Bringing Oriental Motor to the Global Market

Industrial – Medical – Packaging – Material Handling – and so much more.

Worldwide, our refined product development enables daily operations across all fields of business. Honoring our corporate philosophy built on over 100 years of history. We continually evolve to meet our customers’ needs—wherever they are.
Products of Oriental Motor

Oriental Motor offers approximately 50,000 items as standard products. Your optimal motion system can be found among our extensive product line-up. From our industry leading αSTEP Hybrid family of positioning products, high torque stepper motors to our speed control or constant speed motors designed for value and long life. For thermal management we offer a wide range of cooling fans, alarms and accessories.

αSTEP Hybrid Control System

- Mechanical Absolute Encoder
- Stepper Motors
- Closed Loop
- Positioning, Speed, Torque Control
- Electromagnetic Brake Types
- Geared Types
- Linear & Rotary Actuators
- Transport
- Push/Pull
- Lifting
- Gripping
- Rotating

Network – Controllers

- EtherCAT
- EtherCAT-IP
- Modbus (RTU)
- CC-Link
- MECHATROLINK
- Single Axis Controller

Stepper Motors

- 2 Phase 1.8°, 0.9°
- 5 Phase 0.72°, 0.36°
- Drivers
- Encoder Motors
- Electromagnetic Brake Types
- Geared Types

Brushless Motors

- Speed Control
- Compact Yet Powerful
- Excellent Speed & Torque Performance
- Space Saving
- Energy Saving
- No Brushes = No Maintenance
- AC/ DC Input
- Easy Wiring, Easy Set Up
- Simple to Use Controls
- Battery-Operated for AGV
- Communication through Modbus (RTU) and CANopen

Standard AC Motors

- 1 W (1/750 HP)~3 HP
- Single & 3 Phase
- Fixed Speed
- Speed Control
- Electromagnetic Brake Types
- Geared Types
- AC or DC Input
- Alarms
- Axial Flow
- Blowers
- Cross Flow
- Thermostats
- Enclosure Types

Cooling Fans

- AC or DC Input
- Alarms
- Axial Flow
- Blowers
- Cross Flow
- Thermostats
- Enclosure Types

Short Lead Times

Delivering What is Needed, When it is Needed.

Our manufacturing system allows the manufacturing of an order with little notice, in any quantity requested. Additionally, our one-by-one process allows us to manufacture one product as easily as one hundred.

Our main products are stocked and able to ship from the warehouse closest to your ship to location.
Oriental Motor Corporate Overview

Company: ORIENTAL MOTOR CO., LTD.
Founded: 1885
Established: 1950
Representative: President Eiji Kawahito
Capital: 4.1 billion yen
Sales: Consolidated 52.1 billion yen (At the end of March 2021)
Number of Employees: Consolidated 3,119 (At the end of March 2021)

Company Activity: Development, manufacture and sale of small precision motors and electronic circuits for motion control
Head Office: 4-8-1, Higashiueno, Taito-ku, Tokyo, 110-8536, Japan

R&D Center: Tsuruoka-Chuo Plant
Factories:
- Tsuruoka-Chuo Plant
- Tsuruoka-Nishi Plant
- Soma Plant
- Tsukuba Plant
- Tsuchiura Plant
- Kashiwa Plant
- Kofu Plant
- Takamatsu-Kozai Plant
- Takamatsu-Kokubunji Plant
- Manufacturing Technology R&D Center (Joso, Ibaraki)

Tsuruoka-Chuo Plant

Tsuruoka-Nishi Plant
Manufacturing of standard AC motors, brushless motors and gearheads.

Tsukuba Plant
Development of various motor and control circuits. Manufacturing of control motors. Evaluating, analyzing, and measuring various products.

Tsuchiura Plant
Development and manufacturing of gearheads and motorized actuators.

Kashiwa Plant
Research and development on the ideal accessories and peripheral equipment for every product.

Kofu Plant
Manufacturing and production technology development of control circuits. Evaluating, analyzing and measuring various products.

Takamatsu-Kozai Plant
Development and manufacturing of stepper motors.

Takamatsu-Kokubunji Plant
Manufacturing of stepper motors.
Oriental Motor Supports Global Manufacturing

Since its founding in Japan in 1885, Oriental Motor globally has been providing the optimal motion systems as part of our total service, to meet the widest market demands. For over a century we have concentrated on technological advancement and product design improvement. This emphasis is evident in the sophisticated devices that we market today. Oriental Motor’s sales and service network is international, with offices throughout North America, Europe and Asia. Domestically, ORIENTAL MOTOR U.S.A. CORP. was established in 1978. We produce a wide variety of fractional horsepower products to meet all your motion control needs.

Quality

In order to meet all motion control needs, we expanded our product line. Our accumulated technological excellence reflects our long years of dedication to quality. With our strengths, such as high torque, high precision, long life, low noise and ease of selection, our established systems aim to produce products that our customers can rely on.

Speed

You can order the products listed in our catalog or website anytime, anywhere and in any quantity you need. We deliver orders of any size, from one piece or more, with the shortest lead-times. With our stable production, quality control and logistics systems, we relentlessly pursue improvements and excellence in order to continue providing our products and services to our customers all over the world.

Product & Technology Training

Virtual or On-Site Technical Seminar
Oriental Motor offers virtual or in-person training and product demonstrations at your location. Contact your local sales office or our Technical Support Team for more information or to schedule a training seminar.

Lunch & Learn Seminars
You can schedule an on-site lunch & learn seminar with our Sales and Application Engineer staff. For this one-hour session, Oriental Motor will discuss our latest technology for solving simple to challenging motion requirements.
Oriental Motor provides customer support for products and services.

At Oriental Motor, we carry nearly 50,000 standard products, including motors, actuators and fans.

With our solid production, quality control and logistics systems, Oriental Motor products can be delivered to customers when they need it, in as little as 1 day, starting from an order of just 1 piece.

Oriental Motor also offers an extensive support system to help customers select the optimal product. From selection, design and equipment setup, to after-sales services, Oriental Motor provides support for all of our customers’ needs.

Contact Us

- Estimates
- Product Inquiries
- Orders
- General Information

By Live Chat
www.orientalmotor.com
“Need Help?” popup
Available - Monday to Friday,
8:30am EST to 5:00pm PST

By Email
www.orientalmotor.com/contact
Technical Support
Customer Service / Sales

By Phone
Customer Support Center
Support: 1-800-468-3982
Sales: 1-800-448-6935

Hours - Monday to Friday,
8:30am EST to 5:00pm PST

Oriental Motor Offers:
- Fast Delivery
- No Minimum Order Quantity
- Dedicated Support
See Full Product Details
Visit our website for expanded product information, specifications, CAD, accessories and more.

Find the Right Solution from Approximately 50,000 Products

Search
Search by part number, keyword, or specification.

Motor Sizing
Easily calculate motor requirements for specific applications.

White Papers
Learn more about the technology used in our products.

Engineering Resources
Refer to videos, blog, and forum for motion control tips.

Order Online
Convenient online ordering is available.

My Account
Register for My Account to view order history and receive special content.

For technical information searches, please use our website.

Stay in Touch

Newsletter  Engineering Notes  Social Media

Q & A Forum  Online Inquiries  On Demand Technical Videos

Live Chat
Live chat is available during regular office hours.

White Papers
Learn more about the technology used in our products.

Order Online
Convenient online ordering is available.

My Account
Register for My Account to view order history and receive special content.

Stay in Touch

Newsletter  Engineering Notes  Social Media

Q & A Forum  Online Inquiries  On Demand Technical Videos
Hybrid Control System

Position, Speed and Torque Control

What is \(\alpha\)STEP?

\(\alpha\)STEP is a “hybrid” stepper motor-based motor & driver that together, performs independent control which combines the advantages of “open loop” and “closed loop” performance. In addition to high-accuracy positioning and speed control, it can perform control that restricts the motor’s generated torque to a user set value (such as push-motion operation).

Normal Condition (Positioning deviation is less than \(\pm 1.8\)°)
Motor is controlled in open loop mode like a stepper motor.

Overload Condition (Positioning deviation is \(\pm 1.8\)° min.)
The closed loop mode is engaged to maintain the positioning operation.

Performance

“Rated output” is not listed because \(\alpha\)STEP has no “rated speed.” Refer to the graph on the right to compare rated torque of \(\alpha\)STEP to watts of servo motor’s rated output torque.

 Ideal Applications for \(\alpha\)STEP

Complete synchronization with commands
Complete stop during standby and maintenance of position (No hunting)
Frequent repetitive starting and stopping
**αSTEP Stopping Accuracy**

The stopping accuracy of a typical αSTEP is ±0.05° (under no load), which is equivalent to that of servo motors. These graphs show the actual measured stopping accuracies when an αSTEP and an AC servo motor were rotated once.

- **Stopping accuracy of αSTEP (Actual measurements)**
- **Stopping accuracy of AC servo motor with a common 20-bit encoder (Actual measurements)**

The stopping accuracy of an AC servo motor is the encoder resolution ±1 pulse. The above shows the actual values that result from differences in the encoder’s assembly. ✽1,048,576 p/rev at 20 bits

### Support Software MEXE02

**Operating Data & Parameter Settings**
Setting of operation data and parameters easily via computer.

The same settings can be transferred and saved.

**Teaching & Remote Operation**
The operation command information can be input directly into the driver.

Multi-monitoring enables remote operation and teaching while monitoring.

### Various Monitoring Functions

**I/O Monitoring**
Used for post-wiring I/O checks or I/O checks during operation.

**Waveform Monitoring**
Helpful at start-up or adjustments, the operational state can be checked by an oscilloscope-like image.

**Alarm Monitoring**
When an abnormality occurs, the details of the abnormality and the solution can be checked.

Available for free download on the website.
Advantages of the AZ Series

The AZ Series ΩStep hybrid control system features absolute sensing using a multiple-rotation mechanical sensor. The system constantly monitors the motors position even during a sudden power off situation.

- **Mechanical-Type Sensor / Multiple-Rotation Absolute System**
  ±900 rotations the driver knows where the motor position is.
  No return to home is necessary.

- **Home Setting Method Improves Return-to-Home Accuracy**
  Home operation does not depend on a sensor sensitivity.

- **No External Sensors or Batteries Required**
  The driver uses the motor sensor to determine rotor position

- **No Hunting / No Gain Tuning**
  Utilizes the high response and mechanical advantage of a Stepper Motor

- **Continues Operation Even with Sudden Load Fluctuations and Sudden Acceleration**
  Runs in normally open loop control. If overloaded, switches to closed loop control.

- **Monitoring Functions**
  Speed, motor, driver temperature, load factor, odometer and much more can easily be monitored.

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No External Sensors Required with the AZ Series

The AZ Series driver uses the positioning information managed by the mechanical absolute sensor. The position information can be preserved, even if the power turns off or if the cable between the motor and the drive is disconnected. No battery required.

**Shortened Reset Time** ① **High Speed Return-to-Home**

Because return-to-home is possible without using an external sensor, return-to-home can be performed at high speed without taking the sensor sensitivity into account, allowing for a shortened machine cycle.

**Previous Home Detection for Control Motor**

The home position is detected at low speed by detecting the limit sensor (±LS) and home sensor (HOME).

**Return-to-Home Operation of AZ Series**

There is no need to detect the limit sensor, and it can travel directly at high speed to the home position recorded by the Absolute Sensor.

**Shortened Reset Time** ② **Return-to-Home is not Necessary**

If the power shuts down during a positioning operation, the positioning information is retained. For built-in controller types, positioning operations can restart without performing a return-to-home operation when recovering from an emergency stop of the production line or a blackout.

**Built-in Controller Type**

Emergency Stop

Can be Restarted without Returning to Home
Home Setting Method

The home position can be easily set by pressing a switch on the drivers surface, which is saved by the Mechanical Absolute Encoder. In addition, home setting is possible with the MEXE02 data setting software or external input signal.

Home position is easy to adjust by moving the motor to a desired position manually.
### AC Input – Single Axis

**AZ Series**

| Frame Sizes | 1.65 in (42 mm), 2.36 in (60 mm), 3.35 / 3.54 in (85 / 90 mm) |
| Holding Torque | 42 oz-in—974 lb-in (0.3—110 N·m) |
| Resolution (P/R) | 1000 |
| Options | Electromagnetic Brake |
| Gear Types | Taper Hob / Planetary / Right Angle / Harmonic |
| Driver Types | Pulse / RS-485 / EtherNet/IP / EtherCAT / Profinet |
| Main Power Supply | Single-Phase (VAC) 100-120 / 200-240 |
| Control Power Supply (VDC) | 24 |
| Starting From (Motor + Driver + Cable) | $963.00 |

### DC Input – Single Axis

**AZ Series**

| Frame Sizes | 0.79 in (20 mm), 1.10 in (28 mm), 1.65 in (42 mm), 2.36 in (60 mm) |
| Holding Torque | 2.8 oz-in—354 lb-in (0.02—40 N·m) |
| Resolution (P/R) | 1000 |
| Options | Electromagnetic Brake |
| Gear Types | Taper Hob / Planetary / Right Angle / Harmonic |
| Driver Types | Pulse / RS-485 / EtherNet/IP / EtherCAT / Profinet |
| Power Supply | VDC 24/48 |
| Starting From (Motor + Driver + Cable) | $773.00 |

*Profinet Only

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**Multi-Axis (DC Input)**

2, 3 or 4 axis type

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**Host System**

- Master controller
- **EtherCAT**

**Advantages for Uniting Four Drivers into One Package**

- Space saving, reduced wiring
- Reduced Cost

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**Mini Driver**

- 24 mm (0.94 in.)
- 47 mm (1.85 in.)

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**Modular Automation Products**

Refer to Page 13.

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**FA Network Compatible**

- Host Control Device
- **PC**
- Modbus (RTU)

*By using **AZD-KR2D** in combination with a network converter (gateway), control by CC-Link, MECHATROLINK or EtherCAT can be supported.*
Modular Automation

The AZ Series family of actuators, motors and mini driver are designed for automating manufacturing lines. Designed to be flexible, robust and easy to use. Save time, reduce space by using Modular Automation products.

The Flexible Automation Line Concept

- The production line is lightweight and features modular processes
- Eliminates the routing of AC power lines
- Able to be reconfigured many times as needed

Elements Needed to Achieve

- Battery-powered / DC power input / lightweight & compact
- Flexibility in Production Layout
- Productivity Improvements
- High-Mix, Low-Volume Production
- Resolve Labor Shortages
- Space Saving
- Energy Saving

Modular Automation Compatible Products

- DC Input Motors
- Hollow Rotary Actuators
- Rack-and-pinion Systems
- Electric Linear Slides
- Electric Grippers
- Compact Electric Cylinders

For Example, These Motor & Drivers Can Contribute to Flexibility within the Production Line Layout.

- Articulated Arm Type Transportation Robots
- Lifting and Lowering Type Transportation Robots
- Conveyor Type Transportation Robots

Robot Controllers

MRC01

Multi-axis robot controller, easy to use, program, ideal for in-house built applications. See website.

Brushless Motors

BLV Series R Type

Redesigned, compact driver and motor. Speed range of 1 to 4,000 r/min. Designed to support battery-powered applications.

Vertically Articulated Robot
Articulated drive/AZ Series motor, mini driver
Hand/electric gripper EH Series, mini driver
Robot controller/MRC01

Lifting and Lowering Equipment
Rack-and-pinion system L Series
Conveyor E
BLV Series R Type

Transportation Robot (Wheel Drive)
Linear & Rotary Actuators

A broad selection of linear & rotary electric actuators using the **AZ Series** hybrid control system as the driver source are available for a wide range of motion requirements.

- **Electric Slide**
- **Electric Cylinder**
- **Electric Linear Slides EZS Series**
  - Reversed Motor Type
  - Space saving due to the reversed motor.
  - Support guide and installation brackets supplied by the customer.
- **Electric Cylinders EAC Series**
  - Reversed Motor Type with Shaft Guide Cover
  - Space-saving due to the reversed motor.
- **Electric Linear Slides EZS Series**
  - X-Axis
  - Straight Type
- **Compact Electric Cylinder**
- **Gripper**
  - Gripper Arms not included
  - Large load
- **Rack & Pinion**
  - Large-Diameter Hollow Output Table
  - Makes Simple Wiring and Piping Possible
- **Hollow Electric Rotary Actuator**
  - Vertical Mount Type
  - Horizontal Mount Type
Linear Motion / Transport

**EZS Series**

**EZS Series: with AZ Series**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Speed (mm/s)</td>
<td>800</td>
</tr>
<tr>
<td>Max. Transportable Mass - Vertical (kg)</td>
<td>30</td>
</tr>
<tr>
<td>Max. Transportable Mass - Horizontal (kg)</td>
<td>60</td>
</tr>
<tr>
<td>Repetitive Positioning Accuracy (mm)</td>
<td>±0.02</td>
</tr>
<tr>
<td>Stroke Length (mm)</td>
<td>50 - 850</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC 24/48</td>
</tr>
<tr>
<td>Single-Phase (VAC)</td>
<td>100-120 / 200-240</td>
</tr>
<tr>
<td>Three-Phase (VAC)</td>
<td>200-240</td>
</tr>
<tr>
<td>Starting From (Actuator + Driver + Cable)</td>
<td>$1,412.00</td>
</tr>
</tbody>
</table>

- High Rigidity / High Accuracy Guide
- Slim with High Transportable Mass
- Traveling Parallelism of 0.03 mm or Less

**EAC Series**

**EAC Series: with AZ Series**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Speed (mm/s)</td>
<td>600</td>
</tr>
<tr>
<td>Max. Transportable Mass - Vertical (kg)</td>
<td>28</td>
</tr>
<tr>
<td>Max. Transportable Mass - Horizontal (kg)</td>
<td>60</td>
</tr>
<tr>
<td>Repetitive Positioning Accuracy (mm)</td>
<td>±0.02</td>
</tr>
<tr>
<td>Stroke Length (mm)</td>
<td>50 - 300</td>
</tr>
<tr>
<td>Thrust Force (N)</td>
<td>400</td>
</tr>
<tr>
<td>Push Force (N)</td>
<td>500</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC 24/48</td>
</tr>
<tr>
<td>Single-Phase (VAC)</td>
<td>100-120 / 200-240</td>
</tr>
<tr>
<td>Three-Phase (VAC)</td>
<td>200-240</td>
</tr>
<tr>
<td>Starting From (Actuator + Driver + Cable)</td>
<td>$1,228.00</td>
</tr>
</tbody>
</table>

- High Strength, Space Savings
- High Rigidity / High Accuracy Guide
- With or Without Guide Cover
- High Strength, Space Savings

Push / Pull
**DR Series**  
- Micromovement and High Positioning Accuracy  
- Compact, Space Saving

### DR Series: with AZ Series

<table>
<thead>
<tr>
<th>Frame Size (mm)</th>
<th>20 / 28 / 42 / 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Speed (mm/s)</td>
<td>200</td>
</tr>
<tr>
<td>Max. Transportable Mass - Vertical (kg)</td>
<td>50</td>
</tr>
<tr>
<td>Max. Transportable Mass - Horizontal (kg)</td>
<td>50</td>
</tr>
<tr>
<td>Max. Thrust Force (N)</td>
<td>500</td>
</tr>
<tr>
<td>Repetitive Positioning Accuracy (mm)</td>
<td>±0.003 / ±0.005 / ±0.01</td>
</tr>
<tr>
<td>Stroke Length (mm)</td>
<td>25 – 50</td>
</tr>
</tbody>
</table>

**Options**  
- Brake / Guide / Knob / Ball Screw  
- Cover / Installation Plate

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>VDC 24/48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting From (Actuator + Driver + Cable)</td>
<td>$1,196.00</td>
</tr>
</tbody>
</table>

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**EH Series**  
- Small and Light Weight  
- High Reliability, Closed Loop Control

### EH Series: with AZ Series

| Maximum Grip Force (N) | 25 |
| Repetitive Positioning Accuracy (mm) each side | ±0.02 |
| Backlash (mm) each side | 0.1 |
| Stroke (mm) | 25 (12.5 each side) |
| Maximum Speed (mm/s) | 156 (78 each side) |
| Push Speed (mm/s) | 20 (10 each side) |
| Minimum Travel Amount (mm) | 0.02 (0.01 each side) |
| Permissible Load (N) | 5 |
| Static Permissible Moment (N·m) | MP:1.2 MY:0.12 MR: 0.4 |

**Power Supply**  
- VDC 24/48

| Starting From (Actuator + Driver + Cable) | $1,297.00 |

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**L Series**  
- Compact and High Strength

### L Series: with AZ Series

<table>
<thead>
<tr>
<th>Frame Size (mm)</th>
<th>60/80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Speed (mm/s)</td>
<td>500</td>
</tr>
<tr>
<td>Max. Transportable Mass (kg)</td>
<td>100 (20 mm/s)</td>
</tr>
<tr>
<td>Max. Thrust Force (N)</td>
<td>1008 (20 mm/s)</td>
</tr>
<tr>
<td>Max. Stroke Length (mm)</td>
<td>1000</td>
</tr>
<tr>
<td>Type</td>
<td>Horizontal / Vertical</td>
</tr>
</tbody>
</table>

**Option**  
- Brake

**Power Supply**  
- VDC 24/48  
- Single-Phase (VAC) 100-120, 200-240  
- Three-Phase (VAC) 200-240

| Starting From (Actuator + Driver + Cable) | $1,328.00 |
### Vertical Mount: with AZ Series

<table>
<thead>
<tr>
<th>Frame Size (mm)</th>
<th>60/85/130/200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Hollow Section (mm)</td>
<td>28/33/62/100</td>
</tr>
<tr>
<td>Permissible Torque (N·m)</td>
<td>50</td>
</tr>
<tr>
<td>Permissible Axial Load (N)</td>
<td>4000</td>
</tr>
<tr>
<td>Lost Motion</td>
<td>2 arcmin</td>
</tr>
<tr>
<td>Option</td>
<td>Electromagnetic Brake</td>
</tr>
<tr>
<td>Repetitive Positioning Accuracy</td>
<td>±15 sec / ±0.004°</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC 24/48</td>
</tr>
<tr>
<td></td>
<td>Single-Phase (VAC) 100-120 / 200-240</td>
</tr>
<tr>
<td></td>
<td>Three-Phase (VAC) 200-240</td>
</tr>
<tr>
<td>Starting From (Actuator + Driver + Cable)</td>
<td>$1,537.00</td>
</tr>
</tbody>
</table>

### Horizontal Mount: with AZ Series

<table>
<thead>
<tr>
<th>Frame Size (mm)</th>
<th>85/130</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of Hollow Section (mm)</td>
<td>33/62</td>
</tr>
<tr>
<td>Permissible Torque (N·m)</td>
<td>50</td>
</tr>
<tr>
<td>Permissible Axial Load (N)</td>
<td>2000</td>
</tr>
<tr>
<td>Lost Motion</td>
<td>6 arcmin</td>
</tr>
<tr>
<td>Option</td>
<td>Electromagnetic Brake</td>
</tr>
<tr>
<td>Repetitive Positioning Accuracy</td>
<td>±0.30 sec / ±0.008°</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC 24/48</td>
</tr>
<tr>
<td></td>
<td>Single-Phase (VAC) 100-120 / 200-240</td>
</tr>
<tr>
<td></td>
<td>Three-Phase (VAC) 200-240</td>
</tr>
<tr>
<td>Starting From (Actuator + Driver + Cable)</td>
<td>$2,613.00</td>
</tr>
</tbody>
</table>
Overview

Motor control via network communication can detect the status of the motor directly by data. This results in a shorter development period, increased reliability and maintainability of the equipment. By expanding the network supported product line, Oriental Motor meets diversifying network environments of factory automation (FA).

Oriental Motor offers single axis EtherNet/IP or EtherCAT communications in our AZ Series family of stored data drivers.

Different part numbers required

Ethernet/IP™ is a trademark of ODVA, Inc
EtherCAT™ is a registered trademark licensed by Beckhoff Automation GmbH, Germany
PROFINET is a trademark or registered trademark of PROFIBUS Nutzerorganisation e.V. (PNO).

● EDS File for EtherNet/IP
An EDS file has been prepared to allow EtherNet/IP-compatible products to be used more easily.
The EDS file can be downloaded from the Oriental Motor website.

● ESI File for EtherCAT
An ESI file has been prepared to allow EtherCAT compatible products to be used more easily.
The ESI file can be downloaded from the Oriental Motor website.

● GDS File for PROFINET
A GDS file has been prepared to allow PROFINET-compatible products to be used more easily.
The GDS file can be downloaded from the Oriental Motor website.
Modbus (RTU)

Oriental Motor offers single axis Modbus (RTU) communication in our AZ, PKP/CVD RS-485 Type, BLV R Type and linear based products. #Modbus is a registered trademark of Schneider Automation Inc.

Built-In Controller (Stored Data Type)

For I/O or Network control, stored data drivers with built-in controller ability (stored data type) using our MEXE02 Support Software (Free Download) is available in our AZ Series and BLV Series R Type of products.

The operating data is set in the driver, and is then selected and executed from the host system.
- Simple Wiring
- No Additional Pulse Module Required
- I/O Control
- Driver / Motor Monitoring
- Daisy Chain up to 16 Drivers
- Use with MEX02 Support Software

Single Axis Programmable Controller (Stored Program Type)

The SCX11 universal controller is a highly functional and sophisticated controller, equipped with program editing and execution functions and able to control the motor via various serial ports such as USB, RS-232C and CANopen.

- Stand Alone - Pulse Generator
- Store up to 100 Sequence Programs
- External Encoder Input
- USB Port Standard
- Direct Command Operation via CANopen
- 24 VDC
- List Price: $383.00

Gateways

Oriental Motor offers additional Gateway Network Converters.

✽ EtherCAT® is a registered trademark licensed by Beckhoff Automation GmbH, Germany
✽ MECHATROLINK® is a registered trademark of MECHATROLINK Members Association
✽ SSCNETIII/H is a registered trademark of Mitsubishi Electric Corporation
Oriental Motor offers a wide range of high torque stepper motors in frame sizes from 0.79 in. (20 mm) up to 3.54 in. (90 mm). Geared types, encoders, brake options and various motor windings are offered.

For improved performance, full time microstepping drivers with Smooth Drive are available, reducing noise and vibration and controlling heat output.

### Stepper Motor Types

- **Standard**
- **High-Resolution Type**
- **Encoder Type**
  - Encoder
- **Electromagnetic Brake Type**
  - Electromagnetic Brake Unit
- **Geared Type**
  - Gear Unit
- **Flat Type**

### PKP Stepper Motor Features

- **Increased Torque: New PKP to PK**
  - Constant Current Driver Power Supply Voltage: 24 VDC
  - With Clean Dampener: J=0.4×10⁻⁷ kg·m² (Only for PK245DB)

- **New Design: Run Cooler or Downsize**
  - Smallest Air Gap
  - Optimized Magnetic Design of Rotor/Stator
  - Larger Bearing Improved Strength
  - Larger Diameter Shaft
PKP Series

● High Torque, Low Vibration, Ridged Construction, Downsizing
1.8°/0.9°/0.72°/0.36°

PKP Series

| Frame Sizes | 0.79 in (20 mm), 1.10 in (28 mm), 1.38 in (35 mm) |
| Holding Torque | 2.8 oz-in ~ 1062 lb-in (0.02 ~ 120 N·m) |
| Resolution (P/R) | 2 Phase (1.8°/0.9°) |
| Options | Flat Motor / Electromagnetic Brake / Encoder |
| Gear Types | Spur / Spur with Center Shaft / Tapper Hob / Planetary / Harmonic |

Starting From (Motor) $46.00

*Varies by items. See the website for the details.

CVD Driver

DC Input

CVD Series

| Motor Types (Bi-polar) | 2 Phase (1.8°/0.9°) |
| Output Current (Amps) | 0.5–4.5A |
| Smooth Drive | 2048 per step |
| Max Resolution | 125,000 steps per rev. |
| Power Supply | 24VDC |
| Input Current (Amps) | 0.5–4.8A |
| Starting From (Driver) | $143.00 |

*See individual driver for ratings

● Low Vibration with Full-Time Microstepping

Smooth Drive Control Reduces Step Vibration

Vibration level has been significantly improved in all speed ranges.

● Industry’s Top, Compact, High Performance Driver

52.5 mm (2.07 in.)

24.5 mm (0.96 in.)

85 mm (3.35 in.)

Mass 20 g (0.71 oz) to 70 g (2.47 oz)

(Differs according to the driver type.)
Brushless motors offer excellent energy efficiency and savings equivalent to IE4, excellent speed stability, as well as a wide speed control range. Brushless motors use permanent magnets in the rotor of three-phase motors. With Brushless motors there is no brush and commutator resulting in a maintenance free motor.

On the inside of the stator, there is a built-in hall effect IC (magnetic sensor) that detects magnetic field changes with the permanent magnets. The feedback signals from the hall effect IC of the motor are compared with the setting speed by the driver and the motor speed is adjusted continuously.

Constant Torque:
Speed is maintained even with changing loads

● **Wide Speed Range:** 80–4000 r/min

● **Smaller than AC Motors**

● **±0.2% Speed Stability**
  - Comparison of Speed Variation (Reference value)

● **Degree of Protection – IP66**

● **Connector Structure**

● **Selectable Cable Direction**

Quick lock connector style is now available on our AC Input Brushless Motor Series (BMU/BLE2)

Energy Savings
- Power consumption reduced by about 27%

Cable outlet in output shaft direction “F Type”  
Cable outlet opposite to output shaft direction “B Type”  
Cable outlet in vertical direction “V Type” 
Availability varies by product Series.
Hybrid Control

AZ Series

Stepper Motors

Before Selection / Warranty

Automated Guided Vehicles

Cooling Fans

Geared Options

<table>
<thead>
<tr>
<th>Parallel Shaft GFV Gear</th>
<th>Parallel Shaft JV Gear</th>
<th>Foot Mounted Parallel Shaft JB Gear</th>
<th>Right Angle Hollow Shaft JH Gear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radial Load</td>
<td>Radial Load</td>
<td>Radial Load</td>
<td>Radial Load</td>
</tr>
<tr>
<td>Axial Load</td>
<td>Axial Load</td>
<td>Axial Load</td>
<td>Axial Load</td>
</tr>
<tr>
<td>IP66</td>
<td>IP66</td>
<td>IP66</td>
<td>IP66</td>
</tr>
<tr>
<td>50:1 Gear Reduction; 3000 RPM at Motor</td>
<td>450:1 Gear Reduction; 3000 RPM at Motor</td>
<td>600:1 Gear Reduction; 3000 RPM at Motor</td>
<td>200:1 Gear Reduction; 3000 RPM at Motor</td>
</tr>
<tr>
<td>Radial (Overhung) Load</td>
<td>Radial (Overhung) Load</td>
<td>Radial (Overhung) Load</td>
<td>Radial (Overhung) Load</td>
</tr>
<tr>
<td>280 lb</td>
<td>1163 lb</td>
<td>1331 lb</td>
<td>772 lb</td>
</tr>
<tr>
<td>Axial (Thrust) Load</td>
<td>Axial (Thrust) Load</td>
<td>Axial (Thrust) Load</td>
<td>Axial (Thrust) Load</td>
</tr>
<tr>
<td>67 lb</td>
<td>154 lb</td>
<td>185 lb</td>
<td>176 lb</td>
</tr>
<tr>
<td>Rated Torque</td>
<td>Rated Torque</td>
<td>Rated Torque</td>
<td>Rated Torque</td>
</tr>
<tr>
<td>483 lb-in</td>
<td>3814 lb-in</td>
<td>5159 lb-in</td>
<td>1575 lb-in</td>
</tr>
</tbody>
</table>

Hypoid Gear

*Hypoid gears allow for high permissible torque without saturation even at higher gear ratios*

Helical Gear

*Helical gears allow for the motor torque to be fully utilized even at the highest gear ratio.*

Hollow Shaft Flat Gear (FR Type)

- High Permissible Torque
- Space Saving
- Long Life
- Suitable for AGV Designs

H1 Food-Grade Grease (IP66)

H1 Food-Grade Grease is a grease registered by the NSF as part of a category where the "lubricants used in food-processing environments where there is the possibility of incidental food contact."

Watertight, Dust-Resistant (IP67)

Special Coating

Stainless Steel Output Shaft & Parallel Shaft

Corrosion Prevention (Electrical corrosion)

Plating (Metal connector)

Oil Seal Lubricant
Uses H1 grease

Gear Lubricant
Uses H1 grease

Stainless Shaft
Uses H1 grease

Bearing Lubricant
Uses H1 grease

*KBS Series AC Motors.*
AC Input Motor / Driver

BMU Series

- Simple Driver Controls
- Easy Wiring & Set Up
- 4 Speeds - Data Setting
- Digital Display Built into the Driver
- IP66/67 Motors

BMU Series

<table>
<thead>
<tr>
<th>Output Power - Watts (HP)</th>
<th>30 W (1/25 HP) – 400 W (1/2 HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size - mm (in.)</td>
<td>60 mm (2.36 in.) – 110 mm (4.33 in.)</td>
</tr>
<tr>
<td>Speed Range (r/min)</td>
<td>80 – 4000</td>
</tr>
<tr>
<td>Option</td>
<td>IP67 Type</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel, Foot, Right Angle</td>
</tr>
<tr>
<td>H1 Food Grade Grease</td>
<td>Parallel Shaft type, FR Hollow Shaft</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Single-Phase (VAC)</td>
</tr>
<tr>
<td></td>
<td>Three-Phase (VAC)</td>
</tr>
<tr>
<td></td>
<td>100-120 / 200-240</td>
</tr>
<tr>
<td></td>
<td>200-240</td>
</tr>
<tr>
<td>Starting From (Motor + Driver + Cable)</td>
<td>$381.00</td>
</tr>
</tbody>
</table>

BLE2 Series

- Easy Set up via Front Control Panel
- Side By Side Mounting
- Up to 16 Preset Speeds
- External DC Voltage Control
- MEXEO2 Support Software
- IP66/67 Motors

BLE2 Series

<table>
<thead>
<tr>
<th>Output Power - Watts (HP)</th>
<th>30 W (1/25 HP) – 400 W (1/2 HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size - mm (in.)</td>
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</tr>
<tr>
<td>Speed Range (r/min)</td>
<td>80 – 4000</td>
</tr>
<tr>
<td>Option</td>
<td>Electromagnetic Brake / IP67 Type</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel, Foot, Right Angle</td>
</tr>
<tr>
<td>H1 Food Grade Grease</td>
<td>Parallel Shaft type, FR Hollow Shaft</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Single-Phase (VAC)</td>
</tr>
<tr>
<td></td>
<td>Three-Phase (VAC)</td>
</tr>
<tr>
<td></td>
<td>100-120 / 200-240</td>
</tr>
<tr>
<td></td>
<td>200-240</td>
</tr>
<tr>
<td>Starting From (Motor + Driver + Cable)</td>
<td>$458.00</td>
</tr>
</tbody>
</table>

DC Input Motor and Driver

BLH Series

- 2 Motor types (Connector or Cable)
- 3 Driver types (Analog, Digital or RS-485 Communications)
- 80 to 3000 r/min
- Torque Limiting & Deceleration Stop
- MEXEO2 Support Software

BLH Series

<table>
<thead>
<tr>
<th>Output Power - Watts (HP)</th>
<th>15 W (1/50 HP) – 100 W (1/8 HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size - mm (in.)</td>
<td>42 mm (1.65 in.) – 90 mm (3.54 in.)</td>
</tr>
<tr>
<td>Speed Range (r/min)</td>
<td>80 – 3000</td>
</tr>
<tr>
<td>Option</td>
<td>Electromagnetic Brake</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel, FR Hollow Shaft</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC</td>
</tr>
<tr>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Starting From (Motor + Driver + Cable)</td>
<td>$286.00</td>
</tr>
</tbody>
</table>

BLV Series R Type

- Communications Control Through Modbus (RTU) and CANopen
- 1 to 4000 r/min
- Battery-Operated
- MEXEO2 Support Software

BLV Series R Type

<table>
<thead>
<tr>
<th>Output Power - Watts (HP)</th>
<th>100 W (1/8 HP), 200 W (1/4 HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size - mm (in.)</td>
<td>90 mm (3.54 in.)</td>
</tr>
<tr>
<td>Speed Range (r/min)</td>
<td>1 – 4000</td>
</tr>
<tr>
<td>Option</td>
<td>Electromagnetic Brake</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel, FR Hollow Shaft</td>
</tr>
<tr>
<td>Power Supply</td>
<td>VDC</td>
</tr>
<tr>
<td></td>
<td>24 / 48</td>
</tr>
<tr>
<td>Starting From (Motor + Driver + Cable)</td>
<td>$846.00</td>
</tr>
</tbody>
</table>
Modular Robot Solutions

With the ability to run on battery power, our BLV Series R Type and BLH Series brushless motors can be used as the drive axle for modular robots (AGV/AMR/GTP) or embedded in other similar Modular devices. These motors contribute to the handling of a wide variety of operating patterns and modular modes in various workplace environments.

AGV: Automatic Guided Vehicle. AMR: Autonomous Mobile Robot. GTP: Goods To Person

● Low-Platform and Thin Design
Face surface mounting with the Flange Drive Adapter

Side-mounting with the Hollow Shaft Flat Gearhead

Flange Drive Adapter Sold Separately

● Compact and Lightweight Driver
BLV Series R Type
100 W (1/8 HP), 200 W (1/4 HP)

65 mm (2.56 in.) (W)
29 mm (1.14 in.) (D)
29 mm (1.14 in.) (H)

BLH Series
15 W (1/50 HP), 30 W (1/25 HP), 50 W (1/15 HP)

72 mm (2.83 in.) (W)
33 mm (1.30 in.) (D)
27 mm (1.06 in.) (H)

● Setting via Networks
BLV Series R Type

BLH Series
Modbus(RTU)

The BLH Series can be controlled by software created in ROS. Visit our website for free software download, www.orientalmotor.com

● For Larger Loads Used in Robots and Conveyors
A transport robot's load capacity is affected by its permissible radial load. Using a Flange Drive Adapter or a hollow shaft flat gearhead supports requirements of increasing load size and installation in robots and conveyors.

<table>
<thead>
<tr>
<th>Permissible Radial Load [N (lbf)]</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>30</th>
<th>50</th>
<th>100</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>When Using a Flange Drive Adapter</td>
<td>100 W (1/8 HP)</td>
<td>1230 (276)</td>
<td>1680 (377)</td>
<td>2040 (458)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 W (1/4 HP)</td>
<td>2000 (445)</td>
<td>2400 (539)</td>
<td>2800 (633)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hollow Shaft Flat Gearhead</td>
<td>50 W (1/15 HP)</td>
<td>800 (179)</td>
<td>1200 (269)</td>
<td>1600 (363)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 W (1/25 HP)</td>
<td>450 (101)</td>
<td>500 (112)</td>
<td>600 (135)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1: The motor shaft speed is at or below 300 r/min
2: The motor shaft speed is 100-3000 r/min
Standard AC Motors

Standard AC motors are used generally as a power source for automated equipment because they can be operated easily by connecting directly to an AC power supply. A standard AC motor supports various applications including high torque output, stopping or variable speeds. By using with a gear head, brake pack or speed controller, Standard AC Motors offer simple to use convenience and flexibility.

The Power Supply Frequency Determines the Speed
The basic speed (synchronous speed) of a standard AC motor is determined by the power supply frequency and the number of poles. Many of our standard AC motors have four poles, so their synchronous speed is as follows:
- 50 Hz: 1500 r/min
- 60 Hz: 1800 r/min

The actual speed varies according to the load torque. With our motors, the speed roughly falls within the following ranges at a load torque equivalent to the rated torque:
- 50 Hz: 1200 to 1300 r/min
- 60 Hz: 1450 to 1600 r/min

Constant Speed AC Motors

Induction / Reversible Motors

World K Series

- Standard AC Motors
- Overheat Protection Built-in
- Long Life – 10,000 hrs
- Right Angle Gearheads Available

KISS Series

Use with Fuji Electric Inverter
- For use with 1/8 HP up to 3 HP Three-Phase Motors
- Single-Phase 115 VAC or 230 VAC input, Three-Phase 230 VAC or Three-Phase 460 VAC input
Brother ie3 MMD Series

- Helical (parallel) and Hypoid (right angle) gear type motors
- Pre-assembled, motor & gear
- Slip fit "O" ring design for mounting in any direction

<table>
<thead>
<tr>
<th>Single or Three-Phase</th>
<th>Brother ie3 Mid Series Helical / Hypoid Gear Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Induction</td>
</tr>
<tr>
<td>Output Power</td>
<td>400 W (1/2 HP) − 3 HP</td>
</tr>
<tr>
<td>Speed Range (r/min)</td>
<td>90 − 3600 (3 − 120 Hz)</td>
</tr>
<tr>
<td>Options</td>
<td>Terminal Box / Electromagnetic Brake</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel, Right Angle Hollow or Solid</td>
</tr>
<tr>
<td>Starting Pricing (Motor + Gear)</td>
<td>$626.00</td>
</tr>
</tbody>
</table>

FPW Series

IP67 Rated

- Conforms to IEC Standard IP67
- Pre-assembled, Motor & Gear
- Water Tight and Dust Resistant

<table>
<thead>
<tr>
<th>FPW Series</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Induction</td>
</tr>
<tr>
<td>Output Power</td>
<td>25 W (1/30 HP) − 90 W (1/8 HP)</td>
</tr>
<tr>
<td>Frame Size</td>
<td>80 mm (3.15 in.) − 104 mm (4.09 in.)</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel</td>
</tr>
<tr>
<td>Single-Phase (VAC)</td>
<td>110-115 / 220-230</td>
</tr>
<tr>
<td>Three-Phase (VAC)</td>
<td>220-230</td>
</tr>
<tr>
<td>Starting Pricing (Motor + Gear)</td>
<td>$320.00</td>
</tr>
</tbody>
</table>

Torque Motors

Torque Control

- TMP-1 Power Controller (sold separately)
- List Price: $135.00

<table>
<thead>
<tr>
<th>WK Series</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Torque Motor</td>
</tr>
<tr>
<td>Output Power</td>
<td>3 W (1/250 HP) − 23 W (1/38 HP)</td>
</tr>
<tr>
<td>Frame Size</td>
<td>60 mm (2.36 in.) − 90 mm (3.54 in.)</td>
</tr>
<tr>
<td>Gear Types</td>
<td>Parallel</td>
</tr>
<tr>
<td>Single-Phase</td>
<td>110-115 / 220-230</td>
</tr>
<tr>
<td>Starting Pricing (Motor + Gear)</td>
<td>$200.00</td>
</tr>
</tbody>
</table>

Applications

Belt Conveyor

Tension Control

Pinch Conveyor

Packing System
Fans and Thermal Management
Today’s fans are designed to move air allowing for cooling, controlling an area of space or for protecting electronics. Many of our fans come with alarm features designed for warning or for preventative maintenance. Oriental Motor helps make selecting the appropriate type of fan for today’s applications simple.

Axial Flow Fans
● AC or DC Input

Centrifugal Blowers
● AC or DC Input

Cross Flow Fans
● AC or DC Input

Thermostat
● Centigrade (°C)

Device Ventilation and Cooling
Cooling Densely Mounted Devices

Air-Blow Cooling or Drying
Cooling with High Static Pressure

Uniform Cooling or Drying
Cooling for Long or Thin Spaces

Automatically turning it ON/Off with a Set Timer
Alarm Types

Cooling fans with alarms allow for prevention of unexpected problems or malfunctions.

● Locked Rotor Alarm
The fan will emit an alarm when the fan rotation has stopped. This will alert you to interruptions immediately, so that action / replacement can be made.

● Low-Speed Alarm
The fan will emit an alarm when the fan slows down possibly due to the introduction of foreign particles or other problems. This helps with predictive maintenance.

If multiple fans are running, it will also allow for replacement of only the fans experiencing a reduced cooling capacity.

Enclosure Types

- AC or DC Input
- Complete Assembly
- IP2X, IP4X or IP55 Models
- Suction or Exhaust Type

Accessories

- Finger Guards
- Filters
- Screens
- Plug Cords
Environmental Efforts

Oriental Motor has proactively supported activities that give consideration to global environmental conservation. Energy savings, conservation of natural resources and reduction of waste and carbon dioxide are implemented at various stages of the product lifecycle. By providing beneficial products that feature high efficiency, compact size, high power and long life, Oriental Motor hopes to be involved with various “motion” that our customers require, while contributing to environmental conservation activities.

① Energy Savings (High Efficiency)
A motor converts electric energy into mechanical energy. Energy savings require higher efficiency by reducing the energy loss from the motor. Going forward, Oriental Motor will surpass the international standards with compact, precision motors aimed at higher efficiency.

② Conservation of Natural Resources and Longer Life
We have saved on natural resources by producing compact, more efficient products, thereby making more effective use of the natural resources in the product lifecycle. In the future we will promote longer product life and less wiring to match product features.

③ Controlling Chemical Substances in Products
Oriental Motor uses green procurement standards that take into consideration the global electrical and electronic industry standard IEC 62474 and customer requirements to curb the chemical substances in products.

Environmental Policy
Oriental Motor’s Basic Environmental Philosophy and Environmental Policy

Reduction and lightening of parts and materials
Use of materials and parts with low environmental impact (green procurement measures)
Reduction of paper use by converting operating manuals to digital versions
Use of recycled materials

Reduced energy use during manufacturing
Reduced consumption of resources during manufacturing
Control of chemical substances used in manufacturing processes
Reduction of waste and appropriate processing
Control of chemical substances used in products

① Energy Savings
- High Efficiency
② Conservation of Natural Resources and Longer Life
③ Controlling Chemical Substances in Products

Oriental Motor’s Carbon Neutral Initiative
Oriental Motor supports our customers’ MOTION with consideration for the environment.

Reduction and lightening of parts and materials
Use of materials and parts with low environmental impact (green procurement measures)
Reduction of paper use by converting operating manuals to digital versions
Use of recycled materials

Reduced waste through products with longer lives
Reduced waste by making the products more compact
Easy-to-recycle products

Reduced energy use during manufacturing
Reduced consumption of resources during manufacturing
Control of chemical substances used in manufacturing processes
Reduction of waste and appropriate processing
Control of chemical substances used in products

Improved transportation efficiency through optimal packaging design
Packaging that is easy to recycle
Communication about the chemical substances contained in products

Green Procurement
Products, parts, materials, packaging, etc. with a low environmental impact are given priority in procurement. The basic requirements are established as “Green Procurement Standards”, which are promoted during business transactions.

For details, refer to “Green Procurement” on the Oriental Motor website.

Measures and Responses to Chemical Substances in Products
- RoHS Directive Compliance Initiatives for the EU
- REACH Regulation Compliance
- Initiatives Concerning the Measures for Administration of the Pollution Control of Electronic Information Products Act (People’s Republic of China)
- Other Regulations Concerning Handling of Chemical Substances in Products

Global Regulations & Standards/Management of Chemical Substances in Products

Our Efforts in the Product Lifecycle

Procurement
Manufacturing
Distribution
Installation
Use
Disposal

Reduced waste through optimally-designed packaging
Reduced wiring with network-compatible products
Reduced waste through products with longer lives

Improved transportation efficiency through optimal packaging design
Packaging that is easy to recycle
Communication about the chemical substances contained in products

Materials
- Brushless Motors
- Brushless Motors Fans
- High Torque Stepper Motors

Simple operation
AC Input

Small board type
DC Input

Easy-to-recycle products

Eco-Friendly Design

Oriental Motor supports our customers’ MOTION with consideration for the environment.
Before Selecting a Product

Scope of Intended Applications
Our products are designed and manufactured for use in general industrial applications. They are not intended for use in nuclear power generation, aerospace, railway, vehicle, entertainment machinery, safety equipment, medical equipment or any other application having a significant effect on human life or property.

Safety Precautions
Before using any product, carefully read the “operating manual” to ensure correct operation.

Return, Replacement and Repair After Delivery
- ORIENTAL MOTOR U.S.A. CORP. is confident that you will be completely satisfied with your purchase. In the unlikely event that a delivered product has been damaged during shipping or if you receive an incorrect order, ORIENTAL MOTOR U.S.A. CORP. will correct the problem. Please contact your local sales office or distributor where the product was purchased.
- If you need to return a product because of a technical issue, please contact ORIENTAL MOTOR U.S.A. CORP. technical support at 1-800-468-3982 (847-871-5931 or 310-715-3303 if outside the USA & Canada) to try to determine the cause of the problem. If your problem cannot be resolved, you will receive instructions on how to obtain an RMA number and how to return the product.

Warranty and Limitation of Liability
- Warranty
Oriental Motor U.S.A. Corporation (the “Company”) warrants to the first end user Buyer that the products and parts thereof, when shipped will be free from defects in materials comprising the same and in the Company’s workmanship. If any such defects exist or later appear, the Company shall undertake, at its sole expense, prompt remedial action as stated herein to correct the same; provided however, that the Company shall have no obligation or liability under this warranty unless it shall have received written notice specifying such defects no later than two (2) years from the date of shipment.

- LIMITATION OF LIABILITY
THE COMPANY SHALL HAVE NO LIABILITY WHATSOEVER IN ANY EVENT FOR PAYMENT OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, DAMAGES FOR INJURY TO ANY PERSON OR PROPERTY, BY ACCEPTING THE PRODUCTS AND/OR PARTS THEREOF, THE FIRST END USER BUYER OR SUBSEQUENT USER AGREES THAT THE COMPANY SHALL NOT BE LIABLE FOR INDEMNIFICATION OR CONTRIBUTION (IN WHOLE OR IN PART) EITHER EXPRESSLY OR BY IMPLICATION. IF FOR ANY REASON OF THE FOREGOING PROVISIONS SHALL BE INEFFECTIVE, THE COMPANY’S LIABILITY FOR DAMAGES ARISING OUT OF ITS MANUFACTURE OR SALE OF ITS PRODUCTS OR PARTS, OR USE THEREOF, WHETHER SUCH LIABILITY IS BASED ON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL NOT IN ANY EVENT EXCEED THE FULL PURCHASE PRICE OF SUCH PRODUCTS AND PARTS THEREOF.

Any action against the Company based upon any liability or obligation arising hereunder any law applicable to the sale or its products or parts thereof, or the use thereof, must be commenced within two (2) years after the cause of such actions arises.

Lead Time
Oriental Motor’s lead time is characterized by best in class, with many of our catalog products available to ship in 3 to 9 business days (for orders placed before 12pm PST). Your order is shipped using only reputable carriers or any carrier of your choice to ensure on-time and damage free-delivery. Our manufacturing processes support our fast delivery and short lead time to allow us to support your needs. Our Just-in-Time production system allows the manufacturing of an order with little notice, in any quantity requested. Additionally, our one-by-one process allows us to manufacture one product as easily as one thousand.
In addition, Oriental Motor will quote “Available to Ship” shipping dates for guaranteed quantities on our website for most products. For larger quantities please contact your local sales office.