Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

MOTOMAN INSTRUCTIONS

MOTOMAN-□□□ INSTRUCTIONS
DX100 INSTRUCTIONS
DX100 OPERATOR’S MANUAL
DX100 MAINTENANCE MANUAL

The DX100 operator’s manuals above correspond to specific usage. Be sure to use the appropriate manual.
MANDATORY

• This manual explains the bilingual function of the DX100 system. Read this manual carefully and be sure to understand its contents before handling the DX100.

• General items related to safety are listed in Section 1: Safety of the DX100 INSTRUCTIONS. To ensure correct and safe operation, carefully read the DX100 Instructions before reading this manual.

CAUTION

• Some drawings in this manual are shown with the protective covers or shields removed for clarity. Be sure all covers and shields are replaced before operating this product.

• The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.

• YASKAWA may modify this model without notice when necessary due to product improvements, modifications, or changes in specifications. If such modification is made, the manual number will also be revised.

• If your copy of the manual is damaged or lost, contact a YASKAWA representative to order a new copy. The representatives are listed on the back cover. Be sure to tell the representative the manual number listed on the front cover.

• YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids your product’s warranty.
Notes for Safe Operation

Read this manual carefully before maintenance or inspection of the DX100.

In this manual, the Notes for Safe Operation are classified as “WARNING,” “CAUTION,” “MANDATORY,” or “PROHIBITED.”

WARNING
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.

MANDATORY
Always be sure to follow explicitly the items listed under this heading.

PROHIBITED
Must never be performed.

Even items described as “CAUTION” may result in a serious accident in some situations. At any rate, be sure to follow these important items.

NOTE
To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as “CAUTION” and “WARNING.”
WARNING

- Before operating the manipulator, check that servo power is turned off when the emergency stop buttons on the front door of the DX 100 and programming pendant are pressed. When the servo power is turned off, the SERVO ON LED on the programming pendant is turned off.

Injury or damage to machinery may result if the emergency stop circuit cannot stop the manipulator during an emergency. The manipulator should not be used if the emergency stop buttons do not function.

*Fig. : Emergency Stop Button*

- Once the emergency stop button is released, clear the cell of all items which could interfere with the operation of the manipulator. Then turn the servo power ON.

Injury may result from unintentional or unexpected manipulator motion.

*Fig. : Release of EM*

- Observe the following precautions when performing teaching operations within the P-point maximum envelope of the manipulator:
  - View the manipulator from the front whenever possible.
  - Always follow the predetermined operating procedure.
  - Ensure that you have a safe place to retreat in case of emergency.

Improper or unintended manipulator operation may result in injury.

- Confirm that no person is present in the P-point maximum envelope of the manipulator and that you are in a safe location before:
  - Turning on the power for the DX100.
  - Moving the manipulator with the programming pendant.
  - Running the system in the check mode.
  - Performing automatic operations.

Injury may result if anyone enters the working envelope of the manipulator during operation. Always press an emergency stop button immediately if there are problems.

The emergency stop button is located on the right of the front door of the DX 100 and programming pendant.
Definition of Terms Used Often in This Manual

The MOTOMAN manipulator is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the controller, the programming pendant, and supply cables.

In this manual, the equipment is designated as follows.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DX100 Controller</td>
<td>DX100</td>
</tr>
<tr>
<td>DX100 Programming Pendant</td>
<td>Programming Pendant</td>
</tr>
<tr>
<td>Cable between the manipulator and the controller</td>
<td>Manipulator cable</td>
</tr>
</tbody>
</table>
Descriptions of the programming pendant keys, buttons, and displays are shown as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming Pendant</td>
<td></td>
</tr>
<tr>
<td>Character Keys</td>
<td>The keys which have characters printed on them are denoted with [ ]. ex. [ENTER]</td>
</tr>
<tr>
<td>Symbol Keys</td>
<td>The keys which have a symbol printed on them are not denoted with [ ] but depicted with a small picture. ex. page key 📄 The cursor key is an exception, and a picture is not shown.</td>
</tr>
<tr>
<td>Axis Keys Numeric Keys</td>
<td>“Axis Keys” and “Numeric Keys” are generic names for the keys for axis operation and number input.</td>
</tr>
<tr>
<td>Keys pressed simultaneously</td>
<td>When two keys are to be pressed simultaneously, the keys are shown with a “+” sign between them, ex. [SHIFT]+[COORD]</td>
</tr>
<tr>
<td>Displays</td>
<td>The menu displayed in the programming pendant is denoted with { }. ex. {JOB}</td>
</tr>
</tbody>
</table>

**Description of the Operation Procedure**

In the explanation of the operation procedure, the expression "Select • • • " means that the cursor is moved to the object item and the SELECT key is pressed, or that the item is directly selected by touching the screen.
1 Bilingual Function........................................................................................................................................ 1-1
1 Bilingual Function

When the bilingual function (optional) is enabled, two languages can be displayed alternately by ONE-TOUCH operation.

1. Press [SHIFT] + Area Key

![Image of DX100 screen with bilingual function enabled]

English and Japanese can be switched each time the Area Key and the [SHIFT] are pressed simultaneously.

The two languages cannot be displayed alternately in the following conditions:

- During character or number input operations, and when a confirmation dialog is on the window.
- During axis operation, next-back or test mode in the teach mode.
- Actual job names, other names and comments: the registered names and comments would remain.
DX100 OPTIONS
INSTRUCTIONS
FOR BILINGUAL FUNCTION