

# INDUCTION MOTORS

## Single-Phase, Three-Phase

# 25w (1/30 HP)

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



### Specifications — Continuous Rating



| Model<br>Upper Model Name:Pinion Shaft Type<br>Lower Model Name(:):Round Shaft Type |                                  |                                 | Output Power                 | Voltage | Frequency | Current          | Starting Torque | Rated Torque  | Rated Speed   | Capacitor |      |     |      |     |
|---|----------------------------------|---------------------------------|------------------------------|---------|-----------|------------------|-----------------|---------------|---------------|-----------|------|-----|------|-----|
| Lead Wire Type<br>Dimension ①   | Terminal Box Type<br>Dimension ② | Conduit Box Type<br>Dimension ③ | HP                           | W       | V         | Hz               | A               | oz-in<br>mN·m | oz-in<br>mN·m | r/min     | μF   |     |      |     |
| UL<br>VDE   | 4IK25GN-AWU<br>(4IK25A-AWU)      | 4IK25GN-AWTU<br>(4IK25A-AWTU)   | 4IK25GN-FCH<br>(4IK25AA-FCH) | 1/30    | 25        | Single-Phase 110 | 60              | 0.46          | 16.7          | 120       | 23.6 | 170 | 1450 | 6.5 |
|   |                                  |                                 |                              |         |           | Single-Phase 115 | 60              |               |               |           |      |     |      |     |
| UL<br>VDE   | 4IK25GN-CWE<br>(4IK25A-CWE)      | 4IK25GN-CWTE<br>(4IK25A-CWTE)   | 4IK25GN-ECH<br>(4IK25AA-ECH) | 1/30    | 25        | Single-Phase 220 | 60              | 0.22          |               | 120       | 23.6 | 170 | 1450 | 1.5 |
|   |                                  |                                 |                              |         |           | Single-Phase 230 | 50              | 0.24          | 16.7          | 120       | 28.5 | 205 | 1200 |     |
|   |                                  |                                 |                              |         |           | Single-Phase 230 | 60              | 0.22          |               |           | 23.6 | 170 | 1450 |     |
| UL<br>VDE   | 4IK25GN-SW<br>(4IK25A-SW)        | 4IK25GN-SWT<br>(4IK25A-SWT)     | 4IK25GN-SH<br>(4IK25AA-SH)   | 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 |     |
| UL<br>VDE   | 4IK25GN-AUL<br>(4IK25A-AULA)     | —                               | —                            | 1/30    | 25        | Single-Phase 115 | 60              | 0.49          | 15.3          | 110       | 22.9 | 165 | 1500 | 4.5 |

- 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.
- The conduit box type of the motors are not VDE approved.

### Gearmotor — Torque Table

The maximum permissible torque with a decimal gearhead with a gear ratio of 10 is 69 lb-in (8N·m). The value is 52 lb-in (6N·m) when 25:1~36:1 gearheads are connected.

- Right-Angle gearhead may be connected. See page [A-216] for more information on the right-angle gearheads.

#### Single-Phase 115V/230V, Three-Phase 230V 60Hz

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

| Model  | Speed r/min<br>Gear Ratio | 600      | 500        | 360      | 300      | 240        | 200      | 144         | 120       | 100       | 72        | 60        | 50        | 36        | 30        | 24        | 20        | 18         | 15         | 12         | 10         |    |
|--|---------------------------|----------|------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|----|
|  |                           | <b>3</b> | <b>3.6</b> | <b>5</b> | <b>6</b> | <b>7.5</b> | <b>9</b> | <b>12.5</b> | <b>15</b> | <b>18</b> | <b>25</b> | <b>30</b> | <b>36</b> | <b>50</b> | <b>60</b> | <b>75</b> | <b>90</b> | <b>100</b> | <b>120</b> | <b>150</b> | <b>180</b> |    |
| 4IK25GN-AWU<br>4IK25GN-AWTU<br>4IK25GN-CWE<br>4IK25GN-CWTE<br>4IK25GN-FCH<br>4IK25GN-ECH | 4GN□KA                    | 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         |    |
|  |                           | 0.41     | 0.50       | 0.69     | 0.83     | 1.0        | 1.2      | 1.7         | 2.1       | 2.5       | 3.1       | 3.7       | 4.5       | 5.6       | 6.7       | 8         | 8         | 8          | 8          | 8          | 8          |    |
|  |                           | 3.4      | 4.0        | 5.6      | 6.7      | 8.4        | 10       | 14          | 17        | 20        | 25        | 30        | 36        | 46        | 55        | 69        | 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          | 8  |
|  |                           | 3.5      | 4.2        | 5.8      | 7.0      | 8.7        | 10       | 14          | 17        | 21        | 26        | 31        | 38        | 47        | 57        | 69        | 69        | 69         | 69         | 69         | 69         | 69 |
|  |                           | 0.40     | 0.48       | 0.67     | 0.80     | 1.0        | 1.2      | 1.7         | 2.0       | 2.4       | 3.0       | 3.6       | 4.3       | 5.4       | 6.5       | 8         | 8         | 8          | 8          | 8          | 8          | 8  |

#### Single-Phase 230V 50Hz

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

| Model                                      | Speed r/min<br>Gear Ratio | 500      | 416        | 300      | 250      | 200        | 166      | 120         | 100       | 83        | 60        | 50        | 41        | 30        | 25        | 20        | 16        | 15         | 12.5       | 10         | 8.3        |
|--|---------------------------|----------|------------|----------|----------|------------|----------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
|  |                           | <b>3</b> | <b>3.6</b> | <b>5</b> | <b>6</b> | <b>7.5</b> | <b>9</b> | <b>12.5</b> | <b>15</b> | <b>18</b> | <b>25</b> | <b>30</b> | <b>36</b> | <b>50</b> | <b>60</b> | <b>75</b> | <b>90</b> | <b>100</b> | <b>120</b> | <b>150</b> | <b>180</b> |
| 4IK25GN-CWE<br>4IK25GN-CWTE<br>4IK25GN-ECH | 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         |
|  |                           | 0.50     | 0.60       | 0.83     | 1.0      | 1.2        | 1.5      | 2.1         | 2.5       | 3.0       | 3.7       | 4.5       | 5.4       | 6.8       | 8         | 8         | 8         | 8          | 8          | 8          | 8          |

- 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: 1500r/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)

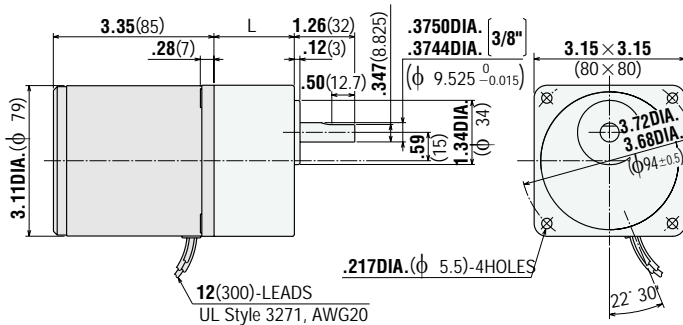
### ① Motor/Gearhead

**4IK25GN-AWU**  
**4IK25GN-CWE**  
**4IK25GN-SW**  
**4IK25GN-AUL**

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

**4GN□KA**

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



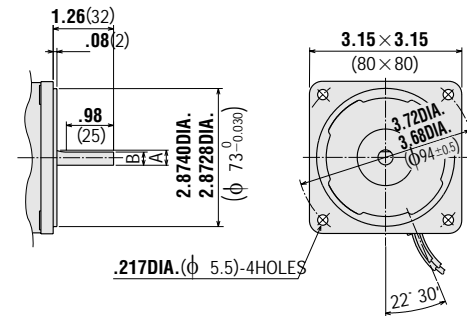
12(300)-LEADS  
 UL Style 3271, AWG20

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

**4IK25A-AWU** Round Shaft Type

**4IK25A-CWE**  
**4IK25A-SW**  
**4IK25A-AULA**

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



Unit = inch (mm)

| Model                                 | Shaft Diameter                                |            |
|---------------------------------------|---|------------|
|                                       | A   | B          |
| <b>4IK25A-AWU</b>                     | .3150DIA. ( $\phi 8_{-0.015}^0$ )             | .28(7)     |
| <b>4IK25A-CWE</b><br><b>4IK25A-SW</b> | .3144DIA. ( $\phi 8_{-0.015}^0$ )             | .28(7)     |
| <b>4IK25A-AULA</b>                    | .3125DIA. [5/16"] ( $\phi 7.937_{-0.011}^0$ ) | .28(7.037) |

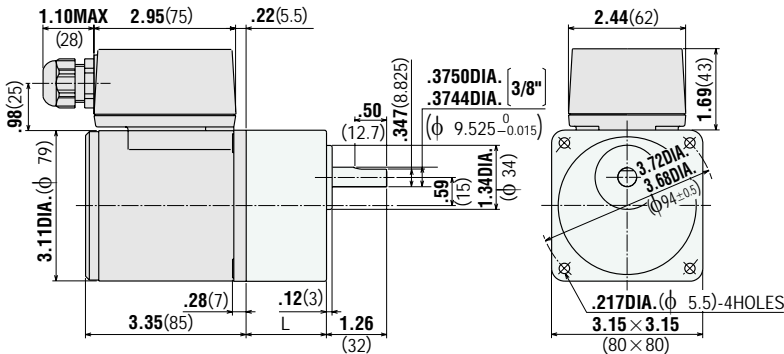
### ② Motor/Gearhead

**4IK25GN-AWTU**  
**4IK25GN-CWTE**  
**4IK25GN-SWT**

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

**4GN□KA**

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



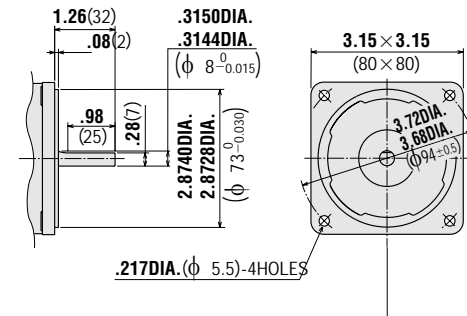
L=1.26 (32) **4GN3KA~18KA**  
 L=1.67 (42.5) **4GN25KA~180KA**

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

**4IK25A-AWTU** Round Shaft Type

**4IK25A-CWTE**  
**4IK25A-SWT**

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



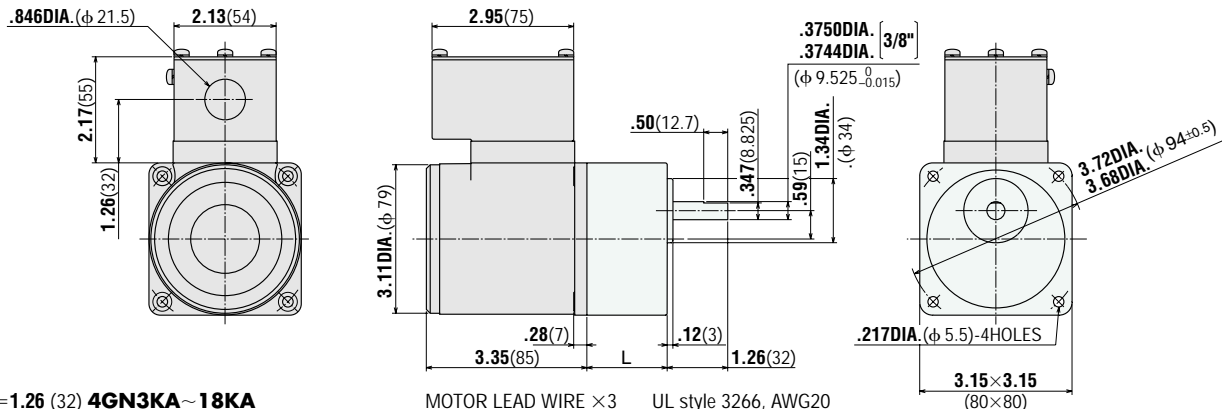
### ③ Motor/Gearhead

**4IK25GN-FCH**  
**4IK25GN-ECH**

Weight (Mass): 4.2 lb.(1.9 kg)

**4GN□KA**

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

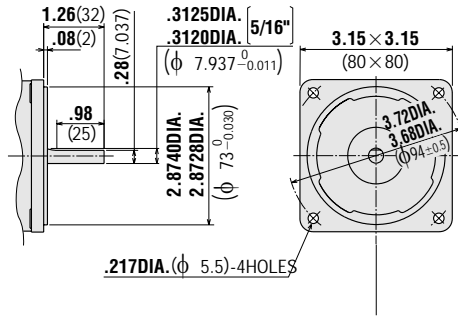


L=1.26 (32) **4GN3KA~18KA**  
 L=1.67 (42.5) **4GN25KA~180KA**

MOTOR LEAD WIRE ×3 UL style 3266, AWG20  
 GROUND LEAD WIRE ×1 UL style 3266, AWG18

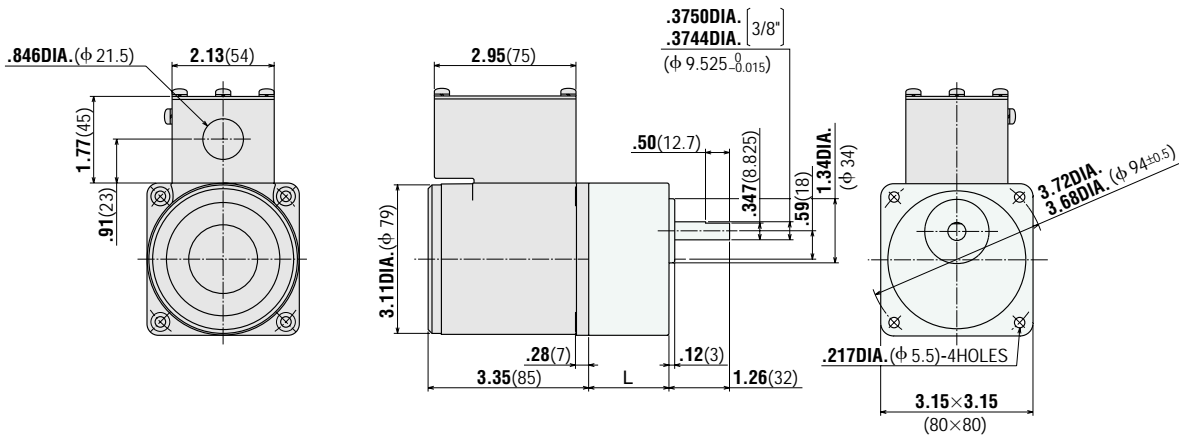
**4IK25AA-FCH** Round Shaft Type  
**4IK25AA-ECH**

Weight (Mass): 4.2 lb.(1.9 kg)



**4IK25GN-SH** / **4GN□KA**

Weight (Mass): 3.7 lb.(1.7 kg) / Weight (Mass): 1.43 lb.(0.65 kg)

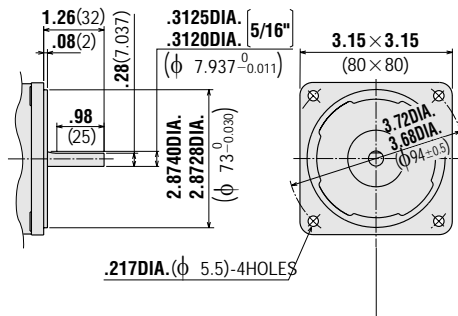


L=1.26 (32) **4GN3KA~18KA**  
 L=1.67 (42.5) **4GN25KA~180KA**

MOTOR LEAD WIRE ×3 UL style 3266, AWG20  
 GROUND LEAD WIRE ×1 UL style 3266, AWG18

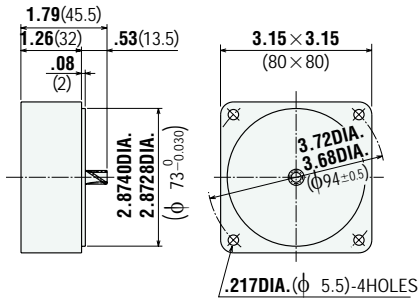
**4IK25AA-SH** Round Shaft Type

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

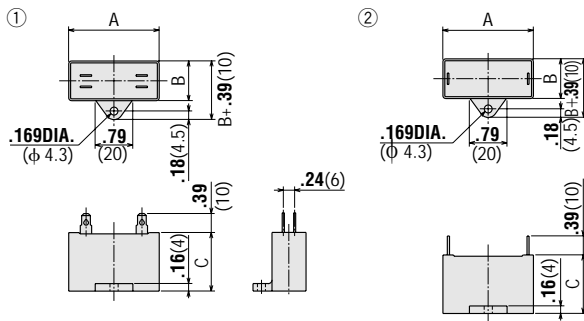


## ● Decimal Gearhead

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



## ● Capacitor (included with the motor)

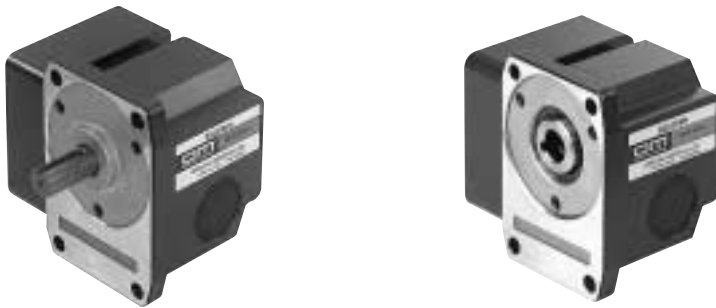


| Motor Model         | Capacitor Model | Dimensions in. (mm) |      |      | Weight (Mass) oz (g) | Dimension No. |
|---------------------|-----------------|---------------------|------|------|----------------------|---------------|
|                     |                 | A                   | B    | C    |                      |               |
| <b>4IK25GN-AW□U</b> | CH65CFAUL       | 1.50                | 0.83 | 1.22 | 1.23 (35)            | ①             |
| <b>4IK25A-AW□U</b>  |                 | (38)                | (21) | (31) |                      |               |
| <b>4IK25GN-CW□E</b> | CH15BFAUL       | 1.50                | 0.83 | 1.22 | 1.23 (35)            | ①             |
| <b>4IK25A-CW□E</b>  |                 | (38)                | (21) | (31) |                      |               |
| <b>4IK25GN-AUL</b>  | CH45UL          | 1.46                | 0.71 | 1.06 | 0.92 (26)            | ②             |
| <b>4IK25A-AULA</b>  |                 | (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.

## ■ 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.



## ■ Wiring Diagrams

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

| Model<br>Direction | Lead Wire Type   |  |                    |
|--------------------|--|--|--------------------|
|                    | <b>4IK25GN-AWU</b><br><b>4IK25GN-CWE</b>   | <b>4IK25GN-SW</b>  | <b>4IK25GN-AUL</b> |
| CW                 |  |  |                    |
| CCW                | To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.<br>To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW. | To change the rotation, change any two connections between U, V and W. |                    |

| Model<br>Direction | Terminal Box Type  |  | Conduit Box Type   |  |
|--------------------|--|--|--|--|
|                    | <b>4IK25GN-AWTU</b><br><b>4IK25GN-CWTE</b>   | <b>4IK25GN-SWT</b>   | <b>4IK25GN-FCH</b><br><b>4IK25GN-ECH</b>   | <b>4IK25GN-SH</b>  |
| CW                 |  |  |  |  |
| CCW                | To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.<br>To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW. | To change the rotation, change any two connections between U, V and W. | To rotate the motor in a clockwise (CW) direction, flip switch SW to CW.<br>To rotate it in a counterclockwise (CCW) direction, flip switch SW to CCW. | To change the rotation, change any two connections between U, V and W. |

Change the direction of motor rotation only after bringing the motor to a stop.

If an attempt is made to change the direction of rotation while the motor is rotating, the motor may ignore the reversing command or change its direction of rotation after some delay.

## ■ Accessories

### ● Motor Mounting Brackets

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

Model name **SOL4U10**



### ● Flexible Coupling

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

