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Item # US540-402E2, AC Speed Control System



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Specifications

Available to Ship¹	Contact your local sales office for product lead-times, available to ship dates and shipping methods.
Product Line	Oriental Motor®
Motor Type	Speed Control Motor
Frame Size	3.54 in
Output Power	40 W (1/19 HP)
Voltage (VAC)	Single-Phase 200-240 VAC
Frequency (Hz)	60 50
Current	0.53 A (220/230 VAC, 50 Hz) 0.55 A (220/230 VAC, 60 Hz)
Shaft/Gear Type	Pinion Shaft (Gearhead required - sold separately)
Type	Lead Wire / Cable
RoHS Compliant	Yes
Safety Standards	UL CSA CCC EN CE
CE Marking	Low Voltage Directives EMC Directive
Electromagnetic Brake	Not Equipped
Insulation Resistance	[Motor] 100 MΩ or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity. [Control Unit] 100 MΩ or more when 500 VDC megger is applied between all the pins and the case after rated operation under normal ambient temperature and humidity.
Dielectric Strength	[Control Unit] Sufficient to withstand 3.0 kV at 60 Hz applied between all the pins and the case for 1 minute after rated operation under normal ambient temperature and humidity. [Motor] Sufficient to withstand 1.5 kV at 50 Hz and 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.
Insulation Class	[Motor] Class B (266°F [130°C])

Ambient Temperature Range	[Motor] 14°F ~ 104°F (-10°C ~ 40°C) (nonfreezing) [Control Unit] 32°F ~ 104°F (0°C ~ 40°C) (nonfreezing)
Ambient Humidity	85% or less (Non-condensing)
Degree of Protection	[Motor] IP20 [Control Unit] IP10

Dimensions

Dimensions Unit = mm (in.)

◇Control Unit

Common to **US206**, **US315**, **US425** and **US540** Types

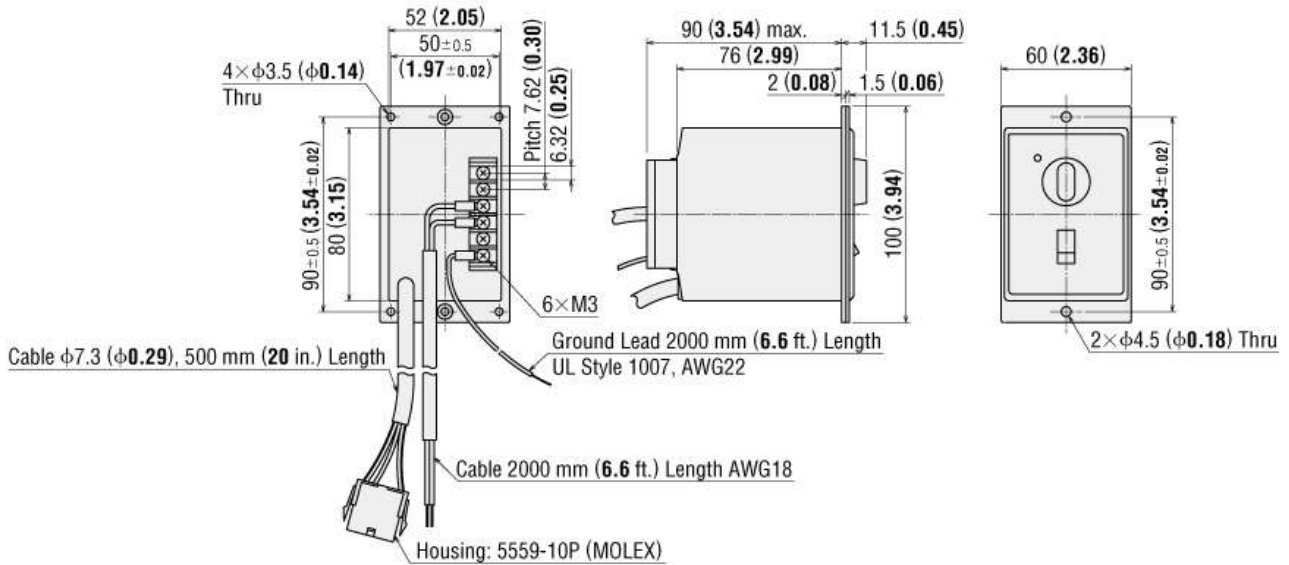
USP206-1U2/USP206-2E2

USP315-1U2/USP315-2E2

USP425-1U2/USP425-2E2

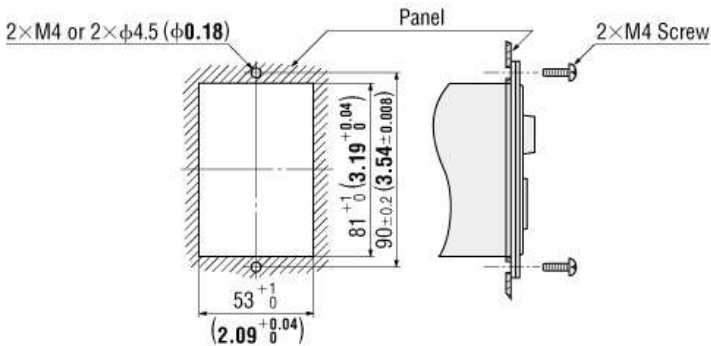
USP540-1U2/USP540-2E2

Mass: 0.45 kg (0.99 lb.)



◇Panel Cut-Out for Control Unit

Installation Method by Cutting a Square Hole



Dimensions Unit = mm (in.)

40 W (1/19 HP)

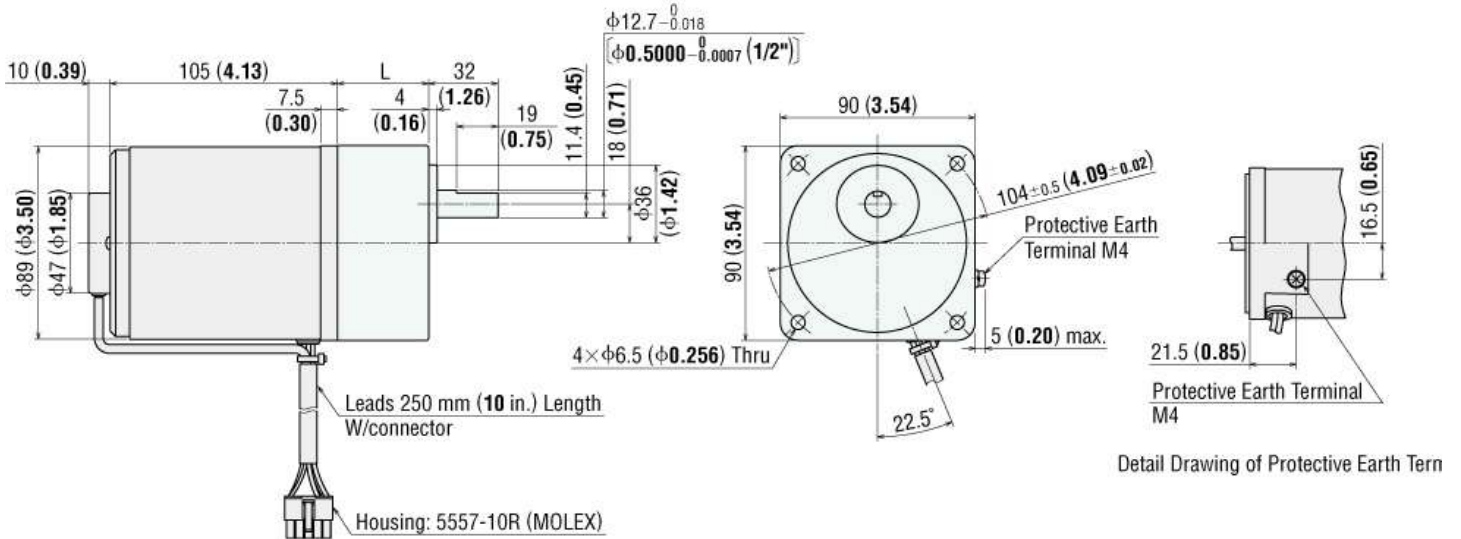
Motor/Gearhead

Model	Motor Model	Gearhead Model	Gear Ratio	L
US540-401U2	USM540-401W2	5GN□SA	3~18	42 (1.65)
US540-402E2	USM540-402W2		25~180	60 (2.36)

Enter the gear ratio in the box (□) within the model name.

Mass: Motor 2.6 kg (5.7 lb.)

Gearhead 1.5 kg (3.3 lb.)



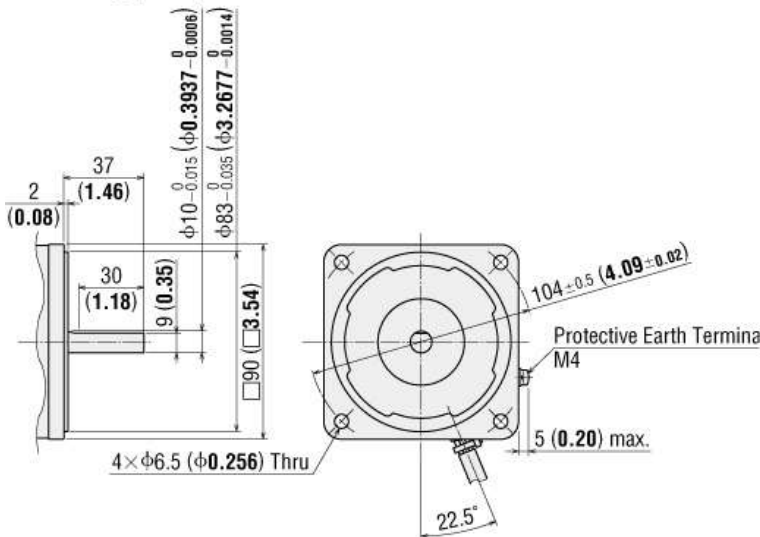
Shaft Section of Round Shaft Type

The motor's dimensions (excluding the shaft section) are the same as those of the pinion shaft types.

US540-001U2, US540-002E2

Motor: USM540-001W2, USM540-002W2

Mass: 2.6 kg (5.7 lb.)

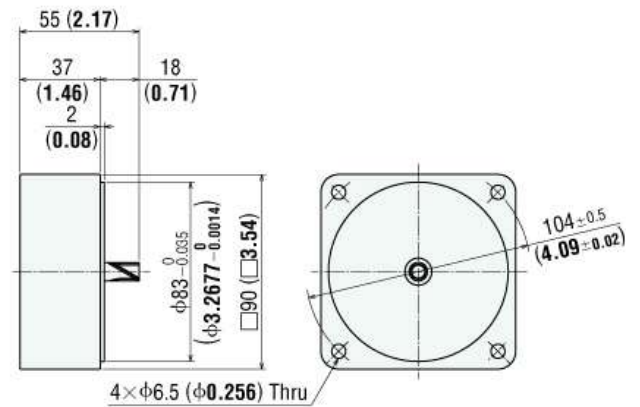


Decimal Gearhead

Can be connected to **US540** pinion shaft type.

5GN10XS

Mass: 0.6 kg (1.32 lb.)



Connection and Operation

Names and Functions of Speed Control Unit Parts

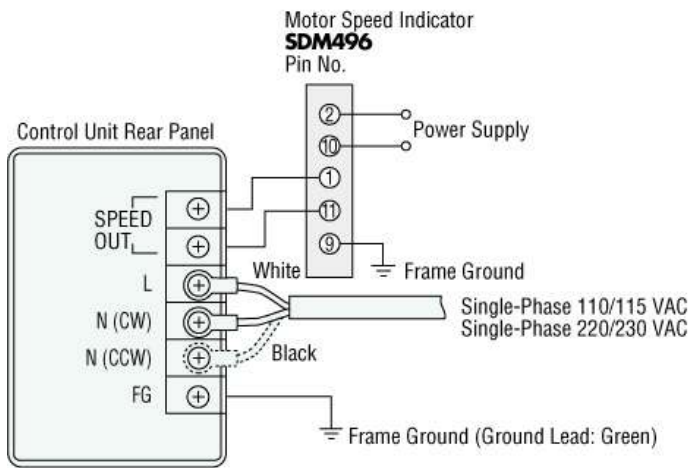
Control Unit Front Panel



Connection Diagrams

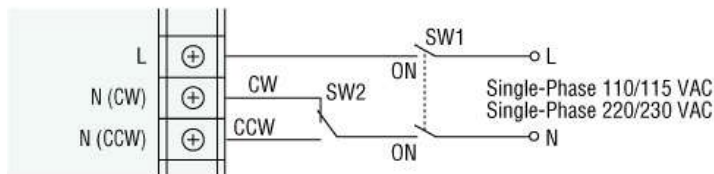
◇ **US206, US315, US425** and **US540** Types

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)

System

System Configuration

Mounting Brackets (Accessories)

Flexible Couplings (Accessories)

Motor Speed Indicator (Accessories)
Indicates motor output shaft speed and gearhead output shaft speed.
⊗ Not a standard certified product

Extension Cables (Accessories)
Cables for extending the wiring distance between the motor and control unit.

Control Unit

AC Power Supply

Right-Angle Gearheads (Sold separately)

Motor

Gearhead (Sold separately)

Capacitor (Included)*

Capacitor Cap (Included)*
Insulating cap for capacitor terminal section.
*Included with the 60 W (1/12 HP) and 90 W (1/8 HP) types.

US Series

● Example of System Configuration

⊗: Required under this system.
○: Optional accessory offered by Oriental Motor

US Series (Pinion Shaft)	+	Long Life, Low Noise Gearhead	Extension Cable (1 m [3.3 ft.])	Mounting Bracket	Flexible Coupling	Motor Speed Indicator
US425-401U2		4GN255A	CC015U05	SOL4U10	MCL30F06F08	SDM496
		⊗	○	○	○	○

● The system configuration shown above is an example. Other configurations are available.

Performance

Speed – Torque Characteristics

US540-402E2

US540-002E2

