

Application of ALPHA6000E Frequency Converter in Food Mixer

I. Description

Food mixer is mainly used in commercial kitchens for mixing and stirring food materials. A multifunction food mixer integrates stirring, egg beating, cream beating, and dough kneading. It is commonly applied in the western kitchen, café, bakery, and other places.

II. Working Principle

1. Use of Food Mixer

1.1 Serpentine Stirrer

Used to stir high-viscosity food at a low speed, like kneading dough

1.2 Bat Stirrer

Used to stir medium-viscosity food, such as mixing stuffing

1.3 Bud-Shaped Stirrer

Used to stir low-viscosity food at a high speed, like beating eggs, beating cream, etc.

2. Structure and Working Process of Food Mixer

Structure of the food mixer is shown in Figure 1.

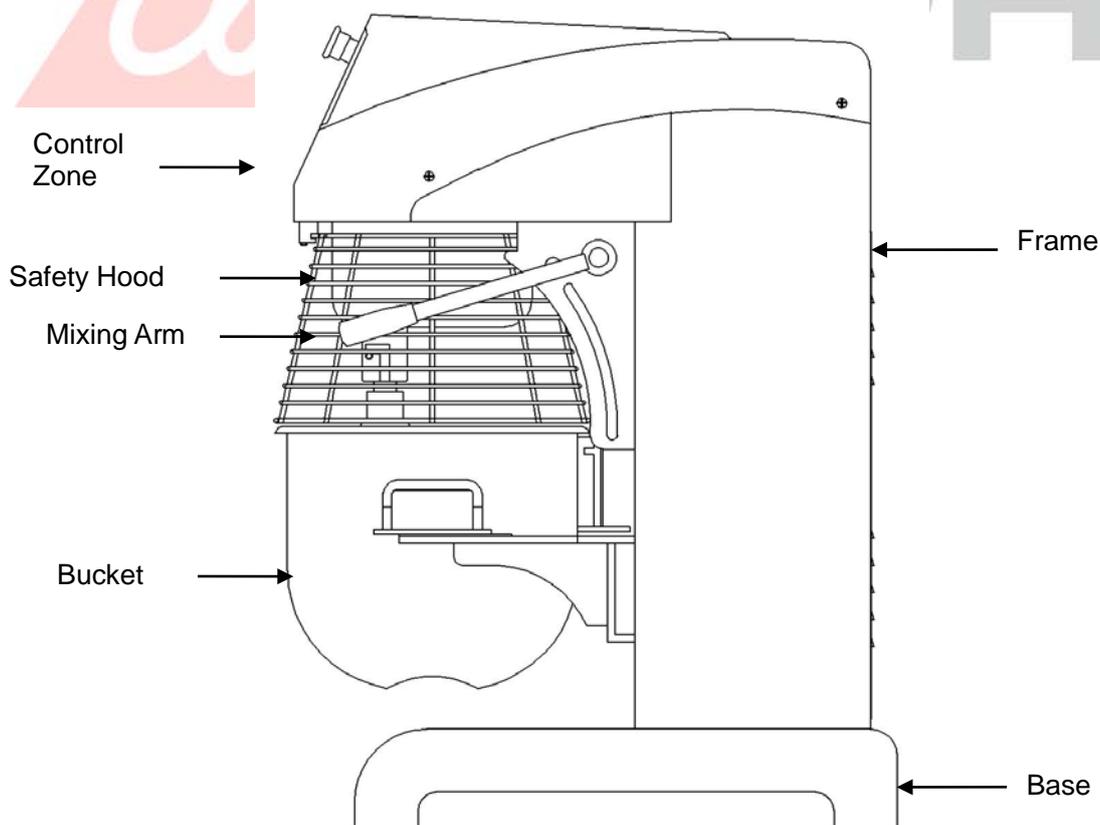


Figure 1

Put raw materials into the bucket, close the safety hood, and start the food mixer. Choose suitable stirrer and stirring speed according to the food viscosity so as to keep the mixing machine in a good working state and achieve ideal stirring effect. When stirring high viscosity food like flour, choose low rotation speed. When stirring low viscosity food, select high speed. If high rotation speed is chosen for stirring high-viscosity food, ideal mixing effect is hard to reach and machine abrasion is accelerated.

III. System Configuration

Wiring diagram is shown below.

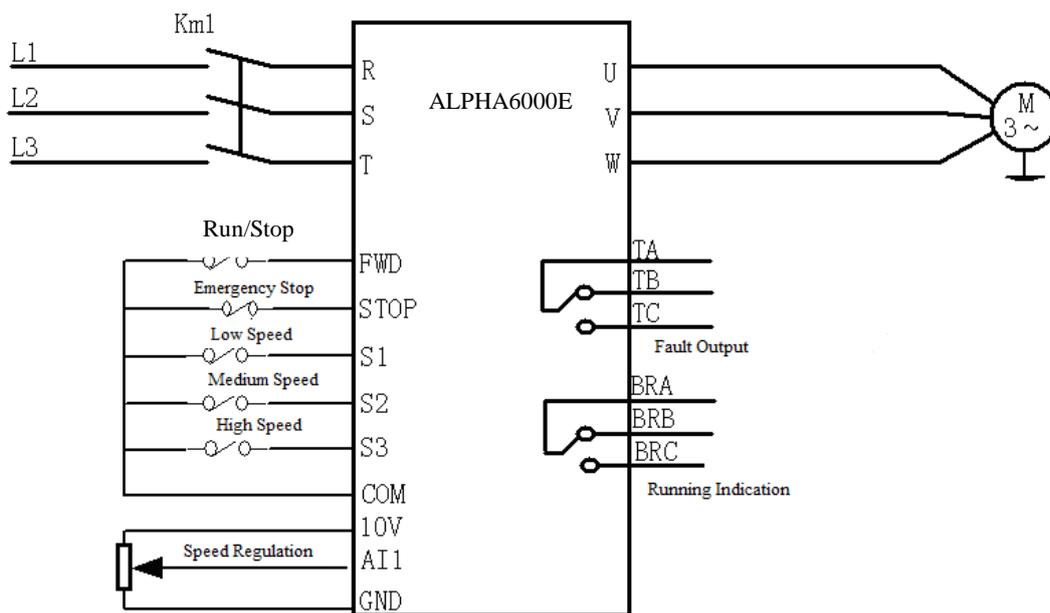


Figure 2

IV. Parameter Setting

Parameters are set as follows. (Potentiometer speed control and gear set are offered)

Function Code	Parameter Name	Potentiometer Setting	Gear Setting
P0.01	Frequency setting	2	6
P0.07	Maximum output	50	50
P0.08	Upper frequency limit	50	50

P0.09	Lower frequency	38	0
P0.21	Acceleration time	40	40
P0.22	Deceleration time	10	10
P2.11	First gear	38	10
P2.12	Second gear	Potentiometer Set	38
P2.13	Third gear	Potentiometer Set	50
P3.01	X1 terminal	1	1
P3.02	X2 terminal	36	36
P3.03	X3 terminal	18	18
P3.04	X4 terminal	19	19
P3.05	X5 terminal	20	20

V. System Advantages

The ALPHA6000E frequency converter features high output torque, high speed precision, reasonable price, complete function, and reliable quality. Other advantages are described below.

1. A CPU dedicated for motor control and the space vector PWM control are adopted, enabling the food mixer to run stably and silently.
2. Rated torque is output at low speeds, ensuring stable operation.
3. With strong anti-jamming capability, our frequency converter has passed the EMC test.
4. Due to the advanced automatic torque compensation function design, the frequency converter has strong load adaptability.
5. The output current is monitored in real time and good dynamic response capability is shown.
6. There are 40 kinds of protection and alarm functions.