.10	1.1	8	1.1	8	1200	1.2

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- These products are impedance protected.

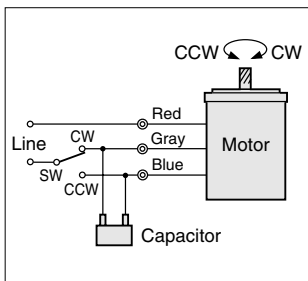
Gearmotor — Torque Table

Unit = Upper values: lb-in / Lower values: 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
	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
ORK1GN-AUL / OGN□KA		0.17	0.20	0.28	0.33	0.42	0.50	0.63	0.75	0.90	1.1	1.4	1.6	2.3	2.7	3.0	3.7	4.1	4.9	6.1	7.3
		0.019	0.023	0.032	0.039	0.049	0.058	0.073	0.088	0.11	0.13	0.16	0.19	0.26	0.32	0.35	0.42	0.47	0.57	0.71	0.85

- Gearheads are sold separately. Decimal gearheads are not available for OGN type.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (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.

Wiring Diagram

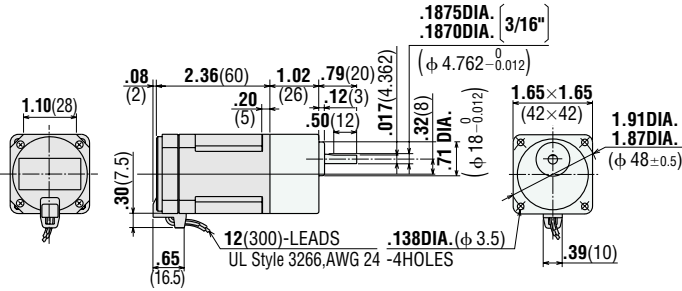


To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.
To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.

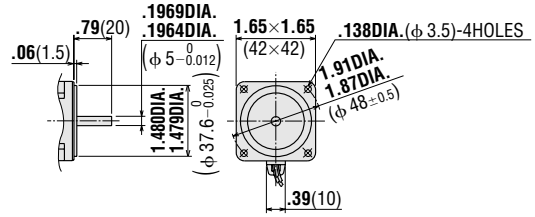
The direction of motor rotation is as viewed from the shaft end of the motor.

■ Dimensions Scale 1/4, Unit = inch (mm)

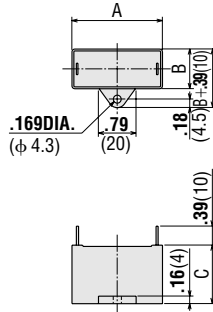
ORK1GN-AUL / **OGNKA**
 Weight (Mass): 0.7 lb.(0.3 kg) Weight(Mass): 0.44 lb.(0.2 kg)



ORK1A-AUL Round Shaft Type
 Weight (Mass): 0.7 lb.(0.3 kg)



● Capacitor (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)
		A	B	C	
ORK1GN-AUL	CH12UL	1.22	0.57	0.93	0.6 (17)
ORK1A-AUL		(31)	(14.5)	(23.5)	

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

■ Accessories

● Motor Mounting Brackets

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions. Model name **SOLOU04**



● Flexible Couplings

Optional clamping couplings are available. See page[A-260] for the dimensions.



REVERSIBLE MOTORS

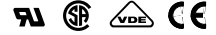
Single-Phase

4W (1/186 HP)

Frame Size 2.36 in.sq. (60mm sq.)



■ Specifications — 30 Minutes Rating



Model		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
2RJ4GB-AUL	2RJ4A-AULA	1/186	4	115	60	0.17	3.5	25	3.7	27	1450	1.8

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- These products are impedance protected.

■ Gearmotor — Torque Table

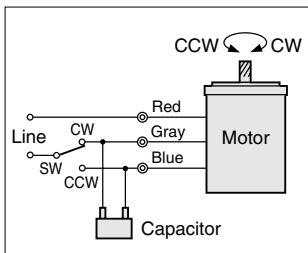
The permissible torque with decimal gearhead with a gear ratio of 10:1 is 13 lb-in (1.5N·m).

Unit = Upper values: lb-in / Lower values: 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	7.2	6	5
	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	250	300	360
2RJ4GB-AUL / 2GB□KA		0.56	0.67	0.94	1.1	1.4	1.7	2.3	2.8	3.4	4.2	5.1	6.1	7.6	9.2	11	13	13	13	13	13	13	13	13
		0.066	0.079	0.11	0.13	0.16	0.20	0.27	0.33	0.39	0.49	0.59	0.71	0.89	1.1	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (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.

■ Wiring Diagram



To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.
To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.

The direction of motor rotation is as viewed from the shaft end of the motor.

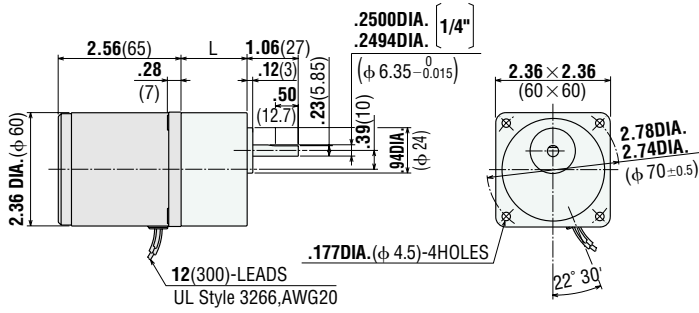
■ Dimensions Scale 1/4, Unit = inch (mm)

2RJ4GB-AUL

Weight (Mass): 1.3 lb.(0.6 kg)

/ 2GB□KA

Weight (Mass): 0.66 lb.(0.3 kg)

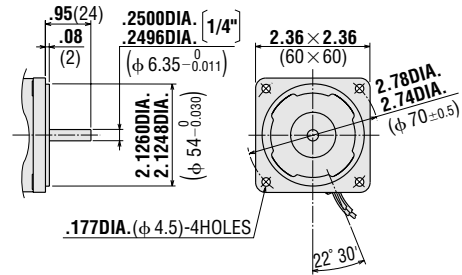


L = 1.02(26) **2GB3KA ~ 18KA**

L = 1.38(35) **2GB25KA ~ 360KA**

2RJ4A-AULA Round Shaft Type

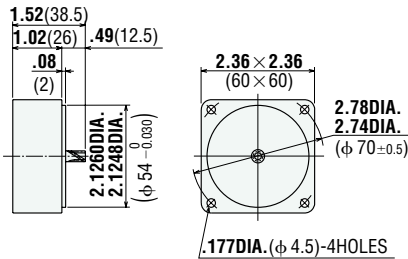
Weight (Mass): 1.3 lb.(0.6 kg)



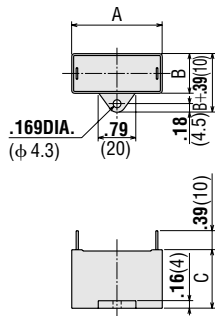
● Decimal Gearhead

2GB10XK

Weight (Mass): 0.44 lb.(0.2 kg)



● Capacitor (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)
		A	B	C	
2RJ4GB-AUL	CH18BUL	1.46	0.67	1.06	0.7 (20)
2RJ4A-AULA		(37)	(18)	(27)	

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

■ Accessories

● Motor Mounting Brackets

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.

Model name **SOL2U8**



● Flexible Couplings

Optional clamping couplings are available. See page[A-260] for the dimensions.



REVERSIBLE MOTORS

Single-Phase

6W (1/124 HP)

Frame Size 2.36 in.sq. (60mm sq.)



Specifications — 30 Minutes Rating



Model		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor
Upper Model Name: Pinion Shaft Type	Lower Model Name(): Round Shaft Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
Lead Wire Type Dimension ①	Terminal Box Type Dimension ②											
2RK6GN-AWU (2RK6A-AWU)	2RK6GN-AWTU (2RK6A-AWTU)			110	60	0.25	6.2	45	5.7	41	1450	3.5
				115	60	0.26						
				220	60	0.11	6.2	45	5.7	41	1450	0.8
				230	50	0.12	6.9	50	6.8	49	1200	
		230	60	0.12	6.2	45	5.7	41	1450			
2RK6GN-AUL (2RK6A-AULA)	—			115	60	0.19	5.1	37	5.6	40	1500	2.3

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- These products are impedance protected.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.
- The terminal box type of the motors are not VDE approved.

Gearmotor — Torque Table

The permissible torque with a decimal gearhead with a gear ratio of 10:1 is 26 lb-in (3N·m).

Single-Phase 115V/230V 60Hz

Unit = Upper values: lb-in / Lower values: 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
	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
2RK6GN-AW(T)U / 2GN□KA 2RK6GN-CW(T)E / 2GN□KA	0.87	1.0	1.4	1.7	2.2	2.6	3.6	4.3	5.2	6.5	7.8	9.4	12	14	18	21	24	26	26	26	
	0.10	0.12	0.17	0.20	0.25	0.30	0.42	0.50	0.60	0.75	0.90	1.1	1.4	1.6	2.0	2.4	2.7	3	3	3	
2RK6GN-AUL / 2GN□KA	0.85	1.0	1.4	1.7	2.1	2.6	3.5	4.3	5.1	6.4	7.7	9.2	12	14	17	21	23	26	26	26	
	0.097	0.12	0.16	0.19	0.24	0.29	0.41	0.49	0.58	0.73	0.88	1.1	1.3	1.6	2.0	2.4	2.6	3	3	3	

Single-Phase 230V 50Hz

Unit = Upper values: lb-in / Lower values: 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
	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
2RK6GN-CW(T)E / 2GN□KA	1.0	1.2	1.7	2.1	2.6	3.1	4.3	5.2	6.2	7.8	9.3	11	14	17	21	25	26	26	26	26	
	0.12	0.14	0.20	0.24	0.30	0.36	0.50	0.60	0.71	0.89	1.1	1.3	1.6	1.9	2.4	2.9	3	3	3	3	

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (50Hz: 1500 r/min, 60Hz: 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.

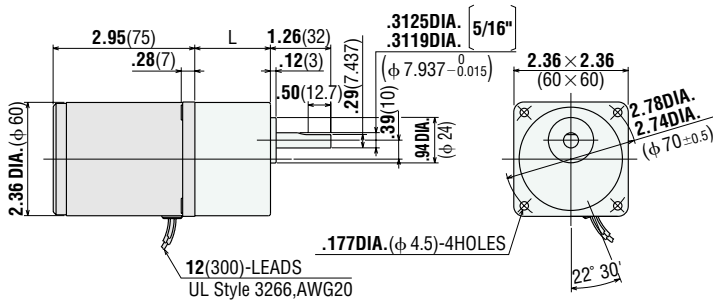
■ Dimensions Scale 1/4, Unit = inch (mm)

2RK6GN-AWU
2RK6GN-CWE
2RK6GN-AUL

Weight (Mass): 1.5 lb.(0.7 kg)

2GN□KA

Weight (Mass): 0.88 lb.(0.4 kg)



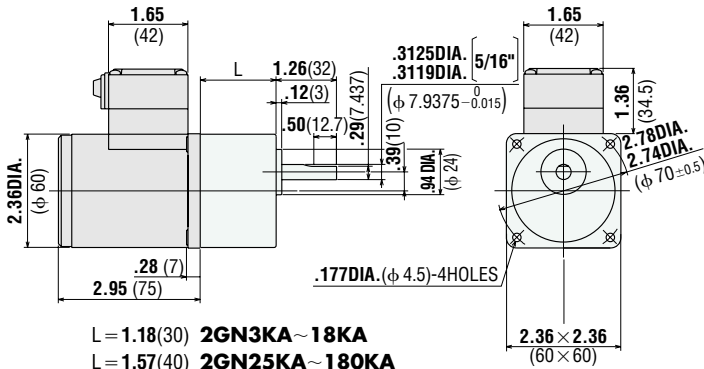
L = 1.18(30) **2GN3KA~18KA**
 L = 1.57(40) **2GN25KA~180KA**

2RK6GN-AWTU
2RK6GN-CWTE

Weight (Mass): 1.65 lb.(0.75 kg)

2GN□KA

Weight (Mass): 0.88 lb.(0.4 kg)



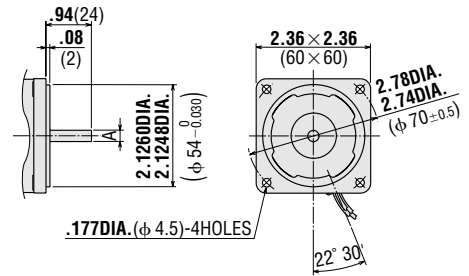
L = 1.18(30) **2GN3KA~18KA**
 L = 1.57(40) **2GN25KA~180KA**

Use cabtyre cable with the diameter of .27DIA.(φ 6.8)~.34DIA.(φ 8.6).

2RK6A-AWU
2RK6A-CWE

2RK6A-AULA Round Shaft Type

Weight (Mass): 1.5 lb.(0.7 kg)

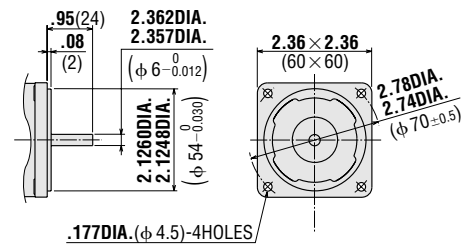


Model	Shaft Diameter A
2RK6A-AWU	.2362DIA. (φ 6 ⁰ _{-0.012})
2RK6A-CWE	.2357DIA. (φ 6 ⁰ _{-0.012})
2RK6A-AULA	.2500DIA. [1/4"](φ 6.35 ⁰ _{-0.010}) .2496DIA.

2RK6A-AWTU

2RK6A-CWTE Round Shaft Type

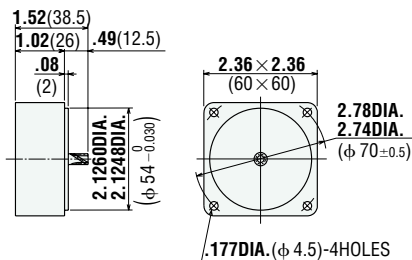
Weight (Mass): 1.65 lb.(0.75 kg)



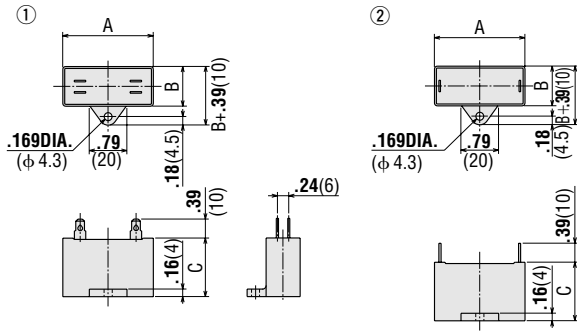
● Decimal Gearhead

2GN10XK

Weight (Mass): 0.44 lb.(0.2 kg)



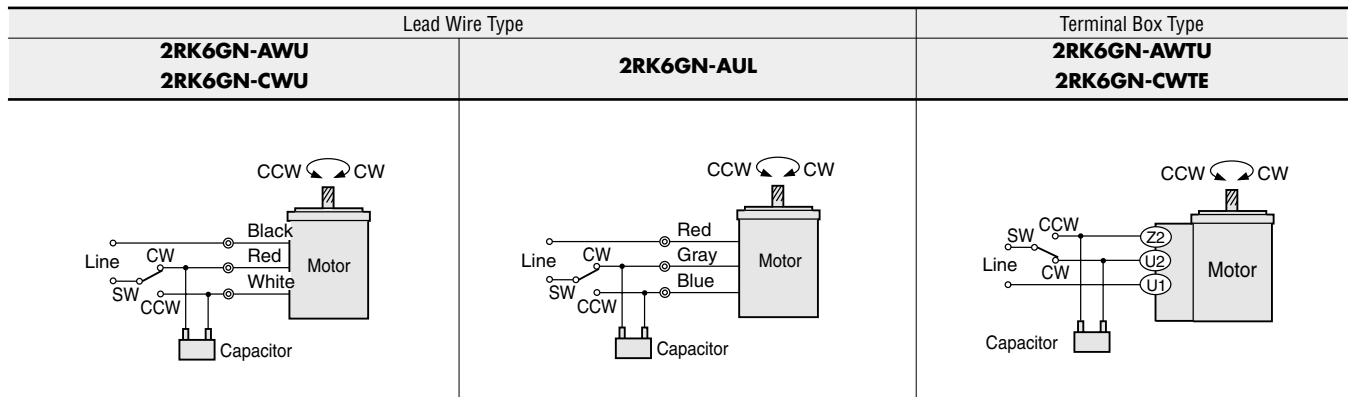
● **Capacitor** (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
2RK6GN-AW(T)U	CH35FAUL	1.22	0.67	1.06	0.9 (25)	①
2RK6A-AW(T)U		(31)	(17)	(27)		
2RK6GN-CW(T)E	CH08BFAUL	1.22	0.67	1.06	0.9 (25)	①
2RK6A-CW(T)E		(31)	(17)	(27)		
2RK6GN-AUL	CH23UL	1.22	0.57	0.93	0.5 (15)	②
2RK6A-AULA		(31)	(14.5)	(23.5)		

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.
To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.

■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.
Model name **SOL2U08**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.





REVERSIBLE MOTORS

Single-Phase

15w (1/50 HP)

Frame Size 2.76 in.sq. (70mm sq.)



Specifications — 30 Minutes Rating



Model		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
3RK15GN-AWU	3RK15A-AWU	1/50	15	110	60	0.42	13.9	100	14.6	105	1450	6
				115	60	0.41	13.9	100	14.6	105	1450	
220	60			0.21	13.9	100	14.6	105	1450			
230	50			0.20	13.9	100	17.4	125	1200	1.5		
3RK15GN-CWE	3RK15A-CWE	230	60	0.21	13.9	100	14.6	105	1450			
		3RK15GN-AUL	3RK15A-AULA	115	60	0.36	10.4	75	13.9	100	1500	4.5

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- These products contain 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.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

Gearmotor—Torque Table

The permissible torque with decimal gearhead with a gear ratio of 10 is 43lb-in (5N-m).

Single-Phase 115V/230V 60Hz

Unit: lb-in / N-m Upper values: lb-in / Lower values: 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
	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
3RK15GN-AWU / 3GN□KA	2.2	2.7	3.7	4.4	5.5	6.7	9.2	11	13	17	20	24	30	36	43	43	43	43	43	43	43
3RK15GN-CWE / 3GN□KA	0.26	0.31	0.43	0.51	0.64	0.77	1.1	1.3	1.5	1.9	2.3	2.8	3.5	4.2	5	5	5	5	5	5	5
3RK15GN-AUL / 3GN□KA	2.1	2.5	3.5	4.2	5.3	6.3	8.8	11	13	16	19	23	29	34	43	43	43	43	43	43	43
	0.24	0.29	0.41	0.49	0.61	0.73	1.0	1.2	1.5	1.8	2.2	2.6	3.3	4.0	5	5	5	5	5	5	5

Single-Phase 230V 50Hz

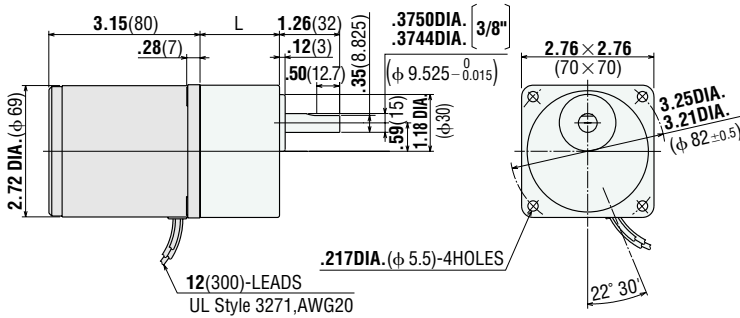
Unit: lb-in / N-m Upper values: lb-in / Lower values: N-m

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
	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
3RK15GN-CWE / 3GN□KA	2.6	3.2	4.4	5.3	6.6	7.9	11	13	16	20	24	29	36	43	43	43	43	43	43	43	43
	0.30	0.36	0.51	0.61	0.76	0.91	1.3	1.5	1.8	2.3	2.7	3.3	4.1	5	5	5	5	5	5	5	5

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation 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.

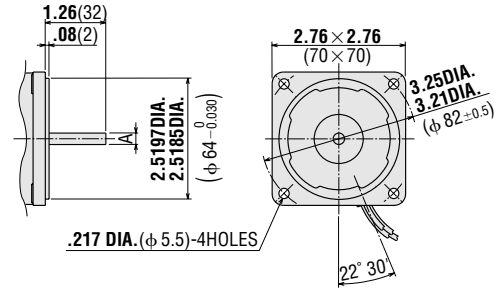
■ Dimensions Scale 1/4, Unit = inch (mm)

3RK15GN-AWU / **3GN□KA**
3RK15GN-CWE
3RK15GN-AUL
 Weight (Mass): 2.4 lb.(1.1 kg)



L = 1.26(32) **3GN3KA~18KA**
 L = 1.65(42) **3GN25KA~180KA**

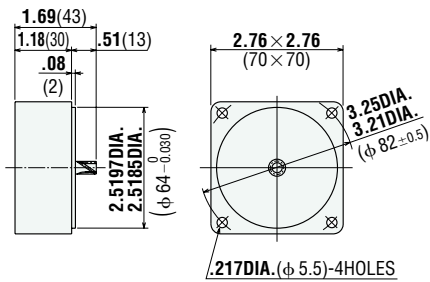
3RK15A-AWU Round Shaft Type
3RK15A-CWE
3RK15A-AULA
 Weight (Mass): 2.4 lb.(1.1 kg)



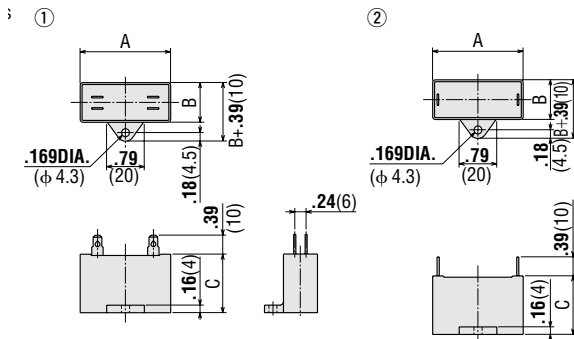
Model	Shaft Diameter A
3RK15A-AWU	.2362DIA. (φ 6 $_{-0.012}^0$)
3RK15A-CWE	.2357DIA.
3RK15A-AULA	.2500DIA. [3/8"] (φ 6.35 $_{-0.010}^0$) .2496DIA.

● Decimal Gearhead

3GN10XK Weight (Mass): 0.66 lb.(0.3 kg)



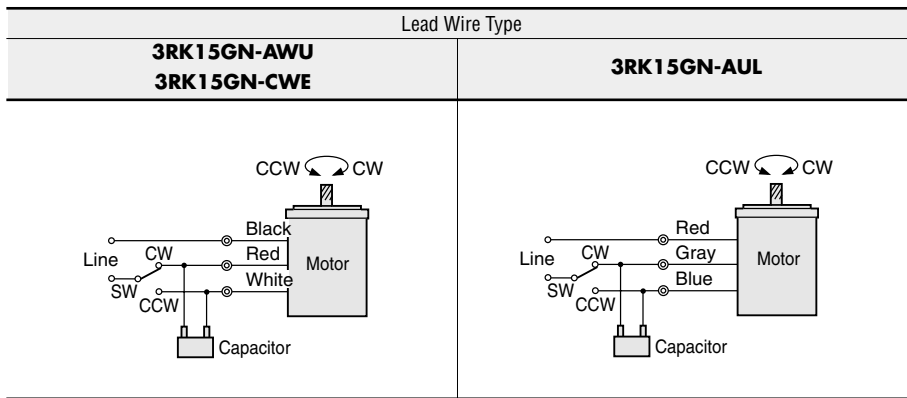
● Capacitor (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
3RK15GN-AWU	CH60CFAUL	1.50 (38)	0.83 (21)	1.22 (31)	1.4 (40)	①
3RK15A-AWU						
3RK15GN-CWE	CH15BFAUL	1.50 (38)	0.83 (21)	1.22 (31)	1.2 (35)	①
3RK15A-CWE						
3RK15GN-AUL	CH45UL	1.46 (37)	0.71 (18)	1.06 (27)	1.1 (30)	②
3RK15A-AULA						

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise(CW)direction, flip switch SW to CW.
To rotate it in a counterclockwise(CCW)direction, flip switch SW to CCW.

■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.

Model name **SOL3U10**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.



REVERSIBLE MOTORS

Single-Phase

20W (1/37 HP)

Frame Size 3.15 in.sq. (80mm sq.)



Specifications — 30 Minutes Rating

Model		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor
Pinion Shaft Type	Round Shaft Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF
4RJ20GB-AUL	4RJ20A-AULA	1/37	20	115	60	0.48	14.6	105	18.7	135	1500	6.0

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- The product contains a built-in thermal protector. When 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.

Gearmotor—Torque Table

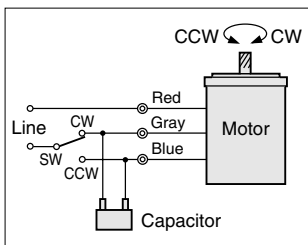
The permissible torque with decimal gearhead with a gear ratio of 10 is 43.4 lb-in (5N·m).

Unit = Upper values: lb-in / Lower values: N·m

Model	Speed r/min		Gear Ratio																					
	600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10	7.2	6	5	
4RJ20GB-AUL / 4GB□KA	2.8	3.4	4.7	5.7	7.1	8.5	12	14	17	21	26	31	39	43	43	43	43	43	43	43	43	43	43	43
	0.33	0.39	0.55	0.66	0.82	0.98	1.4	1.6	2.0	2.5	3.0	3.5	4.5	5	5	5	5	5	5	5	5	5	5	5

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.
- The speed is calculated by dividing the motor's synchronous speed (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.

Wiring Diagram



To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.
To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW.

The direction of motor rotation is as viewed from the shaft end of the motor.

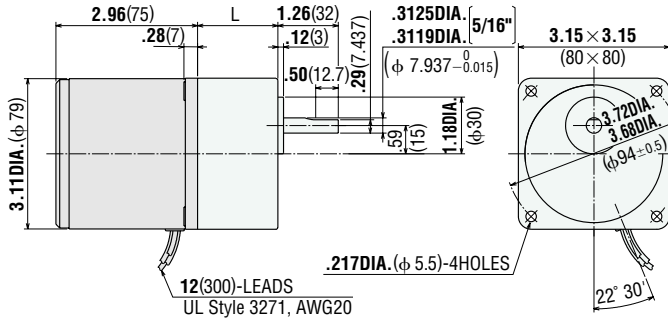
Dimensions Scale 1/4, Unit = inch (mm)

4RJ20GB-AUL

Weight (Mass): 3.1 lb.(1.4 kg)

/ 4GB□KA

Weight (Mass): 1.43 lb.(0.65 kg)

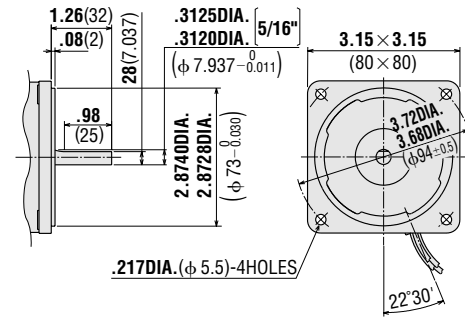


L = 1.26(32) **4GB3KA~18KA**

L = 1.67(42.5) **4GB25KA~360KA**

4RJ20A-AULA Round Shaft Type

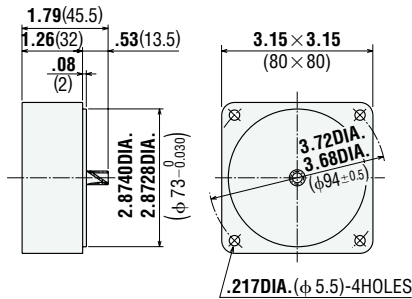
Weight (Mass): 3.1 lb.(1.4 kg)



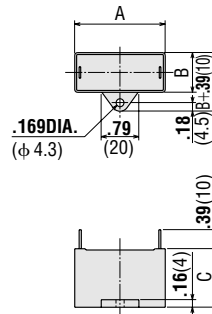
Decimal Gearhead

4GB10XK

Weight (Mass): 0.77 lb.(0.35 kg)



Capacitor (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)
		A	B	C	
4RJ20GB-AUL	CH6OUL	1.50	0.75	1.14	1.1 (30)
4RJ20A-AULA		(38)	(19)	(29)	

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

Accessories

Motor Mounting Brackets

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.

Model name **SOL4U10**



Flexible Couplings

Optional clamping couplings are available. See page[A-260] for the dimensions.



REVERSIBLE MOTORS

Single-Phase

25W (1/30 HP)

Frame Size 3.15 in.sq. (80mm sq.)



Specifications — 30 Minutes Rating



Model		Output Power	Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor		
Upper Model Name: Pinion Shaft Type	Lower Model Name(): Round Shaft Type					oz-in	mN·m	oz-in	mN·m			r/min	μF
Lead Wire Type	Terminal Box Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF	
Dimension ①	Dimension ②												
SA	4RK25GN-AWU (4RK25A-AWU)	4RK25GN-AWTU (4RK25A-AWTU)	1/30	25	110	60	0.54	19.4	140	23.6	170	1450	8
					115	60							
SA	4RK25GN-CWE (4RK25A-CWE)	4RK25GN-CWTE (4RK25A-CWTE)	1/30	25	220	60	0.28	19.4	140	23.6	170	1450	2
					230	50							
					230	60							
SE	4RK25GN-AUL (4RK25A-AULA)	—	1/27.5	27	115	60	0.55	16.0	115	23.6	170	1550	7

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- The product contains a built-in thermal protector. When 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.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

Gearmotor—Torque Table

The permissible torque with decimal gearhead with a gear ratio of 10:1 is 70 lb-in (8N·m). The value is 52 lb-in (6N·m) when 25:1~36:1 gearheads are connected.

Single-Phase 115V/230V 60Hz

Unit= Upper values: lb-in/Lower values: N·m

Model	Speed r/min	Gear Ratio																			
		600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
4RK25GN-AWU 4RK25GN-AWTU 4RK25GN-CWE 4RK25GN-CWTE	4GN □ KA	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		3.6	4.3	6.0	7.2	9.0	11	15	18	22	27	32	39	49	58	69	69	69	69	69	69
4RK25GN-AUL	4GN □ KA	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		3.6	4.3	6.0	7.2	9.0	11	15	18	22	27	32	39	49	58	69	69	69	69	69	69

Single-Phase 230V 50Hz

Unit= Upper values: lb-in/Lower values: N·m

Model	Speed r/min	Gear Ratio																			
		500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
4RK25GN-CWE 4RK25GN-CWTE	4GN □ KA	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180
		4.3	5.2	7.2	8.7	11	13	18	22	26	33	39	47	59	69	69	69	69	69	69	69

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation 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.

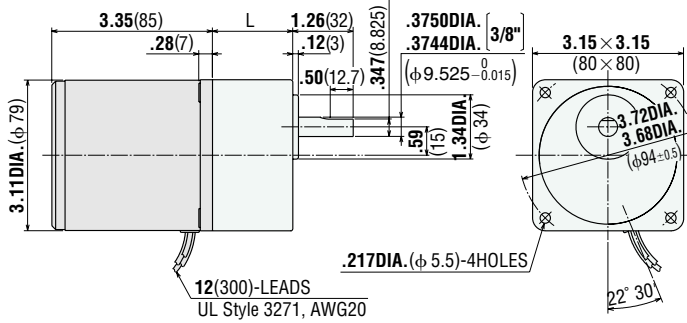
■ Dimensions Scale 1/4, Unit = inch (mm)

① **4RK25GN-AWU**
4RK25GN-CWE
4RK25GN-AUL

Weight (Mass): 3.3 lb.(1.5 kg)

4GN□KA

Weight (Mass): 1.43 lb.(0.65 kg)



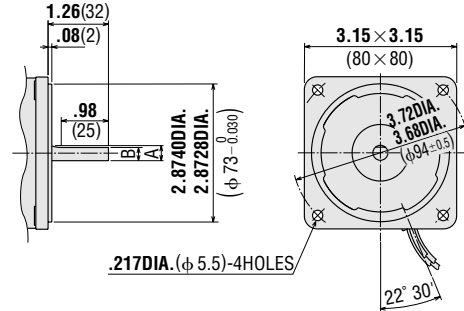
L = 1.26(32) **4GN3KA~18KA**

L = 1.67(42.5) **4GN25KA~180KA**

4RK25A-AWU Round Shaft Type

4RK25A-CWE
4RK25A-AULA

Weight (Mass): 3.3 lb.(1.5 kg)



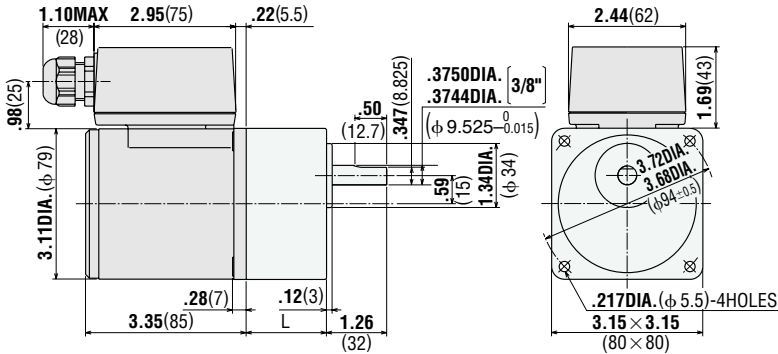
Model	A	B
4RK25A-AWU	.3150DIA. (φ 8-0.015)	.28(7)
4RK25A-CWE	.3144DIA.	
4RK25A-AULA	.3125DIA. [5/16"](φ 7.937-0.011)	.28(7.037)
	.3120DIA.	

② **4RK25GN-AWTU**
4RK25GN-CWTE

Weight (Mass): 3.7 lb.(1.7 kg)

4GN□KA

Weight (Mass): 1.43 lb.(0.65 kg)



L = 1.26(32) **4GN3KA~18KA**

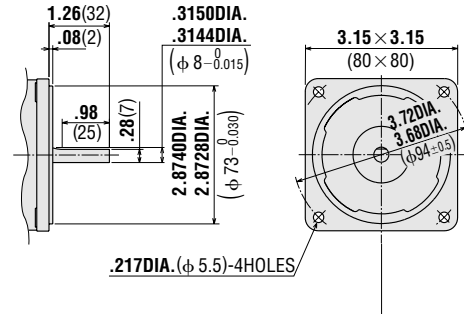
L = 1.67(42.5) **4GN25KA~180KA**

Use cabtyre cable with the diameter of .24DIA.(φ 6)~.47DIA.(φ 12).

4RK25A-AWTE Round Shaft Type

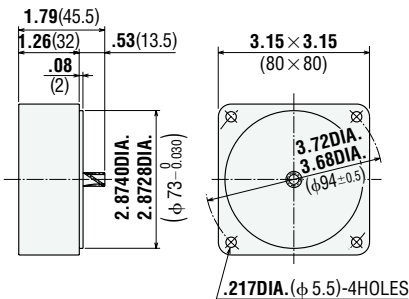
4RK25A-CWTE

Weight (Mass): 3.7 lb.(1.7 kg)

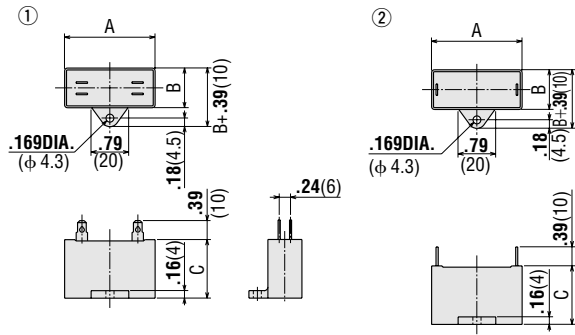


● Decimal Gearhead

4GN10XK Weight (Mass): 0.88 lb.(0.4 kg)



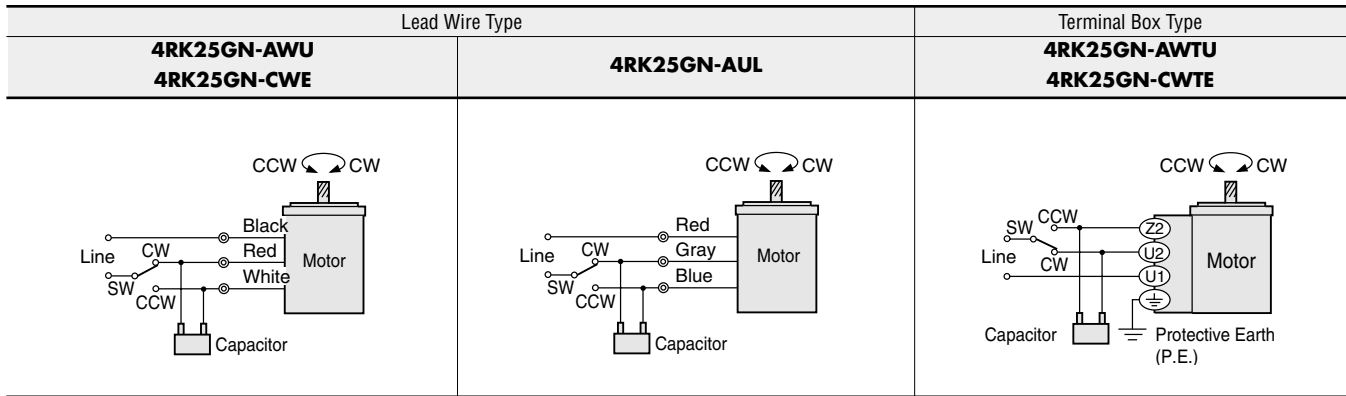
● **Capacitor** (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
4R25GN-AW(T)U 4R25A-AW(T)U	CH80CFAUL	1.89 (48)	0.75 (19)	1.14 (29)	1.41 (40)	①
4R25GN-CW(T)E 4R25A-CW(T)E	CH20BFAUL	1.89 (48)	0.75 (19)	1.14 (29)	1.23 (35)	①
4R25GN-AUL 4RK25A-AULA	CH70UL	1.50 (38)	0.83 (21)	1.22 (31)	1.23 (35)	②

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

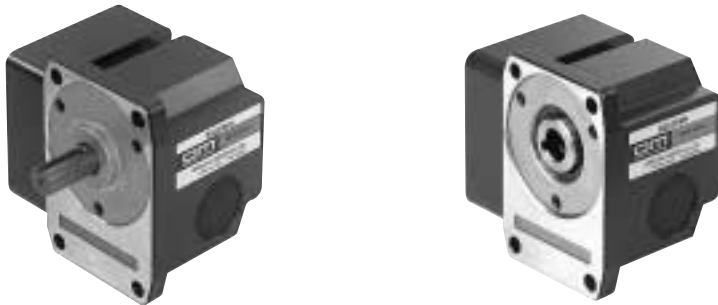
■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise(CW)direction, flip switch SW to CW.
To rotate it in a counterclockwise(CCW)direction, flip switch SW to CCW.

■ **Right-Angle Gearheads**

The right-angle gearhead provides an output shaft that is at a right angle to the motor's output shaft. See page [A-216] for specifications and other information.



■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions. Model name **SOL4U10**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.





REVERSIBLE MOTORS

Single-Phase

40w (1/18.5 HP)

Frame Size 3.54 in.sq. (90mm sq.)



Specifications — 30 Minutes Rating



Model Upper Model Name:Pinion Shaft Type Lower Model Name():Round Shaft Type		Output Power		Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor			
Lead Wire Type Dimension ①	Terminal Box Type Dimension ②	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min	μF			
5RK40GN-AWU (5RK40A-AWU)	5RK40GN-AWTU (5RK40A-AWTU)			110	60	0.81	36.1	260	37.5	270	1450	12			
				115											
5RK40GN-CWE (5RK40A-CWE)	5RK40GN-CWTE (5RK40A-CWTE)			220	50	0.46	36.1	260	36.1	260	1500	3.5			
		1/18.5 40		230							270		43.7	315	1250
				230							270		36.1	260	1500
5RK40GN-AUL (5RK40A-AULA)	—			115	60	0.87	36.1	260	36.1	260	1550	12			

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- The product contains a built-in thermal protector. When 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.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

Gearmotor — Torque Table

The permissible torque with decimal gearhead with a gear ratio of 10:1 is 87 lb-in (10N·m).

• Right-Angle gearhead may be connected. See page [A-216] for more information.

Single-Phase 115V/230V 60Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	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
5RK40GN-AWU 5RK40GN-AWTU / 5GN□KA	600	5.7	6.8	9.5	11	14	17	24	28	34	43	51	62	77	87	87	87	87	87	87	87
	500	0.66	0.79	1.1	1.3	1.6	2.0	2.7	3.3	3.9	4.9	5.9	7.1	8.9	10	10	10	10	10	10	10
5RK40GN-CWE 5RK40GN-CWTE / 5GN□KA	600	5.5	6.6	9.1	11	14	16	23	27	33	41	49	59	74	87	87	87	87	87	87	87
	500	0.63	0.76	1.1	1.3	1.6	1.9	2.6	3.2	3.8	4.7	5.7	6.8	8.6	10	10	10	10	10	10	10
5RK40GN-AUL / 5GN□KA	600	5.5	6.6	9.1	11	14	16	23	27	33	41	49	59	74	87	87	87	87	87	87	87
	500	0.63	0.76	1.1	1.3	1.6	1.9	2.6	3.2	3.8	4.7	5.7	6.8	8.6	10	10	10	10	10	10	10

Single-Phase 230V 50Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	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
5RK40GN-CWE 5RK40GN-CWTE / 5GN□KA	500	6.6	8.0	11	13	17	20	28	33	40	50	60	72	87	87	87	87	87	87	87	87
	416	0.77	0.92	1.3	1.5	1.9	2.3	3.2	3.8	4.6	5.7	6.9	8.3	10	10	10	10	10	10	10	10

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation 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.

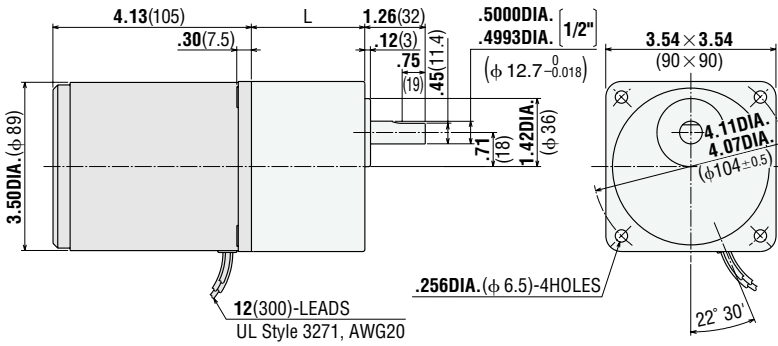
■ Dimensions Scale 1/4, Unit = inch (mm)

① **5RK40GN-AWU**
5RK40GN-CWE
5RK40GN-AUL

Weight (Mass): 5.5 lb.(2.5 kg)

5GN□KA

Weight (Mass): 3.3 lb.(1.5 kg)



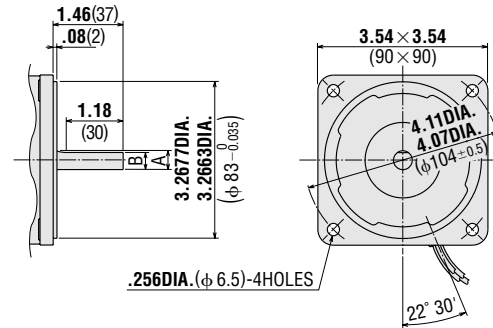
L = 1.65(42) **5GN3KA~18KA**

L = 2.36(60) **5GN25KA~180KA**

5RK40A-AWU
5RK40A-CWE

5RK40A-AULA Round Shaft Type

Weight (Mass): 5.5 lb.(2.5 kg)



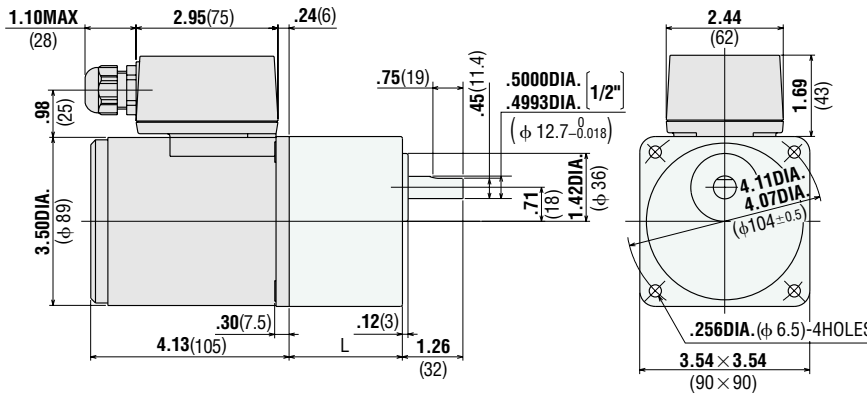
Model	A	B
5RK40A-AWU	.3937DIA. (φ 10 - 0.015)	.35(9)
5RK40A-CWE	.3931DIA.	
5RK40A-AULA	.3750DIA. [3/8" (φ 9.525 - 0.011)]	.35(8.825)
	.3746DIA.	

② **5RK40GN-AWTU**
5RK40GN-CWTE

Weight (Mass): 5.7 lb.(2.6 kg)

5GN□KA

Weight (Mass): 3.3 lb.(1.5 kg)



L = 1.65(42) **5GN3KA~18KA**

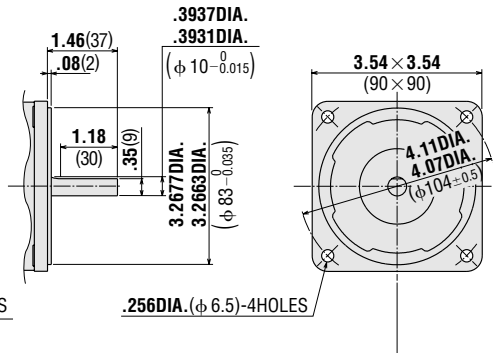
L = 2.36(60) **5GN25KA~180KA**

Use cabtyre cable with the diameter of .24DIA.(φ 6)~.47DIA.(φ 12).

5RK40A-AWTU
5RK40A-CWTE

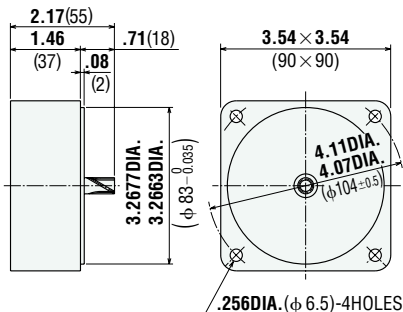
Round Shaft Type

Weight (Mass): 5.7 lb.(2.6 kg)

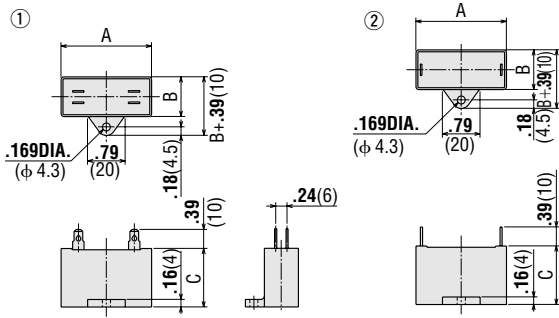


● Decimal Gearhead

5GN10XK Weight (Mass): 1.32 lb.(0.6 kg)



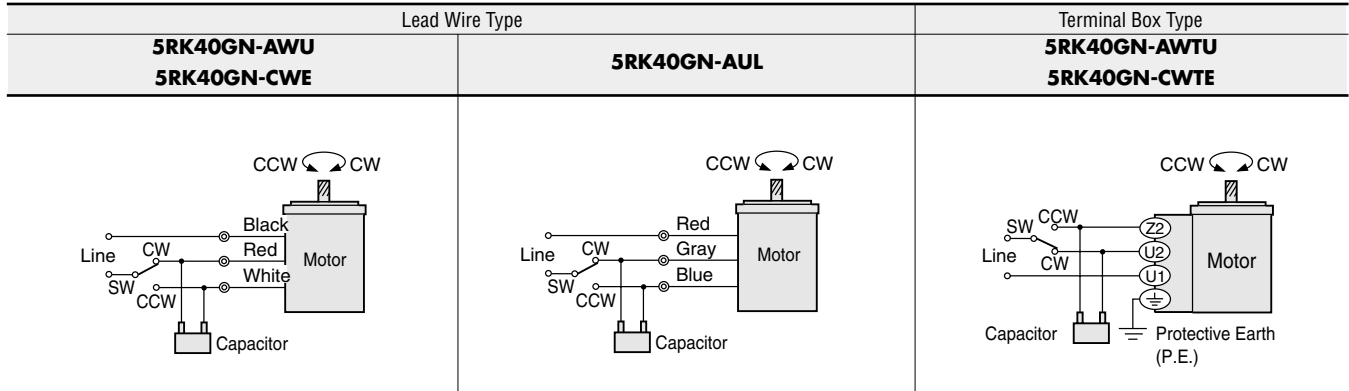
● **Capacitor** (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
5RK40GN-AW(T)U	CH1 20CFAUL	2.28 (58)	0.83 (21)	1.22 (31)	1.76 (50)	①
5RK40A-AW(T)U						
5RK40GN-CW(T)E	CH35BFAUL	2.28 (58)	0.87 (22)	1.38 (35)	1.94 (55)	①
5RK40A-CW(T)E						
5RK40GN-AUL	CH1 20UL	1.89 (48)	0.83 (21)	1.22 (31)	1.55 (44)	②
5RK40A-AULA						

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

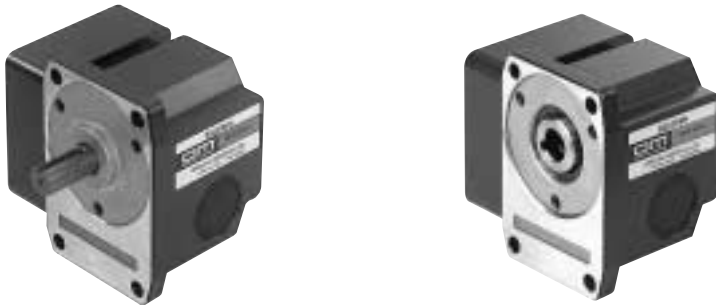
■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise(CW)direction, flip switch SW to CW.
 To rotate it in a counterclockwise(CCW)direction, flip this switch to CCW.

■ **Right-Angle Gearheads**

The right-angle gearhead provides an output shaft that is at a right angle to the motor's output shaft. See page [A-216] for specifications and other information.



■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions. Model name **SOL5UA**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.



REVERSIBLE MOTORS

Single-Phase

60W (1/12.5 HP)

Frame Size 3.54 in.sq. (90mm sq.)



Specifications — 30 Minutes Rating

Model		Output Power	Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor	
Upper Model Name: Pinion Shaft Type	Lower Model Name(): Round Shaft Type					oz-in	mN·m	oz-in	mN·m			
Lead Wire Type	Terminal Box Type	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min.	μF
Dimension ①	Dimension ②											
5RK60GU-AWU (5RK60A-AWU)	5RK60GU-AWTU (5RK60A-AWTU)	1/12.5	60	110	60	1.24	52.8	380	56.2	405	1450	20
				115								
5RK60GU-CWE (5RK60A-CWE)	5RK60GU-CWTE (5RK60A-CWTE)	1/12.5	60	220	60	0.67	52.8	380	56.2	405	1450	5
				230	50	0.61	65.3	470	68.0	490	1200	
				230	60	0.67	52.8	380	56.2	405	1450	
5RK60GU-AFUL	—			115	60	1.25	51.4	370	51.4	370	1600	20

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- The product contains a built-in thermal protector. When 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.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

Gearmotor—Torque Table

The permissible torque with decimal gearhead with a gear ratio of 10:1 is 174 lb-in (20N·m).

• Right-Angle gearhead may be connected. See page [A-216] for more information.

Single-Phase 115V/230V 60Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	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
5RK60GU-AWU 5RK60GU-AWTU 5RK60GU-CWE 5RK60GU-CWTE	5GU□KA	8.5	10	14	17	21	26	32	38	46	58	70	83	116	139	155	174	174	174	174	174
	5GU□KA	0.98	1.2	1.6	2	2.5	3.0	3.7	4.4	5.3	6.7	8.0	9.6	13	16	18	20	20	20	20	20
5RK60GU-AFUL	5GU□KA	7.8	9.4	13	16	20	23	29	35	42	53	64	76	106	127	142	171	174	174	174	174
	5GU□KA	0.9	1.1	1.5	1.8	2.2	2.7	3.4	4.1	4.9	6.1	7.3	8.8	12	15.0	16	20	20	20	20	20

Single-Phase 230V 50Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	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
5RK60GU-CWE 5RK60GU-CWTE	5GU□KA	10	12	17	21	26	31	39	47	56	70	84	101	140	168	174	174	174	174	174	174
	5GU□KA	1.2	1.4	2	2.4	3	3.6	4.5	5.4	6.4	8.1	9.7	12	16	19	20	20	20	20	20	20

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation 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.

■ Dimensions Scale 1/4, Unit = inch (mm)

① 5RK60GU-AWU

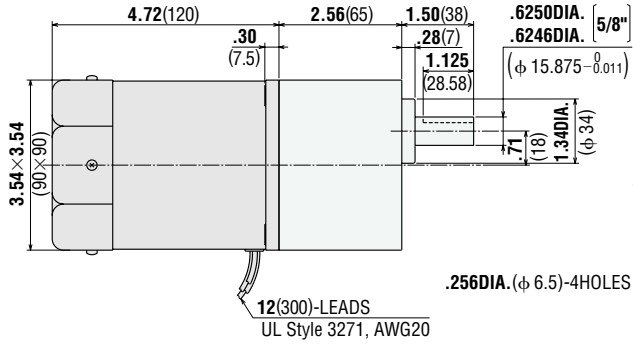
5RK60GU-CWE

5RK60GU-AFUL

Weight (Mass): 6.0 lb.(2.7 kg)

5GU□KA

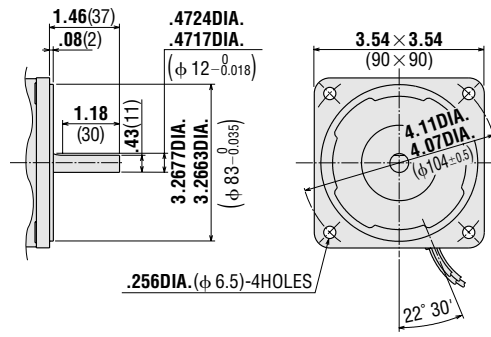
Weight (Mass): 3.3 lb.(1.5 kg)



5RK60A-AWU

5RK60A-CWE Round Shaft Type

Weight (Mass): 6.0 lb.(2.7 kg)



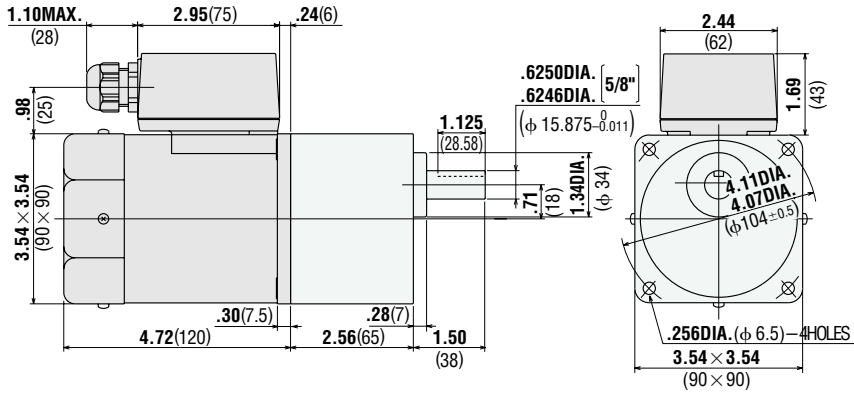
② 5RK60GU-AWTU

5RK60GU-CWTE

Weight (Mass): 6.2 lb.(2.8 kg)

5GU□KA

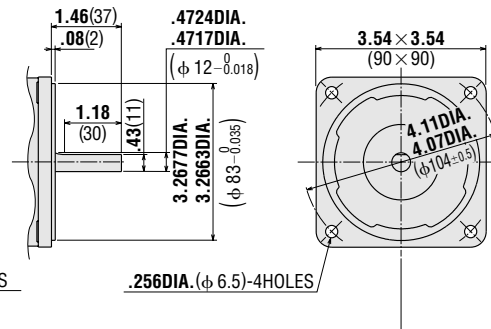
Weight (Mass): 3.3 lb.(1.5 kg)



5RK60A-AWTU

5RK60A-CWTE Round Shaft Type

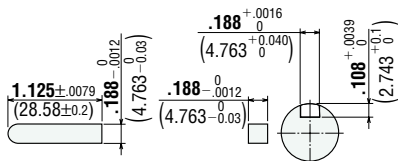
Weight (Mass): 6.2 lb.(2.8 kg)



Use cable with the diameter of .24DIA.(φ 6)~.47DIA.(φ 12).

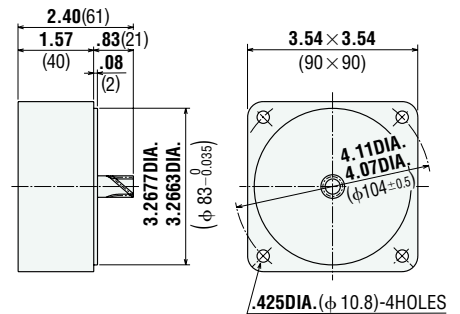
● Key and Key Slot Scale 1/2

(The key is provided with the gearhead)

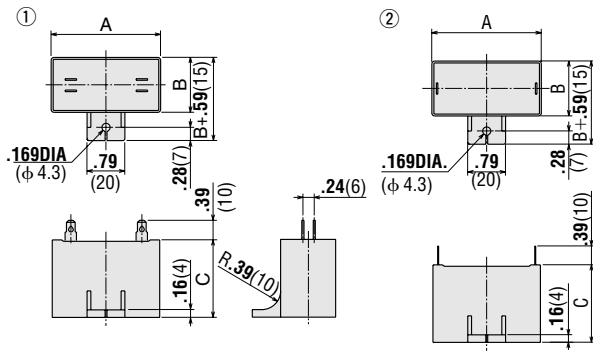


● Decimal Gearhead

5GU10XKB Weight (Mass): 1.32 lb.(0.6 kg)



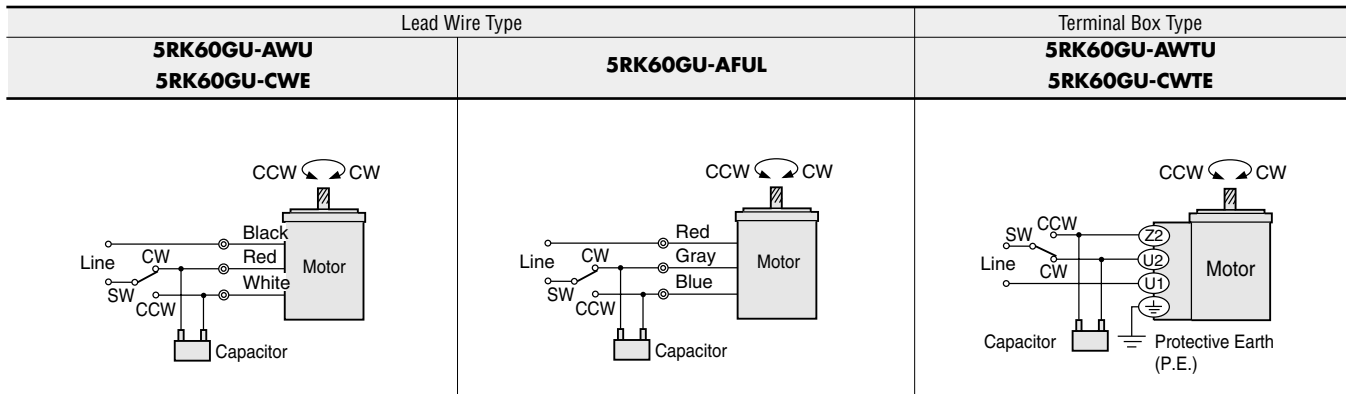
● **Capacitor** (included with the motor)



Motor Model	Capacitor Model	Dimensions inch (mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
5RK60GU-AW(T)U	CH200CFAUL	2.28	1.14	1.61	3.35 (95)	①
5RK60A-AW(T)U		(58)	(29)	(41)		
5RK60GU-CW(T)U	CH50BFAUL	2.28	1.14	1.61	3.00 (85)	①
5RK60A-CW(T)U		(58)	(29)	(41)		
5RK60GU-AFUL	CH200UL	2.28	0.91	1.46	2.68 (76)	②

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

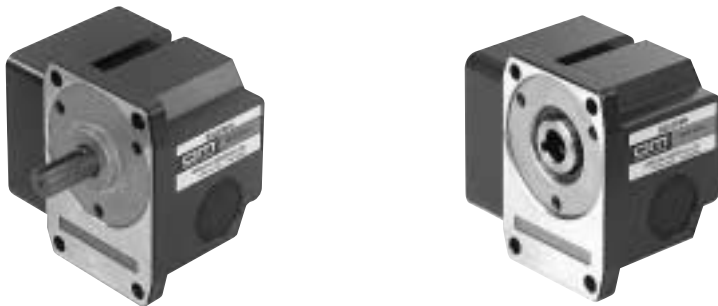
■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise(CW)direction, flip switch SW to CW.
 To rotate it in a counterclockwise(CCW)direction, flip switch SW to CCW.

■ **Right-Angle Gearheads**

The right-angle gearhead provides an output shaft that is at a right angle to the motor's output shaft. See page [A-216] for specifications and other information.



■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.
 Model name **SOLSUA**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.





REVERSIBLE MOTORS

Single-Phase

90W (1/8 HP)

Frame Size 3.54 in.sq. (90mm sq.)



Specifications — 30 Minutes Rating



Model		Output Power	Voltage	Frequency	Current	Starting Torque		Rated Torque		Rated Speed	Capacitor								
Upper Model Name: Pinion Shaft Type	Lower Model Name(): Round Shaft Type					oz-in	mN·m	oz-in	mN·m			r/min.	μF						
Lead Wire Type Dimension ①	Terminal Box Type Dimension ②	HP	W	V AC	Hz	A	oz-in	mN·m	oz-in	mN·m	r/min.	μF							
UL	5RK90GU-AWU (5RK90A-AWU)	1/8	90	110	60	1.81	81.9	590	81.2	585	1500	30							
	5RK90GU-AWTU (5RK90A-AWTU)			115															
UL	5RK90GU-CWE (5RK90A-CWE)	1/8	90	220	60	0.96	81.9	590	84.0	605	1450	7							
				230									50	0.82	83.3	600	101	730	1200
				230									60	0.96	81.9	590	84.0	605	1450
CE	5RK90GU-AFUL	—	—	115	60	1.60	81.9	590	79.2	570	1550	25							

- Values shown for starting torque and rated torque are measured for operation without the brake applied.
- The product contains a built-in thermal protector. When 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.
- The "U" and "E" at the end of the model name indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate. When the motor is approved under various safety standards, the nameplate is adopted.

Gearmotor—Torque Table

The permissible torque with decimal gearhead with a gear ratio of 10:1 is 174 lb-in (20N·m).

• Right-Angle gearhead may be connected. See page [A-216] for more information.

Single-Phase 115V/230V 60Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	Gear Ratio																			
		600	500	360	300	240	200	144	120	100	72	60	50	36	30	24	20	18	15	12	10
5RK90GU-AWU / 5RK90GU-AWTU / 5GU□KA	12	15	21	25	31	37	46	56	67	84	100	121	167	174	174	174	174	174	174	174	174
	1.4	1.7	2.4	2.8	3.6	4.3	5.3	6.4	7.7	9.7	12	14	19	20	20	20	20	20	20	20	20
5RK90GU-CWE / 5RK90GU-CWTE / 5GU□KA	13	15	21	26	32	38	48	57	69	87	104	125	173	174	174	174	174	174	174	174	174
	1.5	1.8	2.5	2.9	3.7	4.4	5.5	6.6	7.9	10	12	14	20	20	20	20	20	20	20	20	20
5RK90GU-AFUL / 5GU□KA	12	14	20	24	30	36	45	54	65	82	98	118	163	174	174	174	174	174	174	174	174
	1.4	1.7	2.3	2.8	3.5	4.2	5.2	6.2	7.5	9.4	11	14	19	20	20	20	20	20	20	20	20

Single-Phase 230V 50Hz

Unit=Upper values: lb-in/Lower values: N·m

Model	Speed r/min	Gear Ratio																			
		500	416	300	250	200	166	120	100	83	60	50	41	30	25	20	16	15	12.5	10	8.3
5RK90GU-CWE / 5RK90GU-CWTE / 5GU□KA	15	18	26	31	39	46	58	69	83	104	125	150	174	174	174	174	174	174	174	174	174
	1.8	2.1	3.0	3.5	4.4	5.3	6.7	8.0	9.6	12	14	17	20	20	20	20	20	20	20	20	20

- Gearheads are sold separately.
- Enter the gear ratio in the box (□) within the model number. A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation 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.

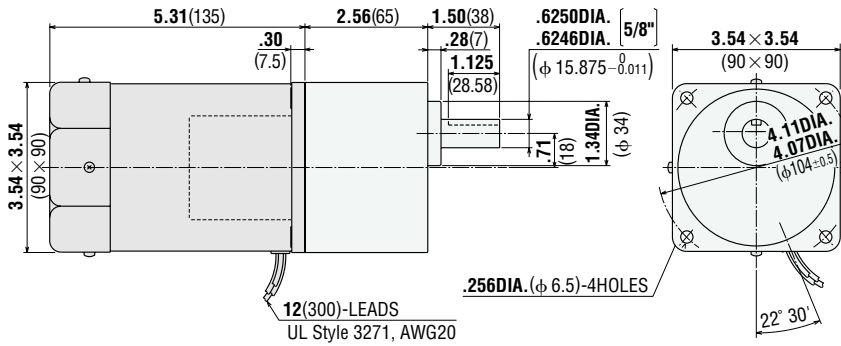
■ Dimensions Scale 1/4, Unit = inch (mm)

① 5RK90GU-AWU 5RK90GU-CWE 5RK90GU-AFUL

Weight (Mass): 7.1 lb.(3.2 kg)

5GU□KA

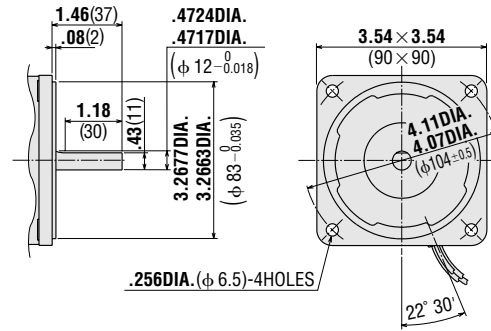
Weight (Mass): 3.3 lb.(1.5 kg)



5RK90A-AWU

5RK90A-CWE Round Shaft Type

Weight (Mass): 7.1 lb.(3.2 kg)

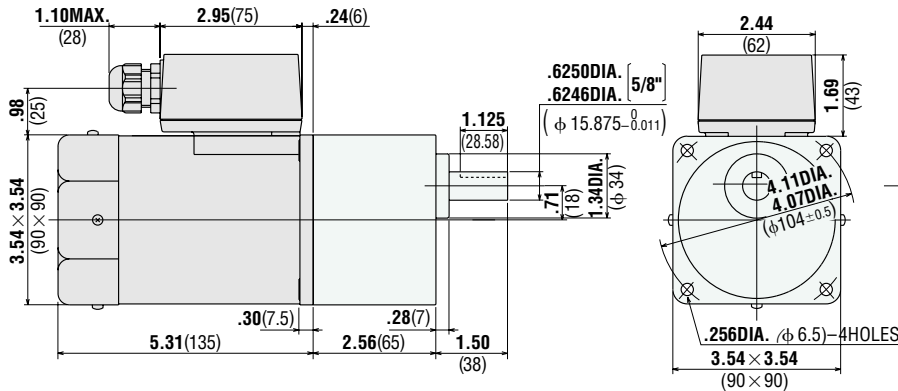


② 5RK90GU-AWTU 5RK90GU-CWTE

Weight (Mass): 7.3 lb.(3.3 kg)

5GU□KA

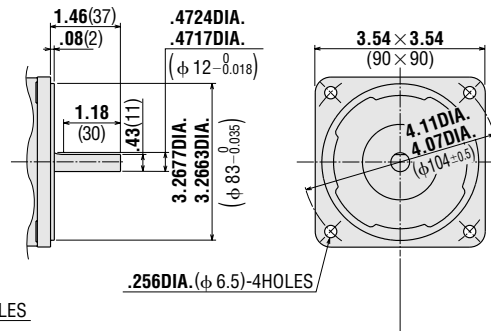
Weight (Mass): 3.3 lb.(1.5 kg)



5RK90A-AWTU

5RK90A-CWTE Round Shaft Type

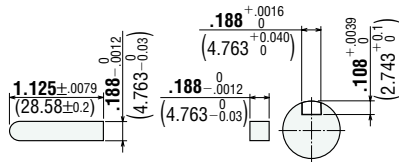
Weight (Mass): 7.3 lb.(3.3 kg)



Use cabtyre cable with the diameter of .24DIA.(φ 6)~.47DIA.(φ 12).

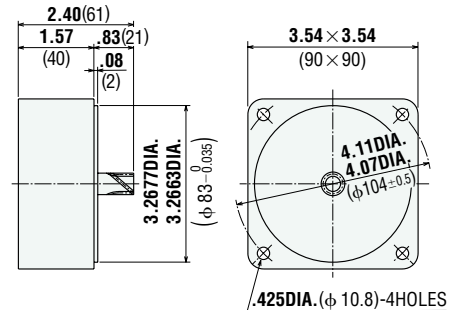
● Key and Key Slot Scale 1/2

(The key is provided with the gearhead)

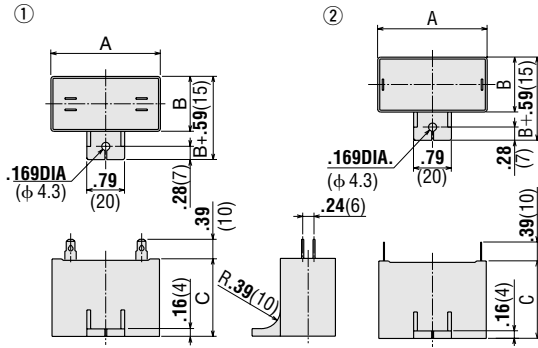


● Decimal Gearhead

5GU10XKB Weight (Mass): 1.32 lb.(0.6 kg)



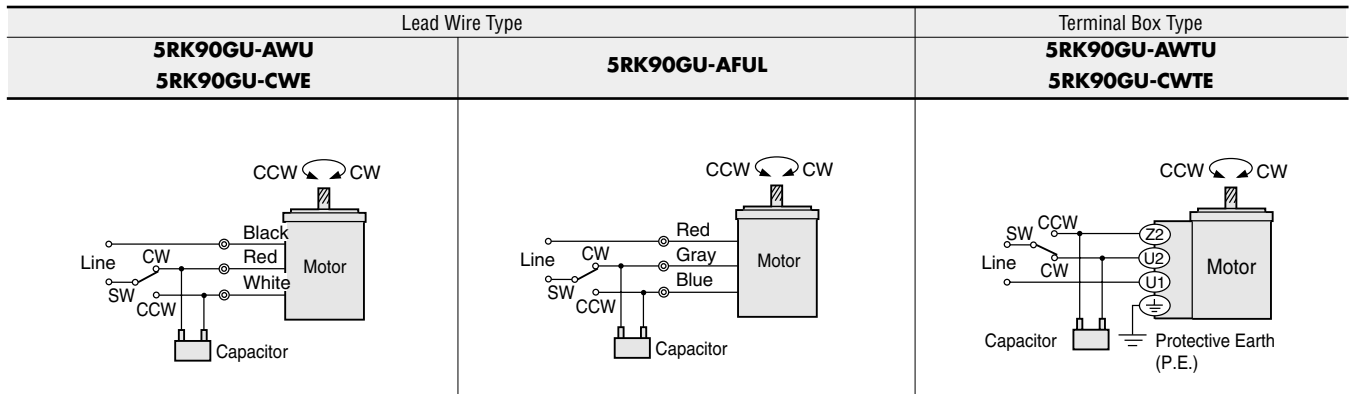
● **Capacitor** (included with the motor)



Motor Model	Capacitor Model	Dimensions inch(mm)			Weight (Mass) oz (g)	Dimension No.
		A	B	C		
5RK90GU-AW(T)U	CH300CFAUL	2.28	1.38	1.97	4.94 (140)	①
5RK90A-AW(T)U		(58)	(35)	(50)		
5RK90GU-CW(T)E	CH70BFAUL	2.28	1.38	1.97	4.59 (130)	①
5RK90A-CW(T)E		(58)	(35)	(50)		
5RK90GU-AFUL	CH250UL	2.28	1.14	1.61	3.42 (97)	②

If you need to order a capacitor without a motor, add "-C" to the capacitor model number shown. A capacitor cap is always included with a capacitor.

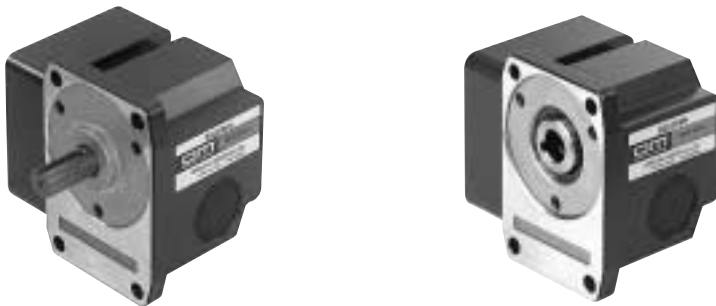
■ **Wiring Diagrams** The direction of motor rotation is as viewed from the shaft end of the motor.



To rotate the motor in a clockwise(CW)direction, flip switch SW to CW.
To rotate it in a counterclockwise(CCW)direction, flip switch SW to CCW.

■ **Right-Angle Gearheads**

The right-angle gearhead provides an output shaft that is at a right angle to the motor's output shaft. See page [A-216] for specifications and other information.



■ **Accessories**

● **Motor Mounting Brackets**

Optional die-cast aluminum mounting brackets are available. They can be used to install motors without gearheads. See page [A-266] for the dimensions.

Model name **SOL5UA**



● **Flexible Couplings**

Optional clamping couplings are available. See page[A-260] for the dimensions.

