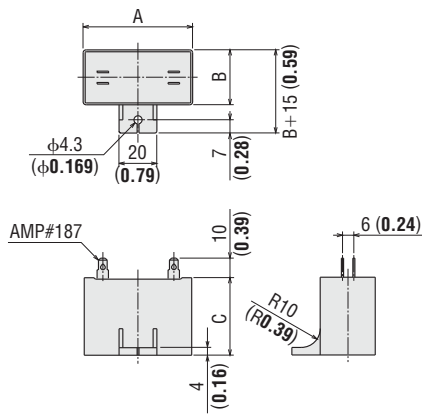


◇ Capacitor (Included)



◇ Capacitor Dimensions Unit = mm (in.)

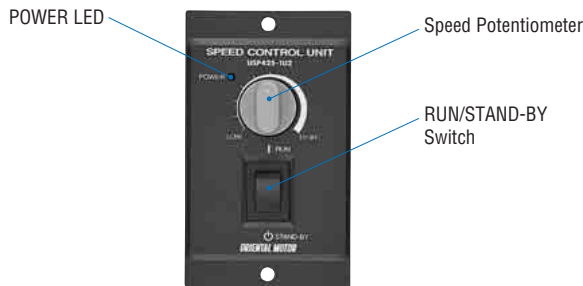
Model		Capacitor Model	A	B	C	Mass g (oz.)
Pinion Shaft Type	Round Shaft Type					
US560-501U2	US560-001U2	CH180CFAUL2	58 (2.28)	29 (1.14)	41 (1.61)	92 (3.2)
US560-502E2	US560-002E2	CH40BFAUL	58 (2.28)	23.5 (0.93)	37 (1.46)	73 (2.6)
US590-501U2	US590-001U2	CH200CFAUL2	58 (2.28)	29 (1.14)	41 (1.61)	91 (3.2)
US590-502E2	US590-002E2	CH60BFAUL	58 (2.28)	29 (1.14)	41 (1.61)	92 (3.2)

● A capacitor cap is included with a capacitor.

■ Connection and Operation

● Names and Functions of Control Unit Parts

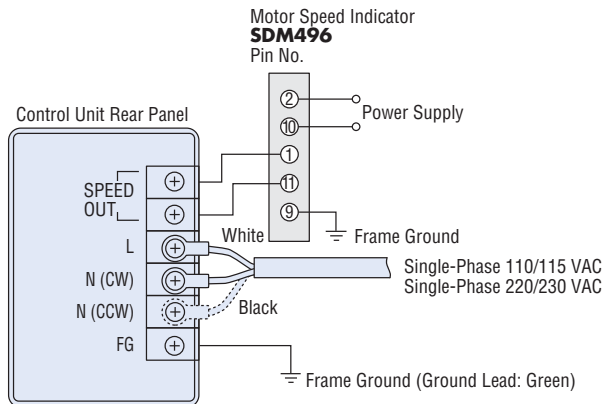
Control Unit Front Panel



● Connection Diagrams

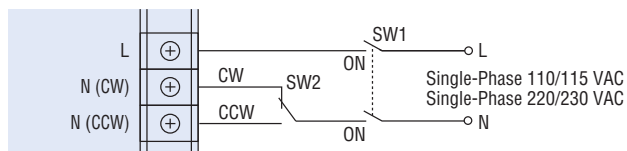
◇ US206, US315, US425 and US540 types

Uni-Directional Rotation:



● In the diagrams above, the motor shaft rotates in the clockwise direction. When changed to the dotted line [N (CCW)] position, the motor shaft rotates in the counterclockwise direction.

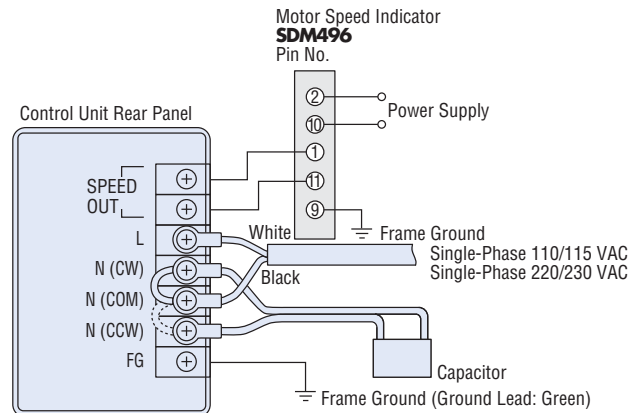
Bi-Directional Rotation:



Contact Capacity of Switch
250 VAC 5 A min. (Inductive load)

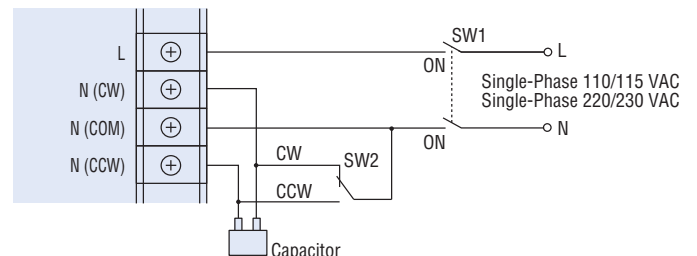
◇ US560 and US590 types

Uni-Directional Rotation:



● In the diagrams above, the motor shaft rotates in the clockwise direction. When changed to the dotted line [N (CCW)] position, the motor shaft rotates in the counterclockwise direction.

Bi-Directional Rotation:



Contact Capacity of Switch
250 VAC 5 A min. (Inductive load)

● How to connect a capacitor → Page A-313

● Operation Method

There is a difference in operation method between the **US206, US315, US425, US540** types and the **US560, US590** types.

◇ Rotation

Connect the motor lead wire connectors to the control unit. Then connect the power cable [2 m (6.6 ft.), AWG18] to the AC power supply. When the RUN/STAND-BY switch on the control unit is set to RUN, the motor rotates in the clockwise (CW) direction as viewed from the motor output shaft. Control units are set for clockwise rotation at shipment. The rotation direction on the gearhead output shaft may be the opposite direction of the motor shaft depending on the gear ratio.

◇ Changing Speed

When dial on the speed potentiometer located on the control unit is turned in a clockwise direction, motor speed increases; when turned in the counterclockwise direction, motor speed decreases.

Motor speed can be set and adjusted over a range of 90 to 1400 r/min at 50 Hz, 90 to 1600 r/min at 60 Hz.

◇ Stopping

When the RUN/STAND-BY switch on the control unit is set to STAND-BY, the motor stops. This switch is not a power ON/OFF switch. If the motor is to be stopped for a long time, a separate power ON/OFF switch should be installed.

◇ Switching the Rotation Direction

● **US206, US315, US425 and US540** types (Capacitor is included in the control unit.)

Uni-Directional Rotation:

When the rotation direction of motor needs to be reversed, change the terminal used for attaching the power cable, located at the rear panel of control unit, from terminal N (CW) to terminal N (CCW). The power cable connections are located at terminals L and N (CW) when shipped. This should always be done with the power OFF.

Bi-Directional Rotation:

Install an additional power switch (SW1) and CW/CCW switch (SW2) as shown on page B-216, and use these switches to change the rotation direction. Motor cannot be reversed instantaneously. Turn SW1 off and wait until the motor has come to a complete stop before switching SW2.

● **US560 and US590** types

(Connection of the included capacitor is necessary.)

Uni-Directional Rotation:

When the rotation direction of motor needs to be reversed, change the terminal used for attaching the power cable, located at the rear panel of control unit, from terminals N (CW)-N (COM) to terminals N (COM)-N (CCW). The power cable connections are located at terminals N (CW)-N (COM) when shipped. This should always be done with the power OFF.

Bi-Directional Rotation:

Install an additional power switch (SW1) and CW/CCW switch (SW2) as shown on page B-216, and use these switches to change the rotation direction. Motor cannot be reversed instantaneously. Turn SW1 off and wait until the motor has come to a complete stop before switching SW2.

■ List of Motor and Control Unit Combinations

Model name for motor and control unit combinations are shown below.

● Single-Phase 110/115 VAC

Output Power	Model	Motor Model	Control Unit Model
6 W (1/125 HP)	US206-401U2	USM206-401W2	USP206-1U2
	US206-001U2	USM206-001W2	
15 W (1/50 HP)	US315-401U2	USM315-401W2	USP315-1U2
	US315-001U2	USM315-001W2	
25 W (1/30 HP)	US425-401U2	USM425-401W2	USP425-1U2
	US425-001U2	USM425-001W2	
40 W (1/19 HP)	US540-401U2	USM540-401W2	USP540-1U2
	US540-001U2	USM540-001W2	
60 W (1/12 HP)	US560-501U2	USM560-501W-1	USP560-1U2
	US560-001U2	USM560-001W-1	
90 W (1/8 HP)	US590-501U2	USM590-501W-1	USP590-1U2
	US590-001U2	USM590-001W-1	

● Single-Phase 220/230 VAC

Output Power	Model	Motor Model	Control Unit Model
6 W (1/125 HP)	US206-402E2	USM206-402W2	USP206-2E2
	US206-002E2	USM206-002W2	
15 W (1/50 HP)	US315-402E2	USM315-402W2	USP315-2E2
	US315-002E2	USM315-002W2	
25 W (1/30 HP)	US425-402E2	USM425-402W2	USP425-2E2
	US425-002E2	USM425-002W2	
40 W (1/19 HP)	US540-402E2	USM540-402W2	USP540-2E2
	US540-002E2	USM540-002W2	
60 W (1/12 HP)	US560-502E2	USM560-502W-1	USP560-2E2
	US560-002E2	USM560-002W-1	
90 W (1/8 HP)	US590-502E2	USM590-502W-1	USP590-2E2
	US590-002E2	USM590-002W-1	