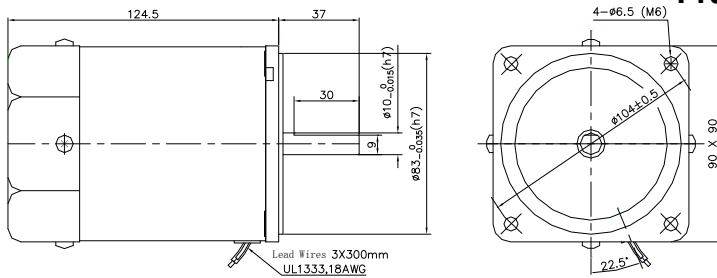


● Motor Dimensions:



# Reversible Motors 60W (GU)

Frame Size: □90mm (□3.54 in.)

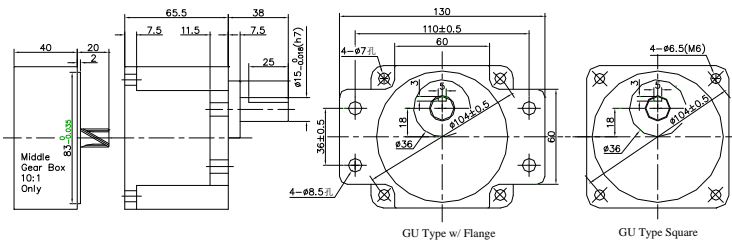
● Reversible motor specifications-30 minute Rating (leads wire type)



| Model        |             | Output Power | Voltage | Freq. | Current | Starting Torque | Rated Torque | Rated Speed | Capacitor |
|--------------|-------------|--------------|---------|-------|---------|-----------------|--------------|-------------|-----------|
| Pinion Shaft | Round Shaft | W            | Vac     | Hz    | Amp     | mN.m            | mN.m         | r/min       | μF/V      |
| 5RK60GU-AF   | 5RK60A-AF   | 60           | 1ph110  | 50    | 1.26    | 470             | 470          | 1250        | 25        |
|              |             |              |         | 60    | 1.7     |                 | 380          | 1550        |           |
| 5RK60GU-CF   | 5RK60A-CF   | 60           | 1ph220  | 50    | 0.55    | 420             | 470          | 1250        | 4.5       |
|              |             |              | 1ph230  |       | 0.6     |                 |              | 460         |           |

● These motors have built in thermal protectors: If a motor overheats the thermal protector opens and the motor stops. When the motor temperature drops to the rated level, the thermal protector closes and the motor restarts.

● Gearhead dimensions & weight:



| Item                | Ratio    | Weight |             |
|---------------------|----------|--------|-------------|
|                     |          | L mm   | Kg / lb     |
| Gearhead (5GUxxK)   | 3 - 9    | 65.5   | 1.21 / 2.66 |
|                     | 10~18    |        | 1.30 / 2.86 |
|                     | 20 - 75  |        | 1.40 / 3.08 |
|                     | 90 - 200 |        | 1.45 / 3.19 |
| 10:1 middle gearbox |          | 40     | 0.6 / 1.32  |
| Motor               |          | 126    | 2.4 / 5.28  |

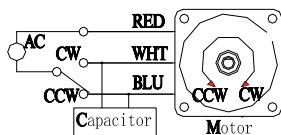
● Gear Motor-Torque Table

| Model                  | Gear Ratio | X:1      | 3     | 3.6  | 5    | 6    | 7.5  | 9    | 12.5 | 15   | 18   | 25   | 30   | 36   | 50   | 60   | 75   | 90   | 100 | 120  | 150 | 180 | 200 |     |     |  |
|------------------------|------------|----------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|-----|-----|-----|-----|--|
|                        | Efficiency | %        | 81    |      |      |      |      |      | 73   |      |      |      |      |      | 66   |      |      |      |     |      | 59  |     |     |     |     |  |
|                        | Speed      | 50Hz RPM | 500   | 417  | 300  | 250  | 200  | 166  | 120  | 100  | 83   | 60   | 50   | 41   | 30   | 25   | 20   | 16   | 15  | 12.5 | 10  | 8.3 | 7.5 |     |     |  |
| 5RK60GU-A<br>5RK60GU-C | 5GU□KB     | 50Hz     | Nm    | 1.1  | 1.4  | 1.9  | 2.3  | 2.9  | 3.4  | 4.8  | 5.7  | 6.8  | 8.6  | 10.3 | 12.4 | 15.5 | 18.6 | 20   | 20  | 20   | 20  | 20  | 20  | 20  |     |  |
|                        |            |          | Kg.cm | 11.2 | 14.2 | 19.3 | 23.4 | 29.6 | 34.7 | 48.9 | 58.1 | 69.3 | 87.7 | 105  | 126  | 158  | 189  | 200  | 200 | 200  | 200 | 200 | 200 | 200 | 200 |  |
|                        |            | 60Hz     | Nm    | 0.92 | 1.1  | 1.5  | 1.8  | 2.3  | 2.8  | 3.8  | 4.6  | 5.5  | 6.9  | 8.3  | 10   | 12.5 | 15   | 18.8 | 20  | 20   | 20  | 20  | 20  | 20  | 20  |  |
|                        |            |          | Kg.cm | 9.38 | 11.2 | 15.3 | 18.3 | 23.4 | 28.5 | 38.7 | 46.9 | 56.1 | 70.4 | 84.6 | 102  | 127  | 153  | 192  | 200 | 200  | 200 | 200 | 200 | 200 | 200 |  |

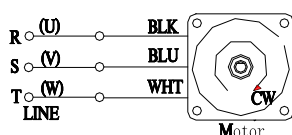
● Enter the gear ratio in the box □. Colored background indicates the output shaft rotate in the same direction as the motor shaft.  
 ● The speed is calculated based on the synchronous speed (50 Hz: 1500rpm; 60Hz: 1800 rpm) by the gear ratio.  
 ● Higher gear ratio (>200) can be achieved by adding a middle gearbox (10:1 only). Using Middle Gearbox limits Max.torque to 3Nm (30kg.cm)

● Connection Diagrams:

● Lead Wire Single Phase

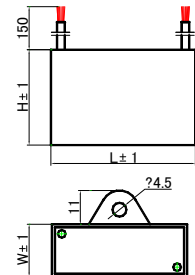


● Lead Wire Three Phase



● Capacitor:

| Value     | Dimensions | Dimensions |    |    |
|-----------|------------|------------|----|----|
|           |            | L          | H  | W  |
| 3.5 - 4.0 | 250        | 37         | 18 | 28 |
| 1.8 - 2.5 | 450        |            |    |    |
| 20 - 30   | 250        | 57         | 32 | 46 |
| 10 - 15   | 450        |            |    |    |



# 60W(GU) Frame Size: □90mm (□3.54 in.)

● **General specifications for AC motors:**

| Item                  | Specifications  |
|-----------------------|---|
| Insulation Resistance | 100 MΩ or more when 500VDC is applied between the windings and the frame                          |
| Dielectric Strength   | Sufficient to withstand 1.5 kV at 50/60Hz applied between the windings and the frame for 1 minute |
| Temperature Rise      | Temperature rise of windings should be lower than 80°C. (60°C with fan)                           |
| Insulation Class      | Class B (130°C)   |
| Overheat Protection   | Build in thermal protector (automatic return); Class B (O: 120±5°C, C: 75±15°C)                   |
| Ambient Temperature   | 14°F-104°F (-10°C~+40°C) [three-Phase: 14°F-122°F (-10~+50°C)] (Nonfreezing)                      |
| Ambient Humidity      | 85% or less (Noncondensing)   |
| Degree of Protection  | Lead wire type: IP20; Terminal Box Type: IP54   |

Notes: Above specifications is for motor operated under normal ambient temperature and humidity conditions

● **Permissible load for round shaft motors & Permissible Load Inertia at the Motor Shaft**

| Frame Size | Shaft Dia.<br>mm | Permissible overhung load (from end of shaft) |     |       |     | Permissible Load Inertia at the Motor Shaft |                          |
|------------|------------------|---|-----|-------|-----|---|--------------------------|
|            |                  | 10 mm   |     | 20 mm |     | J (×10 kg. m <sup>2</sup> )                 | GD (kg. m <sup>2</sup> ) |
|            |                  | lb  | N   | lb    | N   |   |                          |
| 5RK60      | 10               | 31.5  | 140 | 44.9  | 200 | 1.1   | 4.6                      |
|            | 12               | 53.9  | 240 | 60.7  | 270 |   |                          |

Permissible thrust load: Avoid thrust load as much as possible or keep it to no more than half the motor weight

● **Permissible load for gearheads**

| Frame Size | Gear Ratio | Maximum Permissible torque |     | Permissible overhung load (from end of shaft) |     |       |     | Permissible thrust load |     |
|------------|------------|----------------------------|-----|---|-----|-------|-----|-------------------------|-----|
|            |            | lb-in                      | N.m | 10 mm   |     | 20 mm |     | lb                      | N   |
|            |            |                            |     | lb  | N   | lb    | N   |                         |     |
| 5GU        | 3~9        | 177                        | 20  | 89.9  | 400 | 112.4 | 500 | 34                      | 150 |
|            | 12.5~18    |                            |     | 101.1   | 450 | 134.8 | 600 |                         |     |
|            | 25~200     |                            |     | 112.4   | 500 | 157.3 | 700 |                         |     |

● **Heat Radiation Plate Dimension (Material: Aluminum) : 200×200 (for 5IKxxxGU type motors)**

● **Product Number Codes for Motors:**

|            |               |             |           |                        |                     |   |                                |                   |
|------------|---------------|-------------|-----------|------------------------|---------------------|---|--------------------------------|-------------------|
| <b>5</b>   | <b>R</b>      | <b>K</b>    | <b>60</b> | <b>R</b>               | <b>GU</b>           | - | <b>C</b>                       | <b>F</b>          |
| Frame size | Motor Type    | Series      | Power     | Control                | Shaft               |   | Voltage & Poles                | Accessory         |
| 2: 60mm    | I: Induction  | K: k series | 60 = 60W  | R: speed control motor | A: round w/ flat    |   | A: Single phase 100~120VAC, 4P | F: W/Fan          |
| 3: 70mm    | R: Reversible |             |           |                        | A1: round w/keyway  |   | B: Single phase 100~120VAC, 2P | FF: W/forced Fan  |
| 4: 80mm    | T: Torque     |             |           |                        | GN: Normal Pinion   |   | C: Single phase 220~240VAC, 4P | M: W/Brake        |
| 5: 90mm    |               |             |           |                        | GU: Enhanced Pinion |   | D: Single phase 220~240VAC, 2P | T: W/Terminal Box |
| 6: 100mm   |               |             |           |                        |                     |   | S: Three phase 220~240VAC, 4P  |                   |
|            |               |             |           |                        |                     |   | T: Three phase 220~240VAC, 2P  |                   |
|            |               |             |           |                        |                     |   | S3: Three phase 380~415VAC, 4P |                   |
|            |               |             |           |                        |                     |   | T3: Three phase 380~415VAC, 2P |                   |

● **Product Number Codes for Gearheads:**

|            |                   |            |                          |
|------------|-------------------|------------|--------------------------|
| <b>5</b>   | <b>GU</b>         | <b>50</b>  | <b>K</b>                 |
| Frame size | Gear Type         | Gear Ratio | Bearing                  |
| 2: 60mm    | GN: Normal Gear   | 50 = 50:1  | K: Normal Ball Bearing   |
| 3: 70mm    | GU: Enhanced Gear |            | KB: Enhanced for GU Type |
| 4: 80mm    |                   |            | B: Sleeve bearing        |
| 5: 90mm    |                   |            |                          |
| 6: 100mm   |                   |            |                          |

● **Terminal Boxes:**

