

Advanced speed control motor. Sophistication and high performance with greater usability.

One-class higher performance and reliability by advanced D-loop.

Easy-to-use functions and stylish look.

US2 Series, fully-redesigned from the **US** Series, has been greatly advanced in all aspects.

We strongly recommend this product to all the customers who uses speed control motors.



D-loop uses the AC motor for speed control and the speed controller implementing unique technology only from ORIENTAL MOTOR.

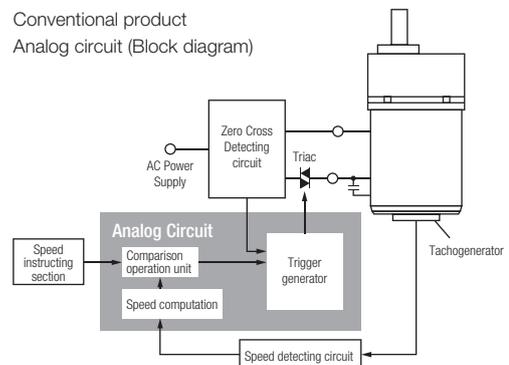
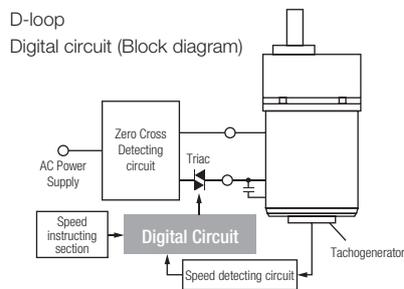
D-loop provides high reliability using closed loop control and compactness of the speed controller from the digitized phase control circuit.

Digitization of control circuit

Digitization applied to most of the conventional analog circuit, which was then incorporated into the CPU, resulting in significant reduction of the circuit volume. This enables us to achieve compactness and competitive prices.

In addition, using the digitization, the deviation between the speed command value and the speed detection value can become closer to zero, improving the speed variation from -5% to $\pm 1\%$ (reference)*.

* Between 0 and the permissible torque 1000 r/min





Easy operation

With the digital display panel and setting dial installed, you can intuitively operate the motor, like "turn as needed and push".

The operation setting is simple to use without using manual.



Turn the dial to set desired value and the speed.

Variable Speed Range
 50 Hz: 90~1400 r/min
 60 Hz: 90~1600 r/min



[Start/Stop]

You can switch start/stop or rotation direction by just one switch operation.

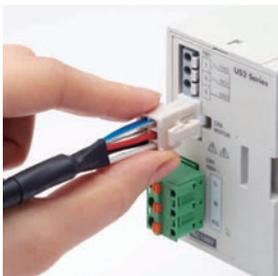
No external switch is required.



[Switching the Rotation Direction]

Simple wiring

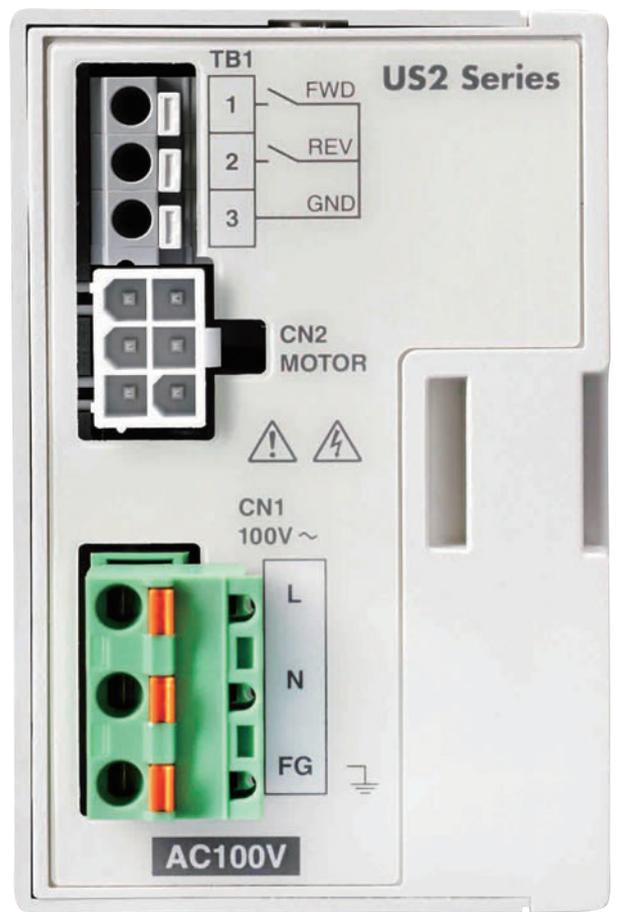
Simply connect the motor with the speed controller and the power supply, the controller will start right away.
The connectors and built-in capacitor of the speed controller save you from wiring problem.



Simple connection using the connector between the motor and the speed controller.
The distance between the motor and the speed controller can be extended up to 10.5 m.



The built-in capacitor do not require wire connection, hence saving space.



Advanced performance

Varies of improvements have been implemented including portions not clearly distinguished from the appearance.

This series adopts the motor gearhead with high permissible torque and high strength.

D-loop achieves stable operation with small speed fluctuation.

Less noise makes the system configuration simple.

You will realize certain advancement once using the product.

Motor gearhead with high permissible torque and high strength

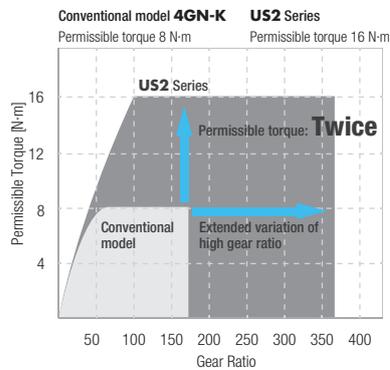
This series uses the motor and gearhead of the **KII** Series.

The gearhead has been strengthened by using a case with its rigidity enhanced with our unique side plate and heat-treated gear.

Parallel Shaft Combination Type “For Gearhead with holding angle of 80 mm”



- ① Permissible Radial Load 450 N
(10 mm from the tip of the output shaft)
- ② Permissible Axial Load 100 N

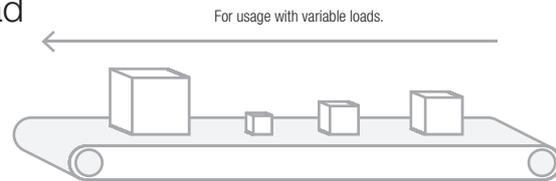


Rated Life of Gearheads

10000 hours (Twice the hours of the conventional product)

Stable operation even with fluctuated load

The rate generator installed in the AC motor always check the speed, thus maintaining the set speed even when the load fluctuates. In addition, digitization of the control circuit has improved the speed regulation from -5% to $\pm 1\%$ (reference value).



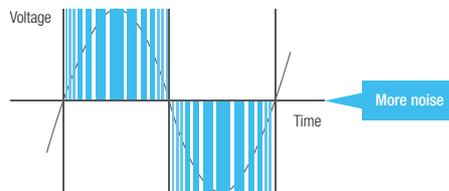
Speed Regulation (For load) $\pm 1\%$ ※ (Reference value)

※Between 0 and the permissible torque 1000 r/min

Simple system configuration with low noises

The motor and speed controller used for the **US2** Series can emit little inherent noises. No peripherals require to reduce noise, hence able to achieve space saving and reduce installation work and cost.

Inverter + Three-Phase motor [PWM control]

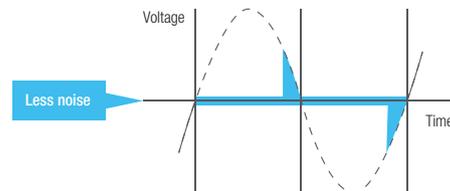


Controlled voltage and frequency 300 times of switching per cycle

[Condition] ● Carrier frequency: 15 kHz

● Set frequency: 50 Hz

US2 Series [Phase control]



Controlled voltage 2 times of switching per cycle

[Condition] ● Power supply frequency: 50 Hz



Actual size

Useful functions

Open the front panel, you can set variety of functions.

For example, you can easily start or stop the motor, or lock data setting to prevent the set speed from changing.

Useful functions will support customers from every perspective.

1 Main Functions

The functions can be set with the FUNCTION key.

🔍 Indication

You can set the display settings of the gear output shaft speed and conveyor transportation speed.

↔ Selection of moving direction

You can select which one to use for operation: the switch on the front panel or external instructions.

🔒 Data protection (Lock)

The data setting can be locked to prevent the set speed from changing.

2 Smooth operation when starting/stopping

Acceleration/deceleration time can be set with the use of acceleration/deceleration time potentiometer.

Setting time: 0.1 ~ 15.0 seconds (By factory default, fixed to 1 second)

※ The acceleration/deceleration time potentiometer must be enabled in advance by the FUNCTION key.

● The instantaneous stop function is not available.

3 Protection of Speed Controller

When overheating, connection failure, or locking occurs in the motor, an alarm is displayed to protect the motor speed controller.

Lineup



Parallel Shaft Combination Type
Maximum Permissible Torque 40 N·m

Output Power 6 W/15 W/25 W/40 W/60 W/90 W

Power Supply Single-Phase 110 VAC/115 VAC
Voltage Single-Phase 220 VAC/230 VAC



Round Shaft Type
Maximum Permissible Torque 0.73 N·m

Output Power 6 W/15 W/25 W/40 W/60 W/90 W

Power Supply Single-Phase 110 VAC/115 VAC
Voltage Single-Phase 220 VAC/230 VAC

● For price and leadtime, please contact the nearest Oriental Motor sales office.

A motor and a gearhead pre-assembled

The combination type comes with a motor and a gearhead pre-assembled, providing the following advantages.

MERIT

01. Easy installation of Motor/Gearhead to Equipment

Do not require hands-on support when installing both motor and gearhead.

02. Do not worry about motor pinion shaft been damaged

The motor pinion shaft will not be damage accidentally at the time of installation, thus no noise emitted from the gear teeth.

03. The gearhead can be replaced. (For Parallel Shaft Combination Type)

For the parallel shaft combination type, the gearhead can be easily replaced when changing the gear ratio.