

ORIENTAL MOTOR NEWS

New *m*otion

16
2010

■ Highlights

General Catalogue 2011/2012 has been launched!

■ New Products Introduction ①

AC Servo Motor

■ New Products Introduction ②

**Motorized Linear Slides
Hollow Rotary Actuator**

■ Teach Me Please! Ms. Ori

What is the difference between the sink and source logic?

■ Information

Free Technical Seminars at Oriental Motor



General Catalogue 2011/2012 has been launched!

Featured with an enhanced outlook, the new General Catalogue serves as a concise reference to our wide range of existing and latest products. Please contact us if you need a free copy.



- Product images in full colour.
- Concise categorization.



Standard AC Motors



Speed Control Motors



Stepping Motors



Controllers



Motorized Actuators



Cooling Fans

Please contact our Customer Support Centre 1800-842-0280 for more information.

RoHS RoHS-Compliant

World K Series

3-Phase Induction Motors 380V/400V/415V Type

A new addition to the **World K** series lineup is now available. A 3-phase induction motor (380V/400V/415V) type for use in Asia and Europe.
The terminal box has been improved for easier wiring.



Features

● Worldwide Voltage Compatibility

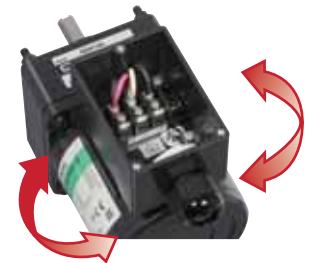
World K series supports the power supply voltages used in major countries.

Regional/Country		Frequency	Voltage
Asia	Korea	60 Hz	Three-Phase 200/220/380 VAC
	China	50 Hz	Three-Phase 380 VAC
	Taiwan	60 Hz	Three-Phase 220/380 VAC
	Hong Kong	50 Hz	Three-Phase 346/380 VAC
	Singapore	50 Hz	Three-Phase 400/415 VAC
	Malaysia	50 Hz	Three-Phase 415 VAC
	Thailand	50 Hz	Three-Phase 380 VAC
	India	50 Hz	Three-Phase 400/415 VAC
	Indonesia	50 Hz	Three-Phase 380 VAC
	Philippines	60 Hz	Three-Phase 380 VAC
	Vietnam	50 Hz	Three-Phase 380 VAC
	Oceania	Australia	50 Hz
New Zealand		50 Hz	Three-Phase 230/415 VAC

● Easy-to-use Terminal Box

◇ Screw Type Terminals
Screw type terminals enable easy wiring.

◇ 3-way cable outlet
The cables can be oriented in 3 different directions. Pull out the cable towards the location where the motor will be installed.



● Parallel Shaft Gearhead / Right-Angle Gearhead (sold separately) **RoHS**

The gearhead can be attached to the pinion shaft type motor.

Parallel Shaft Gearhead

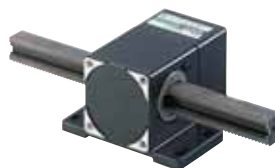
Right-Angle Gearhead



GN-S Gearhead
GN-K Gearhead

GE-S Gearhead

Wide Range of Accessories Available



Linear Heads



Couplings and Mounting Brackets

RoHS RoHS-Compliant

High-speed, High Response and Easy to Use
Tuning-free AC Servo Motor and Driver Package



NX Series is available now!

Smooth operation can be achieved in high inertia loads or belt and pulley application.
NX series is the excellent solution for achieving ease of use in high accuracy requirements.

Easy Operation

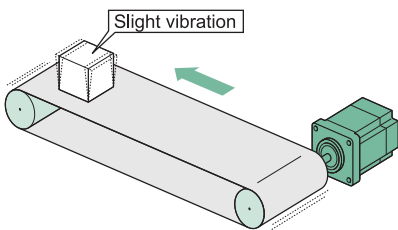
Tuning-free, High Inertia Drive

When running on auto-tuning, the motor unit can operate up to 50 times of the rotor inertia without manual tuning. With manual tuning, the motor unit can operate up to 100 times of the rotor inertia.

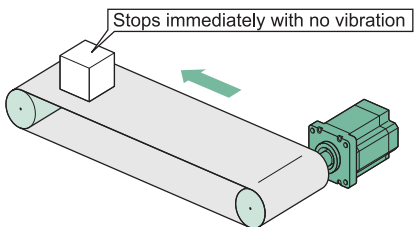
Smooth operation with belt mechanism

No vibration occurs for belt and pulley application.

Conventional method



NX Series



Easy Setting

Internal potentiometers and rotary switches are available for tuning and fine adjustments when desired. Save the hassle of doing the setting on a computer.



Accessories (Sold Separately)

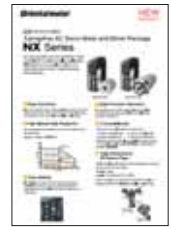
When use the optional control module **OPX-2A** or the data setting software **MEXE02** (both are sold separately), the **NX** series driver lets you set desired parameters, operation mode, resolution and other items accordingly to the needs of your equipment.



OPX-2A

MEXE02

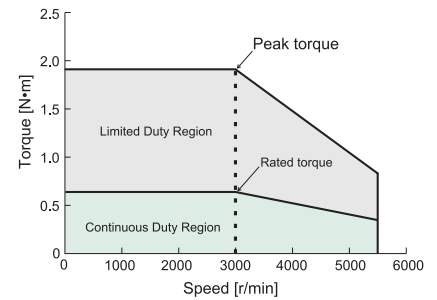
Brochure available



High-speed, High Response

Quick positioning operations over a short distance can be achieved.

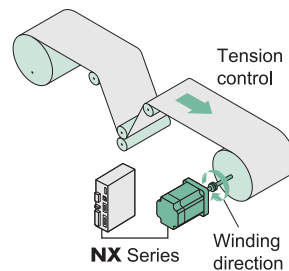
Max. Speed
5500 r/min
Settling Time
60-70 ms



Four control modes to choose for various applications

■ Tension control

Tension control such as winding or coiling application can be easily performed without using a tension detector or controller. This is the first driver in the industry that is equipped with a tension control function.



These devices are not required:
 Tension detector
 Controller

■ Position control

The built-in high-resolution absolute encoder enables high precision operation. By attaching an optional battery (sold separately), the absolute function of driver can be used.

■ Speed control

The use of a high-resolution encoder substantially reduces vibration at low speeds, resulting in smooth operation.

■ Torque control

Variation of the generated torque relative to the set torque is much less compared to conventional models.



PJ geared type for high-inertia drive

Newly developed **PJ** geared type is designed to achieve high torque and high inertia.

■ High permissible torque

This high permissible torque geared motor increases output torque.

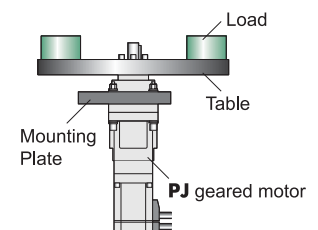
■ Non-backlash

The newly geared motor adopts a high-precision gear with a backlash of 3 min and an angular transmission error of 4 min.

■ Direct coupling is possible

Screw holes are provided for attaching load on the tapped output plane integrated with the shaft. Index table installation design is made easy by direct mounting the load to the tapped output plane.

Screw holes for load attachment



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Motorized Linear Slides

EZ limo

EZSII Series for Cleanroom Use



The **EZSII** Series for clean room adopts a linear guide for frame and ballscrew drive method for a high precision, lightweight motorized linear slide. Moreover, the **EZSII** Series is compact in size and simple wiring for easy installation. Achieved ISO Standard Class 3 (FED Standard Class 1) for Clean Level ISO Standard Class 3 (FED Standard Class 1 Level) has been achieved due to the following improvements:

- Reduction of linear slide table length
- Improvement of the airtight level by a float prevention function of the stainless sheet
- Use of low dust generative grease (clean grease)

Types of driver

EZ-Drive



Pulse Input Type Driver

- Photocoupler or Line Driver input types available
- User have to furnish a pulse generator (controller) for positioning and speed settings
- 24VDC input



Positioning Type Driver

- Up to 31 programs available
- Programmed by MPC10 programming console or EZ-Edit Software
- Value added features, such as detailed history of use and push features are available
- 24VDC input

αSTEP



ESMC Controller

- Pulse Input (Driver mode) or Positioning (Controller mode) selectable
- Up to 63 programs available
- Programmed by EZT1 teaching pendant or EZED2 Software
- AC or DC input type available

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Hollow Rotary Actuators

DG Series



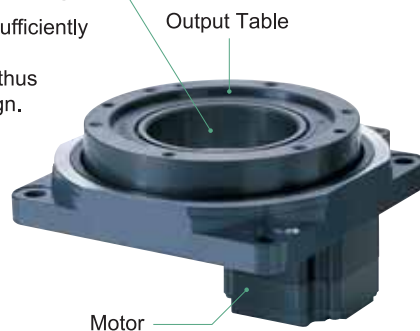
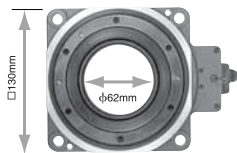
The **DG** Series is an actuator featuring a hollow output table that allows large-inertia discs and arms to be installed directly.

The coverage of applications has widened with the addition of models with a frame size of 200 mm and permissible torque of 50 N.m.

Simple wiring and piping

A hollow hole (through hole) of sufficiently large diameter helps reduce the complexity of wiring and piping, thus simplifying your equipment design.

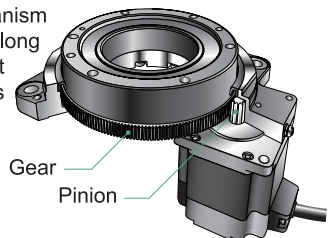
- Example: **DG130**



High Accuracy Positioning without Backlash

The gear-reduction mechanism employs precision gears along with an original adjustment mechanism that eliminates backlash.

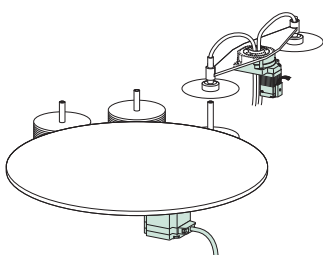
- Non-backlash
- Repetitive positioning accuracy: ± 15 sec
- Lost motion: 2 min.
- Angular transmission error



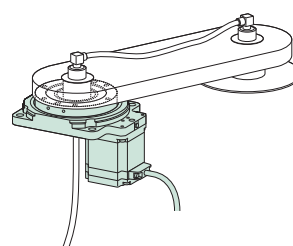
- 200mm:2min
- 130mm:3min
- 60mm, □85mm:4min

Recommended Applications

- Applications subject to changing load inertia



- Applications where a moment load is applied



Teach Me Please! Ms. Ori



Ms. Ori

What is the difference between the sink and source logic?



Mr. Vex

Mr. Vex: Please teach me, Ms. Ori!

Ms. Ori: Yes, Vex?

Mr. Vex: I received an inquiry from a customer that they wanted to use brushless motors on machines to be imported overseas, and source logic types are preferable for users abroad. While I was talking with the customer, terms like “sink” and “source” came up and I couldn't quite see the picture. Maybe I heard him wrong? He could've been asking if it was okay to drink the sauce??

Ms. Ori: Ha ha! Nice one! I see that you are getting comfortable with your job to come up with such jokes. By the way, was it about I/O circuits?

Mr. Vex: I think so. We were discussing about PLCs (programmable logic controller).

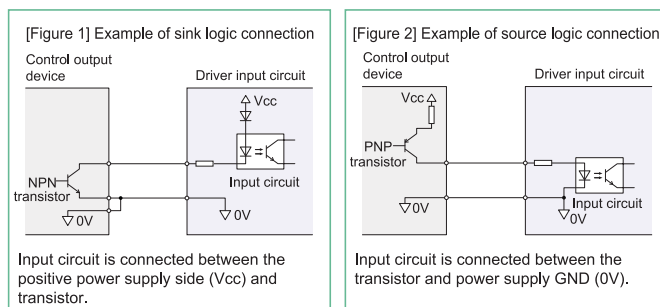
Ms. Ori: So do you know the difference between the sink and source logic types?

Mr. Vex: I don't know. Please share with me.

Ms. Ori: In reality, the sink and source logic uses different control output devices. There are two major types, and their wiring is different.

[Figure 1] Sink logic --- NPN transistor

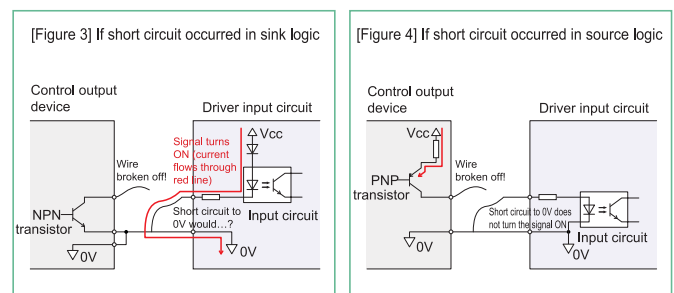
[Figure 2] Source logic --- PNP transistor



Mr. Vex: I see. So, the connection needs to be changed according to each transistor, right?

Ms. Ori: Not only the connection, but there is also a difference with regards to safety too. If by any chance something happens to the customer's device and causes an I/O signal line earth leakage or short circuit of the Gnd (0V) line, it would be dangerous, wouldn't it? [Figure 3]

However if the source logic was used, the input circuit is not directly connected to the positive power side (Vcc), therefore earth leakage or short circuit of a signal line would not turn the input circuit on. That's why it's considered as one of the safer connection methods. [Figure 4]



Mr. Vex: I get it now! That means I can introduce products that support source logic to my customers who uses the source logic.

Ms. Ori: Most definitely! Now then, which brushless motor would meet your customer's needs?

Mr. Vex: Let me think... the **BLE** and **BLF** series!

Ms. Ori: Very good! These products are made to support both the sink and source logic. So, what are the drive requirements for this case of yours?

Mr. Vex: The customer said that required output power is about 120W and the maximum required speed is 4,000 r/min.

Ms. Ori: For 120W, the latest **BLE** series would be good. But what if a higher output is required...?

Mr. Vex: The **BLF** series can provide up to 400W.

Ms. Ori: Vex, you are smart!

Mr. Vex: Thank you, Ms. Ori! Now, with the added knowledge of logics, I feel more confident. I will go introduce the products right away!

Free Technical Seminars at Oriental Motor



As part of our dedicated services to our valued customers, Oriental Motor conducts free technical seminars regularly to provide a comprehensive understanding of motors and equip our customers with the basic troubleshooting skills required. In addition, a Certificate from Oriental Motor will be awarded to the candidate upon completion of the 5 main seminars!

Seats are limited, do register yourself via:

- www.orientalmotor.com.sg
- 1800-842 0280 (Toll-Free)
- sales@orientalmotor.com.sg



With appreciation

Moving towards the aim of providing an outreach to all our valued customers, Singapore Oriental Motor has participated in various exhibitions in the year 2010, such as the Globaltronics Singapore, Metalex Vietnam, Manufacturing Indonesia and Industrial Automation India. Showcasing our latest range of products and working on fulfilling customers' satisfaction with an array of services such as product selection, usage of motor and any other technical consultation, we would like to sincerely thank you for visiting and supporting us at our exhibitions and products.



About our front cover

Temperatures in the Hokkaido Prefecture range from a frost-biting -25°C up in the mountains to a chilly -10°C in the cities, transforming the entire landscape into the perfect winter wonderland.

Orientalmotor

SALES NETWORK

Oriental Motor Provides You with Full Support



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