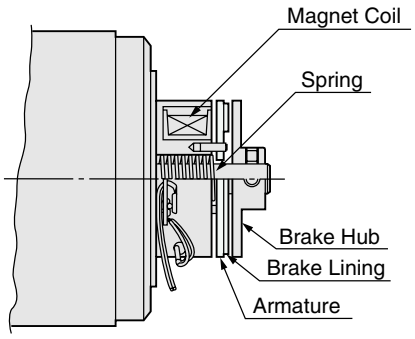
# Electromagnetic Brake Motors

This power off, electromagnetic brake coupled to reversible motors and induction motors (three-phase type) provides output of 6W～90W (three-phase: 25W～90W).
These motors are best suited for applications in which loads must be held.

## Features

●These motors incorporate AC electromagnetic brakes which are activated when the power is shut off.
When the power supply is turned off the motor stops and holds the load. Holding brake force is 4.2 oz-in (30 mN·m) ～ 69.4 oz-in (500 mN·m).
These units are excellent as emergency safety brakes.

## Structure




The figure above indicates an example of the structure of the electromagnetic brake motor.
The electromagnetic brake operates on the basis of a spring which presses the armature against the brake hub, stopping the motor and holding the load. When the electromagnetic brake is excited, it attracts the armature and the brake lining is pulled away from the brake hub. The motor is able to turn freely.

GEAR | LOAD HOLD | SAFETY STD. | AC INPUT

## Safety Standards and CE Marking

### For -AWMU, -CWME, -SWM Type

| Standards | Certification Body | Standards File No. | CE Marking |
|---|---|---|---|
| UL1004<br>UL519 (6W)<br>UL547 (15W~90W) | UL | E64199 (6W)<br>E64197 (15W~90W) | Low Voltage Directive |
| CAN/CSA-C22.2 No.100<br>CAN/CSA-C22.2 No.77 | | | |
| EN60950 | VDE | 114919ÜG (6W)<br>6751ÜG (15W~90W) | |
| | DEMKO | 124234/DK99-00431<br>(Three-phase 90W) | |
| EN60034-1<br>EN60034-5<br>IEC60034-11 | Conform to EN/IEC Standards<br>(EN/IEC certifications are scheduled) | | |

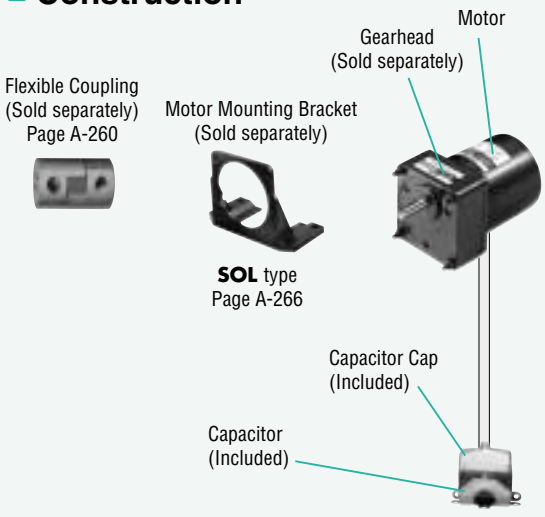
●Recognized name and certified name of each safety standards are motor model name.

### For -AMUL Type

| Standards | Certification Body | Standards File No. | CE Marking |
|---|---|---|---|
| UL1004<br>UL519 (6W)<br>UL547 (15W~90W) | UL | E64199 (6W)<br>E64197 (15W~90W) | Low Voltage Directive |
| CAN/CSA-C22.2 No.100<br>CAN/CSA-C22.2 No.77 | CSA | LR47296 | |
| EN60950 | VDE | 5875ÜG (6W)<br>5872ÜG (15, 25W)<br>5873ÜG (40W)<br>5874ÜG (60, 90W) | |

●For installation condition for EN/IEC standards, see page D-2.

## Construction



## ■ Product Number Code

**4RK25GN - AW M U**

- **Output Power** — Example **25**: 25W
- **Motor Series** — **K**: K series
- **Motor Type** — **I**: Induction motor; **R**: Reversible motor
- **Motor Frame Size** — **2**: 2.36 in. (60 mm sq.); **3**: 2.76 in. (70 mm sq.); **4**: 3.15 in. (80 mm sq.); **5**: 3.54 in. (90 mm sq.)
- **Motor Shaft Type** — **GN**: **GN** type (for use with **GN** type gearhead); **GU**: **GU** type (for use with **GU** type gearhead); **A**: Round shaft
- Voltage — **AW**: Single-Phase 100V/110V/115VAC, 4 Poles; **CW**: Single-Phase 200V/220V/230VAC, 4 Poles; **SW**: Three-Phase 200V/220V/230VAC, 4 Poles
- **M**: Electromagnetic Brake
- Provided Capacitor — **U**: 110V/115VAC; **E**: 220V/230VAC; **None**: Three-Phase type

Note : The "**U**" and "**E**" at the end of the model number indicate that the unit includes a capacitor. These two letters are not listed on the motor nameplate.

### ● Gearhead

**4 GN 50 KA**

- **Gearhead Frame Size** — **2**: 2.36 in. sq. (60 mm sq.); **3**: 2.76 in. sq. (70 mm sq.); **4**: 3.15 in. sq.(80 mm sq.); **5**: 3.54 in. sq. (90 mm sq.)
- **Gearhead Type** — **GN**: **GN** type (for use with **GN** type pinion shaft motor); **GU**: **GU** type (for use with **GU** type pinion shaft motor)
- **Gear Ratio** — Example **50**: Gear ratio of 50:1; **10X** denotes the decimal gearhead of gear ratio 10:1
- **Type of bearings or shaft direction.** — **KA**: Ball bearing type (inch size); **RAA**: Right angle gearhead (inch size); **RH**: Hollow shaft type

Note :
- The **GU** type includes two types of model number: box-shaped models with a "**B**" at the end of their model number and models with mounting flanges with nothing at the end of their model number. All other series consist of box-shaped models only and have nothing at the end of their model number.
- See page 56 for data regarding inch size gearheads shafts.

### ● For -AMUL Type

**4RK25GN - A M UL**

- **Output Power** — Example **25**: 25W
- **Motor Series** — **K**: K series
- **Motor Type** — **R**: Reversible motor
- **Motor Frame Size** — **2**: 2.36 in. (60 mm sq.); **3**: 2.76 in. (70 mm sq.); **4**: 3.15 in. (80 mm sq.); **5**: 3.54 in. (90 mm sq.)
- **Motor Shaft Type** — **GN**: **GN** type (for use with **GN** type gearhead); **GU**: **GU** type (for use with **GU** type gearhead); **A**: Round shaft
- Voltage — **A**: Single-Phase 115VAC, 4 Poles
- **M**: Electromagnetic Brake
- **UL**: UL recognized

## Motor Specifications 30 Minute Rating

| Mode | | Output Power | | Voltage | Frequency | Current | Starting Torque | | Rated Torque | | Rated Speed | Capacitor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pinion Shaft Type | Round Shaft Type | HP | W | VAC | Hz | A | oz-in | mN·m | oz-in | mN·m | r/min | μF |
| (ZP) **2RK6GN-AWMU** | **2RK6A-AWMU** | 1/124 | 6 | Single-Phase 110 | 60 | 0.25 | 6.2 | 45 | 5.7 | 41 | 1450 | 3.5 |
| | | | | Single-Phase 115 | 60 | 0.26 | | | | | | |
| (ZP) **2RK6GN-CWME** | **2RK6A-CWME** | 1/124 | 6 | Single-Phase 220 | 60 | 0.11 | 6.2 | 45 | 5.7 | 41 | 1450 | 0.8 |
| | | | | Single-Phase 230 | 50 | 0.12 | 6.9 | 50 | 6.8 | 49 | 1200 | |
| | | | | Single-Phase 230 | 60 | 0.12 | 6.2 | 45 | 5.7 | 41 | 1450 | |
| (ZP) **2RK6GN-AMUL** | **2RK6A-AMULA** | 1/124 | 6 | Single-Phase 115 | 60 | 0.17 | 6.7 | 48 | 5.3 | 38 | 1550 | 2.3 |
| (TP) **3RK15GN-AWMU** | **3RK15A-AWMU** | 1/50 | 15 | Single-Phase 110 | 60 | 0.42 | 13.9 | 100 | 14.6 | 105 | 1450 | 6 |
| | | | | Single-Phase 115 | 60 | 0.41 | | | | | | |
| (TP) **3RK15GN-AMUL** | **3RK15A-AMULA** | 1/50 | 15 | Single-Phase 115 | 60 | 0.34 | 11.1 | 80 | 13.2 | 95 | 1550 | 4.5 |
| (TP) **4RK25GN-AWMU** | **4RK25A-AWMU** | 1/30 | 25 | Single-Phase 110 | 60 | 0.54 | 19.4 | 140 | 23.6 | 170 | 1450 | 8 |
| | | | | Single-Phase 115 | 60 | | | | | | | |
| (TP) **4RK25GN-CWME** | **4RK25A-CWME** | 1/30 | 25 | Single-Phase 220 | 60 | 0.28 | 19.4 | 140 | 23.6 | 170 | 1450 | 2 |
| | | | | Single-Phase 230 | 50 | 0.26 | 22.2 | 160 | 28.5 | 205 | 1200 | |
| | | | | Single-Phase 230 | 60 | 0.28 | 19.4 | 140 | 23.6 | 170 | 1450 | |
| (TP) **4IK25GN-SWM** | **4IK25A-SWM** | 1/30 | 25 | Three-Phase 200 | 50 | 0.23 | 33.3 | 240 | 26.4 | 190 | 1300 | — |
| | | | | Three-Phase 200 | 60 | 0.21 | 22.2 | 160 | 22.2 | 160 | 1550 | |
| | | | | Three-Phase 220 | 60 | 0.21 | 22.2 | 160 | 22.2 | 160 | 1600 | |
| | | | | Three-Phase 230 | 60 | 0.22 | 22.2 | 160 | 22.2 | 160 | 1600 | |
| (TP) **4RK25GN-AMUL** | **4RK25A-AMULA** | 1/30 | 25 | Single-Phase 115 | 60 | 0.54 | 17.4 | 125 | 22.2 | 160 | 1550 | 7 |
| (TP) **5RK40GN-AWMU** | **5RK40A-AWMU** | 1/18.5 | 40 | Single-Phase 110 | 60 | 0.81 | 36.1 | 260 | 37.5 | 270 | 1450 | 12 |
| | | | | Single-Phase 115 | 60 | | | | | | | |
| (TP) **5RK40GN-CWME** | **5RK40A-CWME** | 1/18.5 | 40 | Single-Phase 220 | 60 | 0.46 | 36.1 | 260 | 36.1 | 260 | 1500 | 3.5 |
| | | | | Single-Phase 230 | 50 | 0.4 | 37.5 | 270 | 43.7 | 315 | 1250 | |
| | | | | Single-Phase 230 | 60 | 0.46 | 36.1 | 260 | 36.1 | 260 | 1500 | |
| (TP) **5IK40GN-SWM** | **5IK40A-SWM** | 1/18.5 | 40 | Three-Phase 200 | 50 | 0.32 | 55.5 | 400 | 41.7 | 300 | 1300 | — |
| | | | | Three-Phase 200 | 60 | 0.3 | 36.1 | 260 | 36.1 | 260 | 1550 | |
| | | | | Three-Phase 220 | 60 | 0.3 | 36.1 | 260 | 36.1 | 260 | 1600 | |
| | | | | Three-Phase 230 | 60 | 0.31 | 36.1 | 260 | 36.1 | 260 | 1600 | |
| (TP) **5RK40GN-AMUL** | **5RK40A-AMULA** | 1/18.5 | 40 | Single-Phase 115 | 60 | 0.81 | 34.7 | 250 | 36.1 | 260 | 1550 | 12 |
| (TP) **5RK60GU-AWMU** | **5RK60A-AWMU** | 1/12.5 | 60 | Single-Phase 110 | 60 | 1.24 | 52.8 | 380 | 56.2 | 405 | 1450 | 20 |
| | | | | Single-Phase 115 | 60 | | | | | | | |
| (TP) **5RK60GU-CWME** | **5RK60A-CWME** | 1/12.5 | 60 | Single-Phase 220 | 60 | 0.67 | 52.8 | 380 | 56.2 | 405 | 1450 | 5 |
| | | | | Single-Phase 230 | 50 | 0.61 | 65.3 | 470 | 68 | 490 | 1200 | |
| | | | | Single-Phase 230 | 60 | 0.67 | 52.8 | 380 | 56.2 | 405 | 1450 | |
| (TP) **5IK60GU-SWM** | **5IK60A-SWM** | 1/12.5 | 60 | Three-Phase 200 | 60 | 0.5 | 83.3 | 600 | 62.5 | 450 | 1300 | — |
| | | | | Three-Phase 200 | 60 | 0.43 | 69.4 | 500 | 52.8 | 380 | 1550 | |
| | | | | Three-Phase 220 | 60 | 0.45 | 69.4 | 500 | 52.8 | 380 | 1600 | |
| | | | | Three-Phase 230 | 60 | 0.46 | 69.4 | 500 | 52.8 | 380 | 1600 | |
| (TP) **5RK60GU-AMUL** | **5RK60A-AMUL** | 1/12.5 | 60 | Single-Phase 115 | 60 | 1.2 | 54.2 | 390 | 52.8 | 380 | 1550 | 20 |
| (TP) **5RK90GU-AWMU** | **5RK90A-AWMU** | 1/8 | 90 | Single-Phase 110 | 60 | 1.81 | 81.9 | 590 | 81.2 | 585 | 1500 | 30 |
| | | | | Single-Phase 115 | 60 | | | | | | | |
| (TP) **5RK90GU-CWME** | **5RK90A-CWME** | 1/8 | 90 | Single-Phase 220 | 60 | 0.96 | 81.9 | 590 | 84 | 605 | 1450 | 7 |
| | | | | Single-Phase 230 | 50 | 0.82 | 83.3 | 600 | 101 | 730 | 1200 | |
| | | | | Single-Phase 230 | 60 | 0.96 | 81.9 | 590 | 84 | 605 | 1450 | |
| (TP) **5IK90GU-SWM** | **5IK90A-SWM** | 1/8 | 90 | Three-Phase 200 | 50 | 0.64 | 118 | 850 | 94.4 | 680 | 1300 | — |
| | | | | Three-Phase 200 | 60 | 0.59 | 97.2 | 700 | 79.2 | 570 | 1550 | |
| | | | | Three-Phase 220 | 60 | 0.6 | 97.2 | 700 | 79.2 | 570 | 1600 | |
| | | | | Three-Phase 230 | 60 | 0.61 | 97.2 | 700 | 79.2 | 570 | 1600 | |
| (TP) **5RK90GU-AMUL** | **5RK90A-AMUL** | 1/8 | 90 | Single-Phase 115 | 60 | 1.65 | 81.9 | 590 | 79.2 | 570 | 1550 | 25 |

(ZP): These motors are impedance protected.
(TP): These motors 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 number 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.
- A colored background indicates gear shaft rotation in the same direction as the motor shaft; a white background indicates rotation in the opposite direction.

## Motor General Specifications For -AWMU, -CWME, -SWM Type

| Item | Specifications |
|---|---|
| Insulation Resistance | 100M Ω or more when 500V DC is applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity. |
| Dielectric Strength | Sufficient to withstand 1.5kV at 50 and 60 Hz applied between the windings and the frame after rated motor operation under normal ambient temperature and humidity. |
| Temperature Rise | 144°F (80°C) or less measured by the resistance change method after the temperature of 30minute no load operation of motor with connecting a gearhead or equivalent heat radiation plate.* |
| Insulation Class | Class B 266°F (130°C) |
| Overheat Protection Device | **2RK** type is impedance protected.<br>Built-in thermal protector (Automatic return type) 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) Three-Phase 200V : 14°F~122°F (−10°C~+50°C) |
| Ambient Humidity | 85% Maximum (noncondensing) |
| Degree of protection | **2RK**, **3RK**, **4RK**, **4IK**, **5RK40**, **5IK40** type : IP20 **5RK60**, **5IK60**, **5RK90**, **5IK90** type : IP40 |

## Motor General Specifications For -AMUL Type

| Item | Specification |
|---|---|
| Insulation Resistance | 100M Ω or more when 500V DC is applied between the windings and the frame after 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 Device | **2RK** type is impedance protected.<br>Built-in thermal protector (Automatic return type) 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) |

### 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) | |
| **4IK, 4RK** Type (25W) | 5.31×5.31 (135×135) | |
| **5IK40, 5RK40** Type (40W) | 6.50×6.50 (165×165) | |
| **5IK60, 5RK60** Type (60W) | 7.87×7.87 (200×200) | |
| **5IK90, 5RK90** Type (90W) | 7.87×7.87 (200×200) | |

## Electromagnetic Brake Specifications

| Model | Voltage | Frequency | Current | Input | Holding Brake Torque | |
|---|---|---|---|---|---|---|
| | VAC | Hz | A | W | oz-in | mN·m |
| **2RK6GN-AWMU** | Single-Phase 110 | 60 | 0.03 | 3 | 4.2 | 30 |
| **2RK6A-AWMU** | Single-Phase 115 | 60 | 0.03 | 3 | | |
| **2RK6GN-CWME** | Single-Phase 220 | 60 | 0.02 | 3 | 4.2 | 30 |
| **2RK6A-CWME** | Single-Phase 230 | 50 | 0.02 | 3 | 4.2 | 30 |
| | Single-Phase 230 | 60 | 0.02 | 3 | 4.2 | 30 |
| **2RK6GN-AMUL** **2RK6A-AMULA** | Single-Phase 115 | 60 | 0.032 | 2.3 | 4.2 | 30 |
| **3RK15GN-AWMU** | Single-Phase 110 | 60 | 0.06 | 4 | 11.1 | 80 |
| **3RK15A-AWMU** | Single-Phase 115 | 60 | 0.06 | 4 | 11.1 | 80 |
| **3RK15GN-AMUL** **3RK15A-AMULA** | Single-Phase 115 | 60 | 0.046 | 4.2 | 11.1 | 80 |
| **4RK25GN-AWMU** | Single-Phase 110 | 60 | 0.08 | 5 | 13.9 | 100 |
| **4RK25A-AWMU** | Single-Phase 115 | 60 | | 6 | 13.9 | 100 |
| **4RK25GN-CWME** | Single-Phase 220 | 60 | 0.04 | 6 | 13.9 | 100 |
| **4RK25A-CWME** | Single-Phase 230 | 50 | 0.05 | 7 | 13.9 | 100 |
| | Single-Phase 230 | 60 | 0.05 | 6 | 13.9 | 100 |
| **4IK25GN-SWM** | Single-Phase 200 | 50 | 0.04 | 5 | 13.9 | 100 |
| **4IK25A-SWM** | Single-Phase 200 | 60 | 0.04 | 5 | 13.9 | 100 |
| | Single-Phase 220 | 60 | 0.04 | 6 | 13.9 | 100 |
| | Single-Phase 230 | 60 | 0.04 | 6 | 13.9 | 100 |
| **4RK25GN-AMUL** **4RK25A-AMULA** | Single-Phase 115 | 60 | 0.055 | 5.2 | 13.9 | 100 |
| **5RK40GN-AWMU** | Single-Phase 110 | 60 | 0.08 | 6 | 27.8 | 200 |
| **5RK40A-AWMU** | Single-Phase 115 | 60 | 0.09 | 7 | 27.8 | 200 |
| **5RK40GN-CWME** | Single-Phase 220 | 60 | 0.04 | 6 | 27.8 | 200 |
| **5RK40A-CWME** | Single-Phase 230 | 50 | 0.04 | 6 | 27.8 | 200 |
| | Single-Phase 230 | 60 | 0.04 | 6 | 27.8 | 200 |

| Model | Voltage | Frequency | Current | Input | Holding Brake Torque | |
|---|---|---|---|---|---|---|
| | VAC | Hz | A | W | oz-in | mN·m |
| **5IK40GN-SWM** | Single-Phase 200 | 50 | 0.04 | 5 | 27.8 | 200 |
| **5IK40A-SWM** | Single-Phase 200 | 60 | 0.04 | 5 | 27.8 | 200 |
| | Single-Phase 220 | 60 | 0.04 | 6 | 27.8 | 200 |
| | Single-Phase 230 | 60 | 0.04 | 6 | 27.8 | 200 |
| **5RK40GU-AMUL** **5RK40A-AMULA** | Single-Phase 115 | 60 | 0.053 | 5.7 | 27.7 | 200 |
| **5RK60GU-AWMU** | Single-Phase 110 | 60 | 0.12 | 9 | 69.4 | 500 |
| **5RK60A-AWMU** | Single-Phase 115 | 60 | 0.12 | 9 | | |
| **5RK60GU-CWME** | Single-Phase 220 | 60 | 0.06 | 8 | 69.4 | 500 |
| **5RK60A-CWME** | Single-Phase 230 | 50 | 0.06 | 9 | 69.4 | 500 |
| | Single-Phase 230 | 60 | 0.06 | 9 | 69.4 | 500 |
| **5IK60GU-SWM** | Single-Phase 200 | 50 | 0.05 | 7 | 69.4 | 500 |
| **5IK60A-SWM** | Single-Phase 200 | 60 | 0.05 | 7 | 69.4 | 500 |
| | Single-Phase 220 | 60 | 0.06 | 8 | 69.4 | 500 |
| | Single-Phase 230 | 60 | 0.06 | 9 | 69.4 | 500 |
| **5RK60GU-AMUL** **5RK60A-AMULA** | Single-Phase 115 | 60 | 0.064 | 6.7 | 69.4 | 500 |
| **5RK90GU-AWMU** | Single-Phase 110 | 60 | 0.12 | 9 | 69.4 | 500 |
| **5RK90A-AWMU** | Single-Phase 115 | 60 | 0.12 | 9 | 69.4 | 500 |
| **5RK90GU-CWME** | Single-Phase 220 | 60 | 0.06 | 8 | 69.4 | 500 |
| **5RK90A-CWME** | Single-Phase 230 | 50 | 0.06 | 9 | 69.4 | 500 |
| | Single-Phase 230 | 60 | 0.06 | 9 | 69.4 | 500 |
| **5IK90GU-SWM** | Single-Phase 200 | 50 | 0.05 | 7 | 69.4 | 500 |
| **5IK90A-SWM** | Single-Phase 200 | 60 | 0.05 | 7 | 69.4 | 500 |
| | Single-Phase 220 | 60 | 0.06 | 8 | 69.4 | 500 |
| | Single-Phase 230 | 60 | 0.06 | 9 | 69.4 | 500 |
| **5RK90GU-AMUL** **5RK90A-AMUL** | Single-Phase 115 | 60 | 0.064 | 6.7 | 69.4 | 500 |

# Gearmotor — Torque Table

●The permissible torque with decimal gearhead with a gear radio of 10 is : **2GN □ KA**: 26 lb-in / 3N·m **3GN □ KA**: 43 lb-in / 5N·m
**4GN □ KA**: 69 lb-in / 8N·m (for 1/25~1/36: 52 lb-in / 6N·m)
**5GN □ KA**: 87 lb-in / 10N·m **5GU □ KA**: 174 lb-in / 20N·m

●Single-Phase 115/230V, Three-Phase 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-AWMU / 2GN□KA** | 0.87 | 1 | 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 |
| | 0.1 | 0.12 | 0.17 | 0.2 | 0.25 | 0.3 | 0.42 | 0.5 | 0.6 | 0.75 | 0.9 | 1.1 | 1.4 | 1.6 | 2 | 2.4 | 2.7 | 3 | 3 | 3 |
| **2RK6GN-CWME / 2GN□KA** | 0.87 | 1 | 0.4 | 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 |
| | 0.1 | 0.12 | 0.17 | 0.2 | 0.25 | 0.3 | 0.42 | 0.5 | 0.6 | 0.75 | 0.9 | 1.1 | 1.4 | 1.6 | 2 | 2.4 | 2.7 | 3 | 3 | 3 |
| **2RK6GN-AMUL / 2GN□KA** | 0.8 | 0.97 | 1.3 | 1.6 | 2 | 2.4 | 3.4 | 4 | 4.8 | 6 | 7.3 | 8.7 | 11 | 13 | 16 | 20 | 22 | 26 | 26 | 26 |
| | 0.092 | 0.11 | 0.15 | 0.18 | 0.23 | 0.28 | 0.38 | 0.46 | 0.55 | 0.69 | 0.83 | 1 | 1.3 | 1.5 | 1.9 | 2.3 | 2.5 | 3 | 3 | 3 |
| **3RK15GN-AWMU / 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 |
| | 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 |
| **3RK15GN-AMUL / 3GN□KA** | 2 | 2.4 | 3.3 | 4 | 5 | 6 | 8.4 | 10 | 12 | 15 | 18 | 22 | 27 | 33 | 41 | 43 | 43 | 43 | 43 | 43 |
| | 0.23 | 0.28 | 0.38 | 0.46 | 0.58 | 0.69 | 0.96 | 1.2 | 1..4 | 1.7 | 2.1 | 2.5 | 3.1 | 3.8 | 4.7 | 5 | 5 | 5 | 5 | 5 |
| **4RK25GN-AWMU / 4GN□KA** | 3.6 | 4.3 | 6 | 7.2 | 9 | 11 | 15 | 18 | 22 | 27 | 32 | 39 | 49 | 58 | 69 | 69 | 69 | 69 | 69 | 69 |
| | 0.41 | 0.5 | 0.69 | 0.83 | 1 | 1.2 | 1.7 | 2.1 | 2.5 | 3.1 | 3.7 | 4.5 | 5.6 | 6.7 | 8 | 8 | 8 | 8 | 8 | 8 |
| **4RK25GN-CWME / 4GN□KA** | 3.6 | 4.3 | 6 | 7.2 | 9 | 11 | 15 | 18 | 22 | 27 | 32 | 39 | 49 | 58 | 69 | 69 | 69 | 69 | 69 | 69 |
| | 0.41 | 0.5 | 0.69 | 0.83 | 1 | 1.2 | 1.7 | 2.1 | 2.5 | 3.1 | 3.7 | 4.5 | 5.6 | 6.7 | 8 | 8 | 8 | 8 | 8 | 8 |
| **4IK25GN-SWM / 4GN□KA** | 3.4 | 4 | 5.6 | 6.7 | 8.4 | 10 | 14 | 17 | 20 | 25 | 30 | 36 | 46 | 55 | 69 | 69 | 69 | 69 | 69 | 69 |
| | 0.39 | 0.47 | 0.65 | 0.78 | 0.97 | 1.2 | 1.6 | 1.9 | 2.3 | 2.9 | 3.5 | 4.2 | 5.3 | 6.3 | 7.9 | 8 | 8 | 8 | 8 | 8 |
| **4RK25GN-AMUL / 4GN□KA** | 3.4 | 4 | 5.6 | 6.7 | 8.4 | 10 | 14 | 17 | 20 | 25 | 30 | 36 | 46 | 55 | 69 | 69 | 69 | 69 | 69 | 69 |
| | 0.39 | 0.47 | 0.65 | 0.78 | 0.97 | 1.2 | 1.6 | 1.9 | 2.3 | 2.9 | 3.5 | 4.2 | 5.3 | 6.3 | 7.9 | 8 | 8 | 8 | 8 | 8 |
| **5RK40GN-AWMU / 5GN□KA** | 5.7 | 6.8 | 9.5 | 11 | 14 | 17 | 24 | 28 | 34 | 43 | 51 | 62 | 77 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| | 0.66 | 0.79 | 1.1 | 1.3 | 1.6 | 2 | 2.7 | 3.3 | 3.9 | 4.9 | 5.9 | 7.1 | 8.9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| **5RK40GN-CWME / 5GN□KA** | 5.5 | 6.6 | 9.1 | 11 | 14 | 16 | 23 | 27 | 33 | 41 | 49 | 59 | 74 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| | 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 |
| **5IK40GN-SWM / 5GN□KA** | 5.5 | 6.6 | 9.1 | 11 | 14 | 16 | 23 | 27 | 33 | 41 | 49 | 59 | 74 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| | 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-AMUL / 5GN□KA** | 5.5 | 6.6 | 9.1 | 11 | 14 | 16 | 23 | 27 | 33 | 41 | 49 | 59 | 74 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| | 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 |
| **5RK60GU-AWMU / 5GU□KA** | 8.5 | 10 | 14 | 17 | 21 | 26 | 32 | 38 | 46 | 58 | 70 | 83 | 116 | 139 | 155 | 174 | 174 | 174 | 174 | 174 |
| | 0.98 | 1.2 | 1.6 | 2 | 2.5 | 3 | 3.7 | 4.4 | 5.3 | 6.7 | 8 | 9.6 | 13 | 16 | 18 | 20 | 20 | 20 | 20 | 20 |
| **5RK60GU-CWME / 5GU□KA** | 8.5 | 10 | 14 | 17 | 21 | 26 | 32 | 38 | 46 | 58 | 70 | 83 | 116 | 139 | 155 | 174 | 174 | 174 | 174 | 174 |
| | 0.98 | 1.2 | 1.6 | 2 | 2.5 | 3 | 3.7 | 4.4 | 5.3 | 6.7 | 8 | 9.6 | 13 | 16 | 18 | 20 | 20 | 20 | 20 | 20 |
| **5IK60GU-SWM / 5GU□KA** | 8 | 9.6 | 13 | 16 | 20 | 24 | 30 | 36 | 43 | 54 | 65 | 78 | 109 | 131 | 146 | 174 | 174 | 174 | 174 | 174 |
| | 0.92 | 1.1 | 1.5 | 1.8 | 2.3 | 2.8 | 3.5 | 4.2 | 5 | 6.3 | 7.5 | 9 | 13 | 15 | 17 | 20 | 20 | 20 | 20 | 20 |
| **5RK60GU-AMUL / 5GU□KA** | 8 | 9.6 | 13 | 16 | 20 | 24 | 30 | 36 | 43 | 54 | 65 | 78 | 109 | 131 | 146 | 174 | 174 | 174 | 174 | 174 |
| | 0.92 | 1.1 | 1.5 | 1.8 | 2.3 | 2.8 | 3.5 | 4.2 | 5 | 6.3 | 7.5 | 9 | 13 | 15 | 17 | 20 | 20 | 20 | 20 | 20 |
| **5RK90GU-AWMU / 5GU□KA** | 12 | 15 | 21 | 25 | 31 | 37 | 46 | 56 | 67 | 84 | 100 | 121 | 167 | 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 |
| **5RK90GU-CWME / 5GU□KA** | 13 | 15 | 21 | 26 | 32 | 38 | 48 | 57 | 69 | 87 | 104 | 125 | 173 | 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 |
| **5IK90GU-SWM / 5GU□KA** | 12 | 14 | 20 | 24 | 30 | 36 | 45 | 54 | 65 | 82 | 98 | 118 | 163 | 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 |
| **5RK90GU-AMUL/ 5GU□KA** | 12 | 14 | 20 | 24 | 30 | 36 | 45 | 54 | 65 | 82 | 98 | 118 | 163 | 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 |

●Single-Phase 230V 50Hz

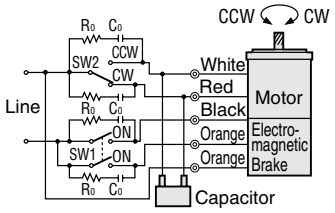
Unit = Upper values: lb-in/Lower values: N·m

| 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-CWME / 2GN□KA** | 1 | 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 | 0.2 | 0.24 | 0.3 | 0.36 | 0.5 | 0.6 | 0.71 | 0.89 | 1.1 | 1.3 | 1.6 | 1.9 | 2.4 | 2.9 | 3 | 3 | 3 | 3 |
| **4RK25GN-CWME / 4GN□KA** | 4.3 | 5.2 | 7.2 | 8.7 | 11 | 13 | 18 | 22 | 26 | 33 | 39 | 47 | 59 | 69 | 69 | 69 | 69 | 69 | 69 | 69 |
| | 0.5 | 0.6 | 0.83 | 1 | 1.2 | 1.5 | 2.1 | 2.5 | 3 | 3.7 | 4.5 | 5.4 | 6.8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| **5RK40GN-CWME / 5GN□KA** | 6.6 | 8 | 11 | 13 | 17 | 20 | 28 | 33 | 40 | 50 | 60 | 72 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| | 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 |
| **5RK60GU-CWME / 5GU□KA** | 10 | 12 | 17 | 21 | 26 | 31 | 39 | 47 | 56 | 70 | 84 | 101 | 140 | 168 | 174 | 174 | 174 | 174 | 174 | 174 |
| | 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 |
| **5RK90GU-CWME / 5GU□KA** | 15 | 18 | 26 | 31 | 38 | 46 | 58 | 69 | 83 | 104 | 125 | 150 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 |
| | 1.8 | 2.1 | 3 | 3.5 | 4.4 | 5.3 | 6.7 | 8 | 9.6 | 12 | 14 | 17 | 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 (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.
●Right-Angle gearheads may be connected to 25W, 40W, 60W and 90W motors.
●See page A-19 for more information regarding the use of gearheads, maximum permissible torque, permissible overhung load and permissible thrust load.

## ■ Wiring Diagrams

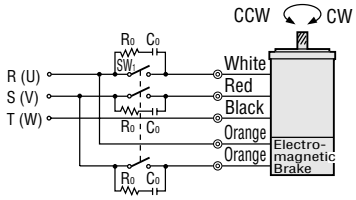
**2RK6GN-AWMU**
**2RK6GN-CWME**
**3RK15GN-AWMU**
**4RK25GN-AWMU**
**4RK25GN-CWME**
**5RK40GN-AWMU**
**5RK40GN-CWME**
**5RK60GU-AWMU**
**5RK60GU-CWME**
**5RK90GU-AWMU**
**5RK90GU-CWME**




| SW No. | Specifications of Switches | | Note |
|---|---|---|---|
| | Single-Phase 110VAC<br>Single-Phase 115VAC | Single-Phase 220VAC<br>Single-Phase 230VAC | |
| SW1<br>SW2 | 125VAC 3A Min<br>Inductive | 250VAC 1.5A Min<br>Inductive | Single-pole-double<br>-throw switch |
| Ro. Co<br>Surge absorber | Ro=5~200Ω<br>Co=0.1~0.2μF<br>200WV | | Accessories<br>**EPCR1201-2** |

**Run/Stop**: SW1 operates motor and electromagnetic brake action. Motor will rotate when SW1 is switched to ON (short circuit).
When SW1 is switched to OFF (open), the motor is stopped immediately by the electromagnetic brake and holds the load.
If you wish to release the brake while the motor is stopped, apply voltage between only two brake lead wires (orange). The electromagnetic brake is released and the motor shaft can be rotated easily by hand.
**Direction of Rotation**: To rotate the motor in a clockwise (CW) direction, switch SW2 to CW. To rotate it in a counterclockwise (CCW) direction, switch SW2 to CCW.
Direction of motor rotation are shown when the motor is viewed from the shaft end of the motor.

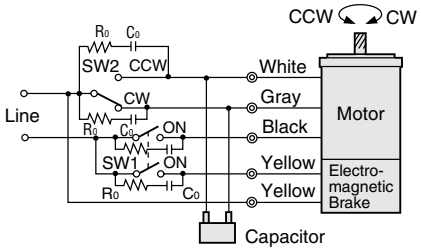
**4IK25GN-SWM**
**5IK40GN-SWM**
**5IK60GU-SWM**
**5IK90GU-SWM**



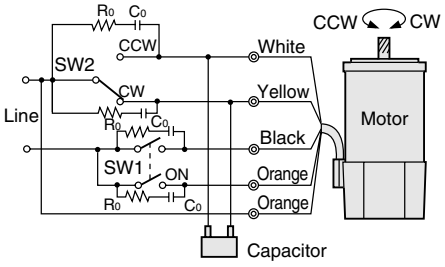

| SW No. | Specifications of Switch | Note |
|---|---|---|
| SW1 | 250VAC 5A Min<br>Inductive | Single-pole-double<br>-throw switch |
| Ro. Co<br>Surge absorber | Ro=5~200Ω<br>Co=0.1~0.2μF<br>200WV | Accessories<br>**EPCR1201-2** |

**Run/Stop**: SW1 operates motor and electromagnetic brake action. Motor will rotate when SW1 is switched to ON (short circuit).
When SW1 is switched to OFF (open), the motor is stopped immediately by the electromagnetic brake and holds the load.
If you wish to release the brake while the motor is stopped, apply voltage between only two brake lead wires (orange). The electromagnetic brake is released and the motor shaft can be rotated easily by hand.
**Direction of Rotation**: To change the rotation, change any two connections between U, V and W.

**2RK6GN-AMUL**
**2RK6A-AMULA**
**3RK15GN-AMUL**
**3RK15A-AMULA**
**4RK25GN-AMUL**
**4RK25A-AMULA**
**5RK40GN-AMUL**
**5RK40A-AMULA**




**5RK60GU-AMUL**
**5RK60A-AMUL**
**5RK90GU-AMUL**
**5RK90A-AMUL**




**Run/Stop**
SW1 operates motor and electromagnetic brake action. Motor will rotate when SW1 is switched to ON (short circuit).
When SW1 is switched to OFF (open), the motor is stopped immediately by the electromagnetic brake and holds the load.
If you wish to release the brake while the motor is stopped, apply voltage between only two brake lead wires (orange or yellow). The electromagnetic brake is released and the motor shaft can be rotated easily by hand.

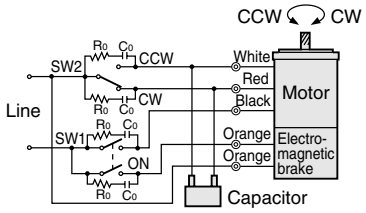
**Direction of Rotation**
To rotate the motor in a clockwise (CW) direction, switch SW2 to CW. To rotate it in a counterclockwise (CCW) direction, switch SW2 to CCW.
Directions of motor rotation are shown when the motor is viewed from the shaft end of the motor.

| SW No. | Specifications of Switch | Note |
|---|---|---|
| SW1 | 125VAC 3A Min (6W~40W)<br>125VAC 5A Min (60W, 90W)<br>Inductive | Single-pole-double<br>-throw switch |
| Ro. Co<br>Surge absorber | Ro=5~200Ω<br>Co=0.1~0.2μF<br>200WV | Accessories<br>**EPCR1201-2** |

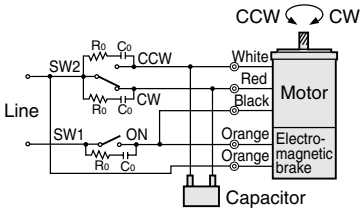
## ■ Variation in braking time according to connection

Connection can be simplified by using the wiring diagram shown in figure ②, rather than the normal wiring shown in figure ①.
Using the connection shown in figure ②, however, results in a 50 msec. increase in braking time over that shown in figure ①, with a corresponding increase in overrun.
The reason for this is that the electromagnetic energy of the motor continues to have an effect on the coil of the electromagnetic brake, so that the electromagnet continues to operate for 50 msec. even though the excitation has been canceled. The brake therefore takes longer to engage.

① **Normal Connection**

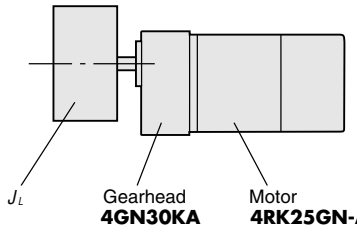



② **Simplified Connection**



## Starting and Braking Characteristics

As an example, we have calculated the motor starting time, braking time and overrun when driving an inertial load ($J_L$= 1375 oz-in$^2$) for the motor **4RK25GN-AMUL** when combined with the gearhead **4GN30KA**.




First, convert load inertia to its corresponding value at the motor shaft.

$$J_M = \frac{J_L}{i^2} = \frac{1375}{30^2} \fallingdotseq 1.5\,[\text{oz-in}^2]$$

$J_L$: Inertia of the load [oz-in$^2$]
$J_M$: Inertia at motor shaft [oz-in$^2$]
$i$ : Gear ratio

### Overrun

The overrun of the motor shaft based on the graph on the next page is:

$N_M \fallingdotseq 2.6$ revolutions

Overrun of gearhead output shaft is:

$$N_G = \frac{N_M}{i} = \frac{2.6}{30} = 0.09 \text{ revolutions } (32°)$$

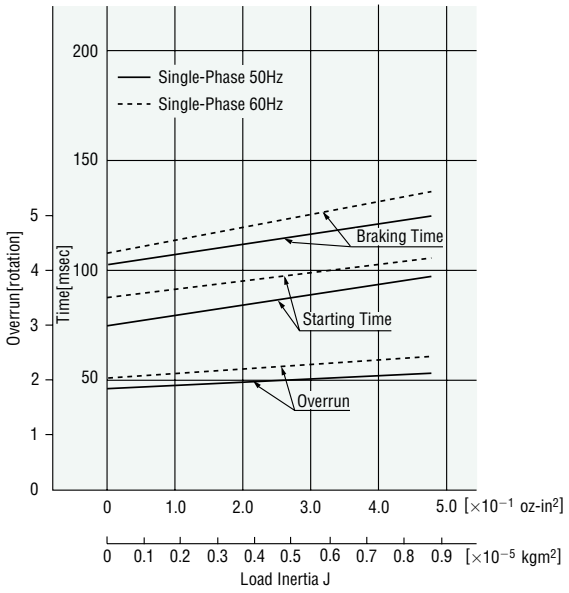
### Starting time and braking time

Using the graph again gives:

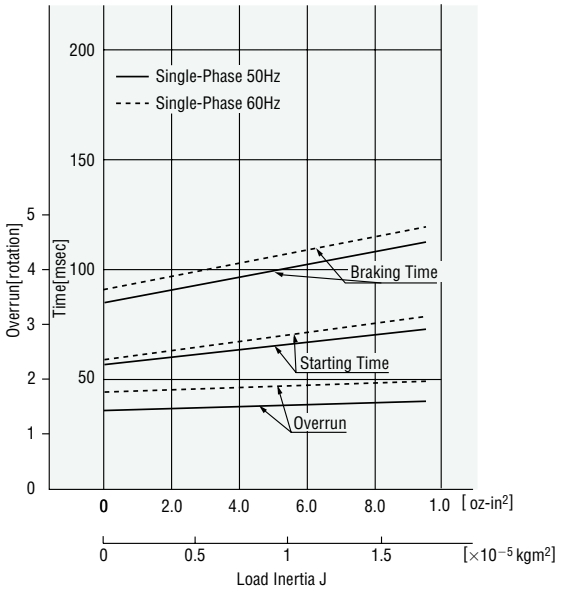
Starting time $t_1 \fallingdotseq 110$ msec
Braking time $t_2 \fallingdotseq 130$ msec

The starting time of an electromagnetic brake motor is equal to the motor starting time plus the electromagnetic brake release time. If the electromagnetic brake is left released, the motor can be started much faster. Optimum time for release of the brake is at least 10 msec. before starting up the motor.

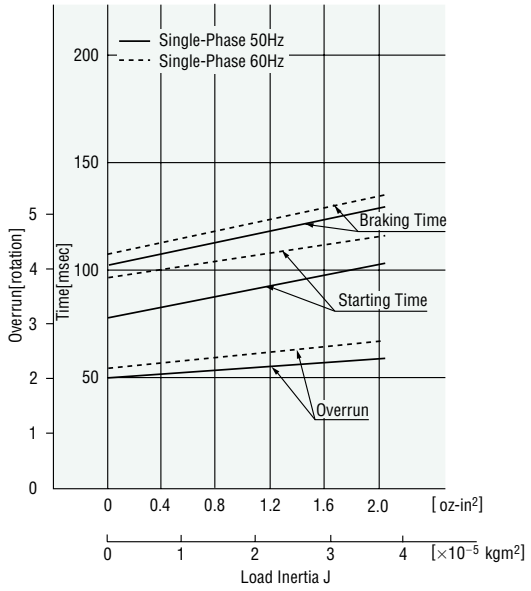
**2RK6GN-AWMU / 2RK6GN-CWME**



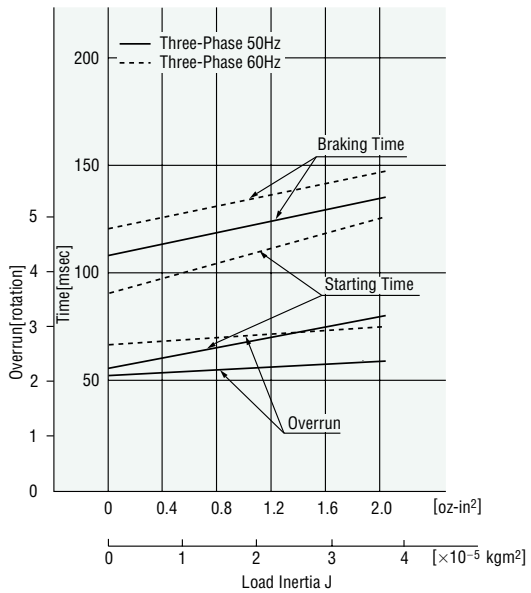

**3RK15GN-AWMU / 3RK15GN-AMUL**



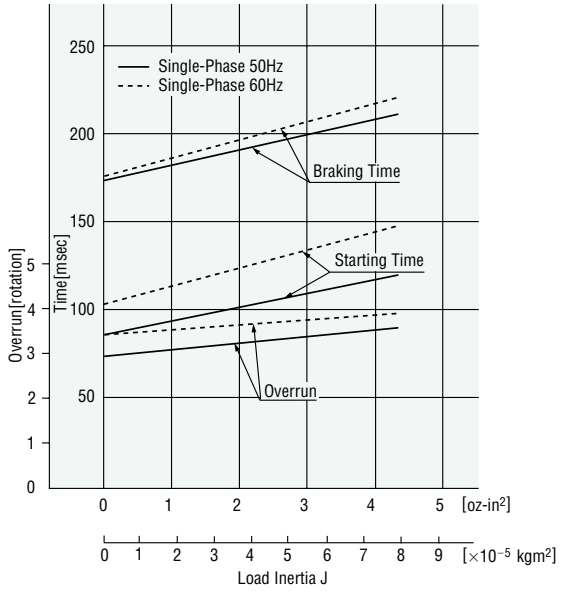

**4RK25GN-AWMU / 4RK25GN-CWME**
**4RK25GN-AMUL**



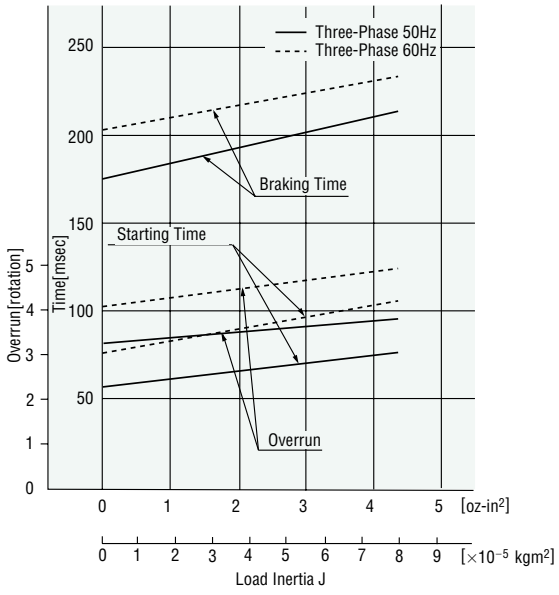

**4IK25GN-SWM**



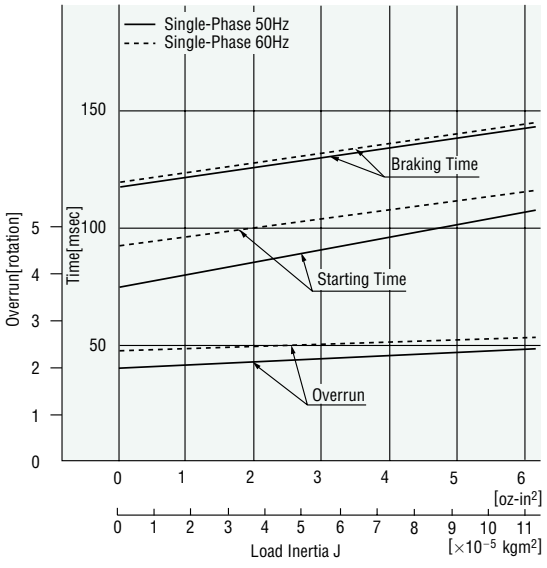
**5RK40GN-AWMU / 5RK40GN-CWME**
**5RK40GN-AMUL**



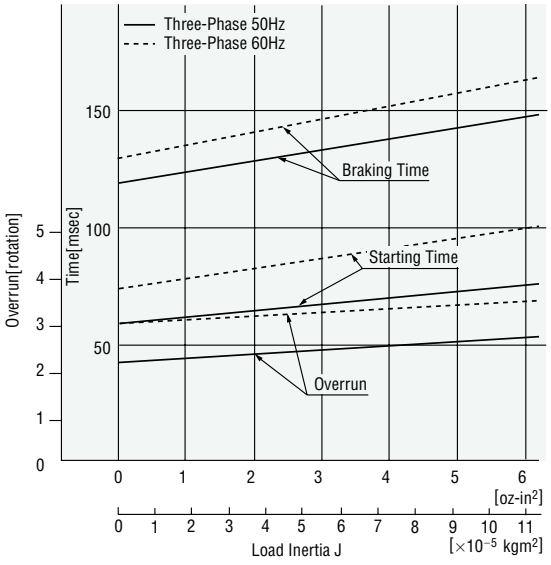

**5IK40GN-SWM**



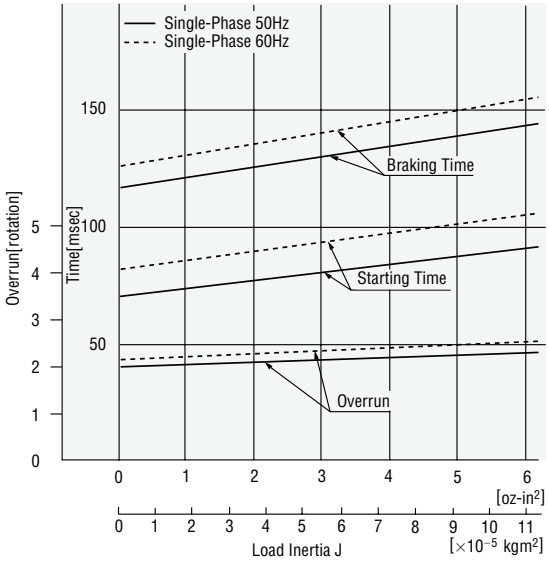

**5RK60GU-AWMU / 5RK60GU-CWME**
**5RK60GU-AMUL**



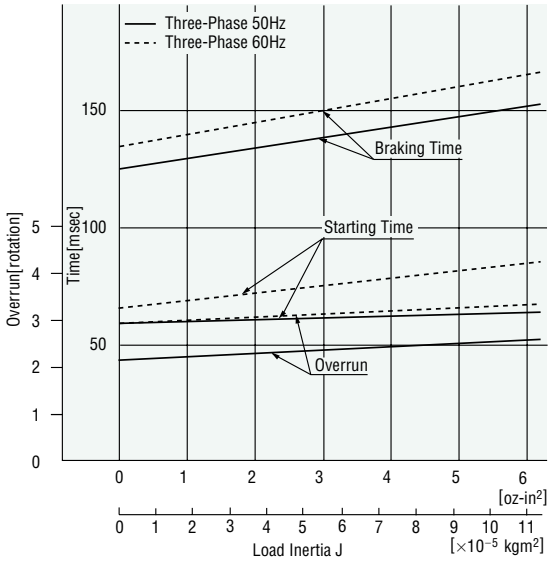

**5IK60GU-SWM**




**5RK90GU-AWMU / 5RK90GU-CWME**
**5RK90GU-AMUL**




**5IK90GU-SWM**



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

**●Motor**

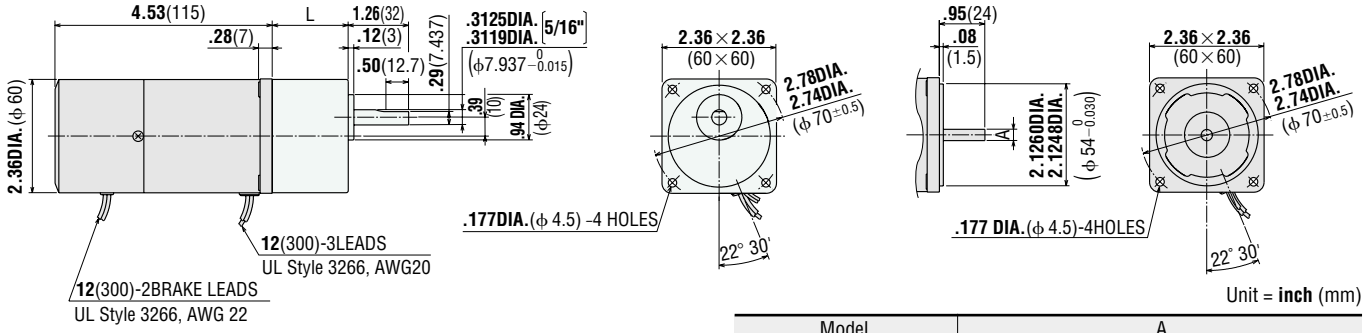
**2RK6GN-AWMU** Weight (Mass): 2.0 lb. (0.9 kg)
**2RK6GN-CWME** Weight (Mass): 2.0 lb. (0.9 kg)
**2RK6GN-AMUL** Weight (Mass): 2.0 lb. (0.9 kg)

**Gearhead**

**2GN□KA**
Weight (Mass): 0.88 lb. (0.4 kg)

**● Round Shaft Type**

**2RK6A-AWMU** Weight (Mass): 2.0 lb. (0.9 kg)
**2RK6A-CWME**
**2RK6A-AMULA** Weight (Mass): 2.0 lb. (0.9 kg)




Unit = **inch** (mm)

| Model | A |
|---|---|
| **2RK6A-AWME**<br>**2RK6A-CWME** | .2362DIA.<br>.2357DIA. (ϕ 6 0 −0.012) |
| **2RK6A-AMULA** | .2500DIA.<br>.2496DIA. **[1/4"]** (ϕ 6.35 0 −0.010) |

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

**●Motor**

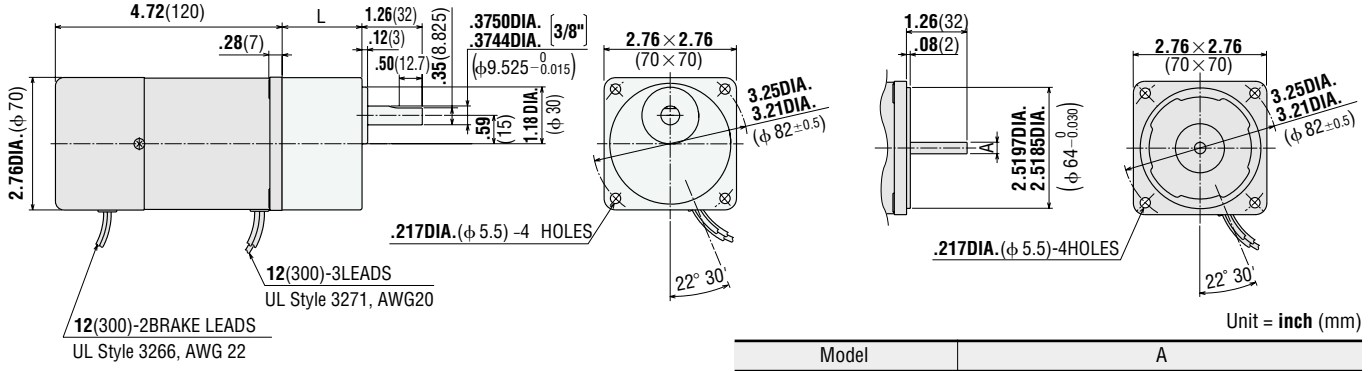
**3RK15GN-AWMU** Weight (Mass): 2.9 lb. (1.3 kg)
**3RK15GN-AMUL** Weight (Mass): 2.9 lb. (1.3 kg)

**Gearhead**

**3GN□KA**
Weight (Mass): 1.21 lb. (0.55 kg)

**● Round Shaft Type**

**3RK15A-AWMU** Weight (Mass): 2.9 lb. (1.3 kg)
**3RK15A-AMULA** Weight (Mass): 2.9 lb. (1.3 kg)



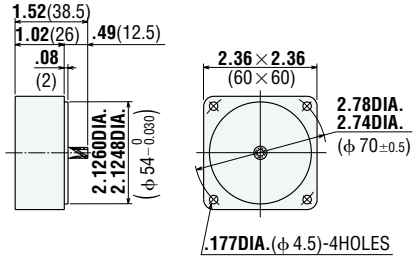

Unit = **inch** (mm)

| Model | A |
|---|---|
| **3RK15A-AWMU** | .2362DIA.<br>.2357DIA. (ϕ 6 0 −0.012) |
| **3RK15A-AMULA** | .2500DIA.<br>.2496DIA. **[1/4"]** (ϕ 6.35 0 −0.010) |

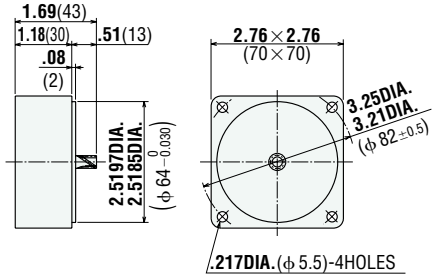
L = **1.26** (32) **3GN3KA**～**18KA**
L = **1.65** (42) **3GN25KA**～**180KA**

**●Decimal Gearheads**

**2GN10XK**
Weight (Mass): 0.44 lb. (0.2 kg)




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



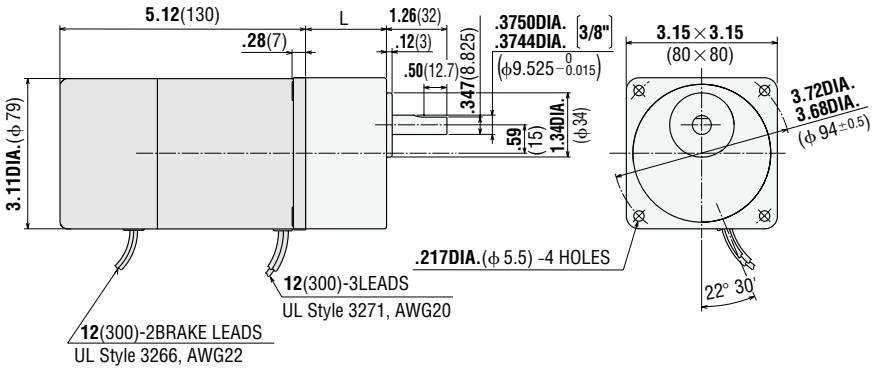
● **Motor**

| | |
|---|---|
| **4RK25GN-AWMU** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4RK25GN-CWME** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4IK25GN-SWM** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4RK25GN-AMUL** | Weight (Mass): 4.2 lb. (1.9 kg) |

**Gearhead**

**4GN□KA**

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

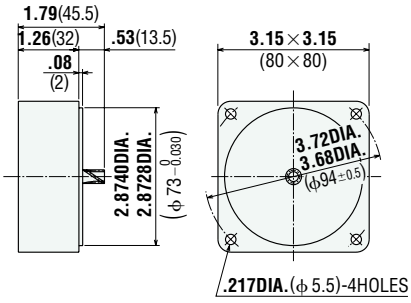



L=**1.26** (32) **4GN3KA**~**18KA**
L=**1.67** (42.5) **4GN25KA**~**180KA**

●**Decimal Gearheads**

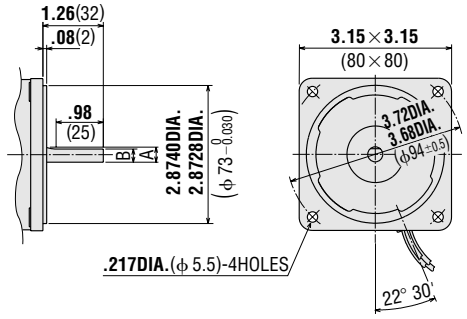
**4GN10XK**

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




● **Round Shaft Type**

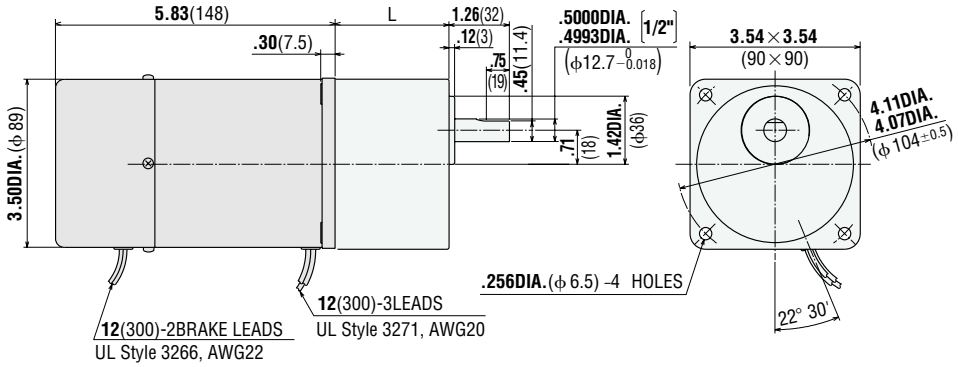
| | |
|---|---|
| **4RK25A-AWMU** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4RK25A-CWME** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4IK25A-SWM** | Weight (Mass): 4.4 lb. (2.0 kg) |
| **4RK25A-AMULA** | Weight (Mass): 4.2 lb. (1.9 kg) |




Unit = **inch** (mm)

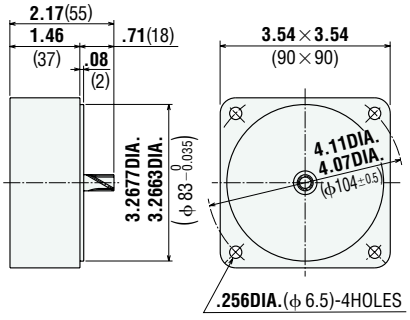
| Model | A | B |
|---|---|---|
| **4RK25A-AWME**<br>**4RK25A-CWME**<br>**4RK25A-SWM** | **.3150DIA.**<br>**.3144DIA.** (ϕ 8 0 −0.015) | **.28** (7) |
| **4RK25A-AMULA** | **.3125DIA.**<br>**.3120DIA.** **[5/16"]** (ϕ 7.937 0 −0.011) | **.28** (7.037) |

| Motor | | Gearhead |
|---|---|---|
| **5RK40GN-AWMU** | Weight (Mass): 6.4 lb. (2.9 kg) | |
| **5RK40GN-CWME** | Weight (Mass): 6.4 lb. (2.9 kg) | **5GN□KA** |
| **5IK40GN-SWM** | Weight (Mass): 6.4 lb. (2.9 kg) | |
| **5RK40GN-AMUL** | Weight (Mass): 6.4 lb. (2.9 kg) | Weight (Mass): 3.3 lb. (1.5 kg) |



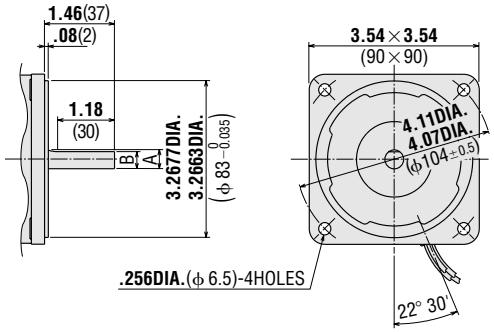

L = **1.65** (42) **5GN3KA**~**18KA**
L = **2.36** (60) **5GN25KA**~**180KA**

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




**Round Shaft Type**

| | |
|---|---|
| **5RK40A-AWMU** | Weight (Mass): 6.4 lb. (2.9 kg) |
| **5RK40A-CWME** | Weight (Mass): 6.4 lb. (2.9 kg) |
| **5IK40A-SWM** | Weight (Mass): 6.4 lb. (2.9 kg) |
| **5RK40A-AMULA** | Weight (Mass): 6.4 lb. (2.9 kg) |

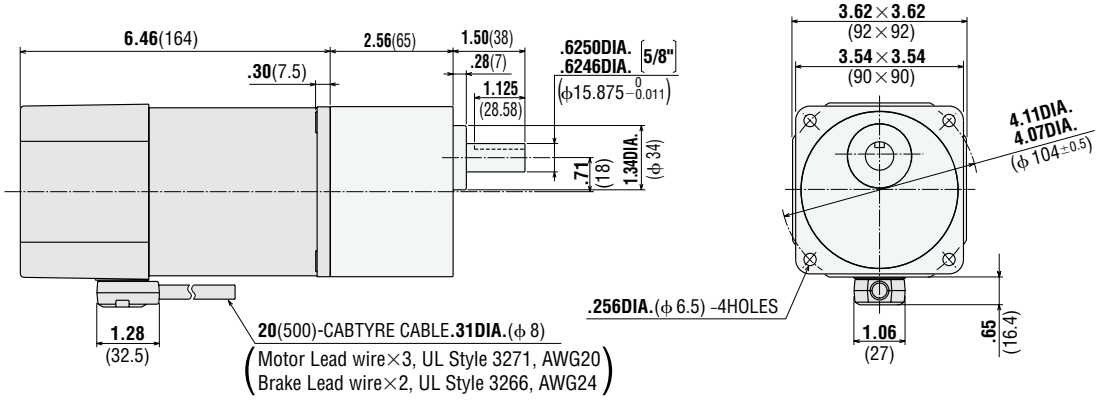



Unit = **inch** (mm)

| Model | A | B |
|---|---|---|
| **5RK40A-AWME**<br>**5RK40A-CWME**<br>**5IK40A-SWM** | **.3937DIA.**<br>**.3933DIA.** (ϕ 10 0 −0.011) | **.35** (9) |
| **5RK40A-AMULA** | **.3750DIA.**<br>**.3746DIA.** **[6/16"]** (ϕ 9.525 0 −0.011) | **.35** (8.825) |

● **Motor**

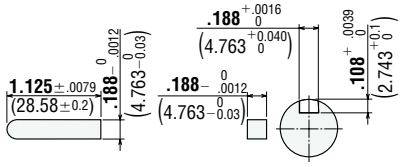
| | | Gearhead |
|---|---|---|
| **5RK60GU-AWMU** | Weight (Mass): 7.5 lb. (3.4 kg) | |
| **5RK60GU-CWME** | Weight (Mass): 7.5 lb. (3.4 kg) | **5GU□KA** |
| **5IK60GU-SWM** | Weight (Mass): 7.5 lb. (3.4 kg) | |
| **5RK60GU-AMUL** | Weight (Mass): 7.5 lb. (3.4 kg) | Weight (Mass): 3.3 lb. (1.5 kg) |




Cable direction can be switched to the opposite direction.

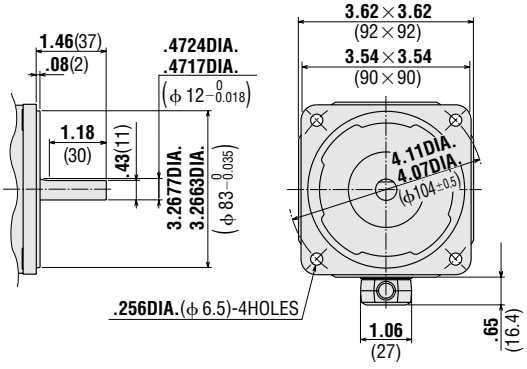
● **Key and Key Slot**

The key is provided with the gearhead.




● **Round Shaft Type**

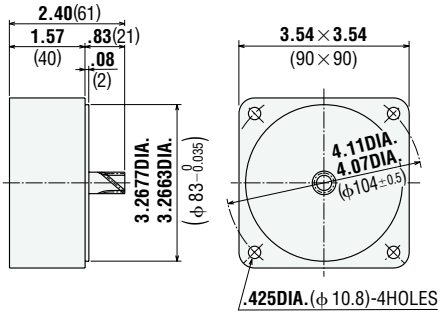
| | |
|---|---|
| **5RK60A-AWMU** | Weight (Mass): 7.5 lb. (3.4 kg) |
| **5RK60A-CWME** | Weight (Mass): 7.5 lb. (3.4 kg) |
| **5IK60A-SWM** | Weight (Mass): 7.5 lb. (3.4 kg) |
| **5RK60A-AMUL** | Weight (Mass): 7.5 lb. (3.4 kg) |



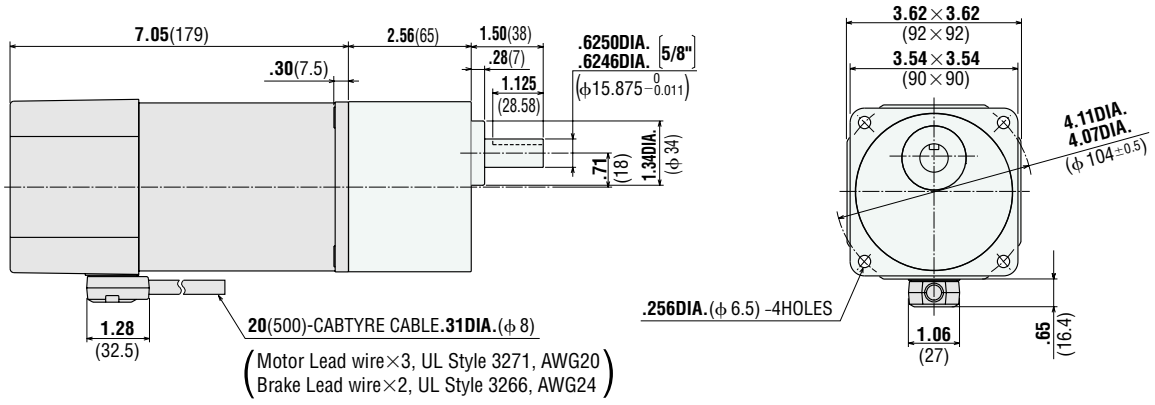

● **Decimal Gearheads**

**5GU10XKB**

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



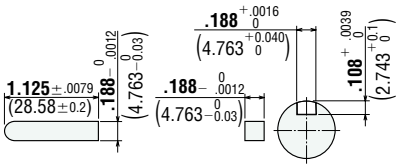
| Motor | | Gearhead |
|---|---|---|
| **5RK90GU-AWMU** | Weight (Mass): 8.6 lb. (3.9 kg) | |
| **5RK90GU-CWME** | Weight (Mass): 8.6 lb. (3.9 kg) | **5GU□KA** |
| **5IK90GU-SWM** | Weight (Mass): 8.6 lb. (3.9 kg) | |
| **5RK90GU-AMUL** | Weight (Mass): 8.6 lb. (3.9 kg) | Weight (Mass): 3.3 lb. (1.5 kg) |




Cable direction can be switched to the opposite direction.

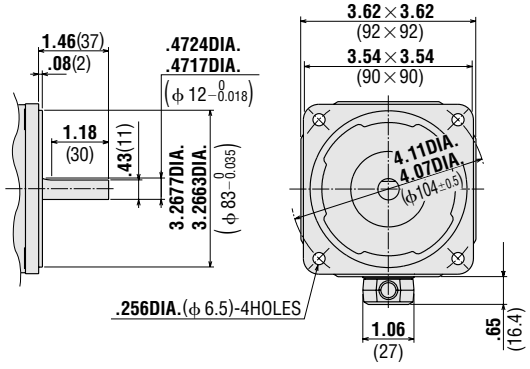
## Key and Key Slot

(provided with the gearhead.)




## Round Shaft Type

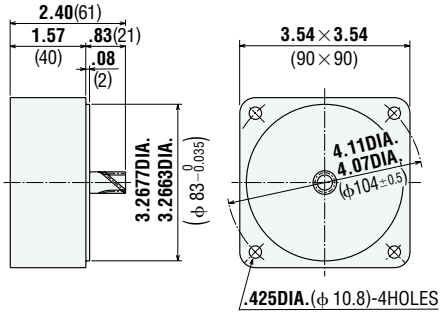
| | |
|---|---|
| **5RK90A-AWMU** | Weight (Mass): 8.6 lb.(3.9 kg) |
| **5RK90A-CWME** | Weight (Mass): 8.6 lb.(3.9 kg) |
| **5IK90A-SWM** | Weight (Mass): 8.6 lb.(3.9 kg) |
| **5RK90A-AMUL** | Weight (Mass): 8.6 lb.(3.9 kg) |



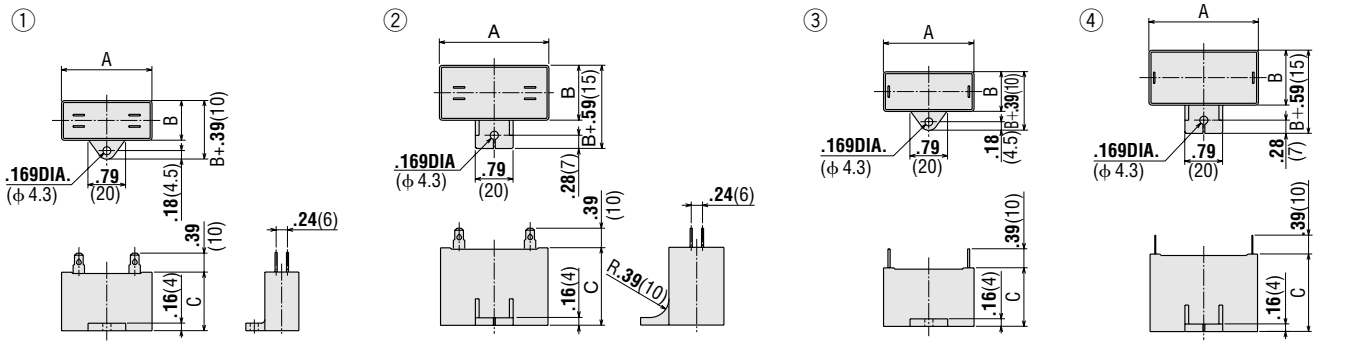

## Decimal Gearheads

**5GU10XKB**

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



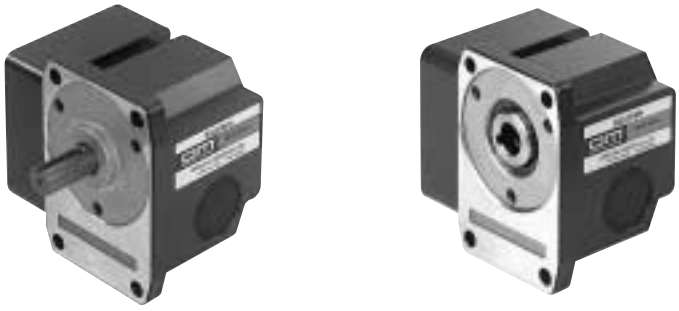
## ● Capacitor (included with the motor)




| Motor Model | | Capacitor | Dimensions inch (mm) | | | Weight | | No. |
|---|---|---|---|---|---|---|---|---|
| Pinion Shaft Type | Round Shaft Type | Model | A | B | C | oz. | (g) | |
| **2RK6GN-AWMU** | **2RK6A-AWMU** | CH35FAUL | 1.22 (31) | .67 (17) | 1.06 (27) | 0.88 | 25 | ① |
| **2RK6GN-CWME** | **2RK6A-CWME** | CH08BFAUL | 1.22 (31) | .67 (17) | 1.06 (27) | 0.88 | 25 | ① |
| **2RK6GN-AMUL** | **2RK6A-AMULA** | CH23UL | 1.22 (31) | .57 (14.5) | .93 (23.5) | 0.63 | 18 | ③ |
| **3RK15GN-AWMU** | **3RK15A-AWMU** | CH60CFAUL | 1.50 (38) | .83 (21) | 1.22 (31) | 1.4 | 40 | ① |
| **3RK15GN-AMUL** | **3RK15A-AMULA** | CH45UL | 1.46 (37) | .71 (18) | 1.06 (27) | 0.99 | 28 | ③ |
| **4RK25GN-AWMU** | **4RK25A-AWMU** | CH80CFAUL | 1.89 (48) | .75 (19) | 1.14 (29) | 1.4 | 40 | ① |
| **4RK25GN-CWME** | **4RK25A-CWME** | CH20BFAUL | 1.89 (48) | .75 (19) | 1.14 (29) | 1 | 35 | ① |
| **4RK25GN-AMUL** | **4RK25A-AMULA** | CH70UL | 1.50 (38) | .83 (21) | 1.22 (31) | 1.3 | 37 | ③ |
| **5RK40GN-AWMU** | **5RK40A-AWMU** | CH120CFAUL | 2.28 (58) | .83 (21) | 1.22 (31) | 1.8 | 50 | ① |
| **5RK40GN-CWME** | **5RK40A-CWME** | CH35BFAUL | 2.28 (58) | .87 (22) | 1.38 (35) | 1.9 | 55 | ① |
| **5RK40GN-AMUL** | **5RK40A-AMULA** | CH120UL | 1.89 (48) | .83 (21) | 1.22 (31) | 1.6 | 45 | ③ |
| **5RK60GU-AWMU** | **5RK60A-AWMU** | CH200CFAUL | 2.28 (58) | 1.14 (29) | 1.61 (41) | 3.4 | 95 | ② |
| **5RK60GU-CWME** | **5RK60A-CWME** | CH50BFAUL | 2.28 (58) | 1.14 (29) | 1.61 (41) | 3.0 | 85 | ② |
| **5RK60GU-AMUL** | **5RK60A-AMULA** | CH200UL | 2.28 (58) | .93 (23.5) | 1.46 (37) | 2.3 | 65 | ④ |
| **5RK90GU-AWMU** | **5RK90A-AWMU** | CH300CFAUL | 2.28 (58) | 1.38 (35) | 1.97 (50) | 4.9 | 140 | ② |
| **5RK90GU-CWME** | **5RK90A-CWME** | CH70BFAUL | 2.28 (58) | 1.38 (35) | 1.97 (50) | 4.6 | 130 | ② |
| **5RK90GU-AMUL** | **5RK90A-AMUL** | CH250UL | 2.28 (58) | 1.14 (29) | 1.61 (41) | 3.2 | 90 | ④ |

# ■ Right-Angle Gearheads (Sold Separately)

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 (Sold Separately)

### ●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.

### ●Flexible Coupling

Optional clamp-type couplings are available. See page[A-260] for dimensions.