YASKAWA

MLX300 APPLICATION BACKUP MANUAL

FOR THE DX200 AND YRC1000 CONTROLLERS

Only personnel with proper training offered by YASKAWA should carry out the procedures described in this manual.

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

YASKAWA INSTRUCTIONS

MOTOMAN INSTRUCTIONS
OPERATOR'S MANUAL
MAINTENANCE MANUAL

The operator's manual above corresponds to specific usage. Be sure to use the appropriate manual.

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<div style="background-color:red; color:white;">

⚠ DANGER

</div>

- This manual explains the MLX300 Application Backup Software. Read this manual and the DX200 or YRC1000 Manuals carefully and be sure to understand its contents before using this software.

- General items related to safety are listed in Section 1 of the DX200 or YRC1000 Manual. To ensure correct and safe operation, carefully read the section before reading this manual.

<div style="background-color:yellow;">

⚠ CAUTION

</div>

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

- Yaskawa may modify this product without notice when necessary due to product improvements, modifications, or changes in specifications.

- If such a modification is made, the manual number will also be revised.

- If your copy of this document 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 the product's warranty.

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We suggest that you obtain and review a copy of the ANSI/RIA National Safety Standard for Industrial Robots and Robot Systems (ANSI/RIA R15.06-2012). You can obtain this document from the Robotic Industries Association (RIA) at the following address:

Robotic Industries Association
900 Victors Way
P.O. Box 3724
Ann Arbor, Michigan 48106
TEL: (734) 994-6088
FAX: (734) 994-3338
www.roboticsonline.com

Ultimately, well-trained personnel are the best safeguard against accidents and damage that can result from improper operation of the equipment. The customer is responsible for providing adequately trained personnel to operate, program, and maintain the equipment. NEVER ALLOW UNTRAINED PERSONNEL TO OPERATE, PROGRAM, OR REPAIR THE EQUIPMENT!

We recommend approved Yaskawa training courses for all personnel involved with the operation, programming, or repair of the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

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Notes for Safe Operation

Read this manual carefully before installation or operation of the MLX300 Application Backup.

In this manual, the Notes for Safe Operation are classified as "DANGER", "WARNING", "CAUTION", or "NOTICE".

⚠ **DANGER**	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Safety Signs identified by the signal word DANGER should be used sparingly and only for those situations presenting the most serious hazards.
⚠ **WARNING**	Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury. Hazards identified by the signal word WARNING present a lesser degree of risk of injury or death than those identified by the signal word DANGER.
⚠ **CAUTION**	Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to "NOTICE".
NOTICE	NOTICE is the preferred signal word to address practices not related to personal injury. The safety alert symbol should not be used with this signal word. As an alternative to "NOTICE", the word "CAUTION" without the safety alert symbol may be used to indicate a message not related to personal injury.

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 "DANGER", "WARNING" or "CAUTION".

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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.

Registered Trademark

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or bland names for each company or corporation. The indications of (R) and TM are omitted.

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Table of Contents

1   Introduction

MLX300 Application Backup software was developed for simplifying the process of importing and exporting various user data from the MLX300 PLC tags.

1.1   MLX300 Application Backup Main Screen

The MLX300 Application Backup software main screen is broken down into the following four areas (see *Fig. 1-1 "MLX300 Application Backup Main Screen"*):

  (1)   Communication Settings

  (2)   Export Data

  (3)   Import Data

  (4)   Helpful Information

Fig. 1-1: MLX300 Application Backup Main Screen
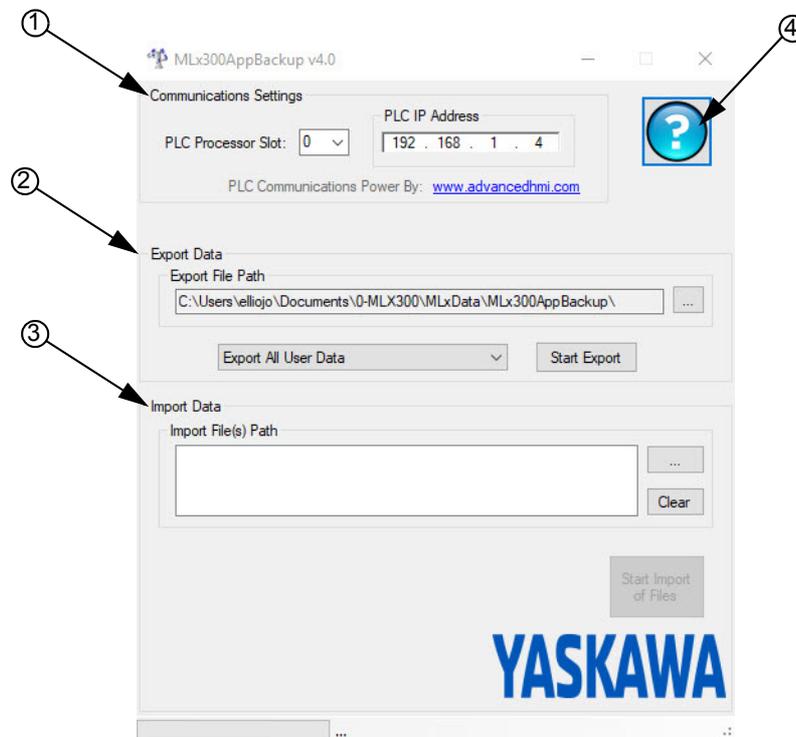
1.1.1   Communication Settings

The Communication Setting section of the MLX300 Application Backup software is where communications between a computer and the MLX300 is setup at. Communication Settings on the main screen contains (See *Fig. 1-1 "MLX300 Application Backup Main Screen" on page 8*):

- **PLC Processor Slot:** This shows the slot number (0 to16) where the PLC processor card is installed. For CompactLogix this would be "0".

- **PLC IP Address:** This shows the IP address for the PLC that may be changed manually by entering the desired IP address.

Fig. 1-2: Communication Setting Section

1.1.2 Export Data

⚠ **CAUTION**

- Do not change the file name or contents in the exported files.

  Damage can occur to equipment do to changing the file name or contents of exported files.
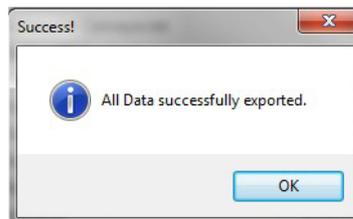
The Export Data section of the MLX300 Application Backup software is where to define what to export from the PLC tags. Export Data section of the Main Screen contains (see *Fig. 1-1 "MLX300 Application Backup Main Screen" on page 8* and *Fig. 1-3 "Export Data Section"*):

- **Export File Path:** Location where the data will be exported to on the computer. Press [...] button to browse to a different location.

- **What to Export Field:** Gives the ability to export All User Data, Job Teach Points, User Frame Data, Cubic Interference Zones, Conveyor Tracking, and Tool Data (one file or multiple files).

- **Start Export:** Starts the exporting of the selected data from the MLX300 PLC.

Fig. 1-3: Export Data Section
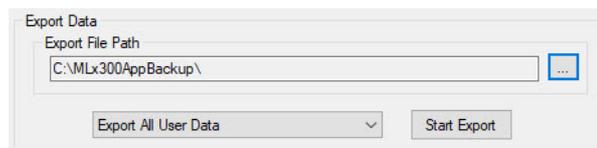
Fig. 1-4: Export Process Complete Popup

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1.1.3   Import Data

<table>
<tr><td colspan="2" style="background-color:yellow"><img src="warning"> ⚠ CAUTION</td></tr>
<tr><td>
•   Make sure when importing files, file names and content in the files do not changed

Damage can occur to equipment if file names or content in files are changed.
</td></tr>
</table>

The Import Data section of the MLX300 Application Backup software is to defined what to import into to the PLC tags. (See *Fig. 1-1 "MLX300 Application Backup Main Screen" on page 8* and *Fig. 1-5 "Import Data Section"*):.

> NOTE   The PLC must be in Program Mode, before importing the MLX data.

- **Import File(s) Path:** Press the [...] button to browse for and select the files to be imported (one file or multiple files) to the MLX300 PLC tags. Multiple files can be selected by pressing the [Crtl] button and clicking on the file names.
- **Clear:** Clears Import File(s) Path
- **Start Import of Files:** Starts importing files that are in the Import File(s) path to the MLX300.

Fig. 1-5: Import Data Section
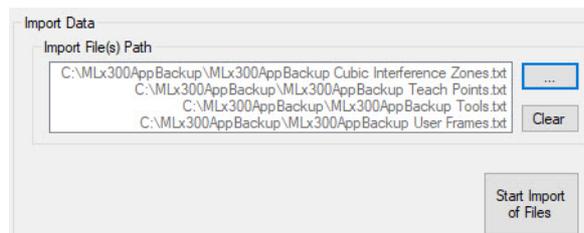
Fig. 1-6: Import
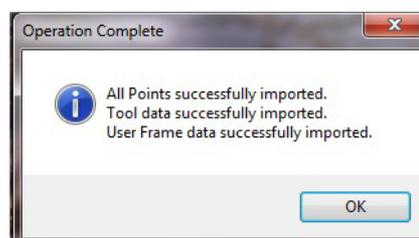
1.1.4   Helpful Information

The Helpful Information section will bring up this manual for reference.

- **HELP:** Brings up the MLX300 Application Backup Software Manual. (See *Fig. 1-1 "MLX300 Application Backup Main Screen" on page 8* and *Fig. 1-7 "HELP Button".*)

Fig. 1-7: HELP Button

1.2   Customer Service Information

If in need of technical assistance, contact the Yaskawa Motoman service staff at (937) 847-3200. Please have the following information ready before calling:

- MLX300 Application Backup version

  – MLX300 PLC version is shown on HMI

- Description of difficulty (make note of any error messages)

1.3   Exported Data Structure and Compatibility

- Each exported file is text formated that is easy to modify. The structure format or size cannot be change, but the actual tag data information can be. For example, you could copy the teach points from Job 2 to Job 5, or modify the heights (TCP Pos2) of multiple teach positions.

- At the top of each exported file, it will list the following information:

(1)   The MLX300 Application Backup software version that was used to export the data.

(2)   The MLX300 software that was installed on the PLC at the time of exporting.

(3)   The array size of all application data (Jobs, Points per Job, Tools, User Frames, Cubic Interference Zones)

- This is shown because a programmer might have changed the array size for each of these items.

- The array sizes on the PLC being imported must match the array sizes of the data exported.

Fig. 1-8: MLx300 Data Teach Points

```
MLx300AppBackup Teach Points.txt - Notepad
File  Edit  Format  View  Help
//Do not modify the structure of this file.  If desired, only the tag data can be changed.
//Created with MLx300AppBackup v4.0
------------------------------|
MLXVersion: 2.0.0
------------------------------
------------------------------
Max Number of Jobs: 10
Max Number of Points per Job: 20
Max Number of Tools: 24
Max Number of UserFrames: 24
Max Number of Cubic Interference Zones: 32
*
*
*
*
*
*
*
*
*
Job #0
Teach Point: 0
Point Name: Test Job TP0
TCP Pos0: 0
TCP Pos1: 0
TCP Pos2: 0
TCP Pos3: 0
TCP Pos4: 0
TCP Pos5: 0
TCP Pos6: 0
TCP Pos7: 0
TCP Closure Ref Pos0: 0
TCP Closure Ref Pos1: 0
TCP Closure Ref Pos2: 0
TCP Closure Ref Pos3: 0
TCP Closure Ref Pos4: 0
TCP Closure Ref Pos5: 0
TCP Closure Ref Pos6: 0
TCP Closure Ref Pos7: 0
Axis Pos0: 0
Axis Pos1: 0
Axis Pos2: 0
Axis Pos3: 0
Axis Pos4: 0
Axis Pos5: 0
Axis Pos6: 0
Axis Pos7: 0
Tool Number: 0
User Frame Number: 0
Optional Parameter: 0
Job #0
Teach Point: 1
```

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1   Introduction
1.3 Exported Data Structure and Compatibility

- Data can be exported from a previous MLX version that has a different tag structure, and imported into the latest version of the MLX. This information will automatically be converted to the new data structure.

> **NOTE** Data exported from old versions can alway be imported into the latest versions. For some cases, it is not capable of importing into an older MLX version. For example, exporting from v2.x and importing to v1.x. is not possible.

MLX300 APPLICATION BACKUP MANUAL

FOR THE DX200 AND YRC1000 CONTROLLERS

Specifications are subject to change without notice
for ongoing product modifications and improvements.

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MANUAL NO.

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