YRC1000 OPTIONS
INSTRUCTIONS

FOR PASSWORD PROTECTION FUNCTION

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

MOTOMAN INSTRUCTIONS

MOTOMAN-[□□□] INSTRUCTIONS
YRC1000 INSTRUCTIONS
YRC1000 OPERATOR'S MANUAL (GENERAL) (SUBJECT SPECIFIC)
YRC1000 MAINTENANCE MANUAL
YRC1000 ALARM CODES (MAJOR ALARMS) (MINOR ALARMS)

The YRC1000 operator’s manual above corresponds to specific usage. Be sure to use the appropriate manual.
The YRC1000 operator’s manual above consists of “GENERAL” and “SUBJECT SPECIFIC”.
The YRC1000 alarm codes above consists of “MAJOR ALARMS” and “MINOR ALARMS”.

Please have the following information available when contacting Yaskawa Customer Support:

- System
- Primary Application
- Software Version (Located on Programming Pendant by selecting:
  {Main Menu} - {System Info} - {Version})
- Robot Serial Number (Located on robot data plate)
- Robot Sales Order Number (Located on controller data plate)

Part Number: 178951-1CD
Revision: 0
DANGER

• This manual explains the password protection function of the YRC1000 system. Read this manual carefully and be sure to understand its contents before handling the YRC1000. Any matter, including operation, usage, measures, and an item to use, not described in this manual must be regarded as "prohibited" or "improper".

• General information related to safety are described in "Chapter 1. Safety" of the YRC1000 INSTRUCTIONS. To ensure correct and safe operation, carefully read "Chapter 1. Safety" of the YRC1000 INSTRUCTIONS.

CAUTION

• In some drawings in this manual, protective covers or shields are removed to show details. Make sure that all the covers or shields are installed in place before operating this product.

• YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids the product warranty.

NOTICE

• 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.
NOTES FOR SAFE OPERATION

Read this manual carefully before installation, operation, maintenance, or inspection of the YRC1000.

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.

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

• Before operating the manipulator, make sure the servo power is turned OFF by performing the following operations. When the servo power is turned OFF, the SERVO ON LED on the programming pendant is turned OFF.
  – Press the emergency stop buttons on the front door of the YRC1000, on the programming pendant, on the external control device, etc.
  – Disconnect the safety plug of the safety fence. (when in the play mode or in the remote mode)

If operation of the manipulator cannot be stopped in an emergency, personal injury and/or equipment damage may result.

Fig. : Emergency Stop Button

• Before releasing the emergency stop, make sure to remove the obstacle or error caused the emergency stop, if any, and then turn the servo power ON.

Failure to observe this instruction may cause unintended movement of the manipulator, which may result in personal injury.

Fig. : Release of Emergency Stop

• Observe the following precautions when performing a teaching operation within the manipulator's operating range:
  – Be sure to perform lockout by putting a lockout device on the safety fence when going into the area enclosed by the safety fence. In addition, the operator of the teaching operation must display the sign that the operation is being performed so that no other person closes the safety fence.
  – View the manipulator from the front whenever possible.
  – Always follow the predetermined operating procedure.
  – Always keep in mind emergency response measures against the manipulator's unexpected movement toward a person.
  – Ensure a safe place to retreat in case of emergency.

Failure to observe this instruction may cause improper or unintended movement of the manipulator, which may result in personal injury.

• Confirm that no person is present in the manipulator's operating range and that the operator is in a safe location before:
  – Turning ON the YRC1000 power
  – Moving the manipulator by using the programming pendant
  – Running the system in the check mode
  – Performing automatic operations

Personal injury may result if a person enters the manipulator's operating range during operation. Immediately press an emergency stop button whenever there is a problem. The emergency stop buttons are located on the front panel of the YRC1000 and on the right of the programming pendant.

• Read and understand the Explanation of the Warning Labels before operating the manipulator.
WARNING

- Perform the following inspection procedures prior to conducting manipulator teaching. If there is any problem, immediately take necessary steps to solve it, such as maintenance and repair.
  - Check for a problem in manipulator movement.
  - Check for damage to insulation and sheathing of external wires.
- Always return the programming pendant to the hook on the YRC1000 cabinet after use.

If the programming pendant is left unattended on the manipulator, on a fixture, or on the floor, etc., the Enable Switch may be activated due to surface irregularities of where it is left, and the servo power may be turned ON. In addition, in case the operation of the manipulator starts, the manipulator or the tool may hit the programming pendant left unattended, which may result in personal injury and/or equipment damage.

Definition of Terms Used Often in This Manual

The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, 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>YRC1000 controller</td>
<td>YRC1000</td>
</tr>
<tr>
<td>YRC1000 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 /Symbol Keys</td>
<td>The keys which have characters or its symbol printed on them are denoted with []. ex. [ENTER]</td>
</tr>
<tr>
<td>Axis Keys /Numeric Keys</td>
<td>[Axis Key] and [Numeric Key] 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 [SELECT] 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 brand names for each company or corporation. The indications of (R) and ™ are omitted.
Contents

1 Password Protection Function ................................................................. 1-1

2 Logon ........................................................................................................ 2-1

3 Logoff ....................................................................................................... 3-1
   3.1 Manual Logoff .................................................................................... 3-1
   3.2 Auto Logoff ...................................................................................... 3-1

4 Account ..................................................................................................... 4-1
   4.1 Accounts for Administrators ............................................................ 4-1
   4.2 User Account .................................................................................. 4-1

5 Control As an Administrator ................................................................. 5-1
   5.1 Logon As an Administrator .............................................................. 5-1
   5.2 Logoff As an Administrator ............................................................. 5-2
   5.3 New Registration of User Accounts ................................................ 5-3
   5.4 Modification of User Accounts ....................................................... 5-6
   5.5 Deletion of User Accounts ............................................................... 5-9
   5.6 Deletion of All the User Accounts .................................................. 5-11
   5.7 Modification of Administrator Account ......................................... 5-13
   5.8 Saving/Loading Registered Account Information ............................ 5-15
      5.8.1 Save ......................................................................................... 5-15
      5.8.2 Load ....................................................................................... 5-17

6 Control As a User .................................................................................. 6-1
   6.1 Logon As a User .............................................................................. 6-1
   6.2 Logoff As a User ............................................................................. 6-2

7 LOGON SETTING Window ......................................................................... 7-1

8 LOGOFF OPERATION MODE ................................................................. 8-1
   8.1 Window Display After Logging Off .................................................. 8-1
   8.2 Operation During Logging Off ......................................................... 8-1
      8.2.1 PROHIBITED ........................................................................... 8-1
      8.2.2 RESTRICTED ......................................................................... 8-1

9 Specific Output for Security Levels ....................................................... 9-1
1 Password Protection Function

The password protection function sets the access authority in each user, and restricts the user operation. This function can help assure the system safety. The system administrator authorizes each user by assigning a login name and password, a security level and a timeout setting, thereby allowing a specific level of controller access.

The administrator can register up to 100 user accounts. The user account information can be stored in a file (USRINFO.DAT). Only the system administrator can change registered user account information.

The password protection function also enables to find out, by tracing the alarm history, which user has been logged in at the time of a particular alarm.
2 Logon

A LOGON window will be displayed immediately after power-on. To operate with the pendant or the controller, it is necessary to log on using a registered user account.

After logging on, operation will be allowed for the level of access registered to the user account.

To log on again after logging off, select {SYSTEM INFO} - {LOGON} under the main menu, and operate the LOGON window (for logon details, refer to chapter 5.1 “Logon As an Administrator” and chapter 6.1 “Logon As a User”).
3 Logoff

Logoff can be performed either manually or automatically.

3.1 Manual Logoff

To log off manually, select {SYSTEM INFO} - {LOGOFF} under the main menu, and operate the LOGOFF window (for manual logoff details, refer to chapter 5.2 “Logoff As an Administrator” and chapter 6.2 “Logoff As a User”).

3.2 Auto Logoff

After logging on, an automatic logoff will occur when the Timeout time registered to the currently logged-on user account expires.

The timeout time can be registered from the USER PASSWORD EDIT (REGISTER/MODIFY) window. The timeout setting range for a user account is 0 to 43,200 minutes (30 days). If the timeout time is set to “*” (= 0), the automatic logoff function will be disabled.

An automatic logoff will also occur when user registration information (USRINFO.DAT) has been loaded from an external memory.
4 Account

The password protection function provides two types of accounts, “account for administrators” and “user account”, to be used for controller access.

4.1 Accounts for Administrators

There are two accounts for administrators: Administrator and ONETIMEmng. (ONETIMEmng account corresponds to One Time Manage Mode.)

Administrator:
Use the Administrator account when setting up the password protection function. Also the administrator can create other user accounts.

ONETIMEmng:
In the One Time Manage Mode, restriction of the loading of the batch data (CMOS.BIN)/parameter batch (ALL.PRM)/function definition parameter (FD.PRM) is released.

* The password protection function cannot be set up.

4.2 User Account

The password protection function allows using up to 100 user accounts. The administrator can create new user accounts. To each user account, a login name, a password, a security level, a comment and an automatic logout timer can be registered.

The user access levels are defined as follows:

SAFETY MODE:
In the safety mode, the setting of functional safety (optional function) can be performed.

MANAGEMENT MODE:
In the management mode, system setup and maintenance operations can be performed.

EDITING MODE:
In the editing mode, teaching and job data edit, and various settings can also be performed.

OPERATION MODE:
In the operation mode, basic operations required to control a robot on the production line can be performed (e.g. start, stop).
5 Control As an Administrator

5.1 Logon As an Administrator

Described below is the procedure to log on to the controller as a system administrator.

1. Select {SYSTEM INFO} - {LOGON} under the main menu.

2. The LOGON window appears. Enter the administrator name into the “USER NAME” field.

3. Enter the administrator password into the “PASSWORD” field. “5555555555555555” has been set as its password when shipping.

4. Press [ENTER] to log on to the controller.
5.2 Logoff As an Administrator

Described below is the procedure to log off from the controller as a system administrator.

1. Select {SYSTEM INFO} - {LOGOFF} under the main menu.

2. The LOGOFF screen appears. Press [ENTER] or select {EXECUTE}.

3. The Administrator will be logged off from the controller.
5.3 New Registration of User Accounts

Described below is the procedure to set up a user account.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select {SYSTEM INFO} - {USER PASSWORD} under the main menu.

3. The USER PASSWORD LIST window appears. Move the cursor to “USER NAME” and press [SELECT].

4. The selection dialog appears. Move the cursor to “REGISTER” and press [SELECT].
5. The USER PASSWORD EDIT (REGISTER/MODIFY) window appears. Set up the user account as follows:

**USER NAME:**
One to sixteen alphabetical and numeric characters can be used to create a user name.

**PASSWORD:**
Numeric characters can be used to create a password.
OPERATION/EDITING/MANAGEMENT MODE: 4 to 16 characters
SAFETY MODE: 9 to 16 characters

**PASSWORD(AGAIN):**
Enter the same password again for confirmation.

**MODE:**
Select the access level to be allowed for this user (OPERATION MODE/
EDITING MODE/MANAGEMENT MODE/SAFETY MODE).

**COMMENT:**
Enter any required comment. Up to thirty two characters can be entered.

**TIMEOUT:**
Enter the time at which this user should be logged off automatically after logging on. The unit of measure is minute. The time can be set in the range of 0 to 43,200 minutes. If it is set to "*" (=0), timeout will not occur.
5.3 New Registration of User Accounts

6. Press [ENTER] or select (EXECUTE).

7. The entered user account information will be registered.
5.4 Modification of User Accounts

Described below is the procedure to change user account information.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select {SYSTEM INFO} - {USER PASSWORD} under the main menu.

3. Move the cursor to the USER NAME to be modified and press [SELECT].

4. The selection dialog appears. Move the cursor to “MODIFY” and press [SELECT].
5 Control As an Administrator

5.4 Modification of User Accounts

5. The USER PASSWORD EDIT (REGISTER/MODIFY) window appears. Modify the user account as follows:

**PASSWORD:**
Numeric characters can be used to create a password.
OPERATION/EDITING/MANAGEMENT MODE: 4 to 16 characters
SAFETY MODE: 9 to 16 characters

**PASSWORD(AGAIN):**
Enter the same password again for confirmation.

**MODE:**
Select the access level to be allowed for this user (OPERATION MODE/EDITING MODE/MANAGEMENT MODE/SAFETY MODE).

**COMMENT:**
Enter any required comment. Up to thirty two characters can be entered.

**TIMEOUT:**
Enter the time at which This user should be logged off automatically after logging on. The unit of measure is minute. The time can be set in the range of 0 to 43,200 minutes. If it is set to "*" (=0), timeout will not occur.
5 Control As an Administrator
5.4 Modification of User Accounts

6. Press [ENTER] or select {EXECUTE}.

7. The user account is modified to the set contents.
5 Control As an Administrator

5.5 Deletion of User Accounts

Described below is the procedure to delete a user account.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select {SYSTEM INFO} - {USER PASSWORD} under the main menu.

3. Move the cursor to the USER NAME to be deleted and press [SELECT].

4. The selection dialog appears. Move the cursor to “DELETE” and press [SELECT].
5. The confirmation dialog box, “Delete?” is displayed. Select {YES}.

6. The user account will be deleted.
5.6 Deletion of All the User Accounts

Described below is the procedure to delete all the User Accounts registered.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).
2. Select (SYSTEM INFO) - {USER PASSWORD} under the main menu.
3. Move the cursor to the USER NAME and press [SELECT].
4. The selection dialog appears. Move the cursor to “DELETE ALL” and press [SELECT].
5. The confirmation dialog box, “Delete?” is displayed. Select {YES}.
5 Control As an Administrator

5.7 Modification of Administrator Account

Described below is the procedure to change the Administrator account information.

* The ONETIMEmng account information cannot be changed.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select {SYSTEM INFO} - {USER PASSWORD} under the main menu.

3. Move the cursor to “Administrator” and press [SELECT].
4. The selection dialog appears. Move the cursor to “MODIFY” and press [SELECT].

5. The USER PASSWORD EDIT (REGISTER/MODIFY) window appears. Modify the User Account as follows: Of the Administrator account information registered, only the PASSWORD and the TIMEOUT setting can be modified.

**PASSWORD:**

9 to 16 numeric characters can be used to create a password.

**PASSWORD(AGAIN):**

Enter the same password again for confirmation.

**TIMEOUT:**

Enter the time at which This user should be logged off automatically after logging on. The unit of measure is minute. The time can be set in the range of 0 to 43,200 minutes. If it is set to **""** (=0), timeout will not occur.

6. Press [ENTER] or select {EXECUTE}.
7. The administrator account is modified to the set contents.

**NOTE**

Before deleting all the User Accounts, check to make sure that it will still be possible to log in to the controller afterward. Also, be very careful when changing the information about the Account for Administrators.
5.8 Saving/Loading Registered Account Information

The administrator and the user account information can be saved to an external memory. The file name is “USRINFO.DAT”. The saved file can be loaded. When USRINFO.DAT loading is completed, the current User will be automatically logged off from the system.

5.8.1 Save

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select {EX. MEMORY} - {SAVE} under the main menu.

3. The external memory saving window appears. Select {SYSTEM DATA} - {USER INFORMATION}.
4. Press [ENTER]. The confirmation dialog box, “Save?” is displayed. Select {YES}. 
5.8.2 Load

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).

2. Select (EX. MEMORY) - (LOAD) under the main menu.

3. The external memory loading window appears. Select {SYSTEM DATA} - {USER INFORMATION}.

4. Press [ENTER]. The confirmation dialog box, “Load?” is displayed. Select {YES}.

5. When loading is completed, the current user will be automatically logged off.
6 Control As a User

6.1 Logon As a User

Described below is the procedure to log on to the controller as a user.

1. Select {SYSTEM INFO} - {LOGON} under the main menu.

2. The LOGON window appears. In the “USER NAME” field, input the user name that has been assigned by the system administrator.

3. In the “PASSWORD” field, enter the password that has been assigned by the system administrator.

4. Press [ENTER].

5. The current user will be logged on to the controller.
6.2 Logoff As a User

Described below is the procedure to log off from the controller as a user.

1. Select (SYSTEM INFO) - {LOGOFF} under the main menu.

2. The LOGOFF window appears. Press [ENTER] or select {EXECUTE}.

3. The current user will be logged off from the controller.
The "LOGOFF OPERATION MODE" setting can be entered from the LOGON SETTING Window.

Described below is the procedure to specify the degree of operation restriction for logged-off users.

1. Log on to the system as a system administrator (for the logon procedure, refer to chapter 5.1 “Logon As an Administrator”).
2. Select {SYSTEM INFO} - {USER PASSWORD} under the main menu.
3. The USER PASSWORD LIST window appears. Select {UTILITY} - {LOGON SETTING} under the menu.
4. The LOGON SETTING window appears. Press [SELECT].

5. The selection dialog appears. Select either “PROHIBITED” or “RESTRICTED”. Depending on the selection, the degree of operation restriction for logged-off users will be different. For more details, refer to chapter 8.2 “Operation During Logging Off”.

![LOGON SETTING Window Diagram](image-url)
8 LOGOFF OPERATION MODE

8.1 Window Display After Logging Off

After the last user logs off from the system, a LOGON window will be shown on the display.

Even if the user has logged off in a multiple-window display mode, the multiple-window display will be cancelled upon logoff, and the LOGON window will be shown in a single-window status.

8.2 Operation During Logging Off

The range of operations allowed during logging off depends on the type of operation restriction selected by the "LOGOFF OPERATION MODE" setting on the LOGON SETTING window.

8.2.1 PROHIBITED

It will be impossible to go to any window other than the LOGON window shown. The following operations are prohibited. All the other operations can be performed in the same way as by a normal operation-level user.

- Jog operation
- FWD/BWD/TEST RUN operation(s)
- Moving the Destination (for position check etc.)
- Turning the servo on from the pendant (both the [Servo On] key and DSW)
- Starting from the pendant (Hold and emergency stop are enabled)
- Control group / Speed / Axis selection
- Function key
- Touch-panel and key operations related to areas other than general-purpose display or dialogue areas

Operations using external signal input (e.g. external servo-on, programmed start) will remain enabled.

The window will not switch to the alarm window even if an alarm occurs. However, the display will show the alarm window if the system has been in an alarm status at the time of logon completion.

8.2.2 RESTRICTED

The following operations will be prohibited. All the other operations can be performed in the same way as by a normal operation-level user.

- Jog operation
- FWD/BWD/TEST RUN operation(s)
- Moving the Destination (for position check etc.)

Operations using external signal input (e.g. external servo-on, programmed start) will remain enabled.

The window will immediately switch to the alarm window when an alarm occurs. It will also be possible to operate the menu to go to windows other than the LOGON window.
The each specific output for security levels is defined as follows:

- **OPERATION MODE** setting: #50690
- **EDITING MODE** setting: #50691
- **MANAGEMENT MODE** setting: #50692
- **SAFETY MODE** setting: #50693

The specific output for security levels will change as follows depending on whether any user is logged on or not and what mode is selected for the currently logged-on user.

<table>
<thead>
<tr>
<th>Status</th>
<th>Account ID</th>
<th>Mode setting</th>
<th>#50690</th>
<th>#50691</th>
<th>#50692</th>
<th>#50693</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logoff</td>
<td>-</td>
<td>-</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>Logon</td>
<td>Account for Administrators</td>
<td>-</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>User Account</td>
<td>OPERATION MODE</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDITING MODE</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MANAGEMENT MODE</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAFETY MODE</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td></td>
</tr>
</tbody>
</table>
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Specifications are subject to change without notice
for ongoing product modifications and improvements.

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