

## Motoman XRC Controller

# Alarm/Error Manual

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# *NOTES*

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# **SECTION 1**

## **INTRODUCTION**

The Alarm/Error manual provides detailed information regarding alarms and errors for the XRC controller including causes and remedies.

### **1.1 About this Document**

This manual provides details about alarms and errors for the XRC controller. It is intended for personnel who have received operator training from Motoman and who are familiar with the operation of their XRC robot model. This manual contains the following sections:

#### **SECTION 1 - INTRODUCTION**

This section provides general information including a list of reference documents and customer service information.

#### **SECTION 2 - SAFETY**

This section provides general information regarding safe use and operation of the XRC controller.

#### **SECTION 3 - ALARMS**

This section provides detailed information regarding XRC alarms including alarm displays and diagnostics.

#### **SECTION 4 - ERRORS**

This section provides detailed information regarding XRC error messages including displays and diagnostics.

### **1.2 Reference to Other Documentation**

For additional information refer to the following:

- Manipulator Manual for your robot model
- Application-specific Motoman manuals
- Vendor manuals for system components not manufactured by Motoman

### **1.3 Customer Service Information**

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

- Robot Type (UP6, UP20, etc.)
- Application Type (welding, handling, etc.)
- Robot Serial Number (located on the back side of the robot arm).
- Robot Sales Number (located on the back side of the XRC controller).

# *NOTES*

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# **SECTION 2**

## **SAFETY**

### **2.1 Introduction**

**It is the purchaser's responsibility to ensure that all local, county, state, and national codes, regulations, rules, or laws relating to safety and safe operating conditions for each installation are met and followed.**

We suggest that you obtain and review a copy of the ANSI/RIA National Safety Standard for Industrial Robots and Robot Systems. This information can be obtained from the Robotic Industries Association by requesting ANSI/RIA R15.06. The address is as follows:

Robotic Industries Association  
900 Victors Way  
P.O. Box 3724  
Ann Arbor, Michigan 48106  
TEL: 313/994-6088  
FAX: 313/994-3338

Ultimately, the best safeguard is trained personnel. The user is responsible for providing personnel who are adequately trained to operate, program, and maintain the robot cell. **The robot must not be operated by personnel who have not been trained!**

We recommend that all personnel who intend to operate, program, repair, or use the robot system be trained in an approved Motoman training course and become familiar with the proper operation of the system.

This safety section addresses the following:

- Standard Conventions (Section 2.2)
- General Safeguarding Tips (Section 2.3)
- Mechanical Safety Devices (Section 2.4)
- Installation Safety (Section 2.5)
- Programming Safety (Section 2.6)
- Operation Safety (Section 2.7)
- Maintenance Safety (Section 2.8)

## 2.2 **Standard Conventions**

This manual includes information essential to the safety of personnel and equipment. As you read through this manual, be alert to the four signal words:

- DANGER
- WARNING
- CAUTION
- NOTE

Pay particular attention to the information provided under these headings which are defined below (in descending order of severity).



### ***DANGER!***

***Information appearing under the DANGER caption concerns the protection of personnel from the immediate and imminent hazards that, if not avoided, will result in immediate, serious personal injury or loss of life in addition to equipment damage.***



### ***WARNING!***

***Information appearing under the WARNING caption concerns the protection of personnel and equipment from potential hazards that can result in personal injury or loss of life in addition to equipment damage.***



### ***CAUTION!***

***Information appearing under the CAUTION caption concerns the protection of personnel and equipment, software, and data from hazards that can result in minor personal injury or equipment damage.***

**NOTE:** *Information appearing in a NOTE caption provides additional information which is helpful in understanding the item being explained.*



## **2.3      *General Safeguarding Tips***

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. All personnel involved with the operation of the equipment must understand potential dangers of operation. General safeguarding tips are as follows:

- Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation of this robot, the operator's manuals, the system equipment, and options and accessories should be permitted to operate this robot system.
- Do not enter the robot cell while it is in automatic operation. Programmers must have the teach pendant when they enter the robot cell.
- Improper connections can damage the robot. All connections must be made within the standard voltage and current ratings of the robot I/O (Inputs and Outputs).
- The robot must be placed in Emergency Stop (E-STOP) mode whenever it is not in use.
- In accordance with ANSI/RIA R15.06, section 6.13.4 and 6.13.5, use lockout/tagout procedures during equipment maintenance. Refer also to Section 1910.147 (29CFR, Part 1910), Occupational Safety and Health Standards for General Industry (OSHA).

## **2.4      *Mechanical Safety Devices***

The safe operation of the robot, positioner, auxiliary equipment, and system is ultimately the user's responsibility. The conditions under which the equipment will be operated safely should be reviewed by the user. The user must be aware of the various national codes, ANSI/RIA R15.06 safety standards, and other local codes that may pertain to the installation and use of industrial equipment. Additional safety measures for personnel and equipment may be required depending on system installation, operation, and/or location. The following safety measures are available:

- Safety fences and barriers
- Light curtains
- Door interlocks
- Safety mats
- Floor markings
- Warning lights

Check all safety equipment frequently for proper operation. Repair or replace any non-functioning safety equipment immediately.

## 2.5 *Installation Safety*

Safe installation is essential for protection of people and equipment. The following suggestions are intended to supplement, but not replace, existing federal, local, and state laws and regulations. Additional safety measures for personnel and equipment may be required depending on system installation, operation, and/or location. Installation tips are as follows:

- Be sure that only qualified personnel familiar with national codes, local codes, and ANSI/RIA R15.06 safety standards are permitted to install the equipment.
- Identify the work envelope of each robot with floor markings, signs, and barriers.
- Position all controllers outside the robot work envelope.
- Whenever possible, install safety fences to protect against unauthorized entry into the work envelope.
- Eliminate areas where personnel might get trapped between a moving robot and other equipment (pinch points).
- Provide sufficient room inside the workcell to permit safe teaching and maintenance procedures.

## 2.6 *Programming Safety*

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. All personnel involved with the operation of the equipment must understand potential dangers of operation. Programming tips are as follows:

- Any modifications to PART 1 of the MRC controller PLC can cause severe personal injury or death, as well as damage to the robot! Do not make any modifications to PART 1. Making any changes without the written permission of Motoman will **VOID YOUR WARRANTY!**
- Some operations require standard passwords and some require special passwords. Special passwords are for Motoman use only. **YOUR WARRANTY WILL BE VOID** if you use these special passwords.
- Back up all programs and jobs onto a floppy disk whenever program changes are made. To avoid loss of information, programs, or jobs, a backup must always be made before any service procedures are done and before any changes are made to options, accessories, or equipment.
- The concurrent I/O (Input and Output) function allows the customer to modify the internal ladder inputs and outputs for maximum robot performance. Great care must be taken when making these modifications. Double-check all modifications under every mode of robot operation to ensure that you have not created hazards or dangerous situations that may damage the robot or other parts of the system.
- Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation, manuals, electrical design, and equipment interconnections of this robot should be permitted to operate the system.

- Inspect the robot and work envelope to be sure no potentially hazardous conditions exist. Be sure the area is clean and free of water, oil, debris, etc.
- Be sure that all safeguards are in place.
- Check the E-STOP button on the teach pendant for proper operation before programming.
- Carry the teach pendant with you when you enter the workcell.
- Be sure that only the person holding the teach pendant enters the workcell.
- Test any new or modified program at low speed for at least one full cycle.

## **2.7      *Operation Safety***

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. All personnel involved with the operation of the equipment must understand potential dangers of operation. Operation tips are as follows:

- Be sure that only trained personnel familiar with the operation of this robot, the operator's manuals, the system equipment, and options and accessories are permitted to operate this robot system.
- Check all safety equipment for proper operation. Repair or replace any non-functioning safety equipment immediately.
- Inspect the robot and work envelope to ensure no potentially hazardous conditions exist. Be sure the area is clean and free of water, oil, debris, etc.
- Ensure that all safeguards are in place.
- Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation, manuals, electrical design, and equipment interconnections of this robot should be permitted to operate the system.
- Do not enter the robot cell while it is in automatic operation. Programmers must have the teach pendant when they enter the cell.
- The robot must be placed in Emergency Stop (E-STOP) mode whenever it is not in use.
- This equipment has multiple sources of electrical supply. Electrical interconnections are made between the controller, external servo box, and other equipment. Disconnect and lockout/tagout all electrical circuits before making any modifications or connections.
- All modifications made to the controller will change the way the robot operates and can cause severe personal injury or death, as well as damage the robot. This includes controller parameters, ladder parts 1 and 2, and I/O (Input and Output) modifications. Check and test all changes at slow speed.

## **2.8      *Maintenance Safety***

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. All personnel involved with the operation of the equipment must understand potential dangers of operation. Maintenance tips are as follows:

- Do not perform any maintenance procedures before reading and understanding the proper procedures in the appropriate manual.
- Check all safety equipment for proper operation. Repair or replace any non-functioning safety equipment immediately.
- Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation, manuals, electrical design, and equipment interconnections of this robot should be permitted to operate the system.
- Back up all your programs and jobs onto a floppy disk whenever program changes are made. A backup must always be made before any servicing or changes are made to options, accessories, or equipment to avoid loss of information, programs, or jobs.
- Do not enter the robot cell while it is in automatic operation. Programmers must have the teach pendant when they enter the cell.
- The robot must be placed in Emergency Stop (E-STOP) mode whenever it is not in use.
- Be sure all safeguards are in place.
- Use proper replacement parts.
- This equipment has multiple sources of electrical supply. Electrical interconnections are made between the controller, external servo box, and other equipment. Disconnect and lockout/tagout all electrical circuits before making any modifications or connections.
- All modifications made to the controller will change the way the robot operates and can cause severe personal injury or death, as well as damage the robot. This includes controller parameters, ladder parts 1 and 2, and I/O (Input and Output) modifications. Check and test all changes at slow speed.
- Improper connections can damage the robot. All connections must be made within the standard voltage and current ratings of the robot I/O (Inputs and Outputs).

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## **SECTION 3**

# **ALARMS**

### **3.1 Alarm Code Classification**

Servo power is interrupted when a major alarm of level 0-3 occurs.

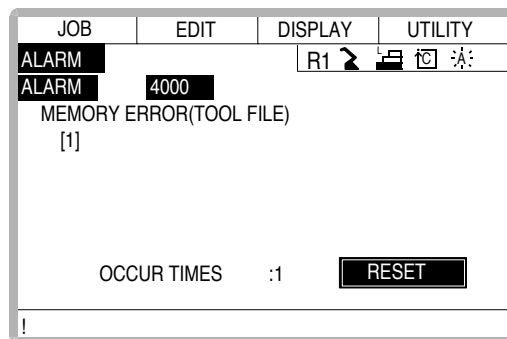
*Table 3-1 Alarm Code Classification*

<i>Alarm Code</i>	<i>Alarm Level</i>	<i>Alarm Reset Method</i>
0□□□	Level 0 (Major alarm) (Off line alarm : Initial diagnosis/ Hardware diagnosis alarm)	It is not possible to reset using [RESET] under the alarm display or specific I/O signal (Alarm reset). Turn off main power supply and correct the cause of the alarm. Then turn on main power supply again.
1□□□ - 3□□□	Level 1-3 (Major alarm)	It is not possible to reset by [RESET] under the alarm display or specific I/O signal(Alarm reset). Turn off the main power supply and correct the cause of the alarm. Then turn on a main power supply again.
4□□□ - 8□□□	Level 4-8 (Minor alarm)	After correcting the cause, it is possible to reset by [RESET] under the alarm display or the specific I/O signal (Alarm reset).
9□□□	Level 9 (Minor alarm) (I/O Alarm)	After correcting the cause that the specific input signal for the system or user alarm request is input, it is possible to reset by [RESET] under the alarm display or the specific I/O signal (Alarm reset).

## 3.2 Alarm Display

### 3.2.1 Displaying/Releasing Alarm

If an alarm occurs during operation, the manipulator stops immediately, the alarm/error lamp on the playback panel lights, and the alarm display appears on the programming pendant indicating that the machine was stopped by an alarm.



If more than one alarm occurs simultaneously, the first four alarms are displayed. The fifth and subsequent alarms are not displayed, but they can be checked on the alarm history display. The following operations are available in the alarm status: display change, mode change, alarm reset, and emergency stop. If the display is changed to the other during alarm occurrence, the alarm display can be shown again by selecting {SYSTEM INFO} and {ALARM} under the menu.

#### Release

Alarms are classified as minor and major alarms.

#### Minor Alarms

Operation:

Press Select to reset the alarm.

Explanation:

Select Reset under the alarm display to release the alarm status. When using an external input signal, turn on the Alarm Reset setting.

#### Major Alarms

Operation:

Turn off the main power supply and remove the cause of the alarm.

Explanation:

If a severe alarm, such as hardware failure occurs, servo power is automatically shut off and the manipulator stops. If releasing does not work, turn off the main power and correct the cause of the alarm.

### 3.2.2 Special Alarm Display

#### Sub Data

Sub data such as data for the axis where the alarm occurred, may also be displayed for some alarms.

- Decimal data  
Without signs: 0 to 65535  
With signs: -32768 to 32767
- Binary data  
The alarm occurrence data becomes “1”.  
With 8 bits: 0000\_0001  
With 16 bits: 00000001\_00000001
- Axis data  
The axis where the alarm occurred is highlighted.  
With robot axis: Robots 1 to 3 [ S **L** U R B T ]  
With base axis: Robots 1 to 3 [ **1** 2 3 ]  
With station axis: Stations 1 to 6 [ 1 **2** 3 ]
- XYZ coordinate data  
The coordinates when the alarm occurred are highlighted.  
[ **X** Y Z ]  
[ X Y Z **Tx** Ty Tz ]
- 123 data  
The data for the alarm that occurred is highlighted.  
[ **1** 2 3 ]
- Control group data  
The control group where the alarm occurred is highlighted.  
[ **R1** R2 S1 S2 S3 ]
- Others  
C:\*, B:\*, F:\* [Decimal data]  
C: CPU No., B: Block No., F: Factor No.

#### Multiple Servopack System

In a system using more than one Servopack, the number of the Servopack where the alarm occurred is also displayed. The S1 switch of the WRCA01 board shows the Servopack number.

SV#1: Servopack 1 (WRCA01 board S1 switch: 0)

SV#2: Servopack 2 (WRCA01 board S1 switch: 1)

SV#3: Servopack 3 (WRCA01 board S1 switch: 2)

SV#4: Servopack 4 (WRCA01 board S1 switch: 3)

SV#5: Servopack 5 (WRCA01 board S1 switch: 4)

SV#6: Servopack 6 (WRCA01 board S1 switch: 5)

*Independent Control Function (Optional)*

In the independent control function (multi-task job), the tasks that were being done when the alarm occurred are also displayed.

TASK#0: Master-task job

TASK#1: Sub-task1 job (SUB1)

TASK#2: Sub-task2 job (SUB2)

TASK#3: Sub-task3 job (SUB3)

TASK#4: Sub-task4 job (SUB4)

TASK#5: Sub-task5 job (SUB5)

*Multi Sensor Function (Optional)*

In the multi sensor function, the sensors that were being done when the alarm occurred are also displayed.

SL#1: XCP02#1-Sensor1

SL#2: XCP02#1-Sensor2

SL#3: XCP02#2-Sensor3

SL#4: XCP02#2-Sensor4

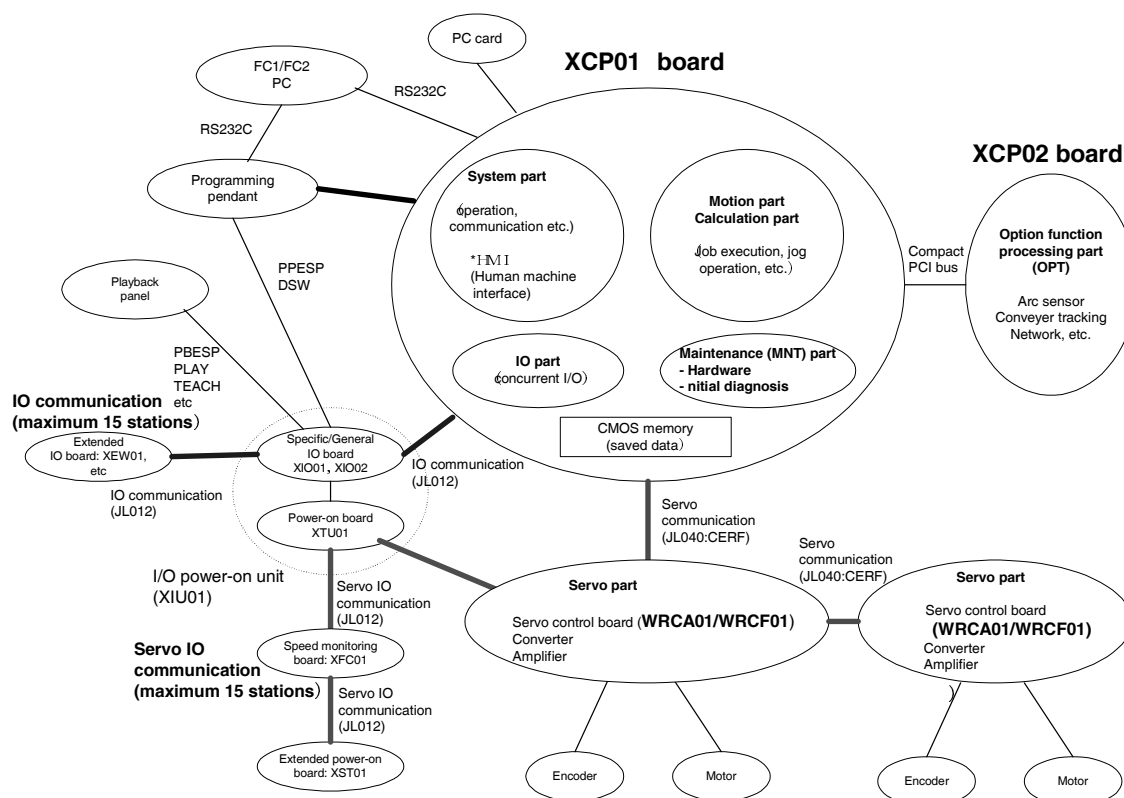
***CAUTION!***

***Take care when performing the remedies described in the Alarm list. The system control circuit board (JANCD-XCP01) records important program file data using battery backup. Careless operation may delete this information. Before making any changes to the settings on the JANCD-XCP01 board, contact the Motoman Service staff at (937) 847-3200.***



## Alarm Detection Software Block Diagram

Following shows the software block diagram of XRC.



## 3.3 LED Display in Abnormal Circumstances

### 3.3.1 NMI Occurrences

When NMI is generated, the situation is displayed in LED.

#### XCP01 Board

<i>Occurrence Process</i>	<i>LED0</i>	<i>LED1</i>	<i>LED2</i>	<i>LED3</i>
Boot Process	⊙	●	●	●
Offline Boot Process	⊙	○	○	○
Online Process	⊙	○	○	○

●: Lighting on, ○: Lighting off, ⊙: Blinking

#### XCP02 Board

LED is blinking when the NMI occurs by the problem of the XCP02 board.

#### XSL01 Board

LED is blinking when the NMI occurs by the problem of the XCP02 board.

Servo Control Board (WRCA01)

<i>Occurrence Process</i>	<i>Red LED</i>	<i>Green LED1</i>	<i>Green LED2</i>	<i>Remarks</i>
Boot Process	◎	●	●	
Offline Boot Process	◎	○	○	
Online Process (WDG Time out)	◎	◎	○	Blinking simultaneously
Online Process (except WDG Time out)	◎	○	◎	Blinking simultaneously

The layout of the LED on the WRC A01 board is shown below.

Red LED	Green LED1	Green LED1
---------	------------	------------

### 3.3.2 *Boot Program Processing Error*

XCP01 Board

<i>Error Contents</i>	<i>LED0</i>	<i>LED1</i>	<i>LED2</i>	<i>LED3</i>
RAM Check Error	◎◎	●	●	●
Boot ROM Check Error	◎◎◎	●	●	●

●: Lighting on, ○: Lighting off, ◎: Blinking

Servo Control Board (WRCA01)

<i>Error Contents</i>	<i>LED0</i>	<i>LED1</i>	<i>LED2</i>	<i>LED3</i>
RAM Check Error	◎◎	●	●	●
Boot ROM Check Error	◎◎◎	●	●	●

Blinking Pattern:

Light On

◎◎ : Light Off

Light On

◎◎◎ : Light Off

### 3.3.3 From Power On to Online Process

<i>XCP01, XCP02, XSL01</i>	<i>Servo control board (WRCA01 board)</i>
①Power ON	①Power ON
②LED ALL ON (hardware)	②LED ALL OFF (hardware)
③Boot Process	③LED ALL ON (boot initial, software)
④LED ALL OFF (system initial, software)	④Boot Process
	⑤LED ALL OFF (system initial, software)

All of the LEDs of the every board except for the WRCA01 board are lighting on. The state of the power supply to the board can be checked by the LED light-on process. (LED lights only during boot process. Confirmation can be done by visual check.)

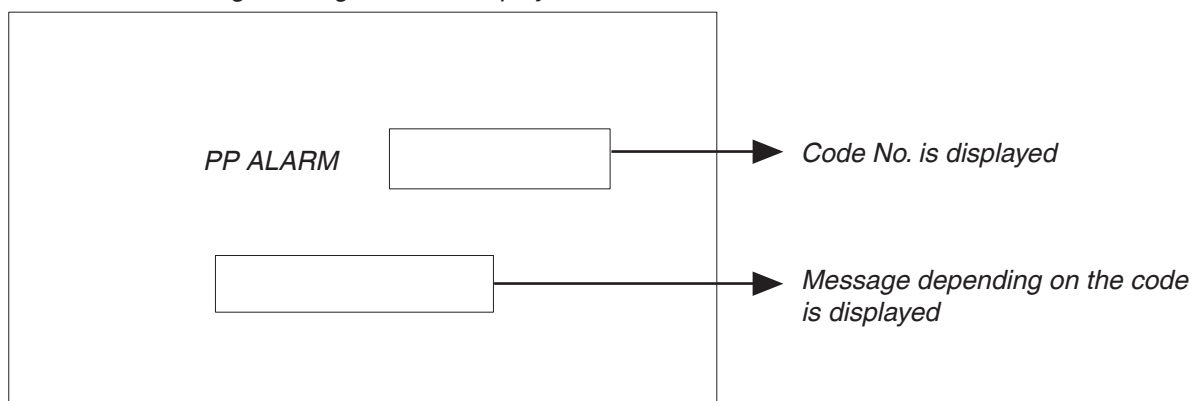
### 3.3.4 System Part of the JASP-WRCA01 Board

<i>Error Contents</i>	<i>Red LED</i>	<i>Green LED1</i>	<i>Green LED2</i>	<i>Remarks</i>
Pre-online normal processing	○	●	○	
Onlinenormal processing	○	○	●	
Synchronization start command not received	●	●	○	
Alarm occurrence (displayed in PP)	○	◎	◎	Two LEDs lighting simultaneously
Alarm occurrence (CREF communication error)	●	◎	◎	Two LEDs lighting simultaneously
ROM error occurrence	◎	◎	◎	Three LEDs lighting simultaneously

### 3.4 Programming Pendant Alarm

The YASNAC XRC system displays the PP Alarm in the programming pendant (Hereafter, it is called PP.) when some abnormalities occur.

*Programming Pendant Display*



*Table 3-2 Code No. List*

<i>Code No.</i>	<i>Message</i>	<i>Contents</i>	<i>Type</i>	<i>Cause, Solution</i>
0010	None	PP ROM Error	Hardware	Replace PP.
0011	None	PP RAM Error		
0020	None	(1) XRC stop (2) Communication stop between PP and XRC	Hardware	Error in XRC main body Hardware (circuit board) defective Uncontrollable software by hardware error. Uncontrollable software itself <References> XCP01 LED(0): NMI
0021	None	PP stop	Hardware	PP defective Mis-wiring cable (power supply cable, communication cable) for the PP Circuit board defective Replace PP, check wirings, Replace circuit boards.
2000	None	SIO receiving data error	Hardware	Noise between PP and XRC
2001	None	Parity error		
2002	None	Overflow error		
2004	None	Flaming error		

Table 3-2 Code No. List

Code No.	Message	Contents	Type	Cause, Solution
2010	None	SIO data sending error	Software	Software program error  Note)** of the message of WIN_NO. at the alarm 5000 - 5005 is the numeric data. WIN_NO:00 Operation menu0 WIN_NO:01 Operation menu1 WIN_NO:02 Operation menu2 WIN_NO:03 Operation menu3 WIN_NO:04 General area WIN_NO:05 General area WIN_NO:06 General area WIN_NO:07 Input buffer prompt WIN_NO:08 Input buffer WIN_NO:09 Input line prompt WIN_NO:10 Input line WIN_NO:11 Message prompt WIN_NO:12 Message WIN_NO:13 Assistance display WIN_NO:14 Instruction dialog WIN_NO:15 Selection dialog WIN_NO:16 Confirmation dialog WIN_NO:17 Status WIN_NO:18 Pull-down menu
2100	None	Receiving buffer full		
2101	None	Sending buffer full		
3000	None	Display command buffer full		
3001	None	Display buffer full		
5000	WIN-NO:**	Display data length error		
5001	WIN-NO:**	Data range over		
5002	WIN-NO:**	Data double definition		
5003	WIN-NO:**	Display number alarm		
5004	WIN-NO:**	Window number alarm		
5005	WIN-NO:**	Data number alarm		

Table 3-2 Code No. List

Code No.	Message	Contents	Type	Cause, Solution
<Reference> COMMAND  Online command 0x01: LIVE check command #1 0x02: LIVE check command #2 0x03: Version No. request/sending 0x04: PP type No. request/sending 0x05: Foreign language specification 0x06: PP sending stop request/status 0x07: PP sending start request/status 0x08: PP reset command 0x09: Baudrate change command 0x0a: Watchdog process stop request 0x0b: Watchdog process start request 0x0c: SCU initialization process request (232C communication start) 0x0d: SCU reset process request 0x0e: LIVE check command #3 0x0f: Language code command  LED command 0x10: LED#0 data request/sending 0x11: LED#1 data request/sending 0x12: LED#2 data request/sending 0x13: LED#3 data request/sending 0x14: LED#4 data request/sending 0x17: All LEDs data request/sending 0x18: LED blinking time setting  KEY command 0x20: KEY#0 data request/sending 0x21: KEY#1 data request/sending 0x22: KEY#2 data request/sending 0x23: KEY#3 data request/sending 0x24: KEY#4 data request/sending 0x25: KEY#5 data request/sending 0x26: KEY#6 data request/sending 0x27: KEY#7 data request/sending 0x2f: All KEYs data request/sending  LCD configuration command 0x30: LCD initialization 0x31: Configuration data setting 0x32: Buffer size changing 0x33: LCD display area changing 0x34: Buffer display position changing 0x35: Buffer display position changing + Re-display 0x36: Designated window deletion 0x37: All windows deletion 0x38: Window attribution changing  LCD display command 0x40: Designated windows open, display 0x41: All windows open, display 0x42: Designated windows close 0x43: All windows close				

Table 3-2 Code No. List

Code No.	Message	Contents	Type	Cause, Solution
		Display switch command 0x44: Display switch start 0x45: Display switch stop 0x46: Display switch time setting		
		Rolling command 0x47: Rolling start 0x48: Rolling stop 0x49: Rolling speed setting		
		Display buffer command 0x50: Strings setting 0x51: Character attribution changing 0x52: Automatic re-display added character attribution changing 0x53: Designated area clear 0x54: All area clear 0x57: Character frame line information setting 0x58: Character frame line information deletion		
		Special control command 0x60: Buzzer ON 0x61: Buzzer OFF 0x62: Bell ON 0x63: Bell timer setting 0x64: Buzzer frequency setting 0x65: Bell pattern output 0x66: Buzzer permission 0x67: Buzzer inhibition 0x68: LCD display lighting on 0x69: LCD display lighting off 0x6a: LCD back-light lighting on 0x6b: LCD back-light lighting off 0x6c: LCD contrast adjustment 0x6d: LCD lighting off interval setting 0x6e: EL lighting off interval setting 0x6f: LCD flash		
		Alarm command 0x80: Alarm sending		
		Response command 0x90: Normal response 0x91: Negative response		
		Flash access command 0xb0: Flash writing command 0xb1: Flash process end command 0xb2: Upload information get command 0xb3: Upload data get command 0xb4: Flash writing inhibition request command		
		Undefined command 0xff		

## 3.5 Alarm Message List

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0010	CPU BOARD INSERTION ERROR [Decimal Data]  Detection:MNT OFF.blk[0].d00	Insertion of the circuit board is not completed. Defective circuit board  Data stands for an error circuit board. 10: XCP02 circuit board (#1-0) 11: XCP02 circuit board (#1-1) 12: XCP02 circuit board (#1-2) 20: XCP02 circuit board (#2-0) 21: XCP02 circuit board (#2-1) 22: XCP02 circuit board (#2-2)  (Note) XCP02 circuit board (main) (#□-■) □: Slot No. ■: 0→XCP02 circuit board (main) 1→Sub-board 1(connector CNSL side) 2→Sub-board 2(connector CNET side)	Insert the circuit board into the CPU rack correctly. Replace the circuit board.
0020	CPU COMMUNICATION ERROR [Decimal Data]  Detection:MNT OFF.blk[0].d01	Insertion of the circuit board is not completed. Defective circuit board Data stands for the error circuit board. 10:XCP02 circuit board (#1-0) 11:XCP02 circuit board (#1-1) 12:XCP02 circuit board (#1-2) 20:XCP02 circuit board (#2-0) 21:XCP02 circuit board (#2-1) 22:XCP02 circuit board (#2-2)  (Note) XCP02 circuit board (main) (#□-■) □:Slot No. ■:0→XCP02 circuit board (main) 1→Sub-board 1 (connector CNSL side) 2→Sub-board 2 (connector CNET side)	Insert the circuit board into the CPU rack correctly. Replace the circuit board.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0021	<p>COMMUNICATION ERROR(SERVO) [Decimal Data]</p> <p>Detection:MNT OFF.blk[0].d02</p>	<p>The connection of communication cable for servopack is not completed. The connection of communication cable for the servopack is cut. The connection of terminal connector was not completed. The terminal connector is unusual. The circuit board is out of order. (The terminal connector is equipped 1 for a system.)</p> <p>Data stands for an error circuit board. 50:WRCA01 circuit board (#1) 51:WRCA01 circuit board (#2) 52:WRCA01 circuit board (#3) 53:WRCA01 circuit board (#4) 54:WRCA01 circuit board (#5) 55:WRCA01 circuit board (#6)</p> <p>(Note) WRCA01circuit board (#□) The setting value or rotary switch on the WRCA01 circuit board is (□-1).</p>	<p>Check the connection of communication cable for servopack. (XCP01•CN05-WRCA(#*)•CN10 cable WRCA•CN10(#*) - WRCA•CN10(#*) cable.) Replace the communication connector for the servopack. Check the connection of the terminal connector (WRCA-CN10(#*)) Replace the terminal connector. Replace the circuit board.</p>
0030	<p>ROM ERROR [Decimal Data]</p> <p>Detection:MNT OFF.blk[0].d03</p>	<p>An error is found by sum check of system program. Data stands for an error circuit board. 1: XCP01 circuit board 2: XSP01 circuit board 10: XCP02 circuit board (#1-0) 11: XCP02 circuit board (#1-1) 12: XCP02 circuit board (#1-2) 20: XCP02 circuit board (#2-0) 21: XCP02 circuit board (#2-1) 22: XCP02 circuit board (#2-2)</p> <p>(note) XCP02 circuit board (#□-■) □:Slot No. ■:0→XCP02circuit board (main) 1→Sub-board 1 (connector CNSL side) 2→Sub-board 2 (connector CNET side) 50: WRCA01 circuit board (#1) 51: WRCA01 circuit board (#2) 52: WRCA01 circuit board (#3) 53: WRCA01 circuit board (#4) 54: WRCA01 circuit board (#5) 55: WRCA01 circuit board (#6)</p> <p>(Note)WRCA01circuit board (#□) The setting value of rotary switch on the WRCA01 circuit board is (□-1).</p>	<p>Replace the circuit board. When the XCP01 circuit board is replaced, contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0040	<p>MEMORY ERROR</p> <p>(CPU BORAD RAM) [Decimal Data]</p> <p>Detection:MNT OFF.blk[0].d04</p>	<p>Memory (RAM) error</p> <p>Data stands for an error circuit board.</p> <p>1: XCP01 circuit board 2: XSP01 circuit board 10: XCP02 circuit board (#1-0) 11: XCP02 circuit board (#1-1) 12: XCP02 circuit board (#1-2) 20: XCP02 circuit board (#2-0) 21: XCP02 circuit board (#2-1) 22: XCP02 circuit board (#2-2) (note) XCP02 circuit board (#□-■) □:Slot No. ■: 0→XCP02circuit board (main) 1→Sub-board 1(connector CNSL side) 2→Sub-board 2 (connector CNET side)</p> <p>50:WRCA01 circuit board (#1) 51:WRCA01 circuit board (#2) 52:WRCA01 circuit board (#3) 53:WRCA01 circuit board (#4) 54:WRCA01 circuit board (#5) 55:WRCA01 circuit board (#6) (Note)WRCA01circuit board (#□) The setting value of rotary switch on the WRCA01 circuit board is (□-1).</p>	<p>Replace the circuit board.</p> <p>When the XCP01 circuit board is replaced, contact the Motoman service staff.</p>
0050	<p>MEMORY ERROR</p> <p>(PCI-BUS COMMON RAM) [Decimal Data]</p> <p>Detection:MNT OFF.blk[0].d05</p>	<p>An error occurs in PCI bus shared RAM of the CPU rack or shared RAM between circuit boards.</p> <p>Data stands for an error circuit board.</p> <p>10:XCP02 circuit board (#1-0) 11:XCP02 circuit board (#1-1) 12:XCP02 circuit board (#1-2) 20:XCP02 circuit board (#2-0) 21:XCP02 circuit board (#2-1) 22:XCP02 circuit board (#2-2)</p> <p>(note) XCP02 circuit board (#□-■) □:Slot No. ■: 0→XCP02circuit board (main) 1→Sub-board 1 (connector CNSL side) 2→Sub-board 2 (connector CNET side)</p>	<p>Replace the circuit board.</p> <p>Insert the circuit board into the CPU rack and the connector on the circuit board correctly.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0060	<p>COMMUNICATION ERROR (I/O MODULE)</p> <p>[Decimal Data]</p> <p>Detection:MNT OFF.blk[0].d06</p>	<p>An error occurs in communication of the I/O module. Defective I/O module</p> <p>Data stands for the error I/O module. 1-15: I/O module connected with XCP01 circuit board 17-31: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#1) 33-47: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#2) 49-63: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#3) 65-79: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#4) 81-95: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#5) 97-111: Power-on circuit board, speed detect circuit board connected with WRCA01 circuit board (#6)</p> <p>(Note) WRCA01circuit board (#□) The setting value of the rotary switch on the WRCA01 circuit board is (□-1).</p> <p>1+(16*N): I/O module addressed to [■1h] 2+(16*N): I/O module addressed to [■2h] 3+(16*N): I/O module addressed to [■3h] 4+(16*N): I/O module addressed to [■4h] 5+(16*N): I/O module addressed to [■5h] 6+(16*N): I/O module addressed to [■6h] 7+(16*N): I/O module addressed to [■7h] 8+(16*N): I/O module addressed to [■8h] 9+(16*N): I/O module addressed to [■9h] 10+(16*N):I/O module addressed to [■Ah] 11+(16*N): I/O module addressed to [■Bh] 12+(16*N): I/O module addressed to [■Ch] 13+(16*N): I/O module addressed to [■Dh] 14+(16*N): I/O module addressed to [■Eh] 15+(16*N): I/O module addressed to [■Fh] N = 0,1,2,3,4,5,6 N = 6,7</p>	<p>Check the connection of the communication cable for I/O module. (XCP01•CN01-XIU01•CN03 cable) WRCA01(##)•CN20 - XIU01•CN21 cable.</p> <p>Replace the communication connector for the I/O module.</p>
0200	<p>MEMORY ERROR (PARAMETER FILE)</p> <p>[Decimal Data]</p> <p>Detection:MNT OFF.blk[1].d00</p>	<p>The parameter file is damaged.</p> <p>Data stands for an error I/O module. 0:RC*, 1:RO*, 2:SV, 3:SVM, 4:SC, 5:SD*, 6:CIO*, 7:FD*, 8:AP, 9:RS, 10:SE, 11:RMS*, 12:AMC*, 13:SVP*, 14:MF*, 15:PCD* *:System parameter</p>	<p>Initialize the parameter file damaged on maintenance mode.</p> <p>Load the saved parameter file in the external memory unit.</p> <p>Contact the Motoman service staff when the data shows system parameters (*).</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0210	VERIFY ERROR (SYSTEM CONFIG DATA) [Decimal Data] Detection:MNT OFF.blk[1].d01	The system configuration data information on system initialization is damaged.	Contact the Motoman service staff.
0220	MEMORY ERROR (JOB MNG DATA)  [No indication data]  Detection:MNT OFF.blk[1].d02	The job control data was damaged.	Initialize the job on maintenance mode. The whole job data is deleted. Load the parameter file saved on the external memory unit.
0230	MEMORY ERROR (LADDER PRG FILE) [No indication data]  Detection:MNT OFF.blk[1].d03	The ladder program is damaged.	Initialize the ladder program on maintenance mode. Load the ladder program saved on the external memory unit.
0240	MEMORY ERROR (MEMORY ERROR (DeviceNet Allocation File)) [Decimal Data]  Detection:MNT OFF.blk[1].d04  <X3.26-98>	The devicenet assignment file is damaged.  Data stands for the file No.	Reset the devicenet assignment on the maintenance mode. Load the devicenet assignment file saved on the external memory unit, then turn the power supply off once, and turn it on again.
0300	VERIFY ERROR (SYSTEM CONFIG DATA) [Decimal Data] Detection:MNT OFF.blk[2].d00	The system parameter is modified illegally. 1: System configuration data verification error 2: CIO parameter verification error 3: Segment clock parameter error	1: Contact the Motoman service staff. 2: Configure the IO module.
0310	VERIFY ERROR (CMOS MEMORY SIZE) [No indication data]  Detection:MNT OFF.blk[2].d01	CMOS memory capacity at system setting and a current CMOS memory capacity are different.	Check the connection status of the expanded CMOS memory circuit board (XMM01).

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0320	VERIFY ERROR (I/O MODULE) [Decimal Data]  Detection:MNT OFF.blk[2].d02	<p>The status of the I/O module at initializing the system or modifying are different from the current one. (It happens when the circuit board breaks down, when CMOS of other XRC is loaded and, when the communication line is cut.</p> <p>The communication mode (16/17 bytes) of the system does not coincide with the XIO01 due to replacement of the I/O module.</p> <p>Data stands for an error I/O module.</p> <p>1 -15: I/O module connected with XCP01            17 - 31: Power-on circuit board, speed detect circuit board connected with WRCA01(#1)            33 - 47: Power-on circuit board, speed detect circuit board connected with WRCA01 (#2)            49 - 63: Power-on circuit board, speed detect circuit board connected with WRCA01(#3)            65 -79: Power-on circuit board, speed detect circuit board connected with WRCA01(#4)            81 - 95: Power-on circuit board, speed detect circuit board connected with WRCA01(#5)            97 - 111: Power-on circuit board, speed detect circuit board connected with WRCA01 (#6)</p> <p>(Note) WRCA01circuit board (#□)            The setting value of the rotary switch on the WRCA01 circuit board is (□-1).</p> <p>1+(16*N): I/O module addressed to [■1h]            2+(16*N): I/O module addressed to [■2h]            3+(16*N): I/O module addressed to [■3h]            4+(16*N): I/O module addressed to [■4h]            5+(16*N): I/O module addressed to [■5h]            6+(16*N): I/O module addressed to [■6h]            7+(16*N): I/O module addressed to [■7h]            8+(16*N): I/O module addressed to [■8h]            9+(16*N): I/O module addressed to [■9h]            10+(16*N): I/O module addressed to [■Ah]            11+(16*N): I/O module addressed to [■Bh]            12+(16*N): I/O module addressed to [■Ch]            13+(16*N): I/O module addressed to [■Dh]            14+(16*N): I/O module addressed to [■Eh]            15+(16*N): I/O module addressed to [■Fh]            N = 0,1,2,3,4,5,6            ■ = 6,7</p>	<p>Verify whether the I/O module is same as the modified or initialized one.</p> <p>Modify the I/O module on maintenance mode.</p> <p>Check the communication mode(16/17 bytes) of the I/O module.</p>
0330	VERIFY ERROR (APPLICATION) [No indication data]  Detection:MNT OFF.blk[2].d03	<p>The application on system setting was different from the AP parameter.</p>	<p>Change to the correct AP parameter.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0340	<p>VERIFY ERROR (SENSOR FUNCTION)</p> <p>[No indication data]</p> <p>Detection:MNT OFF.blk[2].d04</p>	<p>The sensor function on system initializing is different from the function of the sensor circuit board mounted currently.</p> <p>The sensor setting on system setting is different from SE parameter.</p>	<p>Set the function of the sensor circuit board on maintenance mode again.</p> <p>Change to the correct SE parameter.</p>
0350	<p>VERIFY ERROR (DeviceNet Allocation File)</p> <p>[No indication data]</p> <p>Detection:MNT OFF.blk[2].d05 &lt;X3.26-98&gt;</p>	<p>1: The master station on the first page of the set file does not exist.</p> <p>2: MAC-ID which is on the first page of the set file is different from the one which is on the station.</p> <p>3: The data which is over the range exists on the first page of the set files.</p> <p>10: There is no master station on the second page of the set file.</p> <p>11: MAC-ID which is on the second page of the set file is different from the one which is on the station.</p> <p>12: The data which is over the range exists on the second page of the set file.</p>	<p>Set the devicenet allocation in the maintenance mode.</p>
0400	<p>PARAMETER TRANSMISSION ERROR</p> <p>[Decimal Data]</p> <p>Detection:MNT OFF.blk[3].d00</p>	<p>The connection of communication cable for the servopack is not completed.</p> <p>The connection of communication cable for the servopack is cut.</p> <p>The connection of the terminal connector is not completed.</p> <p>The circuit board is out of order.</p> <p>(The terminal connector is equipped 1 for a system.).</p> <p>Data stands for an error I/O module.</p> <p>50: WRCA01 circuit board (#1)</p> <p>51: WRCA01 circuit board (#2)</p> <p>52: WRCA01 circuit board (#3)</p> <p>53: WRCA01 circuit board (#5)</p> <p>55: WRCA01 circuit board (#6)</p> <p>(Note) WRCA01circuit board (#□)</p> <p>The setting value of the rotary switch on the WRCA01 circuit board is (□-1).</p>	<p>Check the connection of the communication cable for the servopack.</p> <p>(XCP01•CN05-WRCA(#*)•CN10cable,WRCA•CN10(#*)-WRCA•CN10(#*) cable)</p> <p>Replace the communication cable for the servopack.</p> <p>Check the connection of the terminal connector.</p> <p>Replace the terminal connector.</p> <p>Replace the circuit board.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0410	MODE CHANGE ERROR [Decimal Data]  Detection:MNT OFF.blk[3].d01	An error occurs in process of change into the normal operation mode.  Data stands for an error circuit board. 10: XCP02 circuit board (#1-0) 11: XCP02 circuit board (#1-1) 12: XCP02 circuit board (#1-2) 20: XCP02 circuit board (#2-0) 21: XCP02 circuit board (#2-1) 22: XCP02 circuit board (#2-2) (Note)XCP02 circuit board (#□-■) □: Slot No. ■: 0→ XCP02 circuit board (main) 1→Sub-board 1(connectorCNSLside) 2→Sub-board 2 (connector CNET side)  50: WRCA01 circuit board (#1) 51: WRCA01 circuit board #2) 52: WRCA01 circuit board (#3) 53: WRCA01 circuit board (#4) 54: WRCA01 circuit board (#5) 55: WRCA01 circuit board (#6) (Note) WRCA01circuit board (#□) The setting value of the rotary switch on the WRCA01 circuit board is (□-1).	<Data: 10 - 22> Insert the circuit board in the CPU rack firmly. Replace the circuit board.  <Data: 50 - 55> Check the connection of communication cable for the servopack. XCP01•CN05-WRCA(##)•CN10 cable, (WRCA•CN10(##)-WRCA•CN10(##) cable)) Replace the communication cable for the servopack. Check the connection of the terminal connector (WRCA•CN10 (##)). Replace the terminal connector. Replace the circuit board.
0420	DeviceNet ALLOCATION FILE TRANSMISSION ERROR [Decimal Data]  Detection:MNT OFF.blk[3].d02 <X3.26-98>	1: An error occurs when the first setting file is sent. 2: An error occurred when the second setting file is sent.	Set the devicenet assignment.
0500	SEGMENT PROC NOT READY [No indication data]  Detection:MNT OFF.blk[4].d00	An error occurs in communication between the XCP01 circuit board and the WRCA01 circuit board.	Turn the power off then back on. Contact the Motoman service staff.
0510	SOFTWARE VERSION UNMATCH [Decimal Data]  Detection:MNT OFF.blk[4].d01 <X3.60>	The XCP01 circuit board and the software version in the WRCA circuit board are inflatable.	Contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0900	WATCHDOG TIMER ERROR(XCP01) [Decimal Data]  Detection:MNT OFF.blk[8].d00	An insertion error of the XCP01#1 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0901	WATCHDOG TIMER ERROR(XCP02#1) [Decimal Data]  Detection:MNT OFF.blk[8].d01	An insertion error of the XCP02#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If error occurs again, contact the Motoman service staff.
0902	WATCHDOG TIMER ERROR (XCP02#2) [Decimal Data]  Detection:MNT OFF.blk[8].d02	An insertion error of the XCP02#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If an error occurs again, contact the Motoman service staff.
0910	CPU ERROR (XCP01) [Decimal Data]  Detection:MNT OFF.blk[8].d08	An insertion error of the XCP01 circuit board or defective circuit board  Data stands for the CPU exception error. Refer to the exception type for the Power PC. 1: System reset 2: Machine check 3: Data access 4: Command access 5: External interruption 6: Alignment 7: Program Floating decimal point enable exception Incorrect instruction Privileged instruction Trap 8: Floating point cannot be used. 9: Decrement	Insert the circuit board in the CPU rack firmly Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0911	CPU ERROR (XCP02#1) [Decimal Data]  Detection:MNT OFF.blk[8].d09	An insertion error of the XCP02#1 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0912	CPU ERROR (XCP02#2) [Decimal Data]  Detection:MNT OFF.blk[8].d10	An insertion error of the XCP02#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0920	BUS ERROR (XCP01) [Decimal Data]  Detection:MNT OFF.blk[8].d16	An insertion error of the XCP01 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0921	BUS ERROR (XCP02#1) [Decimal Data]  Detection:MNT OFF.blk[8].d17	An insertion error of the XCP02#1 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0922	BUS ERROR (XCP02#2) [Decimal Data]  Detection:MNT OFF.blk[8].d18	An insertion error of the XCP02#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0930	CPU HANG UP ERROR (XCP01) [Decimal Data]  Detection:MNT OFF.blk[8].d24	An insertion error of the XCP01 circuit board or defective circuit board	Insert the circuit board in the CPU rack firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0931	CPU HANG UP ERROR (XCP02#1) [Decimal Data]  Detection:MNT OFF.blk[8].d25	An insertion error of the XCP02#1 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0932	CPU HANG UP ERROR (XCP02#2) [Decimal Data]  Detection:MNT OFF.blk[8].d26	An insertion error of the XCP02#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0940	WATCHDOG TIMER ERROR (WRCA#1) [Decimal Data]  Detection:MNT OFF.blk[9].d08	An insertion error of the WRCA01#1 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0941	WATCHDOG TIMER ERROR (WRCA#2) [Decimal Data]  Detection:MNT OFF.blk[9].d09	An insertion error of the WRCA01#2 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0942	WATCHDOG TIMER ERROR (WRCA#3) [Decimal Data]  Detection:MNT OFF.blk[9].d10	An insertion error of the WRCA01#3 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0943	WATCHDOG TIMER ERROR (WRCA#4) [Decimal Data]  Detection:MNT OFF.blk[9].d11	An insertion error of the WRCA01#4 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0944	WATCHDOG TIMER ERROR (WRCA#5) [Decimal Data]  Detection:MNT OFF.blk[9].d12	An insertion error of the WRCA01#5 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0945	WATCHDOG TIMER ERROR (WRCA#6) [Decimal Data]  Detection:MNT OFF.blk[9].d13	An insertion error of the WRCA01#6 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0950	CPU ERROR (WRCA#1) [Decimal Data]  Detection:MNT OFF.blk[9].d16	An insertion error of the WRCA01#1 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0951	CPU ERROR (WRCA#2) [Decimal Data]  Detection:MNT OFF.blk[9].d17	An insertion error of the WRCA01#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0952	CPU ERROR (WRCA#3) [Decimal Data]  Detection:MNT OFF.blk[9].d18	An insertion error of the WRCA01#3 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0953	CPU ERROR (WRCA#4) [Decimal Data]  Detection:MNT OFF.blk[9].d19	An insertion error of the WRCA01#4 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0954	CPU ERROR (WRCA#5) [Decimal Data]  Detection:MNT OFF.blk[9].d20	An insertion error of the WRCA01#5 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0955	CPU ERROR (WRCA#6) [Decimal Data]  Detection:MNT OFF.blk[9].d21	An insertion error of the WRCA01#6 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0960	CPU HANG UP ERROR (WRCA#1) [Decimal Data]  Detection:MNT OFF.blk[9].d24	An insertion error of the WRCA01#1 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0961	CPU HANG UP ERROR (WRCA#2) [Decimal Data]  Detection:MNT OFF.blk[9].d25	An insertion error of the WRCA01#2 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0962	CPU HANG UP ERROR (WRCA#3) [Decimal Data]  Detection:MNT OFF.blk[9].d26	An insertion error of the WRCA01#3 circuit board or defective circuit board	Insert the circuit board in the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
0963	CPU HANG UP ERROR (WRCA#4) [Decimal Data]  Detection:MNT OFF.blk[9].d27	An insertion error of the WRCA01#4 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0964	CPU HANG UP ERROR (WRCA#5) [Decimal Data]  Detection:MNT OFF.blk[9].d28	An insertion error of the WRCA01#5 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0965	CPU HANG UP ERROR (WRCA#6) [Decimal Data]  Detection:MNT OFF.blk[9].d29	An insertion error of the WRCA01#6 circuit board or defective circuit board	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
0970	SYSTEM ERROR(PC) [Decimal Data]  Detection:MNT OFF.blk[9].d00 <X2.10>		
0999	NMI ERROR [Decimal Data]  Detection:MNT OFF.blk[9].d31	NMI (Unknown interruption) occurs because of the motion error of the hardware, the circuit board and the rack or the control error of the software.	Insert the circuit board into the CPU rack or the connector on the circuit board firmly. Replace the circuit board. If the error occurs again, contact the Motoman service staff.
1000	ROM ERROR (XCP01) [No indication data]  Detection:HMI S.blk[0].d00	An error is found at the sum check of the system program for the XCP01 circuit board.	Replace the XCP01(ROM) circuit board.
1001 SV#1 - SV#6	ROM ERROR (WRCA01) [Decimal Data]  Detection:SERVO SV.blk[0].d01	An error is found at the sum check of the system programs for the WACA01 circuit board.	0: Replace the WRCA01(ROM) circuit board. 10:

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1002 SV#1 - SV#6	ROM ERROR (XFC01) [No indication data]  Detection:SERVO SV.blk[0].d01 <X1.50>	An error is found at the sum check of the system program for the XFC01 circuit board.	Replace the XFC01(ROM) circuit board.
1003	ROM ERROR (XCP02) [No indication data]  Detection:NET NET.blk[0].d01 <X1.70>	An error is found at the sum check of the system program for the XCP02 circuit board.	Replace the XCP02(ROM) circuit board.
1030	(PARAMETER FILE) [Decimal Data]  Detection:HMI S.blk[0].d16	The parameter file of the CMOS memory is damaged. Data stands for the damaged parameter file. 0:RC*, 1:RO*, 2:SV, 3:SVM, 4:SC, 5:SD*, 6:CIO*, 7:FD*, 8:AP, 9:RS, 10:SE, 11:RMS*, 12:AMC*, 13:SVP*, 14:MF*, 15:PCD* *: The system parameter	Initialize the parameter file damaged on maintenance mode. Load the parameter file saved on the floppy disk.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1031 TASK#0 - TASK#5	MEMORY ERROR (MOTION 1) [Decimal Data]  Detection:Motion M.blk[0].d28	Data stands for the damaged file in various file which is saved on the CMOS memory used by operation command. 1: Home position file 2: Tool file 3: User coordinates file 4: Calibration file between robots 5: Tool calibration file 6: Weaving amplitude characteristic file 7: Home position correction data 8: Conveyer calibration file 9: Tool interference file 20: Weaving file 21: Welding specific file 22: Welding condition assistance file 23: Welding starting condition file 24: Welding ending condition file 25: COMARC condition file 26: COMARC data file 27: Path correcting condition file 28: Painting characteristic file 29: Painting condition file 30: Multi-layer index file 31: Multi-layer condition file 32: Sensor monitoring condition file 33: Name position file 34: Conveyer characteristic file 35: Press characteristic file 36: Servo float condition file 37: Spot welding characteristic file 38: Spot welding gun characteristic file 39: Servo gun characteristic file 40: Servo gun welding pressure file 41: Servo gun dry spot welding pressure file 42: Anticipation OT output file 43: Anticipation OG output file 45: Cutting form setting file 46: Spot (general purpose) I/O signal allocation file 47: Linear servo float condition file 48: Macro definition file 49: Painting amount correction condition file (spray) 50: Arc monitor file 51: Servo gun characteristic assistance file 52: Job register table	Initialize the file damaged on maintenance mode. Load the file saved on the floppy disk.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1032 TASK#0 - TASK#5	MEMORY ERROR (MOTION 2) [Decimal Data]  Detection:Motion M.blk[0].d30	Faulty insertion of the XCP01 circuit board or the circuit board faulty itself Data stands for the damaged file in the XCP01 circuit board memory which is used by the operation command.  0-255 0: SD parameter 1: SC parameter 2: Group information parameter 3: Mechanic parameter 4: Motion parameter 5: System parameter 6: Tool coordinate system 7: User coordinate system 8: Arc application parameter 9: Spot application parameter 10: SVD parameter 11: SV parameter 12: RCxG parameter 13: AP parameter 14: SE parameter 15: Handling application parameter 16: Painting application parameter 17: SVM parameter	Turn the power off then back on. Insert XCP01 circuit board in the CPU rack firmly. Replace the XCP01 circuit board. If the error occurs again, contact the Motoman service staff.  (Note) It is not necessary to operate the file initialization because the contents of this decimal data is not the CMOS data but the internal data.
1050	SET-UP PROCESS ERROR (SYSCON) [Decimal Data]  Detection:HMI S.blk[0].d07	Improper operation occurs in the system setup processing when the main power is turned on. 1: The operation command setting is incomplete. (Task generation abnormal) 2: On-line shift is incomplete. Setup of the WRCA01, XCP02#1, #2 circuit board are incomplete. The parameter setup is abnormal.  <Note> This alarm occurs when there is no response during the timer (3 seconds) though the part HMI setup processing waits for standing up of other CPU (check processing termination). Refer to the other alarm if it is occurred besides this alarm.	Check the system setup (external axis and sensor, etc.) Restart the system configuration. Insert the XCP02 circuit board into to the CPU rack firmly. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1051 TASK#0 - TASK#5	SET-UP PROCESS ERROR (MOTION) [Decimal Data]  Detection:Motion M.blk[0].d02	The error occurs when the initialization of the software and hardware of the XCP01 circuit board, and the communication with the WRCA circuit board at the power supply ON.  Data stands for the alarm factor. 1: Servo on-line processing change incomplection 2: Servo on-line processing starting requirement error 3: Servo on-line processing starting completion error 4: Feedback pulse creation requirement error 5: Feedback pulse creation completion error 6: Operation part initialization requirement error 7: Operation part initialization completion error 8: Present value creation requirement error 9: Present value creation completion error  (Note) The set up processing of the motion part monitors the above-mentioned decimal data. An alarm occurs with an abnormal data in decimal.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff.
1100	SYSTEM ERROR  C:□ B:□ F:□ [Decimal Data]	No-registered alarm is found by the noise.  C: □ CPU 0-5: MOTION(XCP01) 6-11: WRCA#1-#6 12: SYSCON(XCP01) 13: MNT(XCP01) 14-17: SL#1-#4 18: NET (Ethernet etc.) B:□ Block: 0-31 F:□ Factor: 0-31 [Data] →Data for the research	Contact the Motoman service staff.
1101	SYSTEM ERROR (SYSTEM 1) [Decimal Data]  Detection:HMI S.blk[1].d26	An error occurs in the control check of the system part. (MMM error) The software control is abnormal in the XCP01.	Turn the power supply off then back on. If the error occurs again, contact the Motoman service staff. The followings are necessary for the detailed cause investigation. 1)Check the operation procedure. 2)Copy the batch of the CMOS/ System, then contact the Motoman service staff. (The alarm information is saved in the CMOS data.)



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1102	SYSTEM ERROR (SYSTEM 2) [Decimal Data]  Detection:HMI S.blk[1].d27	The error occur at the control check of the system part.(MMA error) The program information error of the operation part. Control error of the XCP01 software.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff. The followings are necessary for the detailed cause investigation. 1)Check the operation procedure. 2)Copy the batch of the CMOS/ System, then contact the Motoman service staff (The alarm information is saved in the CMOS data.)
1103	SYSTEM ERROR (EVENT) [Decimal Data]  Detection:HMI S.blk[1].d27	An error occurs at the event managing system processing which controls the operation (EMS error) The XCP01 circuit board is defective or contact error, or the control abnormality of the software.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff.
1104	SYSTEM ERROR (CIO) [Bit Pattern]  S.blk[1].d09	An error occurs at the I/O control check of the system part. Data stands for the cause of the alarm 0001_0000: Communication error with IO module 0010_0000: XIO01 circuit board loop back check abnormality 1000_0000: I/O module set error (CIO parameter setting abnormality)	Check the connector, cable for transmission path of I/O signal (XCP01-IO power-on unit, IO module). Reset the XCP01 module on maintenance mode. Replace the XCP01, I/O power-on unit, I/O module.
1105 SV#1 - SV#6	SYSTEM ERROR (SERVO) [Decimal Data]  Detection:SERVO SV.blk[0].d06	An abnormality occurs at the control check of the WRCA01/WRCF01 circuit board.	Turn the power supply off and back on. If the error occurs again, please contact the Motoman service staff.
1106 SV#1 - SV#6	SYSTEM ERROR (SPEED MONITOR) [Decimal Data]  Detection:SERVO SV.blk[3].d22 <X1.50>	The error occurs in the control check of the XFC01circuit board.	Turn the power supply completely once, then start up. Check the set about connection of the encoder etc. in the case of data [1] and [2]. If the error occurs again, contact the Motoman service staff.
1107	SYSTEM ERROR(API) [Decimal Data]  Detection:HMI S.blk[0].d28 <X1.90>		
1108			

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1109	SYSTEM ERROR (CONVEYER) [Decimal Data]  Detection:SL SL.blk[0].d31 <X2.00>	The error occurs in control check.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff
1110	SYSTEM ERROR (CONTROLNET) [Decimal Data]  Detection:SL SL.blk[0].d31 <X5.00>	The error occurs in control check.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff
1200	HIGH TEMPERATURE (IN CNTL BOX) [No indication data]  Detection:HMI S.blk[0].d09	The temperature in controller rises abnormal. (Over 65°C)	Check whether the cooling fan of the controller is working.
1201	OVERRUN LIMIT SWITCH RELEASED [No indication data]  Detection:HMI S.blk[0].d03	The overrun recovery (operation and signal) operates during the playback.	Do not operate the overrun recovery during the playback.
1202 TASK#0 - TASK#5	FAULT [Decimal Data]  Detection:Motion M.blk[1].d03	CPU stop by 0 division in the XCP01 board XCP01 circuit board defective Contact defective Software control abnormality Data stands for the alarm factor. 1: Calculation 2: Floating point 255: System call fault	Turn the power off then back on. If the error occurs again, contact the Motoman service staff.
1203	SAFETY CIRCUIT ERROR(XCI01) [Binary Data]  Detection:HMI S.blk[1].d08	The error occurs in the safe circuit processing of the XCI01 circuit board. 00000000_*****: CPU1(H8) abnormal *****_00000000: CPU2 (V33) abnormal The meaning of ****_****: 00001011: RAM error 00001100: Common RAM error 00001101: ROM error 00010100: IO state check error 00110010: Software WDG error 00110011: NMI generation	Check the connection of the I/O power-on unit. Turn the power off then back on. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1204	COMMUNICATION ERROR (IO MODULE) [Binary Data]  S.blk[3].d03 <X3.50>	The communication error of the I/O module.  Data stands for the abnormal I/O module station address. 0000_0000_0000_0010: ST#01 0000_0000_0000_0100: ST#02 0000_0000_0000_1000: ST#03   1000_0000_0000_0000: ST#15 ST#15: XIO01,XIO02 (XCI01,XCI02)	Check the connector, cable for transmission path of I/O signal (XCP01-IO power-on unit, I/O module). Prepare the noise protection. Reset the I/O module on the maintenance mode. Replace the XCP01, the I/O power-on unit, and the I/O module.
1205	CONTROLNET ERROR [Decimal Data]  SL.blk[3].d10 <X5.00>	The error occurs in the system of the sensor part of the CONTROLNET function.	Turn the power off then back on If the error occurs again, contact the Motoman service staff.
1300 SV#1 - SV#6	SERVO CPU SYNCHRONIZING ERROR [No indication data]  Detection:SERVO SV.blk[0].d01	The connection between the XCP01 circuit board and the WRCA01 circuit board is abnormal. The number of the real time interruption at the PTP interruptions from the servo communication (CERF) is incorrect. The cable between the XCP01 circuit board and the WRCA01 circuit board is incomplete The connection of the terminal connector is incomplete. The XCP01 circuit board is defective. The WRCA01 circuit board is defective.	Check the connection of the communication cable for the servopack. (XCP01•CN05-WRCA(##)•CN10 cable, WRCA•CN10(##)-WRCA•CN10(##)cable) Replace the communication cable for the servopack. Check the connection of the terminal connector (WRCA•CN10(##)). Replace the terminal connector. Replace the XCP01, WRCA01circuit board. If the error occurs again, contact the Motoman service staff.
1301 SV#1 - SV#6	COMMUNICATION ERROR (SERVO) [Decimal Data]  Detection:SERVO SV.blk[0].d03	The communication between the XCP01 circuit board and the WRCA01 circuit board is abnormal. The cable between the XCP01circuit board and the WRCA01 circuit board is improper. The connection of the terminal connector is incomplete. The XCP01 circuit board defect The WRCA01 circuit board defect <NOTE> 0: Communication status is abnormal. JL040 receiving status is NG. 1: Watch dog The receiving watch dog data is abnormal. 2: JL040 alarm The JL040 alarm is notified from JL046.	Check the connection of the communication cable for the servopack. (XCP01•CN05-WRCA(##)•CN10cable,WRCA•CN10(##)-WRCA•CN10(##)cable) Replace the communication cable for the servopack. Check the connection of the terminal connector (WRCA•CN10(##)). Replace the terminal connector. Replace the XCP01, WRCA01circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1302 SV#1 - SV#6	COMMUNICATION ERROR (SERVO I/O) [Decimal Data]  Detection:SERVO SV.blk[0].d04	The communication between the WRCA01 circuit board and the power-on unit (I/O, robots and external axis) is abnormal. (The receiving status error from the I/O communication, and loop back is failed.) The WRCA01 circuit board is abnormal. The power-on unit is abnormal. The cable between the WRCA01 circuit board and the power-on unit is abnormal. <Note> 0: Communication status abnormality Receiving status of the JL012 is NG. 1: Communication loop back The communication loop back value of the JL012 is abnormal. 2: Interruption is not generated. The interruption from the JL012 is not generated.	Check the connection of the communication cable between the WRCA01 circuit board and the power-on unit. (WRCA01(##)•CN20-[XIU01•CN21] cable) Replace the WRCA01 circuit board. Replace the power-on unit. If the error occurs again, contact the Motoman service staff.
1303 SV#1 - SV#6	ARITHMETIC ERROR [Decimal Data]  Detection:SERVO SV.blk[0].d09	The error occurs in internal control check of the WRCA01 circuit board. (Parameter calculation error and control calculation error)	Contact the Motoman service staff.
1304 SV#1 - SV#6	EX-AXIS BOARD NOT INSTALLED [No indication data]  Detection:SERVO SV.blk[0].d11	The system includes the external axis, but the external axis circuit board (WRCF01 circuit board) is not installed. The system does not include the external axis, but the system with the external axis is set. Defective WRCF01 circuit board Defective WRCA01 circuit board (This alarm does not generate during the operation but this generates when the power supply is turning on.)	<The system with external axis> Check the installation of the external axis circuit board (WRCF01 circuit board). Replace the WRCF01 circuit board. <The system without external axis> Check that the system does not include the external axis. Execute the system configuration again on the system without external axis. <For all the system configuration> Replace the WRCA01 board. If the error occurs again, contact the Motoman service staff.
1305 SV#1 - SV#6	POWER ON UNIT NOT INSTALLED [Bit Pattern]  Detection:Servo SV.blk[0].d12  <X3.90> Not Used	The power-on unit is set on the system configuration, but the power-on unit is not installed. The system does not include the power-on unit, but the system with the power-on unit is set. Defective power-on unit Defective WRCA01 circuit board (This alarm does not generate during the operation but this generates when the power supply is turning on.)	<The system with external axis> Check the installation of the external axis circuit board (WRCF01 circuit board). Replace the WRCF01 circuit board. <The system without external axis> Check that the system does not include the external axis. Execute the system configuration again on the system without external axis. <For all the system configuration> Replace the power-on unit. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1306 SV#1 - SV#6	AMPULIFIER TYPE MISMATCH Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d13	The type of the amplifier displayed in axis data is different from the type in the system configuration. The type of the amplifier is not correct. The type of the amplifier is different from the type in the system configuration. Defective amplifier Defective WRCA01 circuit board (The alarm generates during the power supply is turning on but the alarm does not generate during the operation.)	Check the type of the servopack indicated by the axis data. <Error in robot axis> Check the type of the servopack is same as described one on the manual. If the type is not correct, replace it with correct servopack. <Error in external axis> Check the type of the servopack set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed servopack with correct one. If set data in the system configuration is not correct, set the correct system configuration. Replace the WRCA01 circuit board. If the error occurs again, contact the Motoman service staff.
1307 SV#1 - SV#6	ENCODER TYPE MISMATCH Robot/Station [Axis/Data]  Detection:SERVO SV.blk[0].d14	The type of the encoder displayed in the axis data is different form the type of the encoder set in the system configuration. The type of the encoder is not correct. System configuration is not correct. Defective encoder Defective WRCA circuit board (Note) Check the type of the encoder through the type of the motor as the encoder is an accessory of the motor. This alarm does not occur even if the setting of the 12 bits encoder and the 15 bit encoder are mistaken. (The alarm generates during the power supply is turning on but the alarm does not generate during the operation.)	Check the type of the motor indicated by the axis data. <Error in the robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. Replace the WRCA01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1308 SV#1 - SV#6	OVER/SPEED Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d19  <X3.90X3.90>Painting Mainor brakedown	The motor speed displayed in the axis data exceeds allowable max speed. The wiring of UVW wire of the motor is not correct. The type of the motor is not correct. The motor is moved by the external force. Defective WRCA01, WRCF01 circuit board Defective motor (encoder)	Check the connection wire of the motor. Check the operation of the robot when the alarm is occurred, and confirm whether the external force adds. Check the connection of the UVW wire of the motor. If it is wrong, correct it up. Drop the teaching speed when the alarm is occurred. Moreover, R, B, and T axes operate at a fast speed according to the teaching pose at the linear motion type occasionally. In this case, review teaching. <Generated axis is a robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Generated axis is external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1309 SV#1 - SV#6	OVERROAD (CONTINUE) Robot/Station [Axis Data]  Detection: Servo SV.blk[0].d20	<p>The motor torque displayed in the axis data exceeds rated torque for a long time. It may have burned the motor.</p> <p>The wiring of the UVW wire of the motor is not correct or cut.</p> <p>The type of the motor used is different.</p> <p>The motor is moved by the external force.</p> <p>It interferes with an outside equipment.</p> <p>Defective WRCA01, WRCF01 circuit board</p> <p>Defective amplifier</p> <p>Defective motor (encoder)</p>	<p>Check the robot arm is interfered with the external devices or the robot body. If the robot interferes, remove the causes.</p> <p>Check the connection of the UVW wire of the motor, and check the breaking of the wire.</p> <p>The robot might be worked with heavy load. Review the robot operation and set the teaching speed lower.</p> <p>&lt;Error in robot axis&gt;</p> <p>Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor.</p> <p>&lt;Error in external axis&gt;</p> <p>Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration.</p> <p>If error occurs again, replace the WRCA01 and/or WRCF01 circuit board.</p> <p>Replace the amplifier or the motor of the error axis.</p> <p>If the error occurs again, contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1310 SV#1 - SV#6	OVERROAD (MOMENT) Robot/Station [Axis Data]  Detection: Servo SV.blk[0].d21	<p>The motor torque several times rated torque is generated for a long time at the axis displayed in the axis data.</p> <p>The wiring of the UVW wire of the motor is not correct or cut. The type of the motor used is different. The motor is moved by the external force. It interferes with an outside equipment. Defective WRCA01, WRCF01 circuit board Defective amplifier Defective motor (encoder)</p>	<p>Check the robot arm is interfered with the external devices or the robot body. If the robot interferes, remove the causes.</p> <p>Check the connection of the UVW wire of the motor, and check the breaking of the wire.</p> <p>The robot might be worked with heavy load. Review the robot operation and set the teaching speed lower.</p> <p>&lt;Error in robot axis&gt;</p> <p>Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor.</p> <p>&lt;Error in external axis&gt;</p> <p>Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration.</p> <p>If error occurs again, replace the WRCA01 and/or WRCF01 circuit board.</p> <p>Replace the amplifier or the motor of the error axis.</p> <p>If the error occurs again, contact the Motoman service staff.</p>



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1311 SV#1 - SV#6	AMPLIFIER OVER LOAD (CONTINUE) Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d27	The servopack (amplifier) current several times rated current is generated for a long time at the axis displayed in the axis data. It may have burned the motor. The wiring of the UVW wire of the motor is not correct or cut. The type of the motor used is different. The motor is moved by the external force. It interferes with an outside equipment Defective WRCA01, WRCF01 circuit board Defective amplifier Defective motor (encoder)	Check the robot arm is interfered with the external devices or the robot body. If the robot interferes, remove the causes. Check the connection of the UVW wire of the motor, and check the breaking of the wire. The robot might be worked with heavy load. Review the robot operation and set the teaching speed lower. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1312 SV#1 - SV#6	AMPLIFIER OVER LOAD (MOMENT) Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d28	The motor torque several times rated torque is generated for a long time at the axis displayed in the axis data. It may have burned the motor. The wiring of the UVW wire of the motor is not correct or cut. The type of the motor used is different. The motor is moved by the external force. It interferes with an outside equipment Defective WRCA01, WRCF01 circuit board Defective amplifier Defective motor (encoder)	Check the robot arm is interfered with the external devices or the robot body. If the robot interferes, remove the causes. Check the connection of the UVW wire of the motor, and check the breaking of the wire. The robot might be worked with heavy load. Review the robot operation and set the teaching speed lower. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.
1313 SV#1 - SV#6	MOTOR ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d22  <X3.90>Painting Minor Brakedown	The motor is drive recklessly. This error occurs when the motor moves in reverse for the forward instruction. Incorrect wiring of the UVW wire for the motor The type of the motor is not correct. Defective WRCA01 and WRCF01 circuit boards	Check the connection of the UVW wire of the motor, and check the breaking of the wire. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1314 SV#1 - SV#6	SERVO TRACKING ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d24  <X3.90>Painting Minor Brakedown	The servo deflection of the axis displayed in the axis data becomes excessive, the robot is shifted from instructed motion position of tracks more than tolerance. The wiring of the UVW wire of the motor is not correct or cut. The type of the motor used is different. The motor is moved by the external force. It interferes with an outside equipment Defective WRCA01, WRCF01 circuit board Defective amplifier Defective motor (encoder)	Check the robot arm is interfered with the external devices or the robot body. If the robot interferes, remove the causes. Check the connection of the UVW wire of the motor, and check the breaking of the wire. The robot might be worked with heavy load. Review the robot operation and set the teaching speed lower. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.
1315 SV#1 - SV#6	POSITION ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d26  <X3.90>Painting Minor Brakedown	The number of pulses for one rotation of the motor is not a regulated pulse numbers. The position might be shifted. (But, when this alarm occurs simultaneously with another alarm related to the encoder, the latter alarm may be a cause of the former alarm.) Noise of outside equipment Defective WRCA01, WRCF01 circuit board Encoder power supply voltage down Defective motor (encoder)	Check whether there is a equipment generating loud noise. Check the ground of the controller is correct. When the error occurs at the external axis, set the ferrite core on the encoder cable. If the error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the motor for the axis where the error occurred.
1316 SV#1 - SV#6	BROKEN PG LINE Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d29	Break of the signal wire from the encoder (But, when this alarm occurs simultaneously with another alarm related to the encoder, the latter alarm may be a cause of the former alarm.) Defective WRCA01, CWRCR01 circuit board Noise of outside equipment Encoder power supply voltage down Defective motor (encoder)	Check the conduction of the cable from the WRCA01, WRCF01 circuit board to the motor (encoder) Check the ground of the controller is correct. Check whether there is equipment generating loud noise. If the error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the motor for the axis where the error occurred.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1317 SV#1 - SV#6	SPEED WATCHER BOARD ERROR [No indication data]  Detectito:SERVO SV.blk[1].d00  <X1.50>Not Used	The error occurs in the speed detective circuit board. Defective speed detective circuit board Defective WRCA circuit board	Turn of the power supply and back on. If the error occurs again, replace the speed detective circuit board and the WRCA01 circuit board.
1318 SV#1 - SV#6	OVERVOLTAGE (CONVERTER) [Bit Pattern] Detection:SERVO SV.blk[1].d27  <X3.90>Painting Minor Brakedown	The power supply voltage of direct current supplied to the amplifier of the servopack exceeds 420V. The primary power supply voltage is too high.(200V+10%) It is too much load. Defective converter Defective WRCA circuit board Data stands for converter No. 00000000_00000001 SV#1- converter 1 00000000_00000010 SV#1- converter 2 00000000_00000001 SV#2- converter 1 00000000_00000010 SV#2- converter 2 00000000_00000001 SV#3- converter 1 00000000_00000010 SV#3- converter 2 00000000_00000001 SV#4- converter 1 00000000_00000010 SV#4- converter 2 00000000_00000001 SV#5- converter 1 00000000_00000010 SV#5- converter 2 00000000_00000001 SV#6- converter 1 00000000_00000010 SV#6- converter 2	Check the primary power supply (220V+10%) Lower the teaching speed of the back and forth four steps for alarm occurrence step about 30%. If the alarm doesn't reoccur, alter the load. If the error occurs again, replace the WRCA01 circuit board and the converter.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1319 SV#1 - SV#6	GROUND FAULT Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d29  <X3.90>Painting Minor Brakedown	One of U,V and W wires of the motor displayed on axis data is grounded at least. Defective motor Ground fault of the motor and lead wire Defective WRCA01, WRCF01 circuit board Defective amplifier	This alarm is reset by turning off the control power supply. But do not turn on the servo power supply before checking the motor grounding. There is a possibility the servopack is damaged when the servo turn-on and off is repeated during ground fault status.  Check the connection of the U, V, W and E wire of the motor. Remove the U,V, W, E wires of the motor from the terminal of the controller and check the conduction of U-E, V-E, W-E. If the error is found by the above check, remove the connector of the motor side and check again. If the wires are conducted, it is thought to be a defective lead wire. Specify the error point and replace the lead wire. If the error is not caused by the lead wire, it is thought to be a defective motor. Replace the motor. If the error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier and the motor of the error axis.
1320 SV#1 - SV#6	OPEN PHASE (CONVERTER) [Bit Pattern]  Detection:SERVO SV.blk[1].d30  <X3.90>Painting Minor Brakedown	Any of the three-phase current for primary side power supply of the servopack is open phase. The wrong wiring of the primary side power supply connection The decrease of the primary side power supply voltage (170V or less.) Defective WRCA01, WRCF01 circuit board Defective converter  Data stands for the converter No. 00000000_00000001 SV#1- converter 1 00000000_00000010 SV#1- converter 2 00000000_00000001 SV#2- converter 1 00000000_00000010 SV#2- converter 2 00000000_00000001 SV#3- converter 1 00000000_00000010 SV#3- converter 2 00000000_00000001 SV#4- converter 1 00000000_00000010 SV#4- converter 2 00000000_00000001 SV#5- converter 1 00000000_00000010 SV#5- converter 2 00000000_00000001 SV#6- converter 1 00000000_00000010 SV#6- converter 2	Check the connection of the primary R,S,T wires of the servopack. Check that the power supply voltage is more than 170V. If the error occurs again, replace the WRCA01, WRCF01 circuit board. Replace the converter for the axis where the error occurred.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1321 SV#1 - SV#6	<p>OVERCURRENT (AMP)</p> <p>Robot/Station [Axis Data]</p> <p>Detection:SERVO SV.blk[2].d00</p> <p>&lt;X3.90&gt;Painting Minor Brakedown</p>	<p>One of the U,V, W wires of the motor displayed on the axis data is grounded at least.</p> <p>Defective motor</p> <p>Ground fault of the motor, lead wire</p> <p>Defective WRCA01, WRCF01 circuit board</p> <p>Defective amplifier</p> <p>Overheating of the amplifier</p>	<p>This alarm is reset by turning off the control power supply. But do not turn on the servo power supply before checking the motor grounding. There is a possibility the servopack is damaged when the servo turn-on and off is repeated during ground fault status.</p> <p>Check the connection of the U, V, W and E wire of the motor.</p> <p>Remove the U,V, W, E wires of the motor from the terminal of the controller and check the conduction of U-E, V-E, W-E.</p> <p>If the error is found by the above check, remove the connector of the motor side and check again. If the wires are conducted, it is thought to be a defective lead wire. Specify the error point and replace the lead wire.</p> <p>If the error is not caused by the lead wire, it is thought to be a defective motor. Replace the motor.</p> <p>If an error is not found by the above check, turn off the power supply and leave them for a while. (self-cooling).</p> <p>If the error is not found after that, the overheat may be a cause. Review the load and the ambient temperature.</p> <p>If the error occurs again, replace the WRCA01 and/or WRCF01 circuit board.</p> <p>Replace the amplifier and the motor of the error axis.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1322 SV#1 - SV#6	REGENERATIVE TROUBLE (CONVERTER) [Bit Pattern] Detection:SERVO SV.blk[2].d01 <X3.90>Painting Minor Brakedown	It is too much energy of the resurrection at the motor deceleration for the resurrection circuit of the servopack to control. The load installed on robot is too heavy. The primary power supply voltage is too high. (more than 242 V) Defective converter Defective WRCA01, WRCF01 circuit board Data stands for the converter No. 00000000_00000001 SV#1 - converter 1 00000000_00000010 SV#1 - converter 2 00000000_00000001 SV#2 - converter 1 00000000_00000010 SV#2 - converter 2 00000000_00000001 SV#3 - converter 1 00000000_00000010 SV#3 - converter 2 00000000_00000001 SV#4 - converter 1 00000000_00000010 SV#4 - converter 2 00000000_00000001 SV#5 - converter 1 00000000_00000010 SV#5 - converter 2 00000000_00000001 SV#6 - converter 1 00000000_00000010 SV#6 - converter 2	Check the load again. Reduce the teaching speed of four steps by about 30% before and behind the alarm generation step. If the alarm does not reoccur, alter the load. Check the primary power supply (220V+10%) If the error occurs again, replace the WRCA01, WRCF01 circuit board. Replace the converter for the axis where the error occurred.
1323 SV#1 - SV#6	INPUT POWR OVER VOLTAGE(CONV) [Bit Pattern] Detection:SERVO SV.blk[2].d02 <X3.90>Painting Minor Brakedown	The primary power supply voltage of the servopack is too high. (more than 242V.) Data stands for the converter No. 00000000_00000001 SV#1- converter 1 00000000_00000010 SV#1- converter 2 00000000_00000001 SV#2- converter 1 00000000_00000010 SV#2- converter 2 00000000_00000001 SV#3- converter 1 00000000_00000010 SV#3- converter 2 00000000_00000001 SV#4- converter 1 00000000_00000010 SV#4- converter 2 00000000_00000001 SV#5- converter 1 00000000_00000010 SV#5- converter 2 00000000_00000001 SV#6- converter 1 00000000_00000010 SV#6- converter 2	Check the primary power supply (220V+10%) If the error occurs again, replace the WRCA01 circuit board. Replace the converter for the axis where the error occurred.
1324 SV#1 - SV#6	TEMPERATURE ERROR (CONVERTER) [Bit Pattern] Detection:SERVO SV.blk[2].d03 <X3.90>Painting Minor Brakedown	The temperature of the servopack (Converter) is too high. Data stands for the converter No. 00000000_00000001 SV#1- converter 1 00000000_00000010 SV#1- converter 2 00000000_00000001 SV#2- converter 1 00000000_00000010 SV#2- converter 2 00000000_00000001 SV#3- converter 1 00000000_00000010 SV#3- converter 2 00000000_00000001 SV#4- converter 1 00000000_00000010 SV#4- converter 2 00000000_00000001 SV#5- converter 1 00000000_00000010 SV#5- converter 2 00000000_00000001 SV#6- converter 1 00000000_00000010 SV#6- converter 2	Check whether the ambient temperature is too high. Check the load again. Check the primary power supply voltage.(220V+10%) If the error occurs again, replace the WRCA01 circuit board. Replace the converter for the axis where the error occurred.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1325 SV#1 - SV#6	COMMUNICATION ERROR (ENCODER) Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d05	The communication error between the encoder and the WRCA01 circuit board. The wrong wiring of the encoder wire The noise from the external device/equipment The type of the motor is not correct. Defective WRCA01 circuit board Defective encoder	Check the connection of the encoder displayed on the axis data. Check whether there is the equipment of device generating big noise around. Check the ground of the controller is correct. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board.
1326 SV#1 - SV#6	DEFECTIVE ENCODER ABSOLUTE DATA Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d07	An error occurs in the position detect circuit board of the encoder.	Turn off the power supply then back on. If the error occurs again, replace the motor(encoder) for the axis where the error occurred. * There is a possibility of the mis-detection by the dust adhesion, etc. on the LED, the lens, and the slit of the detector due to the encoder internal abnormality.
1327 SV#1 - SV#6	ENCODER OVER SPEED Robot/Station] [Axis Data]  Detection:SERVO SV.blk[2].d11	The control power supply is turned on when the encoder is driving at 400 rpm or more. The control power supply should not be turned on when the motor is rotating. The axis without the brakes such as the R, B and T axis of the SK6 falls freely when the servo power supply is turned off by the emergency stop etc. If the power supply is turned on above statues, the alarm occurs. If the alarm occurs in the robot geostationary state, it is thought that the encoder caused the error. (This alarm occurs when the control power supply starts turning on and this does not occur during the operation.)	Check the timing of the turning on the control power supply. If the error occurs when the control power supply is turned on at the robot geostatioary state, replace the motor (encoder) for the axis data where is the error occurred. If the error occurs during the operation, contact the Motoman service staff.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1328 SV#1 - SV#6	DEFECTIVE SERIAL ENCODER Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d15	The internal parameter of the serial encoder is abnormal. It is thought to be an error of the encoder.	Turn off the power supply then back on. If the error occurs again, replace the motor(encoder) for the axis where the error occurred. If the error occurs again, contact the Motoman service staff.
1329 SV#1 - SV#6	DEFECTIVE SERIAL ENCODER COMMAND Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d16	When the encoder backup error occurs, normally the controller automatically resets the data of the encoder. But there is no response of the reset completion from the encoder. It is thought that the encoder is abnormal.	Turn off the power supply then back on. If the error occurs again, replace the motor (encoder) for the axis where the error occurred. If the error occurs again, contact the Motoman service staff.
1330 SV#1 - SV#6	MICRO PROGRAM TRANSMIT ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d03	Defective WRCA01 circuit board (This alarm occurs when the control power supply starts turning on, and this does not occurs during the operation.)	Turn off the power supply then back on. If the error occurs again, replace the WRCA01 circuit board for the axis where the error occurred.
1331 SV#1 - SV#6	CURRENT FEEDBACK ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d05	When the phase balance of the motor current is automatically adjusted, the received U phase current value is abnormal. Defective WRCA01 circuit board Defective amplifier	Turn off the power supply then back on. If the error occurs again after above treatments, replace the WRCA01 circuit board and the amplifier for the axis where the error occurred.
1332 SV#1 - SV#6	CURRENT FEEDBACK ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d06	When the phase balance of the motor current is automatically adjusted, the received V phase current value is abnormal. Defective WRCA01 circuit board Defective amplifier	Turn off the power supply then back on. If the error occurs again, replace the WRCA01 circuit board and the amplifier for the axis where the error occurred.
1333 SV#1 - SV#6	Collision Detection (play mode) Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d30 <X1.50>Deleted	The collision is detected in the play mode.	Restart from the state of the collision.
1334 SV#1 - SV#6	Resurrection Overload [Bit Pattern]  Detection:SERVO SV.blk[1].d17 <X3.90>Painting Minor Brakedown	The resurrection overload is detected.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1335 SV#1 - SV#6	ENCODER NOT RESET Robot/Station [Axis Data]  Detection: Servo SV.blk[2].d15 <X1.20>	Reset is not completed although an encoder backup error reset has been required. It may be no connection between encoder and the battery.	Connect the battery with the encoder. Contact the Motoman service staff when the alarm occurs again even if the battery is connected. (There is a possibility of the encoder breakdown)
1336 SV#1 - SV#6	XFC01 NOT INSTALLED [No indication data]  Detection: SERVO SV.blk[0].d15 <X1.50>	The speed monitor (XFC01) circuit board is not mounted although it has been specified in the system.	Mount the speed monitor (XFC01) circuit board.
1337 SV#1 - SV#6	SPEED MONITOR LEVEL NOT SAME [No indication data]  Detection: SERVO SV.blk[0].d16 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs at the speed monitor level signal (Duplicated signal check). The monitor level received through the CERF from the XCP01 is different from the monitor level received from the WRCA hardware.	Check the connection cable of the I/O power-on unit. Replace the WRCA01 circuit board.
1338 SV#1 - SV#6	SPEED MONITOR LEVEL ERROR [No indication data]  Detection: SERVO SV.blk[0].d31 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs at the speed monitor level signal. Proper monitor mode does not exist in received speed monitor level.	Check the connection cable of the I/O power-on unit. Replace the WRCA01 circuit board.
1339 SV#1 - SV#6	SPEED MONITOR LEVEL ERR(XFC01) [No indication data]  Detection: SERVO SV.blk[3].d18 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitor level signal. The cable between the I/O power-on unit and the XFC01 circuit board is cut. The cable between the I/O power-on unit and the XCI01 circuit board is cut. Defective I/O power-on unit Defective XFC01 circuit board	Check the cable connection between the I/O power-on unit and the XFC01 circuit board. Check the cable connection between the I/O power-on unit and the XCI01 circuit board. Replace the I/O power-on unit and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1340 SV#1 - SV#6	BROKEN SPEED MONITOR LINE [No indication data]  Detection:SERVO SV.blk[0].d30 <X1.50> <X3.90>Painting Minor Brakedown	The speed monitor instruction cable is disconnected.	Check the connection cable of the I/O power-on unit. Replace the WRCA01 circuit board.
1341	BROKEN SPEED MONITOR LINE (XFC01) [No indication data]  Detection:SERVO SV.blk[3].d18 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitor level signal. The cable between the I/O power-on unit and the XFC01 circuit board is cut. The cable between the I/O power-on unit and the XCI01 circuit board is cut. Defective I/O power-on unit Defective XFC01 circuit board	Check the cable connection between the I/O power-on unit and the XFC01 circuit board. Check the cable connection between the I/O power-on unit and the XCI01 circuit board. Replace the I/O power-on unit and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.
1341 SV#1 - SV#6	BROKEN SPEED MONITOR LINE (XFC01) [No indication data]  Detection:SERVO SV.blk[3].d18 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitor level signal. The cable between the I/O power-on unit and the XFC01 circuit board is cut. The cable between the I/O power-on unit and the XCI01 circuit board is cut. Defective I/O power-on unit Defective XFC01 circuit board	Check the cable connection between the I/O power-on unit and the XFC01 circuit board. Check the cable connection between the I/O power-on unit and the XCI01 circuit board. Replace the I/O power-on unit and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1342 SV#1 - SV#6	OVER SPEED(XFC01) Robot/Station [Axis Data] Detection:SERVO SV.blk[3].d14 <X1.50> <X3.90>Painting Minor Brakedown	The motor speed displayed at the axis data exceeds the maximum allowed speed of the motor. The UVW wiring of the motor is not correct. The type of the motor used is improper. The motor is shift by the external force. Defective XFC01 circuit board Defective motor (encoder)	Check the connection of the motor. Check the robot motion at the alarm occurrence and confirm there is no external force. Check the UVW wires of the motor. Lower the teaching speed at the alarm occurrence. R, B, T axis may work at high speed in the linear interpolation depending on the pose. Review the teaching point. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the XFC01 circuit board.
1343 SV#1 - SV#6	COMMUNICATION ERROR(XFC01) [Decimal Data]  Detection:SERVO SV.blk[3].d17 <X1.50>	The communication error occurs between the WRCA01 circuit board and the XFC01 circuit board.  1: WDG data abnormality The data communication between the WRCA01 and XFC01 is abnormal. 2: JL012 communication status abnormality The communication data of the JL012 is set improperly. About the data [1] and [2], there are possibilities of defective communication between the WRCA01 and the XFC01, and software control abnormality of each board. The connection between the WRCA01 circuit board and the XFC01 circuit board is incomplete. Defective WRCA01 circuit board Defective XFC01 circuit board	Check the connection between the WRCA01 and XFC01 circuit board. Replace the WRCA01 and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1344 SV#1 - SV#6	<p>COMMUNICATION ERROR (ENCODRE)(XFC01) Robot/Station [Axis Data]</p> <p>Detection:SERVO SV.blk[3].d16 &lt;X1.50&gt;</p>	<p>The communication error occurs between the encoder and the XFC01 circuit board.</p> <p>Improper wiring of the encoder cables</p> <p>Noise from the external devices</p> <p>Incorrect motor type</p> <p>Defective XFC01 circuit board</p> <p>Defective encoder</p>	<p>Check the connection of the encoder displayed on the axis data.</p> <p>Check whether there is the equipment of device generating big noise around.</p> <p>Check the ground of the controller is correct.</p> <p>&lt;Error in robot axis&gt;</p> <p>Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor.</p> <p>&lt;Error in external axis&gt;</p> <p>Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration.</p> <p>If error occurs again, replace the XFC01 circuit board.</p>
1345 SV#1 - SV#6	<p>SAFETY CIRCUIT SIGNAL UNMATCH (SERVO) [Decimal Data]</p> <p>Deleted</p>	<p>There is an improper signal in the double check for the receive data from the power-on unit.</p>	<p>Check the wiring.</p> <p>Replace the power-on unit circuit board.</p>
1346 SV#1 - SV#6	<p>LINEAR SERVO FLOAT TRACKING ERROR [XYZ]</p> <p>Detection:SERVO SV.blk[0].d23 &lt;X3.90&gt;Not Used</p>	<p>The deviation of the X, Y and Z axis exceed, the allowance value when the linear servo float is operating.</p>	
1347 SV#1 - SV#6	<p>CONVERTER OVERLOAD [Bit Pattern]</p> <p>Detection:SERVO SV.blk[0].d25 &lt;X3.18&gt;</p> <p>&lt;X3.90&gt;Painting minorBrakedown</p>	<p>Total loads of the all motors connected with the converter exceed the rated value for a long time.</p> <p>Data stands for the converter No.</p> <p>00000000_00000001 SV#1- converter 1</p> <p>00000000_00000010 SV#1- converter 2</p> <p>00000000_00000001 SV#2- converter 1</p> <p>00000000_00000010 SV#2- converter 2</p> <p>00000000_00000001 SV#3- converter 1</p> <p>00000000_00000010 SV#3- converter 2</p> <p>00000000_00000001 SV#4- converter 1</p> <p>00000000_00000010 SV#4- converter 2</p> <p>00000000_00000001 SV#5- converter 1</p> <p>00000000_00000010 SV#5- converter 2</p> <p>00000000_00000001 SV#6- converter 1</p> <p>00000000_00000010 SV#6- converter 2</p>	<p>There is a possibility to be operated at overload.</p> <p>Ensure the operation of the robot, then reduce the teaching speed and check whether the error occurs again.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1348 SV#1 - SV#6	POSITION ERROR (Serial Encoder) Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d01 <X3.90>Painting Minor Brakedown	The bit error is detected in the serial encoder.	
1349 SV#1 - SV#6	POWER LOST DETECTION (WRCA01) Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d02 <X3.90>		
1350 SV#1 - SV#6	POWR ON UNIT TYPE UNMATCH  [No indication data]  Detection:SERVO SV.blk[0].d12 <X3.90>	The type of the power-on circuit board is improper.(ex. The standard TU is used though the safety specification is set.)	
1351 SV#1 - SV#6	SPEED MONITORING BOARD SPECIFICATION  [No indication data]  Detection:SERVO SV.blk[0].d17 <X3.90>	The speed monitoring circuit board is installed though the speed monitoring circuit board is invalidly specified in the S1D parameter.	
1352 SV#1 - SV#6	SERIAL ENCODER CORRECTION MISSING  Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d03 <X3.90>	The correction mistake is detected by the bit deviation correction check.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1353 SV#1 - SV#6	SPEED MONITORING BOARD WATCHDOG ERROR [No indication data]  Detection:SERVO SV.blk[0].d08 <X3.90>	The received watch dog data is abnormal.	
1354 SV#1 - SV#6	COMMAND TIMEOUT (XFC01) [No indication data]  Detection:SERVO SV.blk[1].d00 <X3.90>	The command execution time of the speed monitoring circuit board exceeds allowable time.	
1355 SV#1 - SV#6	SERIAL ENCODER MULTI TURNING RANGE ERROR multi turning range error Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d17 <X5.00>	The multi turn limit is not FFFFh.	
1356 SV#1 - SV#6	INVALID AXIS SPECIFICATION ERROR  Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d17 <X5.00>	A group axis is required of processing though the group is specified to invalidity at the group cutting-off function.	
1400	CONVEYER ENCODER ERROR [123]  Detection:SL SL.blk[0].d04 <X2.10>	The conveyer encoder indicated by the error occurred conveyer number is abnormal. The cutting line of the encoder cable and the defective encoder are causative of this error. Data stands for the conveyer number.	Check the encoder cable of the conveyer. Replace the motor (Encoder).
1401	ENCODER OPERATION MODE CHANGE DISABLE [123]  Detection:SL SL.blk[0].d10 <X2.10>	This error occurs when [Encoder/Virtual encoder] switching is conducted by the general input signal during conveyer synchronization	Do not switch by the general input during the conveyer synchronization.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1402	CONVEYER QUE OVER FLOW [123]  Detection:SL SL.blk[0].d08 <X2.10>	The error occurs when the signal of conveyer home position L.S. is input and all of the six conveyer cues are used. There are 6 or more work which are passed by the conveyer synchronization LS. The conveyer home position LS is operating incorrectly. <There is no function for the moment.>	Check the workplace interval that there are 6 or less of workplaces which passed by the conveyer synchronization L.S. Check whether there are any chattering etc. when the workplace interval is correct. (The conveyer home position L.S may work incorrectly.)
1403	CONVEYER QUE NO DATA [123]  Detection:SL SL.blk[0].d09 <X2.10>	The CVQUW command is executed though all conveyer cue has not been used. Or, the clear signal for the conveyer que is input. <There is no function for the moment.>	Check the timing of the CVQUE command execution or the timing of input signal for the conveyer cue clear.
1410	CONTROLNET MODULE ERROR [Decimal Data]  Detection:SL SL.blk[0].d01 <X5.00>	The error occurs in the CONTROLNET communication module connected to the XCP03 circuit board.	Replace the XCP03 circuit board.
1411	CONTROLNET SETTING ERROR [Decimal Data]  Detection:SL SL.blk[0].d02 <X5.00>	The data for the CONTROLNET communication ia abnormal. 1: Setting address is abnormal. 2: Output signal allocation is abnormal.	Set up the CONTROLNET communication correctly.
1412	CONTROLNET PROCESS ERROR [Decimal Data]  Detection:SL SL.blk[0].d03 <X5.00>	The error occurs in the system of the sensor part of the CONTROLNET function.	Turn off the power supply then back on. If error occurs again, contact the Motoman service staff.
1500 SV#1 - SV#6	SGDB PARAMETER ERROR [Decimal Data]  Detection:SERVO SV.blk[0].d07 <X3.90>	The contents of the parameter writing value for the SGDx is illegal.	
1501 SV#1 - SV#6	SGDB COMMAND ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d29 <X3.90>	The sending data is different from the receiving data when the mechatro link command is received.	



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1502 SV#1 - SV#6	SGDB PARAMETER VERIFICATION ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d30 <X3.90>	The writing data is different from the reading data at the mechatro link parameter.	
1503 SV#1 - SV#6	COMMUNICAITON ERROR(Encoder) (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d31 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:00)	
1504 SV#1 - SV#6	CONSTANTDESTRU C TION (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d00 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:02)	
1505 SV#1 - SV#6	POSITION ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d10 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:80)	
1506 SV#1 - SV#6	ENCODER ABSO ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d14 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:84)	
1507 SV#1 - SV#6	PARAMETER WRITING ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d16 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:94)	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1508 SV#1 - SV#6	COMMAND ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d17 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:95)	
1509 SV#1 - SV#6	COMMUNICATION ERROR WARNING (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d18 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:96)	
1510 SV#1 - SV#6	GATE ARRAY 1 ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d19 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:B1)	
1511 SV#1 - SV#6	GATE ARRAY 2 ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d20 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:B2)	
1512 SV#1 - SV#6	ENCODER PHASE MISDETETION (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d26 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:C2)	
1513 SV#1 - SV#6	PG LINE CUT-A/B PHASE(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d27 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:C3)	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1514 SV#1 - SV#6	PG LINE CUT-C PHASE(SGDB) Robo/Station [Axis Data]  Detection:SERVO SV.blk[4].d28 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:C4)	
1515 SV#1 - SV#6	SYNCHRONIZING ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d31 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:E5)	
1516 SV#1 - SV#6	COMMUNICATION ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d00 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:E6)	
1517 SV#1 - SV#6	OVER CURRENT (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d01 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:40)	
1518 SV#1 - SV#6	GROUND FAULT (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d02 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:11)	
1519 SV#1 - SV#6	RESURRECTION ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d03 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:30)	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1520 SV#1 - SV#6	OVERVOLTAGE (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d04 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:40)	
1521 SV#1 - SV#6	SPEED ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d06 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:51)	
1522 SV#1 - SV#6	OVERLOAD (CONTINUE)(SGDB) RObot/Station [Axis Data]  Detection:SERVO SV.blk[4].d07 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:72)	
1523 SV#1 - SV#6	OVERLOAD (MOMENT) (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d08 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:71)	
1524 SV#1 - SV#6	TEMPERATURE ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d09 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:7A)	
1525 SV#1 - SV#6	ENCODER BACKUP ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d11 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:81)	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1526 SV#1 - SV#6	ENCODER INTERNAL DATA ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d12 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:82)	
1527 SV#1 - SV#6	ENCODER SPEED ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d15 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:85)	
1528 SV#1 - SV#6	CURRENT FEED BACK U PHASE ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d21 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:B3)	
1529 SV#1 - SV#6	CURRENT FEED BACK V PHASE (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d22 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:B4)	
1530 SV#1 - SV#6	WATCHDOG DETECTOR ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d23 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:B5)	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
1531 SV#1 - SV#6	MOTOR ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d25 <X3.90>	The alarm code from the SGDx at the mechatro link communication. (CODE:C1)	
1532 SV#1 - SV#6	SERVO TRACKING ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d30 <X3.90>	The alarm code from SGDx at the mechatro link communication. (CODE:D0)	
1533 SV#1 - SV#6	OPEN PHASE (SGDB) RObot/Station [Axis Data]  Detection:SERVO SV.blk[5].d01 <X3.90>	The alarm code from SGDx at the mechatro link communication. (CODE:F1)	
1534 SV#1 - SV#6	SGDB WATCHDOG ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d24 <X3.90>	Received watch dog data is abnormal.	
1535 SV#1 - SV#6	SGDB COMMAND TIMEOUT Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d25 <X3.90>	The execution time of the command exceeds the permissible time.	
4000	MEMORY ERROR (TOOL FILE) [Decimal Data]  Detection:HMI S.blk[0].d17	The tool file of the CMOS memory is damaged. Data stands for the file number.	Initialize the tool file in the maintenance mode. Load the saved tool file in the external memory unit.
4001	MEMORY ERROR (USER COORD FILE) [Decimal Data]  Detection:HMI S.blk[0].d18	The user coordinates file of the CMOS memory is damaged. Data stands for the file number.	Initialize the user coordinates file in the maintenance mode. Load the saved user coordinates file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4002	MEMORY ERROR (SV MON SIGNAL FILE) [No indication data]  Detection:HMI S.blk[0].d19	The servo monitor signal file of the CMOS memory is damaged.	Initialize the servo monitor signal file in the maintenance mode. Load the saved servo monitor signal file in the external memory unit.
4003	MEMORY ERROR (WEAVING FILE) [Decimal Data]  Detection:HMI S.blk[0].d20	The weaving condition file of the CMOS memory is damaged.	Initialize the weaving condition file in the maintenance mode. Load the saved weaving condition file in the external memory unit.
4004	MEMORY ERROR (HOME POS FILE) [No indication data]  Detection:HMI S.blk[0].d21	The home position calibration file of the CMOS memory is damaged.	Reset the home position calibration (absolute data) after reset the alarm. Load the home position calibration file (absolute data) in the external memory unit.
4005	MEMORY ERROR (SPEC POINT DATA) [No indication data]  Detection:HMI S.blk[0].d22	The specified point file of the CMOS memory is damaged.	Load the saved specified point file in the external memory unit.
4006	MEMORY ERROR (WELDER COND FILE) [Decimal Data]  Detection:HMI S.blk[0].d23	The welder condition data file of the CMOS memory is damaged. Data stands for the file number.	Initialize the welder condition data file in the maintenance mode. Load the saved welder condition data file in the external memory unit.
4007	MEMORY ERROR (ARC START) [Decimal Data]  Detection:HMI S.blk[0].d24	The arc start condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the arc start condition file in the maintenance mode. Load the saved arc start condition file in the external memory unit.
4008	MEMORY ERROR (ARC END COND FILE) [Decimal Data]  Detection:HMI S.blk[0].d25	The arc end condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the arc end condition file in the maintenance mode. Load the saved arc end condition file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4009	MEMORY ERROR (ARC AUX COND FILE) [Decimal Data]  Detection:HMI S.blk[0].d26	The welding condition assistance file of the CMOS memory is damaged. Data stands for the file number.	Initialize the welding condition assistance file in the maintenance mode. Load the saved welding condition assistance file in the external memory unit.
4010	MEMORY ERROR (COMARC COND FILE) [Decimal Data]  Detection:HMI S.blk[0].d27 <X1.70>	The COM-ARC condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the COM-ARC condition file in the maintenance mode. Load the saved COM-ARC condition file in the external memory unit.
4011	<X1.70>Deleated	It is not used.	
4012	MEMORY ERROR (LINK SERVOFLOAT) [Decimal Data]  Detection:HMI S.blk[2].d12 <X1.80>	The link servo float condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the link servo float condition file in the maintenance mode. Load the saved link servo float condition file in the external memory unit.
4013	MEMORY ERROR (LINEAR SERVO FLOAT) [Decimal Data]  Detection:HMI S.blk[2].d10 <X1.80>	The linear servo float condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the linear servo float condition file in the maintenance mode. Load the saved linear servo float condition file in the external memory unit.
4014	MEMORY ERROR (ROBOT CALIB FILE) [Decimal Data]  Detection:HMI S.blk[0].d31	The robot calibration file of the CMOS memory is damaged. Data stands for the file number.	Initialize the robot calibration file in the maintenance mode. Load the robot calibration file in the external memory unit.
4015	MEMORY ERROR (Welding start condition guide file) [No indication data]  Detection:HMI S.blk[1].d15	The welding beginning condition guide file of the CMOS memory is damaged.	Initialize the welding beginning condition guide file in the maintenance mode. Load the welding beginning condition guide file in the external memory unit.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4016	MEMORY ERROR (Welding end condition guide file) [No indication data]  Detection:HMI S.blk[1].d16	The welding ending condition guide file of the CMOS memory is damaged.	Initialize the welding ending condition guide file in the maintenance mode. Load the welding ending condition guide file in the external memory unit.
4017	MEMORY ERROR (WELDER USER-DEF FILE) [Decimal Data]  detection:HMI S.blk[1].d17	The welding characteristic user definition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the welding characteristic user definition file in the maintenance mode. Load the welding characteristic user definition file in the external memory unit.
4018	MEMORY ERROR (LADDER PRG FILE) [No indication data]  Detection:HMI S.blk[1].d18	The ladder program file of the CMOS memory is damaged.	Initialize the ladder program file in the maintenance mode. Load the ladder program file in the external memory unit.
4019	MEMORY ERROR (Cutting condition file) [Decimal Data]  Detection:HMI S.blk[1].d19	The cutting condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the cutting condition file in the maintenance mode. Load the saved cutting condition file in the external memory unit.
4020	MEMORY ERROR (OPERATION ORIGIN FILE) [No indication data]  Detection:HMI S.blk[1].d20	The operation origin file of the CMOS memory is damaged. Data stands for the file number.	Initialize the operation origin file in the maintenance mode. Load the saved operation origin file in the external memory unit.
4021	MEMORY ERROR (CONVEYOR COND FILE) [Decimal Data]  Detection:HMI S.blk[1].d28	The conveyer condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the conveyer condition file in the maintenance mode. Load the saved conveyer condition file in the external memory unit.
4022	MEMORY ERROR (Paint characteristic file) [Decimal Data]  Detection:HMI S.blk[1].d29	The painting characteristic file of the CMOS memory is damaged. Data stands for the file number.	Initialize the painting characteristic file in the maintenance mode. Load the saved painting characteristic file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4023	MEMORY ERROR (Paint characteristic file) [Decimal Data]  Detection:HMI S.blk[1].d30	The painting condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the painting condition file in the maintenance mode. Load the saved painting condition file in the external memory unit.
4024	MEMORY ERROR (Wrist weaving amplitude characteristic file) [No indication data]  Detection:HMI S.blk[1].d31	The wrist weaving amplitude characteristic file of the CMOS memory is damaged.	Initialize the wrist weaving amplitude characteristic file in the maintenance mode. Load the saved wrist weaving amplitude characteristic file in the external memory unit and restore.
4025	MEMORY ERROR (Interrupt job file) [No indication data]  Detection:HMI S.blk[2].d05	The interrupt job file of the CMOS memory is damaged.	Initialize the interrupt job file in the maintenance mode.
4026	MEMORY ERROR (Multi layer file) [Decimal Data]  Detection:HMI S.blk[2].d06	The multi-layer file of the CMOS memory is damaged.	Initialize the multi-layer file in the maintenance mode. Load the saved multi-layer file in the external memory unit.
4027	MEMORY ERROR (Multi layer condition file) [Decimal Data] Detection:HMI S.blk[2].d07	The multi-layer condition file of the CMOS memory is damaged.	Initialize the multi-layer condition file in the maintenance mode. Load the saved multi-layer condition file in the external memory unit.
4028	MEMORY ERROR (SENSOR MON COND FILE) [Decimal Data]  Detection:HMI S.blk[2].d08	The sensor monitoring condition file of the CMOS memory is damaged.	Initialize the sensor monitoring condition file in the maintenance mode. Load the saved sensor monitoring condition file in the external memory unit.
4029	<X1.80>Deleated	It is not used.	
4030	MEMORY ERROR (Press characteristic file) [Decimal Data]  Detection:HMI S.blk[2].d13	The press characteristic file of the CMOS memory is damaged.	Initialize the press characteristic file in the maintenance mode. Load the saved press characteristic condition file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4031	MEMORY ERROR (GUN COND FILE) [Decimal Data]  Detection:HMI S.blk[2].d15	The spot welding gun characteristic file of the CMOS memory is damaged. Data stands for the file number.	Initialize the spot welding gun characteristic file in the maintenance mode. Load the saved spot welding gun characteristic file in the external memory unit.
4032	MEMORY ERROR (SPOT WELDER COND FILE) [Decimal Data]  Detection:HMI S.blk[2].d16	The spot welder characteristic file of the CMOS memory is damaged. Data stands for the file number.	Initialize the spot welder characteristic file in the maintenance mode. Load the saved spot welder characteristic file in the external memory unit.
4033	MEMORY ERROR (GUN PRESSURE FILE) [Decimal Data]  Detection:HMI S.blk[2].d17	The servo gun pressure file of the CMOS memory is damaged. Data stands for the file number.	Initialize the servo gun pressure file in the maintenance mode. Load the saved servo gun pressure file in the external memory unit.
4034	MEMORY ERROR (ANTICIPATION OT FILE) [Decimal Data]  Detection:HMI S.blk[2].d19	The anticipation output file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4035	MEMORY ERROR (ANTICIPATION OG FILE) [Decimal Data]  Detection:HMI S.blk[2].d20	The anticipation output file of the CMOS memory is damaged. The data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4036	MEMORY ERROR (WEARING FILE) [Decimal Data]  Detection:HMI S.blk[2].d24	The wearing file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4037	MEMORY ERROR (STROKE POSITION) Decimal Data]  Detection:HMI S.blk[2].d26	The stroke position file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4038	MEMORY ERROR (PRESSURE FILE) [Decimal Data]  Detection:HMI S.blk[2].d27	The pressure file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4039	MEMORY ERROR (FORM CUT FILE) [Decimal Data]  Detection:HMI S.blk[2].d27	The form cut file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4040	MEMORY ERROR (SHOCK LEVEL FILE) [Decimal Data]  Detection:HMI S.blk[2].d28 <X1.20>	The shock level file of the CMOS memory is damaged. Data stands for the file number.	Initialize the anticipation output file in the maintenance mode. Load the saved anticipation output file in the external memory unit.
4041	MEMORY ERROR (SPOT IO ALLOCTEFL) [Decimal Data]  Detection:HMI S.blk[2].d28 <X1.40>	The spot I/O allocation file of the CMOS memory is damaged. Data stands for the file number.	Initialize the spot I/O allocation file in the maintenance mode. Load the saved spot I/O allocation file in the external memory unit.
4042	MEMORY ERROR (VISION FILE) [Decimal Data]  Detection:HMI S.blk[0].d04 <X1.90>	The vision condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the vision condition file in the maintenance mode. Load the saved vision condition file in the external memory unit.
4043	MEMORY ERROR (VISION CALIBRATION) [Decimal Data]  Detection:HMI S.blk[0].d30 <X1.90>	The vision calibration file of the CMOS memory is damaged. Data stands for the file number.	Initialize the vision calibration file in the maintenance mode. Load the saved vision calibration file in the external memory unit.
4044	MEMORY ERROR (Welding pulse condition file) [Decimal Data]  Detection:HMI S.blk[2].d29 <X2.30>	The welding pulse condition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the welding pulse condition file in the maintenance mode. Load the saved welding pulse condition file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4045	MEMORY ERROR (Welding pulse selection data file) [No indication data]  Detection:HMI S.blk[2].d30 <X2.30>	The welding pulse selection file of the CMOS memory is damaged. Data stands for the file number.	Initialize the welding selection file in the maintenance mode. Load the saved welding selection file in the external memory unit.
4046	MEMORY ERROR (COVEYOR CALIBRATION) [Decimal Data]  Detection:HMI S.blk[2].d30 <X2.50>	The conveyer calibration file of the CMOS memory is damaged. Data stands for the file number.	Initialize the conveyer calibration file in the maintenance mode. Load the saved conveyer calibration file in the external memory unit.
4047	MEMORY ERROR (Macro definition file) [Decimal Data]  Detection:HMI S.blk[3].d02 <X3.50>	The macro definition file of the CMOS memory is damaged. Data stands for the file number.	Initialize the macro definition file in the maintenance mode. Load the saved macro definition file in the external memory unit.
4048	MEMORY ERROR (Sealing gun characteristic file)  Detection:HMI S.blk[3].d04 <X3.50>	The sealing coat gun characteristic file of the CMOS memory is damaged.	Initialize the sealing coat gun characteristic file in the maintenance mode. Load the saved sealing gun characteristic file in the external memory unit.
4049	MEMORY ERROR (Paint amount correction condition file)  Detection:HMI S.blk[3].d05 <X3.50>	The painting amount assistance condition file of the CMOS memory is damaged.	Initialize the painting amount assistance condition file in the maintenance mode. Load the saved painting amount assistance condition file in the external memory unit.
4050	MEMORY ERROR (Axis operation IO allocation file)  Detection:HMI S.blk[3].d06 <X3.50>	The axis motion I/O allocation file of the CMOS memory is damaged.	Initialize the axis motion I/O allocation file in the maintenance mode. Load the saved axis motion I/O allocation file in the external memory unit.
4051	MEMORY ERROR (Gun characteristic assistance file)  Detection:HMI S.blk[3].d06 <X3.50>	The gun characteristic assistance file of the CMOS memory is damaged.	Initialize the gun characteristic assistance file in the maintenance mode. Load the saved gun characteristic assistance file in the external memory unit.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4052	MEMORY ERROR (Tool interference file)  Detection:HMI S.blk[3].d06 <X3.50>	The tool interference file of the CMOS memory is damaged.	Initialize the tool interference file in the maintenance mode. Load the saved tool interference file in the external memory unit.
4100 SV#1 - SV#6	OVERRUN IN ROBOT AXIS [Bit Pattern]  Detection:HMI S.blk[0].d01  Detection:SERVO SV.blk[1].d23 Detected by servo from<X3.75>	One of the overrun L.S.(Limit switch) of the robot is operated. Data stands for the power-on unit No. 00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000100 SV#2-power-on unit 1 00000000_00001000 SV#2-power-on unit 2 00000000_00010000 SV#3-power-on unit 1 00000000_00100000 SV#3-power-on unit 2 00000000_01000000 SV#4-power-on unit 1 00000000_10000000 SV#4-power-on unit 2 00000001_00000000 SV#5-power-on unit 1 00000010_00000000 SV#5-power-on unit 2 00000100_00000000 SV#6-power-on unit 1 00001000_00000000 SV#6-power-on unit 2  After<X3.75> 00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000001 SV#2-power-on unit 1 00000000_00000010 SV#2-power-on unit 2 00000000_00000001 SV#3-power-on unit 1 00000000_00000010 SV#3-power-on unit 2 00000000_00000001 SV#4-power-on unit 1 00000000_00000010 SV#4-power-on unit 2 00000000_00000001 SV#5-power-on unit 1 00000000_00000010 SV#5-power-on unit 2 00000000_00000001 SV#6-power-on unit 1 00000000_00000010 SV#6-power-on unit 2	Reset the overrun.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4101 SV#1 - SV#6	<p>OVERRUN IN EXTERNAL AXIS [Bit Pattern]</p> <p>Detection:HMI S.blk[0].d02</p> <p>Detection:SERVO SV.blk[1].d24 Detected by servo from&lt;X3.75&gt;</p>	<p>One of the overrun L.S.(Limit switch) of the external axis is operated.</p> <p>Data stands for the power-on unit No.</p> <p>00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000100 SV#2-power-on unit 1 00000000_00001000 SV#2-power-on unit 2 00000000_00010000 SV#3-power-on unit 1 00000000_00100000 SV#3-power-on unit 2 00000000_01000000 SV#4-power-on unit 1 00000000_10000000 SV#4-power-on unit 2 00000001_00000000 SV#5-power-on unit 1 00000010_00000000 SV#5-power-on unit 2 00000100_00000000 SV#6-power-on unit 1 00001000_00000000 SV#6-power-on unit 2</p> <p>After&lt;X3.75&gt;</p> <p>00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000001 SV#2-power-on unit 1 00000000_00000010 SV#2-power-on unit 2 00000000_00000001 SV#3-power-on unit 1 00000000_00000010 SV#3-power-on unit 2 00000000_00000001 SV#4-power-on unit 1 00000000_00000010 SV#4-power-on unit 2 00000000_00000001 SV#5-power-on unit 1 00000000_00000010 SV#5-power-on unit 2 00000000_00000001 SV#6-power-on unit 1 00000000_00000010 SV#6-power-on unit 2</p>	Reset the overrun.
4102	<p>SYSTEM DATA CHANGING [Decimal Data]</p> <p>Detection:HMI S.blk[0].d06</p>	<p>An attempt is made to change data (parameter) which exerted the influence on the system and turned on the servo power supply.</p> <p>The data stands for the alarm factor.</p> <p>1: System parameter change (S1D,S2D,CIO)</p>	Turn off the power supply once and back on.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4103	PARALLEL START INSTRUCTION ERROR [Decimal Data]  Detection:HMI S.blk[0].d08	The error occurs in the independent control start operation. Data stands for the alarm factor. 1: The sub task is being executed. The job is executed in the instructed subtask, but another job is being started in the sub task. 2: The group axis is being used. The job worked in the other sub task uses the same group axis. 3: Multiple start of same job The job to be started is executed already in the other sub task. 4: Master job unregistration Though master job is not registered, the attempt is made to execute PSTART SUB job name omitted). 5: Synchronization instruction error When restarted by PSTART, synchronization instruction status of sub task under interruption is different from the status for restart. 6: Stopped by the alarm The attempt is made to start sub task stopped by alarm. 7: SYNC synchronization task instruction omit error Synchronization task instruction is omitted at SUB3, SUB4, and SUB5. 8: SYNC synchronization task instruction error 9: I/O axes busy 10: Separation group axes busy The job operating at the other task uses the separation group axis 16: PSTART syntax is abnormal 17: PWAIT syntax is abnormal	1: Complete the sub task by PWAIT instruction. 2: Check the starting job and the execution timing of the starting instruction. 3: Check the starting job and the execution timing of the starting instruction. 4: Register the master job for the sub task. 5: Check the starting job and the execution timing of the starting instruction. 6: Start after reset the alarm. 7: Set the synchronization task of SYNC.
4104	WRONG EXECUTION OF LOAD INST [Decimal Data]  Detection:HMI S.blk[1].d13	The error occurs when the instruction is executed in DCI function. The data stands for the alarm factor. Refer to the data transmission function manual for details.	Correct the error according to the data of the alarm factor after reset the alarm.
4105	WRONG EXECUTION OFSAVE INST [Decimal Data]  Detection:HMI S.blk[1].d14	The error occurs when the instruction is executed in DCI function. The data stands for the alarm factor. Refer to the data transmission function manual for details.	Correct the error according to the data of the alarm factor after reset the alarm.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4106	<p>WRONG EXECUTION OFDELETE INST [Decimal Data]</p> <p>Detection:HMI S.blk[1].d15</p>	<p>The error occurs when the instruction is executed in DCI function.</p> <p>The data stands for the alarm factor.</p> <p>Refer to the data transmission function manual for details.</p>	<p>Correct the error according to the data of the alarm factor after reset the alarm.</p>
4107	<p>OUT OF RANGE (ABSO DATA) Robot/Station [Axis Data]</p> <p>Detection:HMI S.blk[1].d00</p>	<p>At the robot/station, the difference between the position of the power supply off and the power supply on exceeded tolerance.</p> <p>  FB at power off - FB at power on   &gt; PPR (Number of motor revolution pulse)</p> <p>SVxG024-031</p>	<p>Operate axis for robot / station to set the current value 0 position and check the original mark (arrow).</p> <p>If not matched, there is an error of PG system displayed as an error in the axis.</p>
4108	<p>SPEED LIMITATION OVER [No indication data]</p> <p>Detection:HMI S.blk[1].d10</p>	<p>The speed over detection is operated at the speed monitor circuit board.</p>	<p>Contact the Motoman service staff.</p> <p>Inform the problem, the alarm number, and the decimal data.</p>
4109	<p>DC 24V POWER SUPPLY FAILURE [No indication data]</p> <p>Detection:HMI S.blk[1].d11</p>	<p>The external 24V power supply for the I/O is not output.</p>	<p>Check the fuse for the I/O power-on unit is lacked or not.</p> <p>Check the external 24V power supply.</p> <p>Check the connection of the communication cable for the I/O module. (XCP01•CN01-XIU01•CN03 cable.)</p> <p>If error occurs again, contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4110 SV#1 - SV#6	SHOCK SENSOR ACTION [Bit Pattern]  Detection:HMI S.blk[1].d12  Detection:SERVO SV.blk[1].d22 Detected by servo from<X3.75>	<p>The shock sensor is operated No.</p> <p>Data stands for the power-on unit No.</p> <p>00000000_00000001 SV#1-power-on unit 1  00000000_00000010 SV#1-power-on unit 2  00000000_00000100 SV#2-power-on unit 1  00000000_00001000 SV#2-power-on unit 2  00000000_00010000 SV#3-power-on unit 1  00000000_00100000 SV#3-power-on unit 2  00000000_01000000 SV#4-power-on unit 1  00000000_10000000 SV#4-power-on unit 2  00000001_00000000 SV#5-power-on unit 1  00000010_00000000 SV#5-power-on unit 2  00000100_00000000 SV#6-power-on unit 1  00001000_00000000 SV#6-power-on unit 2</p> <p>After &lt;X3.75&gt;</p> <p>00000000_00000001 SV#1-power-on unit 1  00000000_00000010 SV#1-power-on unit 2  00000000_00000001 SV#2-power-on unit 1  00000000_00000010 SV#2-power-on unit 2  00000000_00000001 SV#3-power-on unit 1  00000000_00000010 SV#3-power-on unit 2  00000000_00000001 SV#4-power-on unit 1  00000000_00000010 SV#4-power-on unit 2  00000000_00000001 SV#5-power-on unit 1  00000000_00000010 SV#5-power-on unit 2  00000000_00000001 SV#6-power-on unit 1  00000000_00000010 SV#6-power-on unit 2</p>	Check the factor of shock sensor operation.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4111 SV#1 - SV#6	BRAKE FUSE BLOWN [Bit Pattern]  Detection:HMI S.blk[1].d13  Detection:SERVO SV.blk[1].d25 Detected by servo from<X3.75>	The brake fuse is melted.  Data stands for the power-on unit No. 00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000100 SV#2-power-on unit 1 00000000_00001000 SV#2-power-on unit 2 00000000_00010000 SV#3-power-on unit 1 00000000_00100000 SV#3-power-on unit 2 00000000_01000000 SV#4-power-on unit 1 00000000_10000000 SV#4-power-on unit 2 00000001_00000000 SV#5-power-on unit 1 00000010_00000000 SV#5-power-on unit 2 00000100_00000000 SV#6-power-on unit 1 00001000_00000000 SV#6-power-on unit 2  After <X3.75> 00000000_00000001 SV#1-power-on unit 1 00000000_00000010 SV#1-power-on unit 2 00000000_00000001 SV#2-power-on unit 1 00000000_00000010 SV#2-power-on unit 2 00000000_00000001 SV#3-power-on unit 1 00000000_00000010 SV#3-power-on unit 2 00000000_00000001 SV#4-power-on unit 1 00000000_00000010 SV#4-power-on unit 2 00000000_00000001 SV#5-power-on unit 1 00000000_00000010 SV#5-power-on unit 2 00000000_00000001 SV#6-power-on unit 1 00000000_00000010 SV#6-power-on unit 2	Replace the fuse.
4112	DATA SENDING ERROR [Decimal Data]  Detection:HMI S.blk[2].d00	The error occurs when the data transmission function is used. Data stands for the alarm factor. 1:Retry over of NAK 2:Retry over of time out in timer A 3:Retry over of mutual response error	Correct the error according to the data of the alarm factor after resetting the alarm.
4113	DATA RECEIVING ERROR [Decimal Data]  Detection:HMI S.blk[2].d01	The error occurs when the data transmission function is used. Data stands for the alarm factor. 1:Receinig time out (Timer A) 2:Receinig time out (Timer B) 3:Heading length is short. 4:Heading length is long. 5:The heading number error 6:The text length exceeds the 256 characters.	Correct the error according to the data of the alarm factor after resetting the alarm.
4114	TRANSMISSION SYSTEM BLOCK [Decimal Data]  Detection:HMI S.blk[2].d02	The error occurs when the data transmission function is used. Data stands for the alarm factor. 1:Overrun error 2:Parity error 3:Flaming error 4:Transmission time out (Timer A) 5:Transmission time out (Timer B)	Correct the error according to the data of the alarm factor after resetting the alarm.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4115	TRANSMISSION SYSTEM BLOCK [Decimal Data]  Detection:HMI S.blk[2].d03	The error occurs when the data transmission function is used. (Though the transmission procedure is correct, there is a reception that irrationality is caused in the system. This data is mainly caused the rule violation or abnormal communication.) Data stands for the alarm factor. 1: Received EOT when waiting ACM 2: Received EOT when waiting ENQ 3: Received EOT before last block reception 4: Received codes except for EOT after last block reception	Correct the error according to the data of the alarm factor after resetting the alarm.
4116	TRANSMISSION SYSTEM ERROR [Decimal Data]  Detection:HMI S.blk[2].d04	The error occurs when the data transmission function is used. The error occurs at the internal process of the transmission system. 100: Error in transmission processing	Correct the error according to the data of the alarm factor after resetting the alarm. Turn the power supply off, and back on. If error occurs again, contact the Motoman service staff.
4117	SERVO POWER INPUT SIGNAL ERROR [No indication data]  Detection:HMI S.blk[2].d14	It may be caused by the defective CPU rack and / or defective circuit board.	Check whether the installation is the same as the system or not (Robot and external axis) If the error occurs again, contact the Motoman service staff.
4118	RESURRECTION RESISTANCE COOLING FAN ERROR [Decimal Data]  Detection:HMI S.blk[2].d18  <X1.80>Deleated	The cycle of the cooling fan for the resurrection resistance has decreased.	Move the manipulator to a safe position in the teaching mode after resetting the alarm. Replace the cooling fan for the resurrection resistance. Contact the Motoman service staff.
4119	FAN ERROR (CONTROL BOX) [Decimal Data]  Detection:HMI S.blk[2].d22	The cycle of the cooling fan for the controller has decreased.	Move the manipulator to a safe position in the teaching mode after resetting the alarm. Replace the cooling fan for the controller. Contact the Motoman service staff.
4120	IMPOSSIBLE TO DISCONNECT SERVO [Control Group]  Detection:HMI S.blk[2].d21	The block specification is applied for the individual servo ON/OFF disable axis.	After resetting the alarm, adjust the axes so that the servo power can be turned on and off.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4121	COOLING FAN 1 ERROR [Binary Data]  Detection:HMI S.blk[0].d10	The cycle of the cooling fan1 with the alarm sensor connected to the power-on unit has decreased.	Move the manipulator to a safe position in the teaching mode after resetting the alarm. Contact the Motoman service staff.
4122	COOLING FAN 2 ERROR [Binary Data]  Detection:HMI S.blk[0].d11	The cycle of the cooling fan2 with the alarm sensor connected to the power-on unit has decreased.	Move the manipulator to a safe position in the teaching mode after resetting the alarm. Contact the Motoman service staff.
4123	COOLING FAN 3 ERROR [Binary Data] Detection:HMI S.blk[0].d12	The cycle of the cooling fan3 with the alarm sensor connected to the power-on unit has decreased.	Move the manipulator to a safe position in the teaching mode after resetting the alarm. Contact the Motoman service staff.
4124	VISION INSTRUCTION EXECUTION ERROR [Decimal Data]  Detection:HMI S.blk[0].d05	1: There is a wrong number in the designated file. 2: There is a wrong setting number in the designated file. 3: The calibration is unable to be executed. 4: The communication port for the vision system are unable to be initialized. 5: The time-out occurs when the data is sent. 6: The time-out occurs when the data is received. 7: There is a mistake at the data which is received from the vision system. 8: It is unable to convert from the pixel coordinates value to the robot coordinates value. 9: A position variable (P variable) was unable to be read or written.	1:Set the correct file number. 2:Set the correct setting value. 3: Set the robot coordinates value and the pixel coordinates value for the calibration in the user variable. Set the user variable number in calibration file correctly. 4:Set the parameter for the communication port correctly. 5: Set the cable between the vision system and the XRC correctly. Set up the vision system to communicate. 6: Set the cable between the vision system and the XRC correctly. Set up the vision system to communicate. Set the cable between vision system and the XRC correctly. 7: Set the cable between the vision system and the XRC correctly. Set up the vision system to communicate Set up the vision system to be detectable. 8: Set up the vision system to detect the correct position. Use proper calibration file. 9: Do not use the designated positional variable at the same time by other jobs.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4125	WELDING PULSE CONDITION TRANSMISSION ERROR [Decimal Data]  Detection:HMI S.blk[2].d31	The error occurs when the instruction is executed in the welding pulse condition transmission function. 1: File access abnormality. 2: File setting data abnormality. 4: Port initialization abnormality. 5: Data sending time-out. 6: Data receiving time-out. 7: Received data abnormality.	1: Check set file number. 2: Check setting value of the file. 4: Check setting value of the RS parameter. 5,6,7: Check setting value of the RS parameter.
4126	AUTOMATIC PMT EXECUTION ERROR [Decimal Data]  Detection:HMI S.blk[3].d01 <X3.10>	The error occurs when the automatic PMT function is executed. 1: System abnormality. 2: P panel editing prohibition 3: Conversion object job editing prohibition 4: Saved job editing prohibition 5: Job area memory lack. 6: None conversion object job 7: Position area memory lack	1: Contact the Motoman service staff. 2: Check the editing prohibition key of the P panel. 3,4: Check the job headers. 5,7: Delete unnecessary jobs. 6: Check the name of the PMT conversion object job.
4127	DRIVING BELT CUT (U-AXIS) Detection:HMI S.blk[3].d07 <X3.61>	For the clean robot CSL15 series manipulator, the signal from the U-axis driving belt cut sensor is connected to the OT input. It is displayed instead of the overrun alarm.	Cancel the overrun. Move the robot to the proper position for replacing the belt and change it.
4128	ARC MONITOR EXECUTION ERROR [Decimal Data]  Detection:HMI S.blk[3].d08 <X3.90>	1: ARCMONON is used in wrong way. 2: ARCMONOF is used in wrong way.	
4200	SYSTEM ERROR (File Data) [Decimal Data]  Detection:HMI S.blk[1].d24	The error occurs in the file data access. (file edition, external memory unit operation) Data stands for the alarm factor. 1: File designation error 2: Header parameter designation error 3: Time-out 4: Data number designation error 5: Data type designation error 6: Data length error 7: File destruction 16: System error 32: File destruction at total check 33: Parameter error at total check	Reset the alarm then back on. Turn off the power supply once, and back on. If error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4201 TASK#0 - TASK#5	SYSTEM ERROR(JOB) [Decimal Data]  Detection:Motion M.blk[2].d02	<p>The error occurs in the job access. (job edition, external memory unit operation) Data stands for the alarm factor.</p> <p>-1: Parameter error -2: Access time over -3: Access error -4: Job name error Invalid character is used for the job name. -5: Existing job open The job name already exists in the memory at the new job creation. -6: The area (memory) of the registered job exceeds the available range. -7: The job which does not exist in the memory is selected for display. -8: The edit-lock job is specified for edition. -9: Handle value illegality -10: System error -11: Sequence number error -12: Step number error -13: The job specified for search does not exist in the memory. -14: Invalid command exists in the job.(Software unmatched, or data unmatched by software update) -16: Opened handle shortage -17: Write impossibility by multi open -18: The command number exceeds 9999 at the command insertion to the job. -19: The step number exceeds 999 at the step insertion to the job. -99: Job memory destruction</p> <p>Except for data above: XCP01 software control error</p>	<p>-6: Delete unused job or expand the CMOS. -8: Cancel the editing prohibition state. -14: Improper version of the system Check the version of XCP01, XCP02. -18: Delete the unnecessary command then add the necessary one. -19: Delete the unnecessary step then add the necessary one. -99: Do not use the job at which alarm generated. If you saved the job, load the saved job from the FD after initialization the job in the maintenance mode.</p> <p>-1, -2, -3, -4, -5, -7, -9, -10, -11, -12, -13, -16, -17: Contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4202	SYSTEM ERROR(JOB) [Decimal Data]  Detection:HMI S.blk[1].d21	<p>The error occurs in the job access. (job edition, external memory unit operation) Data stands for the alarm factor.</p> <ul style="list-style-type: none"> <li>-1: Parameter error</li> <li>-2: Access time over</li> <li>-3: Access error</li> <li>-4: Job name error</li> </ul> <p>Invalid character is used for the job name.</p> <ul style="list-style-type: none"> <li>-5: Existing job open</li> </ul> <p>The job name already exists in the memory at the new job creation.</p> <ul style="list-style-type: none"> <li>-6: The area (memory) of the registered job exceeds the available range.</li> <li>-7: The job which does not exist in the memory is selected for display.</li> <li>-8: The edit-lock job is specified for edition.</li> <li>-9: Handle value illegality</li> <li>-10: System error</li> <li>-11: Sequence number error</li> <li>-12: Step number error</li> <li>-13: The job specified for search does not exist in the memory.</li> <li>-14: Invalid command exists in the job.(Software unmatched, or data unmatched by software update)</li> <li>-16: Opened handle shortage</li> <li>-17: Write impossibility by multi open</li> <li>-18: The command number exceeds 9999 at the command insertion to the job.</li> <li>-19: The step number exceeds 999 at the step insertion to the job.</li> <li>-99: Job memory destruction</li> </ul>	<ul style="list-style-type: none"> <li>-6: Delete unused job or expand the CMOS.</li> <li>-8: Cancel the editing prohibition state.</li> <li>-14: Improper version of the system Check the version of XCP01.</li> <li>-18: Delete the unnecessary command then add the necessary one.</li> <li>-19: Delete the unnecessary step then add the necessary step.</li> <li>-99: Do not use the job at which alarm generated.</li> </ul> <p>If you saved the job, load the saved job from the FD after initialization the job in the maintenance mode.</p> <ul style="list-style-type: none"> <li>-1, -2, -3, -4, -5, -7, -9, -10, -11, -12, -13, -16, -17: Contact the Motoman service staff.</li> </ul>



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4203 TASK#0 - TASK#5	SYSTEM ERROR (POSITION DATA) [Decimal Data]  Detection:Motion M.blk[03].d07	<p>The error occurs in the position data access. (During play-back / operating)</p> <p>Data stands for the alarm factor.</p> <p>-1: Lack of area Uncompleted initialization (Defect)</p> <p>-2: All axes number are 0. Uncompleted initialization (Defect)</p> <p>-3: Keeping the position on the axes number 0 is unable. Uncompleted initialization (Defect)</p> <p>-4: The total number of the keeping position is exceeded. Uncompleted initialization (Defect)</p> <p>-5: The area is exceeds the system setting. Uncompleted initialization (Default)</p> <p>-6: New acquisition file destruction CMOS memory destruction</p> <p>-7: The registrable position area (memory) is exceeded. -8: Position data destruction CMOS memory destruction</p> <p>-9: Controlling information destruction CMOS memory destruction</p> <p>-10: Illegal position number CMOS memory destruction</p> <p>-11: Unregisterable position data</p> <p>-12: Undefined position</p> <p>-13: Undefined control group</p> <p>-14: Uncompleted initialization</p>	<p>-1, -2, -4, 5, -6, -8, -9, -10:Initialize the job in the maintenance mode.</p> <p>-3: The control axis of the data which is loaded from the floppy drive is different from the control axis of the system. The job is not initialized after changing the control group configuration to the other control in the system.</p> <p>-7: Delete unnecessary steps (positions), then add the positions. When the problem is not solved even if you deal with the above-mentioned, contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4204	SYSTEM ERROR (POSITION DATA) [Decimal Data]  Detection:HMI S.blk[1].d22	The error occurs in the position data access. (During play-back / operating)  Data stands for the alarm factor. -1: Lack of area Uncompleted initialization (Defect) -2: All axes number are 0. Uncompleted initialization (Defect) -3: Keeping the position on the axes number 0 is unable. Uncompleted initialization (Defect) -4: The total number of the keeping position is exceeded. Uncompleted initialization (Defect) -5: The area is exceeds the system setting. Uncompleted initialization (Default) -6: New acquisition file destruction CMOS memory destruction -7: The registrable position area (memory) is exceeded. -8: Position data destruction CMOS memory destruction -9: Controlling information destruction CMOS memory destruction -10: Illegal position number CMOS memory destruction -11: Unregisterable position data -12: Undefined position -13: Undefined control group -14: Uncompleted initialization	-1, -2, -4, 5, -6, -8, -9, -10: Initialize the job in the maintenance mode. -3: The control axis of the data which is loaded from the floppy drive is different from the control axis of the system. The job is not initialized after changing the control group configuration to the other control in the system. -7: Delete unnecessary steps (positions), then add the positions. When the problem is not solved even if you deal with the above-mentioned, contact the Motoman service staff.
4205			
4206	SYSTEM ERROR (TRANSMISSION) [Decimal Data]  Detection:HMI S.blk[2].d04	The error occurs when the data transmission function is used. The transmission system internal processing is abnormal. Data stands for the alarm factor. 100: The error in transmission processing.	Contact the Motoman service staff.
4207 TASK#0 - TASK#5	SYSTEM ERROR(MOTION) [Decimal Data]  Detection:Motion M.blk[0].d03	The system error occurs in the motion part.	Restart after resetting the alarm. Turn off the power supply then back on. Contact the Motoman service staff.
4208 TASK#0 - TASK#5	SYSTEM ERROR (ARITH) [Decimal Data]  Detection:Motion M.blk[8].d01	System abnormality occurrence in the calculation part.	Reset the alarm then try again. Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4209  TASK#0 - TASK#5	OFFLINE SYSTEM ERROR(ARITH)  [Decimal Data]  Detection:Motion M.blk[9].d01	System abnormality occurrence in the calculation part.	
4210  TASK#0 - TASK#5	SYSTEM ERROR (Local variable) [Decimal Data]  Detection:Motion M.blk[3].d05 <X3.50>		Reset the alarm then try again. Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.
4211	SYSTEM ERROR (Hardware part) [Decimal Data]  Detection:MNT OFF.blk[7].d00	The error occurs in the hardware processing part of the system program.	Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.
4212	SYSTEM ERROR1 (Hardware part) [Decimal Data]  Detection:MNT OFF.blk[7].d01	The error occurs in the hardware processing part of the system program.	Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.
4213	SYSTEM ERROR2 (Hardware part) [Decimal Data]  Detection:MNT OFF.blk[7].d02	The error occurs in the hardware processing part of the system program.	Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.
4214	SYSTEM ERROR3 (Hardware part) [Decimal Data]  Detection:MNT OFF.blk[7].d03	The error occurs in the hardware processing part of the system program.	Turn the power supply off once then back on. If the error occurs again, contact the Motoman service staff.
4220  TASK#0 - TASK#5	SERVO POWER OFF FOR JOB [Control Group]  Detection:Motion M.blk[4].d30	The servo power supply has not been turned on in the job group axis which is intended to operate.	Turn the servo power supply off once, then turn the servo power supply on into the group axis which is intended to operate.
4221	SERVO POWER OFF FOR JOB [Control Group]  Detection:HMI S.blk[2].d11	The servo power supply has not been turned on in the job group axis which is intended to operate.	Turn the servo power supply off once, then turn the servo power supply on into the group axis which is intended to operate.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4222	SAFE CIRCUIT SIG NOT SAMEÅiXCI01Åj [Binary Data]  Detection:HMI S.blk[1].d14 <X2.00>	<p>The error occurs at the safe circuit signal (I/O power-on unit) (XCI01 circuit board duplication signal)</p> <p>0000_00001: CPU1(H8) I/O state check error</p> <p>0000_00010: CPU2(V33) I/O state check error</p> <p>The signal can be distinguished by the state of the lighting LED (XCU01 above) if the error of the CPU1(H8).</p> <p>L5 L4 L3 L2 L1 (L*:LED1-5)</p> <p>0 0 0 0 1 PPESP signal 0 0 0 1 0 PBESP signal 0 0 0 1 1 EXESP signal 0 0 1 0 0 TM* signal 0 0 1 1 0 SAF_F signal 0 0 1 1 1 SVON signal 0 1 0 0 0 EX_SVON signal 0 1 0 0 1 SYSRDY signal 0 1 0 1 0 FORCE signal 0 1 0 1 1 PM* signal 0 1 1 0 0 TLK* signal 0 1 1 0 1 DSW signal 0 1 1 1 0 HSW signal 0 1 1 1 1 SAFRDY signal 1 0 0 0 0 EX_HOLD signal 1 0 0 0 1 RDY signal 1 0 0 1 0 FST signal 1 0 0 1 1 LATCH signal</p> <p>1: light on, 0: light off</p>	<p>Check the wiring of the safe circuit signal cable which is connected with the I/O power-on unit.</p> <p>Replace the I/O power-on unit.</p>
4223 SV#1 - SV#6	SAFE CIRCUIT SIG NAL NOT SAME(SV) [Decimal Data]  Detection:SERVO SV.blk[3].d23 <X2.00>	<p>The error occurs at the safe circuit signal (I/O power-on unit). (WRCA01 circuit board duplication signal)</p> <p>1: IORDY 2: ON_EN 3: OVSPD 4: SVMAIN 5: EXOT 6: SVMX1 7: KMMB 8: KMMA 9: SPALM_046 10: SVMAIM_046</p>	<p>Check the wiring of the safe circuit signal cable which is connected with the I/O power-on unit.</p> <p>Replace the I/O power-on unit.</p>
4224 TASK#0 - TASK#5	MEMORY PLAY FILE ERROR [Decimal Data]  Detection:Motion M.blk[4].d19 <X3.50>	Return value (negative value) from the memory play file manager	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4300 SV#1 - SV#6	<p>VERIFY ERROR (SERVO PARAMETER) [Decimal Data]</p> <p>Detection:SERVO SV.blk[0].d10</p>	<p>This alarm occurs when the power supply is turned on or when the parameter is being changed.</p> <p>This alarm does not occur during the robot running.</p> <p>There is an error in the parameter related to the servo control.</p> <p>&lt;References&gt; CMOS internal form. d15 - d12 (4 bits): Parameter type 0x0000: SVD 0x1000: SV 0x2000: SVM 0x3000: SVP 0x4000: AMC 0x5000: MFG 0x6000: MFA 0x7000: RCD 0x8000: RCG 0x9000: RCA 0xa000: ROG 0xb000: ROA 0xc000: S1D d09 - d00 (12 bits): Parameter array number As for an axis and a group common parameter, it is the array numbers. As for the parameter for each axis, it is an array number by every one group. (The array number by PP display image is displayed for re-input)</p>	Contact the Motoman service staff.
4301 SV#1 - SV#6	<p>CONTACTOR ERROR [Bit Pattern]</p> <p>Detection:SERVO SV.blk[1].d07</p>	<p>The contactor of the power-on unit is not turned on at the servo ON.</p> <p>The signal from the contactor is turned off during the servo ON.</p> <p>The contactor signal is not turned off at the servo OFF (Emergency stop).</p> <p>The contactor signal is turned ON during the servo OFF (Emergency stop).</p> <p>The following factor causes this alarm.</p> <p>Defective power-on unit Defective WRCA01 circuit board Data stands for the converter No. 00000000_00000001 SV#1-converter 1 00000000_00000010 SV#1-converter 2 00000000_00000001 SV#2-converter 1 00000000_00000010 SV#2-converter 2 00000000_00000001 SV#3-converter 1 00000000_00000010 SV#3-converter 2 00000000_00000001 SV#4-converter 1 00000000_00000010 SV#4-converter 2 00000000_00000001 SV#5-converter 1 00000000_00000010 SV#5-converter 2 00000000_00000001 SV#6-converter 1 00000000_00000010 SV#6-converter 2</p>	<p>Reset the alarm then turn the servo power supply on again.</p> <p>If the error occurs again, replace the power-on unit and WRCA01 circuit board.</p> <p>Check the 24V power supply for the I/O.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4302 SV#1 - SV#6	BRAKE CIRCUIT ERROR [Bit Pattern]  Detection:SERVO SV.blk[1].d08	<p>The brake relay signal is not turned on at the servo ON.</p> <p>The brake relay signal is turned off during the servo ON.</p> <p>The brake relay signal is not turned off at the servo OFF.(Emergency stop)</p> <p>The brake relay signal is turned on during the servo OFF.(Emergency stop)</p> <p>Defective power-on unit</p> <p>Defective WRCA01 circuit board</p> <p>Data stands for the power-on unit No.</p> <p>00000000_00000001 SV#1-power-on unit 1</p> <p>00000000_00000010 SV#1-power-on unit 2</p> <p>00000000_00000001 SV#2-power-on unit 1</p> <p>00000000_00000010 SV#2-power-on unit 2</p> <p>00000000_00000001 SV#3-power-on unit 1</p> <p>00000000_00000010 SV#3-power-on unit 2</p> <p>00000000_00000001 SV#4-power-on unit 1</p> <p>00000000_00000010 SV#4-power-on unit 2</p> <p>00000000_00000001 SV#5-power-on unit 1</p> <p>00000000_00000010 SV#5-power-on unit 2</p> <p>00000000_00000001 SV#6-power-on unit 1</p> <p>00000000_00000010 SV#6-power-on unit 2</p>	<p>Reset the alarm then turn the servo power supply on.</p> <p>If the error occurs again, replace the power-on unit and the WRCA01 circuit board.</p>
4303 SV#1 - SV#6	CONVERTER READY SIGNAL ERROR [Bit Pattern]  Detection:SERVO SV.blk[1].d09	<p>There is no responding signal for the charge completion (Servo ready signal) from the converter at the servo ON.</p> <p>The servo ready signal is turned off during the servo ON.</p> <p>The servo ready signal is not turned off at the servo OFF. (Emergency stop)</p> <p>The primary power supply voltage is too low.</p> <p>The primary power supply cable is too thin or too long, so the power supply voltage drop occurs at the servo ON.</p> <p>Defective WRCA01, WRCF01 circuit board</p> <p>Defective converter</p> <p>Data stands for the converter No.</p> <p>00000000_00000001 SV#1-converter 1</p> <p>00000000_00000010 SV#1-converter 2</p> <p>00000000_00000001 SV#2-converter 1</p> <p>00000000_00000010 SV#2-converter 2</p> <p>00000000_00000001 SV#3-converter 1</p> <p>00000000_00000010 SV#3-converter 2</p> <p>00000000_00000001 SV#4-converter 1</p> <p>00000000_00000010 SV#4-converter 2</p> <p>00000000_00000001 SV#5-converter 1</p> <p>00000000_00000010 SV#5-converter 2</p> <p>00000000_00000001 SV#6-converter 1</p> <p>00000000_00000010 SV#6-converter 2</p>	<p>Reset the alarm then turn the servo power supply on again.</p> <p>Check the primary power supply voltage (220V+10%)</p> <p>if the error occurs again, replace the WRCA01 circuit board and the converter.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4304 SV#1 - SV#6	CONVERTER INPUT POWER ERROR [Bit Pattern]  Detection:SERVO SV.blk[1].d10	<p>There is no responding signal for the primary power supply input (Servo ready signal 1) from the converter at the servo ON.</p> <p>The servo ready signal 1 is turned off during the servo ON.</p> <p>The servo ready signal 1 is not turned off at the servo OFF. (Emergency stop)</p> <p>The servo ready signal 1 is turned on during the servo OFF. (Emergency stop)</p> <p>Mis-wiring of the primary power supply</p> <p>Primary power supply voltage drop (170V or less)</p> <p>The primary power supply cable is too thin or too long, so the power supply voltage drop occurs at the servo ON.</p> <p>Defective WRCA01, WRCF01 circuit board</p> <p>Defective converter</p> <p>Data stands for the converter No.</p> <p>00000000_00000001 SV#1-converter 1</p> <p>00000000_00000010 SV#1-converter 2</p> <p>00000000_00000001 SV#2-converter 1</p> <p>00000000_00000010 SV#2-converter 2</p> <p>00000000_00000001 SV#3-converter 1</p> <p>00000000_00000010 SV#3-converter 2</p> <p>00000000_00000001 SV#4-converter 1</p> <p>00000000_00000010 SV#4-converter 2</p> <p>00000000_00000001 SV#5-converter 1</p> <p>00000000_00000010 SV#5-converter 2</p> <p>00000000_00000001 SV#6-converter 1</p> <p>00000000_00000010 SV#6-converter 2</p>	<p>Check the primary wire connection of the R, S and T lines of the servopack.</p> <p>Check the power supply voltage is 170V or more.</p> <p>If the error occurs again, replace the WRCA01 and WRCF01 circuit boards.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4305 SV#1 - SV#6	CONVERTER CIR CUIT CHANGE ERROR [Bit Pattern]  Detection:SERVO SV.blk[1].d11	There is no responding signal for the charge OK (Servo ready signal 2) from the converter at the servo ON. The servo ready signal 2 is turned off during the servo ON. The servo ready signal 2 is not turned off at the servo OFF. (Emergency stop) The servo ready signal 1 is turned on during the servo OFF. (Emergency stop) Mis-wiring of the primary power supply Primary power supply voltage drop (170V or less) The primary power supply cable is too thin or too long, so the power supply voltage drop occurs at the servo ON. Defective WRCA01, WRCF01 circuit board Defective converter Defective amplifier (The main circuit is likely to be short-circuit internally.) Data stands for the converter No. 00000000_00000001 SV#1-converter 1 00000000_00000010 SV#1-converter 2 00000000_00000001 SV#2-converter 1 00000000_00000010 SV#2-converter 2 00000000_00000001 SV#3-converter 1 00000000_00000010 SV#3-converter 2 00000000_00000001 SV#4-converter 1 00000000_00000010 SV#4-converter 2 00000000_00000001 SV#5-converter 1 00000000_00000010 SV#5-converter 2 00000000_00000001 SV#6-converter 1 00000000_00000010 SV#6-converter 2	Check the primary power supply voltage is 170V or more. Replace the amplifier. If the error occurs again, replace the WRCA01 and WRCF01 circuit boards.
4306 SV#1 - SV#6	AMPLIFIER READY SIGNAL ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d12	There is no amplifier ready signal from the amplifier at the servo ON. The amplifier ready signal is turned off during the servo ON. The amplifier ready signal is not turned off at the servo OFF. (Emergency stop) The amplifier ready signal is turned ON during the servo OFF. (Emergency stop) Defective WRCA01 and WRCF01 circuit boards Defective converter Defective amplifier (The main circuit is likely to be short-circuit internally.)	Reset the alarm then turn the servo power supply on. If the error occurs again, replace the WCA01, WRCF01 circuit boards, the amplifier and the converter.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4307 SV#1 - SV#6	SERVO ON DEFECTIVE SPEED Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d16	The servo power supply is turned on when the encoder is driving. It shouldn't turn on the power supply when the motor is driving. The axis which has no brakes such as R, B and T of the SK6 falls freely when the servo power supply is turned off by emergency stop etc. This alarm occurs when the servo power supply is turned on in above situation. (This alarm occurs only when the servo power supply starts to be turned on, and this does not occur when the robot is running.)	Check the timing of the servo power supply on. If the error occurs when the robot is moving, contact the Motoman service staff.
4308 SV#1 - SV#6	VOLTAGE DROP (CONVERTER) [Bit Pattern]  Detection:SERVO SV.blk[1].d28	The direct current power supply voltage which is supplied to the amplifier of the servopack is 143V or less. The primary power supply is too low. Open-phase Defective converter Defective WRCA01 circuit board Data stands for the converter No. 00000000_00000001 SV#1-converter. 1 00000000_00000010 SV#1-converter. 2 00000000_00000001 SV#2-converter. 1 00000000_00000010 SV#2-converter. 2 00000000_00000001 SV#3-converter. 1 00000000_00000010 SV#3-converter. 2 00000000_00000001 SV#4-converter. 1 00000000_00000010 SV#4-converter. 2 00000000_00000001 SV#5-converter. 1 00000000_00000010 SV#5-converter. 2 00000000_00000001 SV#6-converter. 1 00000000_00000010 SV#6-converter. 2	Check the primary wire connection of the R, S and T lines of the servopack. Check the power supply voltage is 170V or more. If the error occurs again, replace the WRCA01 and WRCF01 circuit boards. If the error occurs again, contact the Motoman service staff.
4309 SV#1 - SV#6	DEFECTIVE ENCODER INTERNAL DATA Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d06	Internal parameter of the serial encoder is abnormal.	Reset the alarm then perform the home position calibration again for the alarm axis. Turn the power supply off then back on. If the error occurs again, replace the motor. (Encoder) If the error occurs again, contact the Motoman service staff.
4310 SV#1 - SV#6	ENCODER OVERHEAT Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d08	The encoder has overheated to 100°C. (The thermistor in the encoder detected 100°C. (Detection error +/- 5°C)) Encoder thermistor is out of working. The temperature inside of the encoder rises.	Check whether the ambient temperature is too high. Check the load. Check the primary power supply voltage. (200V+10%) If the error occurs again, replace the WRCA01 circuit board and encoder. Check the motor shaft and the brake. Replace the motor.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4311 SV#1 - SV#6	ENCODER BACK-UP ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d09	The position data inside the encoder is missing because that the back-up power supply voltage has decreased to 2.6 V or less. The above error always occurs when purchased motor is used at first time. (The alarm occurs when the control power supply has just been turned on, and it does not occur in operating.)	Reset the alarm then perform the home position calibration again of the alarm axis Check the voltage of battery in the encoder. (2.8 V or more) Replace the battery. If the error occurs again, replace the encoder. Do not turn the power supply off while the backup capacitor is charging. (For a few minutes)
4312 SV#1 - SV#6	ENCODER BATTERY ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d10	The voltage of the encoder backup battery decreased to 2.8V or less. Leaving above situation makes the abnormal backup, and the home position data disappears. (This alarm only occurs when the control power supply is started to turn on, and this does not occur in operating)	Check the battery voltage of the encoder. (2.8V or more) Replace the battery.
4313 SV#1 - SV#6	SERIAL ENCODER OVER HEAT Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d20	The encoder has overheated to 100°C.	Check whether the ambient temperature is not too high. Check the load. Check the primary power supply.(220V+10%) If the error occurs again, replace the WCA01 circuit board and the encoder.
4314 SV#1 - SV#6	SERIAL ENCODER BATTERY ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d20	The backup cell of the encoder voltage has decreased. (2.8V or less) Leaving above situation makes the abnormal backup, and the home position data disappears	Check the battery voltage of the encoder. (2.8V or more.) Replace the battery.
4315 SV#1 - SV#6	COLLISION DETECT Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d29	The robot detected the collision by the interference with the peripheral device etc. As the detection level is too small, the robot cannot detect the collision correctly.	Reset the alarm, then remove the object or shelter the robot to safe place. If the alarm is unable to be reset because the robot touches with the object, Illegal the function at the collision detection level setting file, or enlarge the detection level to shelter the robot. Enlarge the detection level large not to detect the collision incorrectly by the movement of the robot, and set the accurate tool weight data.
4316 SV#1 - SV#6	PRESSURE DATA LIMIT Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d28	The welding pressure which is set at the “Gun welding pressure” file or “Dry Spot welding pressure” set in the file exceeds the maximum welding pressure inside of the “Gun characteristic” file.	Change the welding pressure value of the “Gun welding pressure” file or “Dry stop welding pressure” file to or lower the maximum welding pressure.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4317 SV#1 - SV#6	PRE-LOAD ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[2].d27 <X3.90>	The motor does not operate in the pre-load processing. (for Honda Motor Gun)	
4318 SV#1 - SV#6	SERIAL ENCODER CORRECTION LIMITATION OVER Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d02 <X3.90>	DLTPG exceeds the tolerance.	
4320 SV#1 - SV#6	OVERLOAD (CONTINUE) Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d20  <X3.90>Painting Minor Brakedown	The torque of the motor displayed in the axis data has been exceeded rated torque for a long time. (from tens of seconds to a lot of minutes) The motor tends to be overheated and this brings damages to the motor. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Interfering with external devices Defective WRCA01, WRCF01 circuit boards Defective amplifier Defective motor (Encoder)	Check whether the robot interferes with the external device or with robot body. Remove the cause if interference. Check the connection of the U,V,W lines of the motor, and check the disconnection as well. The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4321 SV#1 - SV#6	OVERLOAD (MOMENT) Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d21  <X3.90>Painting Minor Brakedown	The torque of the motor displayed in the axis data is several times of the ratings torque and it has been generated for a long time. The motor tends to be overheated and this brings damages to the motor. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Interfering with external devices Defective WRCA01, WRCF01 circuit boards Defective amplifier Defective motor (Encoder)	Check whether the robot interferes with the external device or with robot body. Remove the cause if interference. Check the connection of the U,V,W lines of the motor, and check the disconnection as well. The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4322 SV#1 - SV#6	AMPLIFIER OVER LOAD(CONTINUE)  Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d27  <X3.90>Painting Minor Brakedown	The current of the servopack (amplifier) displayed in the axis data has been exceeded rated current for a long time. (from tens of seconds to a lot of minutes) The motor tends to be overheated and this brings damages to the motor. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Interfering with external devices Defective WRCA01, WRCF01 circuit boards Defective amplifier Defective motor (Encoder)	Check whether the robot interferes with the external device or with robot body. Remove the cause if interference. Check the connection of the U,V,W lines of the motor, and check the disconnection as well. The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4323 SV#1 - SV#6	AMPLIFIER OVER LOAD(MOMENT)  Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d28  <X3.90>Painting Minor Brakedown	The current of the servopack displayed in the axis data is several times of the ratings current and it has been generated for a long time. The motor tends to be overheated and this brings damages to the motor. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Interfering with external devices Defective WRCA01, WRCF01 circuit boards Defective amplifier Defective motor (Encoder)	Check whether the robot interferes with the external device or with robot body. Remove the cause if interference. Check the connection of the U,V,W lines of the motor, and check the disconnection as well. The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.
4324 SV#1 - SV#6	CONVERTER OVER LOAD [Bit Pattern]  Detection:SERVO SV.blk[0].d25 <X3.18>  <X3.90>Painting Minor Brakedown	Total value of the load of all motor which is connected with the converter exceeds the ratings for a long time.  Data stands for the converter No. 00000000_00000001 SV#1-converter 1 00000000_00000010 SV#1-converter 2 00000000_00000001 SV#2-converter 1 00000000_00000010 SV#2-converter 2 00000000_00000001 SV#3-converter 1 00000000_00000010 SV#3-converter 2 00000000_00000001 SV#4-converter 1 00000000_00000010 SV#4-converter 2 00000000_00000001 SV#5-converter 1 00000000_00000010 SV#5-converter 2 00000000_00000001 SV#6-converter 1 00000000_00000010 SV#6-converter 2	The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4325 SV#1 - SV#6	<p>SPEED MONITORINGLEVEL UNMATCH [No indication data]</p> <p>Detection:SERVO SV.blk[0].d16 &lt;X1.50&gt; &lt;X3.90&gt;Painting Minor Brakedown</p>	<p>An abnormality occurs in the speed monitoring level signal. (double signal check)</p> <p>The monitoring level received from XCP01 through CREF does not match with the one read from the WRCA hardware.</p>	<p>Check the connection cable for the IO power-on unit. Replace the WRCA01 board.</p>
4326 SV#1 - SV#6	<p>SPEED ERROR Robot/Station [Axis Data]</p> <p>Detection:SERVO SV.blk[0].d19  &lt;X3.90&gt;Painting Minor Brakedown</p>	<p>The motor speed displayed in the axis data exceeds the maximum permissible speed of the motor.</p> <p>Mis-wiring of the UVW lines of the motor</p> <p>The motor type is improper.</p> <p>The motor is shifted by the external force.</p> <p>Defective WRCA01 and WRCF01 circuit boards</p> <p>Defective motor (Encoder)</p>	<p>Check the connection wire of the motor.</p> <p>Check the operation of the robot when the alarm is occurred, and confirm whether the external force adds.</p> <p>Check the connection of the UVW wire of the motor. If it is wrong, correct it up.</p> <p>Drop the teaching speed when the alarm is occurred. Moreover, R, B, and T axes operate at a fast speed according to the teaching pose at the linear motion type occasionally. In this case, review teaching.</p> <p>&lt;Generated axis is a robot axis&gt; Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor.</p> <p>&lt;Generated axis is external axis&gt; Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration.</p> <p>If error occurs again, replace the WRCA01 and/or WRCF01 circuit board.</p> <p>If the error occurs again, contact the Motoman service staff.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4327 SV#1 - SV#6	MOTOR ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d22  <X3.90>Painting Minor Brakedown	The motor is out of control. This alarm occurs when the motor is operated reversing to the instruction of the correct turning direction. Mis-wiring of the U,V,W, lines of the motor. Improper type of the motor External force Defective WRCA01,WRCF01 circuit boards	Check the connection of the U,V,W lines of the motor. <Generated axis is a robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Generated axis is external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. If the error occurs again, contact the Motoman service staff.
4328 SV#1 - SV#6	SERVO TRACKING ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d24  <X3.90>Painting Minor Brakedown	The servo deviation displayed in the axis data is excessive and the specified active position and path is deviated over the tolerance. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Interfering with external devices Defective WRCA01,CWRCF01 Defective amplifier Defective motor (Encoder)	Check whether the robot interferes with the external device or with robot body. Remove the cause if interference. Check the connection of the U,V,W lines of the motor, and check the disconnection as well. The robot may run with overload. Review the state of robot working, then reduce the teaching speed and so on. <Error in robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Error in external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the amplifier or the motor of the error axis. If the error occurs again, contact the Motoman service staff.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4329 SV#1 - SV#6	POSITION ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[0].d26  <X3.90>Painting Minor Brakedown	The number of pulses for one rotation of the motor is not a regulated pulse numbers. The position might be shifted. (But, when this alarm occurs simultaneously with another alarm related to the encoder, the latter alarm may be a cause of the former alarm.) Noise of outside equipment Defective WRCA01, WRCF01 circuit board Encoder power supply voltage down Defective motor (encoder)	Check whether there is a equipment generating loud noise. Check the ground of the controller is correct. When the error occurs at the external axis, set the ferritecore on the encoder cable. If the error occurs again, replace the WRCA01 and/or WRCF01 circuit board. Replace the motor for the axis where the error occurred.
4330 SV#1 - SV#6	SPEED MONITORING INSTRUCTION CABLE CUT [No indication data]  Detection:SERVO SV.blk[0].d30 <X1.50> <X3.90>Painting Minor Brakedown	The speed monitoring instruction cable is disconnected.	Check the connection cable of the I/O power-on unit. Replace the WRCA01 circuit board.
4331 SV#1 - SV#6	SPEED MONITORING LEVEL ERROR [No indication data]  Detection:SERVO SV.blk[0].d31 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitoring level signal.(Abnormal signal) The corresponding monitoring mode does not exist at the read speed monitoring level.	Check the connection cable of the I/O power-on unit. Replace the WRCA01 circuit board.
4332 SV#1 - SV#6	POSITION ERROR (SERIAL ENCODER) Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d01  <X3.90>Painting Minor Brakedown	The bit deviation is detected with the serial encoder.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4333 SV#1 - SV#6	RESURRECTION OVERLOAD [Bit Pattern]  Detection:SERVO SV.blk[1].d17 <X3.90>Painting Minor Brakedown	The resurrection overload is detected.	
4334 SV#1 - SV#6	OVER VOLTAGE (CONVERTER) [Bit Pattern]  Detection:SERVO SV.blk[1].d27  <X3.90>Painting Minor Brakedown	<p>The direct current power supply voltage which is supplied to the amplifier of the servo-pack exceeds 420V. The primary power supply is too high. (220V+10%) Defective converter Defective WRCA circuit board</p> <p>Data stands for the converter No.            00000000_00000001 SV#1- converter 1            00000000_00000010 SV#1- converter 2            00000000_00000001 SV#2- converter 1            00000000_00000010 SV#2- converter 2            00000000_00000001 SV#3- converter 1            00000000_00000010 SV#3- converter 2            00000000_00000001 SV#4- converter 1            00000000_00000010 SV#4- converter 2            00000000_00000001 SV#5- converter 1            00000000_00000010 SV#5- converter 2            00000000_00000001 SV#6- converter 1            00000000_00000010 SV#6- converter 2</p>	<p>Check the primary power supply voltage. (220V+10%) Review the load. Reduce the teaching speed of four steps before and behind the alarm generation step about 30%, then check whether the error occurs. If error occurs again, replace the converter and the WRCA circuit board.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4335 SV#1 - SV#6	GROUND FAULT Robot/Station [Axis Data]  Detection:SERVO SV.blk[1].d29  <X3.90>Painting Minor Brakedown	At least one of U,V, W, line of the motor displayed in the axis data is grounding. Defective motor Motor wire, or lead wire is grounding. Defective WRCA01, WRCF01 Defective amplifier	This alarm will be reset by turning the control power supply off. Check there is no grounding of the motor first, then turn on the servo power supply. If the servo power supply turns repetitively on during the grounding, it causes of breaking the servo-pack down Check the connecting with U,V,W,E lines. Remove the U,V,W,E lines from the terminal block of the controller and check the connection between U-E, V-E, and W-E. If the error occurs in the process of above check, execute the above check again with taking the connector on motor side off. If connected, the lead wire may be abnormal. Specify where the error occurs, then replace the lead wire. Replace the motor if the lead wire does not have any abnormality. (It occurs because of abnormal motor.) If error occurs again, replace the WRCA01, WRCF01 circuit boards. Replace the motor and amplifier of the error axis.
4336 SV#1 - SV#6	OPEN PHASE (Converter) [Bit Pattern]  Detection:SERVO SV.blk[1].d30  <X3.90>Painting Minor Brakedown	Any of 3-phases of the servo-pack is open. Mis-wiring of connecting of primary power supply Decrease in primary power supply voltage (170V or less) Defective the WRCA01, WRCF01 circuit boards Defective the converter Data stands for the converter. No. 00000000_00000001 SV#1-converter1 00000000_00000010 SV#1-converter 2 00000000_00000001 SV#2-converter 1 00000000_00000010 SV#2-converter 2 00000000_00000001 SV#3-converter 1 00000000_00000010 SV#3-converter 2 00000000_00000001 SV#4-converter 1 00000000_00000010 SV#4-converter 2 00000000_00000001 SV#5-converter 1 00000000_00000010 SV#5-converter 2 00000000_00000001 SV#6-converter 1 00000000_00000010 SV#6-converter 2	Review the primary connecting wires of the R,S, and T lines of the servopack. Ensure the power supply voltage is 170V or more. If the error occurs again, replace the WRCA01 and WRCF01 circuit boards. Replace the converter of the error axis.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4337 SV#1 - SV#6	<p>OVER CURREUNT (AMPLIFIER)</p> <p>Robot/Station [Axis Data]</p> <p>Detection:SDERVO SV.blk[2].d00</p> <p>&lt;X3.90&gt;Painting Minor Brakedown</p>	<p>At least one of U,V, W axes of the motor grounds at the axis which is indicated by the axis data.</p> <p>Defective motor</p> <p>Motor wire ground of the lead wire</p> <p>WRCA01, WRCF01</p> <p>Defective amplifier</p> <p>Overheating of amplifier</p>	<p>This alarm will be reset by turning the control power supply off.</p> <p>Check there is no grounding of the motor first, then turn on the servo power supply.</p> <p>If the servo power supply turns repetitively on during the grounding, it causes of breaking the servo-pack down</p> <p>Check the connecting with U,V,W,E lines.</p> <p>Remove the U,V,W,E lines from the terminal block of the controller and check the connection between U-E, V-E, and W-E.</p> <p>If the error occurs in the process of above check, execute the above check again with taking the connector on motor side off.</p> <p>If connected, the lead wire may be abnormal. Specify where the error occurs, then replace the lead wire.</p> <p>Replace the motor if the lead wire does not have any abnormality. (It occurs because of abnormal motor.)</p> <p>If there is no abnormalities in checking above, turn the power supply off then leave it (for self-cooling). If it restores after that, it may be overheating, so review the load and check ambient temperature.</p> <p>If error occurs again, replace the WRCA01, WRCF01 circuit boards.</p> <p>Replace the motor and amplifier of the error axis.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4338 SV#1 - SV#6	<p>RESURRECTION ERROR (Converter) [Bit Pattern]</p> <p>Detection:SERVO SV.blk[2].d01</p> <p>&lt;X3.90&gt;Painting Minor Brakedown</p>	<p>The resurrection energy during the motor speed deceleration is too large to process for the resurrection circuit of the servo-pack. The load which is on the robot is too large. The primary power supply voltage is too high. (more than 242V) Defective converter Defective the WRCA01, WRCF01 circuit boards</p> <p>Data stands for the converter No. 00000000_00000001 SV#1-converter 1 00000000_00000010 SV#1-converter 2 00000000_00000001 SV#2-converter 1 00000000_00000010 SV#2-converter 2 00000000_00000001 SV#3-converter 1 00000000_00000010 SV#3-converter 2 00000000_00000001 SV#4-converter 1 00000000_00000010 SV#4-converter 2 00000000_00000001 SV#5-converter 1 00000000_00000010 SV#5-converter 2 00000000_00000001 SV#6-converter 1 00000000_00000010 SV#6-converter 2</p>	<p>Review the load. Reduce the teaching speed of four steps before and behind the alarm generation step about 30%, then check whether the error occurs. Check the primary power voltage (220V+10%). If error occurs again, replace the WRCA01, WRCF01 circuit boards. Replace the motor and amplifier of the error axis.</p>
4339 SV#1 - SV#6	<p>INPUT POWER OVER VOLTAGE (CONV) [Bit Pattern]</p> <p>Detection:SERVO SV.blk[2].d02</p> <p>&lt;X3.90&gt;Painting Minor Brakedown</p>	<p>The primary power supply voltage of the servo pack is too high. (more than 242V)</p> <p>Data stands for the converter No. 00000000_00000001 SV#1-Converter 1 00000000_00000010 SV#1-Converter 2 00000000_00000001 SV#2-Converter 1 00000000_00000010 SV#2-Converter 2 00000000_00000001 SV#3-Converter 1 00000000_00000010 SV#3-Converter 2 00000000_00000001 SV#4-Converter 1 00000000_00000010 SV#4-Converter 2 00000000_00000001 SV#5-Converter 1 00000000_00000010 SV#5-Converter 2 00000000_00000001 SV#6-Converter 1 00000000_00000010 SV#6-Converter 2</p>	<p>Check the primary side power supply voltage. (220V+10%) If error occurs again, replace the WRCA01 circuit board. Replace the converter of the error axis.</p>
4340 SV#1 - SV#6	<p>TEMPERATURE ERROR (CONVERTER) [Bit Pattern]</p> <p>Detection:SERVO SV.blk[2].d03</p> <p>&lt;X3.90&gt;Painti</p>	<p>The temperature of the servo pack (converter) is too high.</p> <p>Data stands for the converter No. 00000000_00000001 SV#1-Converter1 00000000_00000010 SV#1-Converter2 00000000_00000001 SV#2-Converter1 00000000_00000010 SV#2-Converter2 00000000_00000001 SV#3-Converter1 00000000_00000010 SV#3-Converter2 00000000_00000001 SV#4-Converter1 00000000_00000010 SV#4-Converter2 00000000_00000001 SV#5-Converter1 00000000_00000010 SV#5-Converter2 00000000_00000001 SV#6-Converter1 00000000_00000010 SV#6-Converter2</p>	<p>Check whether the ambient temperature is not too high. Review the load. Check the primary power supply voltage. (220V+10%) If the error occurs again, replace the WRCA01 circuit board. Replace the converter of the error axis.</p>

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4341 SV#1 - SV#6	SPEED ERROR (XFC01) Robot/Station [Axis Data] Detection:SERVO SV.blk[3].d14 <X1.50> <X3.90>Painting Minor Brakedown	The motor speed displayed in the axis data exceeds the maximum permitted speed of the motor. Mis-wiring and disconnection of the U,V,W, lines of the motor Improper type of the motor External force Defective XFC01 Defective motor (Encoder)	Check the connection wire of the motor. Check the operation of the robot when the alarm is occurred, and confirm whether the external force adds. Check the connection of the UVW wire of the motor. If it is wrong, correct it up. Drop the teaching speed when the alarm is occurred. Moreover, R, B, and T axes operate at a fast speed according to the teaching pose at the linear motion type occasionally. In this case, review teaching. <Generated axis is a robot axis> Check the type of the motor is same as described one on the manual. If the type is not correct, replace it with correct motor. <Generated axis is external axis> Check the type of the motor set in the system configuration is same as actual installed one. If set data in the system configuration is correct, replace installed motor with correct one. If set data in the system configuration is not correct, set the correct system configuration. If error occurs again, replace the XFC01 circuit board.
4342	SPEED MONITORING INSTRUCTION CABLE OUT(XFC01) [No indication data]  Detection:SERVO SV.blk[3].d18 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitoring level signal. The cable between I/O power-on unit and the XFC01 circuit board is cut. The cable between I/O power-on unit and the XCI01 circuit board is cut. Defective I/O power-on unit Defective XFC01	Check the cable connection between the I/O power-on unit and the XFC01 circuit board. Check the cable connection between I/O power-on unit and the XCI01 circuit board. Replace the I/O power-on unit and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.
4343 SV#1 - SV#6	SPEED MONITORING LEVEL ERROR(XFC01) [No indication data]  Detection:SERVO SV.blk[3].d18 <X1.50> <X3.90>Painting Minor Brakedown	The error occurs in the speed monitoring level signal. The cable between I/O power-on unit and the XFC01 circuit board is cut. The cable between I/O power-on unit and the XCI01 circuit board is cut. Defective I/O power-on unit Defective XFC01	Check the cable connection between the I/O power-on unit and the XFC01 circuit board. Check the cable connection between I/O power-on unit and the XCI01 circuit board. Replace the I/O power-on unit and the XFC01 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4344 SV#1 - SV#6	LINEAR SERVO FLOAT TRACKING ERROR [XYZ]  Detection:SERVO SV.blk[0].d23 <X3.90>	The deflection of the X,Y,Z axis exceeds the limited range when the linear servo float is operating.	
4345 SV#1 - SV#6	LINK SERVO FLOAT CANNOT EXUCUTE Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d09 <X3.90>	The link servo float execution is demanded to the linear servo float execution axis.	
4346 SV#1 - SV#6	LINK SERVO FLOAT LIMITATION TORQUE RANGE ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d10 <X3.90>	The control torque specified in the link servo float condition file exceeds the limited range specified by the CMOS parameter.	
4347 SV#1 - SV#6	LINEAR SERVO FLOAT LIMITATION TORQUE RANGE [XYZ]  Detection:SERVO SV.blk[5].d11 <X3.90>	The control torque specified the linear servo float condition file exceeds the limited range specified by the CMOS parameter.	
4348 SV#1 - SV#6	LINEAR SERVO FLOAT COORDINATES TYPE UNMATCH Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d11 <X3.90>	A linear servo float indicates other coordinates type of the linear servo float.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4349 SV#1 - SV#6	LINEAR SERVO FLOAT TOOL POSE CONTROL SPECIFICATION ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d13 <X3.90>	Tool pose control specification indicates as no existence though the tool pose control specification exists.	
4350 SV#1 - SV#6	LINEAR SERVO FLOATCANNOT EXU CUTE [XYZ]  Detection:SERVO SV.blk[5].d14 <X3.90>	The linear servo float execution is demanded to the link servo float execution axis.	
4400 TASK#0 - TASK#5	NOT READY(ARITH) [Decimal Data]  Detection:MOTION M.blk[0].d04	The operation processing of the motion control does not finish within the regular time.	Reset the alarm then try again. Turn off the power supply and back on. If the error occurs again, contact the Motoman service staff.
4401 TASK#0 - TASK#5	SEQUENCE TASK CONTROL ERROR [Decimal Data] Detection:Motion  M.blk[2].d00	The error occurs in the job executable processing part.	Reset the alarm then try again. Turn off the power supply and back on. If the error occurs again, contact the Motoman service staff.
4402 TASK#0 - TASK#5	LINDEFINED COMMAND(ARITH)  [No indication data]  Detection:MOTION M.blk[8].d00		Reset the alarm then try again. Turn off the power supply and back on. If the error occurs again, contact the Motoman service staff.
4403			
4404 TASK#0 - TASK#5	ARITHMETIC ERROR [Decimal Data]  Detection:Motion M.blk[8].d02	The control error occurs in the path calculation process.	



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4405 TASK#0 - TASK#5	SELECT ERROR (PARAMETER) [Decimal Data]  Detection:MOTION M.blk[8].d04	The control abnormality occurs in the path calculation process. Data indicates the alarm factor. 1: Motion/System parameter selection error	Reset the alarm then try again. Turn the power supply off then back on. If the error occurs again, contact the Motoman service staff.
4406 TASK#0 - TASK#5	GROUP AXIS CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[8].d05	The control error occurs in the path calculation process when executing the coordinated motion.	Reset the alarm then try again. Turn off the power supply and back on. If the error occurs again, contact the Motoman service staff.
4407 TASK#0 - TASK#5	TWO STEPS SAME POSITION(CIRC)  [No indication data]  Detection:MOTION M.blk[8].d06	Among three taught points, two points or more are same.	Reset the alarm, then teach the different 3 points again.
4008 TASK#0 - TASK#5	TWO STEPS SAME POSITION(SPLINE) [No indication data]  Detection:MOTION M.blk[8].d07	Among three taught points, two points or more are same.	Reset the alarm, then teach the different 3 points again.
4409 TASK#0 - TASK#5	TWO STEPS SAME POSITION(3 POINTS) [No indication data]  Detection:MOTION M.blk[8].d08	Among three taught points, two points or more are same. (User coordinates, robots calibration, etc.)	Reset the alarm, then teach the different 3 points again.
4410 TASK#0 - TASK#5	TWO STEPS SAME POSITION(WEAV) [No indication data]  Detection:MOTION M.blk[8].d09	The weaving base point is same as the wall point.	Reset the alarm, then teach the different 3 points again.
4411 TASK#0 - TASK#5	TEACH ERROR (SPLINE) [No indication data]  Detection:MOTION M.blk[8].d10	Distance between teaching points are not even.	Teach again to be an even distance between the teaching points.
4412 TASK#0 - TASK#5	IMPOSSIBLE LINEAR MOTION(LU) [No indication data]  Detection:MOTION M.blk[8].d12	The robot does not work when the L and U axes forms of the start point and end point are different at the interpolation excepted MOVJ.	Make the form of the L and U axes same and teach again.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4413 TASK#0 - TASK#5	IMPOSSIBLE LINEAR MOTION(SL) [No indication data]  Detection:MOTION M.blk[8].d13	The robot does not work when the S and L axes forms of the start point and end point are different at the interpolation excepted MOVJ.	Make the form of the S and L axes same and teach again.
4414 TASK#0 - TASK#5	EXCESSIVE SEGMENT (LOW SPEED) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d00	The motor speed exceeds rated value at a specified speed.	Reset the alarm, then reduce the speed of the step (Move instruction) where the alarm occurs or change the robot pose.
4415 TASK#0 - TASK#5	EXCESSIVE SEGMENT (HIGH SPEED) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d01	The motor speed exceeds rated value at a specified speed.	Reset the alarm, then reduce the speed of the step (Move instruction) where the alarm occurs or change the robot pose.
4416 TASK#0 - TASK#5	PULSE LIMIT(MIN.) [Axis Data]  Detection:MOTION M.blk[10].d02	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4417 TASK#0 - TASK#5	PULSE LIMIT(MAX.) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d03	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4418 TASK#0 - TASK#5	CUBE LIMIT(MIN.) Robot/Station [XYZ]  Detection:Motion M.blk[10].d04	The tool control point exceeds cube software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4419 TASK#0 - TASK#5	CUBE LIMIT(MAX.) Robot/Station [XYZ]  Detection:MOTION M.blk[10].d05	The tool control point exceeds cube software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4420 TASK#0 - TASK#5	SPECIAL SOFTLIMIT (MIN.) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d06	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4421 TASK#0 - TASK#5	SPECIAL SOFTLIMIT (MAX.) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d07	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4422 TASK#0 - TASK#5	MECHANICAL INTERFERENCE (MIN.) Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d08	An abnormal (reverse) axis interferes mutually.	Reset the alarm then teach again.
4423 TASK#0 - TASK#5	MECHANICAL INTERFERENCE (MAX.) Robot/Station [Axis/Data]  M.blk[10].d09	An abnormal (reverse) axis interferes mutually.	Reset the alarm then teach again.
4424 TASK#0 - TASK#5	SPECIAL MECHANICAL INTRF(MIN.) Robot/Station [Axis/Data]  M.blk[10].d10	An abnormal (reverse) axis interferes mutually.	Reset the alarm then teach again.
4425 TASK#0 - TASK#5	SPECIAL MECHANICAL INTRF(MAX.) Robot/Station [Axis/Data]  M.blk[10].d11	An abnormal (reverse) axis interferes mutually.	Reset the alarm then teach again.
4426 TASK#0 - TASK#5	PULSE MECHANICAL LIMIT(MIN.) Robot/Station [Axis Data]  M.blk[10].d12	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4427 TASK#0 - TASK#5	PULSE MECHANICAL LIMIT(MAX.) Robot/Station [Axis Data]  M.blk[10].d13	The robot pulse data exceeds pulse software limit.	Reset the alarm according to the release method when software limit range is exceeded, and teach again.
4428 TASK#0 - TASK#5	SEGMENT CONTROL ERROR  [Decimal Data]  Detection:MOTION M.blk[0].d16	The error occurred in the data and the timing of the processing part which controls the calculation part.	Reset the alarm then try again. Turn off the power supply then back on. If the error occurs again, contact the Motoman service staff.
4429 TASK#0 - TASK#5	WRONG SPECIFIED CONTROL GROUP [Decimal Data]  Detection:MOTION M.blk[0].d18	A error occurs in robot information used in the calculation control and job interpretation.	Reset the alarm then try again. Turn off the power supply then back on. If the error occurs again, contact the Motoman service staff.
4430 TASK#0 - TASK#5	CPU COMMUNICATION ERROR [Decimal Data]  Detection:MOTION M.blk[0].d19	The circuit board has not been prepared when the XCP01 circuit board interrupts each circuit boards, or no response. Data stands for the pertinent circuit board. 1: XCP01 circuit board 2: SL#1 3: SL#2 6: CV#1 7: CV#2 8: PS#1 9: PS#2	Reset the alarm then try again. Turn the power supply off then back on. If the error occurs again, contact the Motoman service staff.
4431 TASK#0 - TASK#5	JHM ERROR [Decimal Data]  Detection:MOTION M.blk[2].d03	The abnormal data in the control process of the job.	Reset the alarm then try again. Turn the power supply off then back on. If the error occurs again, contact the Motoman service staff.
4432 TASK#0 - TASK#5	INSTRUCTION INTERPRETER ERROR [Decimal Data] Detection:MOTION M.blk[3].d00	The error occurs in the job interpretation execution processing part.	Reset the alarm then try again. If the error occurs, execute the following procedure. ①Delete the instruction where the alarm occurs, then register it again. ②Delete the job where the alarm occurs, then register it again. If the error occurs again is contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4433 TASK#0 - TASK#5	UNDEFINED GLOBAL VARIABLE [Decimal Data]  Detection:MOTION M.blk[3].d04	Global variable area setting value abnormality (S1D parameter)	Contact the Motoman service staff.
4434 TASK#0 - TASK#5	VAR-SCOREBOARD CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[3].d02	The error occurs at the variable score board controlling.	Reset the alarm then try again. If the error occurs, execute the following procedure. ①Delete the instruction where the alarm occurs, then register it again. ②Delete the job where the alarm occurs, then register it again. If the error occurs again, contact the Motoman service staff.
4435 TASK#0 - TASK#5	UNDEFINED LOCAL VARIABLE [Bit Pattern]  Detection:MOTION M.blk[3].d03	Undefined local variable	Set the local variable used for the sub header of the job.
4436 TASK#0 - TASK#5	LESS THAN 3 STEPS(CIRCULAR) [Decimal Data]  Detection:MOTION M.blk[3].d16	The steps of the circular are less than 3 continuously.	Reset the alarm, then teach the steps for the circular which are more than 3 continuously.
4437 TASK#0 - TASK#5	LESS THAN 3 STEPS (SPLINE) [No indication data]  Detection:Motion M.blk[3].d17	The steps of the circular are less than 3 continuously.	Reset the alarm, then teach the steps for the circular which are more than 3 continuously.
4438 TASK#0 - TASK#5	UNDEFINED JOB [Decimal Data]  Detection:MOTION M.blk[3].d18	None registered job	Reset the alarm, then register the job again. Or delete the CALL, JUMP instructions where the alarm occurs.
4439 TASK#0 - TASK#5	UNDEFINED LVEL [Decimal Data]  Detection:MOTION M.blk[3].d19	There is no labels in the executed job.	Reset the alarm, then register the job again. Or delete the CALL, JUMP instructions where the alarm occurs.
4440 TASK#0 - TASK#5	UNDEFINED RETURN JOB [Decimal Data]  Detection:MOTION M.blk[3].d20	There is no call origin in the job call stack.	Reset the alarm then execute the master (starting) job. Or delete the RET instruction.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4441 TASK#0 - TASK#5	LACK OF LOCAL VARIABLE AREA [Decimal Data]  Detection:MOTION M.blk[3].d21	The local variable is used excessively in the job.	Reset the alarm then reduce the used number of the local variable.
4442 TASK#0 - TASK#5	LOCAL-VARIABLE CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[3].d22 <X3.50>Deleated	The error occurs in the control process of the local variable at the job executing.	Reset the alarm then try again. If the error occurs, execute the following procedure. ①Delete the instruction where the alarm occurs, then register it again. ②Delete the job where the alarm occurs, then register it again. If the error occurs again, contact the Motoman service staff.
4443 TASK#0 - TASK#5	JOB CALL STACK ERROR [Decimal Data]  Detection:MOTION M.blk[3].d23 <X3.50>Deleated	The error occurs at the internal control data of the job CALL,RET,END instructions when the job call stack is operated.	Reset the alarm then select the job again. If the error occurs again, contact the Motoman service staff.
4444 TASK#0 - TASK#5	UNSUCCESSFUL FINE POSITIONING [Binary Data]  Detection:MOTION M.blk[0].d25	The servo error is left in time when the PL=0 is executed or the external servo is turned off because of the excessive external force, the servopack abnormality, the motor abnormality.	Reset the alarm. If an external force affects the robot, move the robot to avoid being pressed from it through axes operation etc. Then start again. If the error occur again without cause of the external force, remove and insert the XCP01 circuit board. If the error occurs again, contact the Motoman service staff.
4445 TASK#0 - TASK#5	DATA PRESET ERROR [Decimal Data]  Detection:MOTION M.blk[2].d04		Reset the alarm then select the job again. If the error occurs again, contact the Motoman service staff.
4446 TASK#0 - TASK#5	OVER VARIABLE LIMIT [Decimal Data]  Detection:MOTION M.blk[3].d24	The variable number exceeds the limitation variable number of the destination storage.	Set the value (number) of the variable number at the storage destination large to avoid exceeding the number value limitation. Or remake the job to avoid exceeding.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4447 TASK#0 - TASK#5	DEFECTIVE TAUGHT POINT(CIRC) [No indication data]  Detection:MOTION M.blk[8].d16	The lines which link 3 points of the circular is a straight line.	Reset the alarm then teach it again.
4448 TASK#0 - TASK#5	WEAVING CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[8].d17	The control error occurs in the path calculation software of the XCP01 circuit board when the weaving operation control is executed.	
4449 TASK#0 - TASK#5	UNMATCHED POSNVAR DATA TYPE [Bit Pattern]  Detection:MOTION M.blk[3].d29	Data storage type of the destination (Pulse/XYZ) is different from the current data type.	Set the both types of the data (Pulse/XYZ) same.
4450 TASK#0 - TASK#5	FILE NO. ERROR [Decimal Data]  Detection:MOTION M.blk[3].d30	The error occurs in the check of the file number. Data stands for the alarm factor. 1: Tool file 2: User coordinate file 3: Calibration file between robots 4: Tool calibration file 5: Reference point number 6: Weaving file number 7: Welding condition starting file number 8: Welding condition ending file number 9: Conveyer characteristic file number 10: Press characteristic file number 11: Gun characteristic file number 12: Conveyer calibration file 13: Argument number 14: Servo gun characteristic file	Reset the alarm then select the job again, then back on. If the error occurs again, contact the Motoman service staff.
4451 TASK#0 - TASK#5	UNDEFINED REFERENCE [Bit Pattern]  Detection:MOTION M.blk[4].d00	None registered reference point, or shortage of reference point.	Register the reference point.
4452 TASK#0 - TASK#5	STACK MORE THAN 8 (JOB CALL) [Decimal Data]  Detection:MOTION M.blk[3].d31	Stack over for the job call	Reset the alarm, then remake the job to reduce the nesting of the job call (CALL instruction).

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4453 TASK#0 - TASK#5	OVER VARIABLE NO. [Bit Pattern]  Detection:MOTION M.blk[3].d06	Exceeding the limitation of the variable number	Remake the job with the available variable number.
4454 TASK#0 - TASK#5	UNDEFINED WELDER CONDITION FILE  [Decimal Data]  Detection:MOTION M.blk[4].d02	Unset arc welding characteristic file	Set the arc welding characteristic file completely.
4455 TASK#0 - TASK#5	UNDEFINED ARC START COND FILE  [Decimal Data]  Detection:MOTION M.blk[4].d04	Unset welding starting condition file	Set the welding starting condition file completely.
4456 TASK#0 - TASK#5	UNDEFINED ARC END COND FILE [Decimal Data]  Detection:MOTION M.blk[4].d05	Unset welding ending condition file	Set the welding ending condition file completely.
4457 TASK#0 - TASK#5	WRONG WELDER SELECTION [Decimal Data]  Detection:MOTION M.blk[4].d06	Unit of instruction of welding voltage and the types of welding power supply (Individual and unitary) are not matched.	Correct unit of instruction of the welding voltage.
4458 TASK#0 - TASK#5	EQUATION EXCEPTION ERROR [Decimal Data]  Detection:MOTION M.blk[3].d08 <X3.00>Deleted	A clause of an expression (equation) which cannot be executed exists when the expression of the SET instruction is executed.	Reset the alarm then try again. If the error occurs, execute the following procedure. ①Delete the instruction where the alarm occurs, then register it again. ②Delete the job where the alarm occurs, then register it again. If the error occurs again, contact the Motoman service staff.
4459 TASK#0 - TASK#5	EXCESSIVE INSTRUCTION EQUATION [Decimal Data]  Detection:MOTION M.blk[3].d09	An equation is too long.	Divide up the equation to reduce its length.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4460 TASK#0 - TASK#5	ZERO DIVIDED OCCURRENCE [Decimal Data]  Detection:MOTION M.blk[3].d10	A division by zero	Set not to divide by zero.
4461 TASK#0 - TASK#5	UNDEFINED AUTO WELD RELEASE COND [Decimal Data]  Detection:MOTION M.blk[4].d07	Number of automatic sticking release condition is set to zero in the arc auxiliary file.	Set the number of automatic sticking release attempts and repeat the operation.
4462 TASK#0 - TASK#5	UNDEFINED POSITION FOR ARC RETRY [Decimal Data]  Detection:MOTION M.blk[4].d08	Arc retry is set but no move instruction exists after ARCON.	Set a move instruction after ARCON
4463 TASK#0 - TASK#5	PARITY ERROR [No indication data]  Detection:MOTION M.blk[4].d09	General I/O group parity error	Check the general I/O group.
4464 TASK#0 - TASK#5	OVER BCD RANGE [No indication data]  Detection:MOTION M.blk[4].d10	Value which exceeds the maximum BCD value limit of 99 (decimal) for output without parity or 79 (decimal) with parity is specified for output. Data which cannot be represented as BCD (most-or least-significant 4 bits are 9 or above) to a variable is specified for input.	Reset the data in the permitted range. Review the data specification (Binary/BCD) and the parity check specification.
4465 TASK#0 - TASK#5	OVER BINARY RANGE (PARITY CHECK) [No indication data]  Detection:MOTION M.blk[4].d11	Value exceeding 127 (decimal) is specified for output though the parity check is designated.	Reset the data in the permitted range. Review parity check.
4466 TASK#0 - TASK#5	OFFLINE UNDEFINED COMMAND(ARITH) [Decimal Data]  Detection:MOTION M.blk[9].d00	Undefined instruction is required for the off-line path calculation software.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4467 TASK#0 - TASK#5	USER COORDINATES GENERATION STEP SHORTAGE [Decimal Data]  Detection:MOTION M.blk[6].d08		
4468 TASK#0 - TASK#5	ROBOT CALIBRATION DATA ERROR [Decimal Data]  Detection:MOTION M.blk[9].d29	The error occurs in the process of generating robot calibration data.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4469 TASK#0 - TASK#5	ROBOT CALIBRATION FRAME ERROR [Decimal Data]  Detection:MOTION M.blk[9].d30	The error occurs in the process of generating robot calibration data.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4470 TASK#0 - TASK#5	ROBOT CALIBRATION STEP SHORTAGE [Decimal Data]  Detection:MOTION M.blk[6].d09		
4471 TASK#0 - TASK#5	CALIBRATION DATA ERROR [Decimal Data]  Detection:MOTION M.blk[9].d27	The error occurs in the process of generating calibration data.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4472 TASK#0 - TASK#5	TOOL CALIBRATION DATA ERROR [Decimal Data]  Detection:MOTION M.blk[9].d28	The error occurs in the process of generating tool calibration data. 1: Unable calibration	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4473 TASK#0 - TASK#5	ARITHMETIC ALARM RESET ERROR [Decimal Data]  Detection:MOTION M.blk[0].d13	System data is unmatch in the reset process after the alarm occurred in the calculation section.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4474 TASK#0 - TASK#5	WRONG CONTROL GROUP AXIS [Bit Pattern]  Detection:MOTION M.blk[1].d05	An instruction such as a job call (CALL) or job jump (JUMP) is used for a call or jump to a job in a group outside the currently used job control group.	Program to include the call source job control group in the control group used by the current call destination job. Use the PSTART instruction during using the independent control function.
4475 TASK#0 - TASK#5	CANNOT EXECUTE JOB(NO ROBOT) [Decimal Data]  Detection:MOTION M.blk[1].d06	The robot is not in the prescribed job control group when the instructions such as ARCON/WVON are executed.	Add a robot to the job control group.
4476 TASK#0 - TASK#5	CANNOT EDIT(EDIT LOCKJOB) [Decimal Data]  Detection:MOTION M.blk[2].d05	Overwrite is executed for an edit lock job. 1: An unable changing of the speed tag data	Release the edit lock.
4477 TASK#0 - TASK#5	SELECT ERROR (APPLICATION) [Decimal Data]  Detection:MOTION M.blk[4].d14 <X1.20>	The application selection parameter (Yaskawa parameter) and the application parameter (AP) is unmatched. Data stands for the application number. 1: Application 1 2: Application 2 3: Application 3	Contact the Motoman service staff.
4480 TASK#0 - TASK#5	SELECT ERROR (SENSOR) [Decimal Data]  Detection:MOTION M.blk[4].d14	The sensor application selection parameter (Yaskawa parameter) and the sensor parameter (SE) is unmatched. 1:Sensor 1 2:Sensor 2 3:Sensor 3 4:Sensor 4	Contact the Motoman service staff.
4481			
4482			
4483			
4484 TASK#0 - TASK#5	WRONG PORT NO. (ANALOG OUTPUT) [Decimal Data]  Detection:MOTION M.blk[4].d17	The parameter (AxP010) which indicates the head of the analog port used for the arc and the sealing application is improper. Data stands for the application number. 1: Application 1 2: Application 2 3: Application 3	Set the value of the parameter correctly.
4485 TASK#0 - TASK#5	WRONG SELECTION (SENSOR) [Decimal Data]  Detection:MOTION M.blk[4].d18	The robot designation (System parameter) uses sensor application and the robot designation (System parameter) uses application is unmatched when executing sensor instruction.	Contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4486 TASK#0 - TASK#5	PASS OVER [Decimal Data]  Detection:MOTION M.blk[4].d19	The path goes outside the designated pass-over monitoring area.	Remove the cause of the pass-over. Set the pass-over radius within the permitted range.
4487 TASK#0 - TASK#5	WRONG MECH PARAMETER FILE [Decimal Data]  Detection:MOTION M.blk[8].d03	Path calculation process section control error	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4488 TASK#0 - TASK#5	INCOMPLETE PT FRAME [Decimal Data]  Detection:MOTION M.blk[8].d11	Path calculation process section control error	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4489 TASK#0 - TASK#5	DEFECTIVE TAUGHT POINT(CUTTING) [Decimal Data]  Detection:MOTION M.blk[8].d14	The cutting motion can not be executed. Data stands for the alarm factor. 1: CW axis CUT pulse error CW axis CUT position on cutting start is not zero (0) pulse. 2: Cutting (Edge) radius 0 Cutting (Edge) radius is zero (0). If not: Software control error 3: None small circle cutting axis 4: Hexagon operation prohibited	1: Set the C, W axis position of cutting start position to zero (0). 2: Set the radius to zero (0) or more. 3,4: Contact the Motoman service staff.
4490 TASK#0 TASK#5	DEFECTIVE TAUGHT POINT(ENDLESS) [Decimal Data]  Detection:MOTION M.blk[8].d15	Impossible to execute endless motion Data stands for the alarm factor. 1: Endless interpolation motion impossibility Linear motion impossibility This error occurs as follows. During playback or programming pendant operation, though continuous rotation is completed, MREST instruction is not executed but linear interpolation is executed. 2: The endless axis is unable to turn around. Endless motion is specified on the base axis. 3: Endless axis is not specified. Endless axis is not specified on the T axis. 4: Endless axis allowance pulse over Instruction position of the cursor step exceeds 2,147,483,647 pulse.	1: Reset the alarm and execute the MRESET operation if this alarm comes out when operating the programming pendant. Set the MRSET instruction before executing the MOVL, MOVC instruction if this alarm occurs during playback. 2,3: Check the setting of the internal parameter. 4: Check the teaching position again. Set C, W axis position of cutting start position to zero (0).

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4491 TASK#0 - TASK#5	CORRECTIONAL DIRECTION ERROR [Decimal Data]  Detection:MOTION M.blk[8].d18	The error occurs in the process of generating a correction direction for path calculation during correcting motion. Data stands for the alarm factor. 4: Reference point is same point. 1,2,3,5: Software control error 1: Correction direction generation control group specification error 2: Correction direction coordinates specification error 3: Correction direction generation control reference point error 5: Coordinated control specification error at the wall point	4: Teach the reference point again.  If the error occurs again, contact the Motoman service staff.
4492 TASK#0 - TASK#5	POSITION CORRECTION ERROR [Decimal Data]  Detection:MOTION M.blk[8].d19	The error occurs in the process of generating a correction volume for path calculation during correcting motion.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4493 TASK#0 - TASK#5	OVER TOOL FILE NO. [Decimal Data]  Detection:MOTION M.blk[8].d20	The number of the internal tool file is set as 25 or more.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4494 TASK#0 - TASK#5	DEFECTIVE TAUGHT POINT(WEAV) [Decimal Data]  Detection:MOTION M.blk[8].d21	1: Weaving starting and ending at same point The weaving starting point and the weaving ending point are at the same position, or the weaving starting point and the reference point are at the same point when the hover weaving is not specified. The weaving starting point and the reference point are at the same point when the hover weaving is specified. 2: Weaving target point maternal relative error	Check the position of starting, ending and references, then teach again correctly.
4495 TASK#0 - TASK#5	UNDEFINED ROBOT CALIBRATION [Bit Pattern]  Detection:MOTION M.blk[8].d22	The robot calibration is not completed when the coordinated motion is executed.	Execute the robot calibration.
4496 TASK#0 - TASK#5	PARAMETER ERROR [Decimal Data]  Detection:MOTION M.blk[9].d25	Parameter settings caused division by zero.	Contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4497 TASK#0 - TASK#5	DEFECTIVE TAUGHT POINT(CALIB) [Decimal Data]  Detection:MOTION M.blk[9].d26	Defective teaching points Data stands for the alarm factor. 1: Standard group teaching point error 2: Other party group teaching point error 3: The position of the second axis at the calibration with the station are unmatched. (C3-C5) 4: The position of the first axis at the calibration with the station are unmatched.(C1-C3) 5: The position of the second axis at the calibration with the station are matched.(C1-C3) 6: The turning directions of the first axis at the calibration with the station are unmatched. (C3-C5)	Teach them again.
4498 TASK#0 - TASK#5	CANNOT EXECUTE JOB(NO GRP AXIS) [Decimal Data]  Detection:MOTION M.blk[1].d21	The instruction which cannot be executed in the job without control group is used.	Re-register the instruction in the job with control group.
4499 TASK#0 - TASK#5	UNDEFINED POSITION VARIABLE [Decimal Data]  Detection:MOTION M.blk[3].d11 <X3.10>	Unset position data is used.	Set the position data.
4500 TASK#0 - TASK#5	UNDEFINED USER FRAME [Decimal Data]  Detection:MOTION M.blk[3].d12	Unset user coordinates is used.	Set the user coordinates.
4501 TASK#0 - TASK#5	OUT OF RANGE (PARALLEL PROCESS [Decimal Data]  Detection:MOTION M.blk[0].d31	The error occurs in the process of the task control of the independent control function.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4502 TASK#0 - TASK#5	SL BOARD ON-LINE ERROR  Detection:MOTION M.blk[1].d26	The XCP01 circuit board detects that the XCP02 circuit board does not work properly when the power supply is turned on.	Re-insert the XCP02 circuit board. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4503 TASK#0 - TASK#5	CONTROL GROUP JOB EXECUTION IMPOSSIBILITY [No indication data]  Detection:MOTION M.blk[1].d27	The error occurs in the process of the job control.	Contact the Motoman service staff.
4504 TASK#0 - TASK#5	MEASURE INST EXECUTE ERROR [Decimal Data]  Detection:MOTION M.blk[4].d19  <X3.50>Deleated	The error occurs when the measurement instruction is executed. Data stands for the alarm factor. 1: Task (affiliate) abnormality 2: MEASON instruction 3: MEASOF instruction	Re-insert the XCP02 circuit board. If the error occurs again, contact the Motoman service staff.
4505 TASK#0 - TASK#5	UNDEFINED POSITION FOR ARC ON [Decimal Data]  Detection:MOTION M.blk[4].d21	It is not possible to retry because there is no step before the ARCON instruction when the arc retry is executed.	Register the step before executing the ARCON instruction.
4506 TASK#0 - TASK#5	UNDEFINED POS FOR RESTART RETURN [Decimal Data]  Detection:MOTION M.blk[4].d22	No restart-return step exists in the job when the restart is specified. (E.g. A retry request is received during 1-step execution of CALL destination job.)	Reset the alarm the re-make the job.
4507 TASK#0 - TASK#5	REFP POS ERROR (SEARCH MOTION) [No indication data]  Detection:MOTION M.blk[8].d23	The distance between the search start point and the aimed point is too short to determine the search direction.	Reset the alarm, then extend the distance between the search start point and the aimed point.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4508 TASK#0 - TASK#5	PECIFIED ERROR (COORDINATENATE ) [Decimal Data]  Detection:MOTION M.blk[8].d24	Coordinates specification error Data stands for the alarm factor. 0: No pertinent coordinates 1: Master tool coordinates specification error 2: Tool coordinate specification error 3: Progress direction (for shared function) specification error 4: Optional direction (for shared function) specification error 5: Approximated tool coordinates (for shared function) specification error 6: Conveyer coordinates specification error 7: Weaving coordinates specification error 8: COMARC coordinates specification error 9: Force sensor coordinates specification error 10: Cylindrical coordinates specification error 11: External reference coordinates specification error	Reset the alarm then change the coordinates.
4509  TASK#0 - TASK#5	MFRAME ERROR [Decimal Data]  Detection:MOTION M.blk[4].d23	The user coordinates is not generated.	Register the position file (variable).
4510 TASK#0 - TASK#5	CANNOT EXECUTE INSTRUCTION(SQRT ) [Decimal Data]  Detection:MOTION M.blk[4].d24	The root of a negative number is calculated. (Second argument is a negative).	Check the job again.
4511 TASK#0 - TASK#5	OUT OF RANGE (DROP-VALUE) [Control Group]  Detection:MOTION M.blk[1].d28	When turning on the servo power, the pulse difference of the robot position at between last servo off and this servo on exceeds the permitted range. (Permitted pulse is normally 100 pulses.).	Reset the alarm then try again.
4512  TASK#0 - TASK#5	TWO STEPS SAME LINE(3 STEPS) [No indication data]  Detection:MOTION M.blk[8].d25	The three points for generating the user coordinates or three or more points for the robot calibration gather into on the same line.	Re-teach them to lie separately into on the different lines.
4513  TASK#0 - TASK#5	EXCESSIVE SEGMENT (SAFETY1):LOW Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d24	The specified speed exceeds the safe speed.	Reset the alarm then reduce the speed of the step (move instruction) where the alarm occurs or changes the robot posture.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4514 TASK#0 - TASK#5	EXCESSIVE SEGMENT (SAFETY1):HIGH Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d25	The specified speed exceeds the safe speed.	Reset the alarm then reduce the speed of the step (move instruction) where the alarm occurs or changes the robot posture.
4515 TASK#0 - TASK#5	EXCESSIVE SEGMENT (SAFETY2):LOW Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d26	The specified speed exceeds the safe speed.	Reset the alarm then reduce the speed of the step (move instruction) where the alarm occurs or changes the robot posture.
4516 TASK#0 - TASK#5	EXCESSIVE SEGMENT (SAFETY2):HIGH Robot/Station [Axis Data]  Detection:MOTION M.blk[10].d27	The specified speed exceeds the safe speed.	Reset the alarm then reduce the speed of the step (move instruction) where the alarm occurs or changes the robot posture.
4517 TASK#0 - TASK#5	SEARCH MONITOR SET ERROR(SERVO) [Decimal Data]  Detection:MOTION M.blk[1].d30	The error occurs in the interface with the servo at the feedback latch mode.	Check the system version of the XCP01 circuit board and the WRCA circuit board.
4518 TASK#0 - TASK#5	SEARCH MON RELEASE ERROR [Decimal Data]  Detection:MOTION M.blk[1].d31	The error occurs in the interface with the servo at the feedback dutch mode.	Check the system version of the XCP01 circuit board and the WRCA circuit board.
4519 TASK#0 - TASK#5	SPHERE INTRF ERR (ROBOT) [Decimal Data]  Detection:MOTION M.blk[8].d26	Data stands for the alarm factor. 1: Robot calibration is not executed.	Execute the robot calibration.
4520 TASK#0 - TASK#5	AXIS BLOCKING [Control Group] Detection:MOTION M.blk[18].d05	The motion is instructed at the group axis that the axis block is applied at play mode.	Reset the alarm then try again. After resetting, set the generation input signal ON.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4521  TASK#0 - TASK#5	WRONG JOB TYPE [Bit Pattern]  Detection:MOTION M.blk[18].d06	Data stands for the alarm factor. 0000_0001: The robot job is stated from the concurrent job by CALL or the JUMP instruction. 0000_1001: The concurrent job is started from the robot job by CALL or the JUMP instruction.	Check the starting job.
4522  TASK#0 - TASK#5	TAG DATA CHANGE PROCESS ERROR [Decimal Data]  Detection:MOTION M.blk[2].d07	The error occurs at the welding condition change (Job/File).	Correct Job/File.
4523	<X1.60>Deleted		
4524  TASK#0 - TASK#5	CANNOT EXECUTE INST(CONCUR JOB) [No indication data]  Detection:MOTION M.blk[2].d09	A concurrent job contains an instruction (MOV, etc.) which can not be executed in a concurrent job.	Correct the job.
4525  TASK#0 - TASK#5	SPECIFIED JOB EXECUTION IMPOSSIBILITY [No indication data]  Detection:MOTION M.blk[2].d10	The error occurs in the job control processing part.	Contact the Motoman service staff.
4526  TASK#0 - TASK#5	SYNTAX ERROR IN EQUATION INST [Decimal Data]  Detection:MOTION M.blk[3].d24 <X3.00>Deleted	Internal data of equation instruction (intermediate code) abnormality	Contact the Motoman service staff.
4527  TASK#0 - TASK#5	UNDEFINED PORT NO.(AOUT) [Decimal Data]  Detection:MOTION M.blk[4].d25	Designation of the port number is abnormal.	Contact the Motoman service staff.
4528  TASK#0 - TASK#5	SYNTAX ERROR [Decimal Data]  Detection:MOTION M.blk[3].d26	Internal data abnormality in instruction	Contact the Motoman service staff. (Execute following the procedure according to the system software changing. Delete the pertinent instruction once, then register it again.)

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4529 TASK#0 - TASK#5	TWIN COORDINATED ERROR [Decimal Data]  Detection:MOTION M.blk[18].d07	Data stands for the alarm factor. 1: No valid control group The job which has been executed by the SYNC does not have the robot axis. (a job which has only the station axis, and concurrent job etc.) 2: No master control group The job which has been executed by the SYNC does not have the robot axis. 3: No slave control group 4: No other party step end at the complete synchronization 5: None other party segment data at the completed synchronization	Set the R®+S® job to the job executed by the SYNC.
4530 TASK#0 - TASK#5	CONVEYER SYNCHRONIZING ERROR [Decimal Data]  Detection:MOTION M.blk[4].d26	Data stands for the alarm factor. 1: The base axis in the conveyer characteristic file is specified to the value excepted for 0, 1, and 2. 2: The job which follow up the robot axis does not have the robot axis. 3: The job which follow up the base axis does not have the base axis. 4: CV selection <-> CVF# number unmatch 5: No conveyer starting point data at pre-reading 6: Conveyer position latch error at pre-reading 7: No synchronization starting signal input 8: Conveyer position reset prohibited 9: Conveyer correction amount read error	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4531 TASK#0 - TASK#5	CONVEYER CHARACTERISTIC FILE UNSET [Decimal Data]  Detection:MOTION M.blk[4].d27	“Use state” of the conveyer characteristic file set up by the job is not specified to “1:Use”.	Set “Use state” to “1:Use” at the conveyer characteristic file set by the job.
4532 TASK#0 - TASK#5	CONVEYER SPEED DOWN [Decimal Data]  Detection:MOTION M.blk[18].d08	The conveyer speed drops into under “Conveyer Lowest Speed” in the conveyer characteristic file when “Mode When Conveyer Decreases” of the conveyer characteristic file is selected as “1:Mode When the Alarm Occurs”.	Check the speed specified at “Conveyer Lowest Speed” of the conveyer characteristic file.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4533 TASK#0 - TASK#5	CONVEYER SYNCHRONIZATION CALCULATION ERROR [Decimal Data]  Detection:MOTION M.blk[8].d27	Data stands for the alarm factor. 1: Conveyor synchronization control group specification error 2: Conveyor synchronization user coordinate specification error 3: Conveyor synchronization cooperation slave error	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4534 TASK#0 - TASK#5	TORQUE INTERFERENCE [No indication data]  Detection:MOTION M.blk[8].d28	There is an axis (robot axis or external axis) that exceeds the tolerance of the load torque during operating at specified speed.	Reset the alarm, then reduce speed (move instruction speed) of the step where the alarm occurs, or change the pose of the robot. Check whether the information of the tool mass is set correctly.
4535 TASK#0 - TASK#5	PSEND ERROR [Decimal Data]  Detection:MOTION M.blk[4].d28	Data stands for the alarm factor. 1: PRECV is instructed to its own task. 2: Mail data type unmatched 3: Mail box number error	Check the destination.
4536 TASK#0 - TASK#5	PRECV ERROR [Decimal Data]  Detection:MOTION M.blk[4].d29	Data stands for the alarm factor. 1: PRECV is likely to be instructed by itself to its task. 2: Unmatched mail data type 3: Mail box number error	Check the destination.
4537 TASK#0 - TASK#5	OFFLINE MAIL BOX PROCESSING ERROR [Decimal Data]  Detection:MOTION M.blk[18].d09		Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4538 TASK#0 - TASK#5	ROBOT AXIS TRACKING IMPOSSIBILITY [Decimal Data]  Detection:MOTION M.blk[4].d31	SYMOVJ is executed for following up the robot. SYMOVJ is only able to use for the base axis follow-up.	Check the job.
4539 TASK#0 - TASK#5	CORNER R CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[8].d29		Do not use the corner R in the coordinated motion. Teach it again. Adjust the set value of the corner R operation specification.
4540 TASK#0 - TASK#5	JOB QUE EMPTY ERROR [No indication data]  Detection:MOTION M.blk[5].d00	Though all job cue are not in use, "QUE" is called by the CALL instruction, or the JUMP instruction.	Set the data in job cue then call "QUE".

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4541 TASK#0 - TASK#5	UNDEFINED PAINT CHARACTERISTIC FILE  [No indication data] Detection:MOTION M.blk[5].d01	"SET" in the painting characteristic file specified by the job has not been "Completed".	Select "Completed" at "SET" at the painting characteristic file specified by the job.
4542 TASK#0 - TASK#5	MRESET ERROR [Decimal Data]  Detection:MOTION M.blk[18].d11	The MRESET instruction is executed though the endless axis is not specified. Data stands for the alarm factor. 1: Endless axis specification error.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4543 TASK#0 - TASK#5	JOB CALL STACK ERROR [Decimal Data]  Detection:MOTION M.blk[5].d02	Internal data error at the job return 1: PUSH is executed at the stack full. 2: POP is executed to the empty stack.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4544 TASK#0 - TASK#5	MULTI LAYER JOB ATTRIBUTE UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d03	Incorrect job attribute (reverse attribute) The cause is as following: The sampling reverse job specified by the MLTSMPL instruction is not the reverse attribute. First layer job specified by the MLTSMPL instruction or sampling forward job is reverse attribute. The attribute of the sampling job specified by the MLTSCAL is different from the attribute of the Nth job. (MLTSMPL, MLTSCAL)	Check the attribute of the job specified by the MLTSMPL. Check the sampling reverse job is generated. Correct the attribute of the job specified by the MLTSCAL.
4545 TASK#0 - TASK#5	MULTI LAYER JOB CONTROL GROUP UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d04	The control group between the specified jobs are not same. (MLTSMPL, MLTSCAL)	Select the job which matches with the control group.
4546 TASK#0 - TASK#5	MULTI LAYER JOB STEP NUMBER UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d05	The number of total steps is not equal between specified jobs. (MLTSMPL, MLTSCAL)	Match the number of the steps between jobs.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4547 TASK#0 - TASK#5	MULTI LAYER JOB REFERENCE POINT NUMBER UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d06	Unmatch number of the reference point between specified jobs (MLTSMPL, MLTSCAL)	Match the number of the reference point between the jobs.
4548 TASK#0 - TASK#5	MULTI LAYER JOB POSITION DATA COORDINATES UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d07	The sample job and the jobs after the second layer are pulse type. (MLTSMPL, MLTSCAL)	Create the sample job and the jobs after the second layer according to the instruction of "Multi Layer Function".
4549 TASK#0 - TASK#5	MULTI LAYER TEACHING TOOL UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d08	The tool file of the move instruction corresponded between specified jobs is unmatched.(MLTSMPL, MLTSCAL)	Match the tool file of the move instruction corresponded between jobs.
4550 TASK#0 - TASK#5	MULTI LAYER WELDING SECTION UNREGISTERED [Decimal Data]  Detection:MOTION M.blk[5].d09	The welding section as follow are not registered at the specified job. (SENSON COMARC - SENSO COMARC, SENSON SCOMARC - SENSO SCOMARC, ARCON - ARCOF) (MLTSMPL,MLTSCAL)	Register the welding section on the each job.
4551 TASK#0 - TASK#5	MULTI LAYER WELDING SECTION MOVE INSTRUCTION NUMBER UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d10	The number of the move instruction in the welding section between specified jobs is unmatched. (MLTSMPL, MLTSCAL)	Match the number of the move instruction in the welding section between jobs.
4552 TASK#0 - TASK#5	MULTI LAYER EXECUTION ERROR [Decimal Data]  Detection:MOTION M.blk[5].d11		Reset alarm then try again. If the error occurs again, contact the Motoman service staff.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4553 TASK#0 - TASK#5	MLTSMPL INSTRUCTION DUPLICATION EXECUTION IMPOSSIBLE [Decimal Data]  Detection:MOTION M.blk[5].d12	The MLTSMPL instruction is executed again while the MLTSMPL is executed. (MLTSMPL)	Check the contents of the job. Check if the MLTSMPL instruction is executed doubly by the problems such as the JUMP instruction makes the flow change, and so on.)
4554 TASK#0 - TASK#5	UNDEFINED MULTI LAYER CONDITION FILE [Decimal Data]  Detection:MOTION M.blk[5].d13	The setting of the multi-layer condition file is not completely. (MLTSSET, MLTWSET)	Set the multi-layer condition file completely.
4555 TASK#0 - TASK#5	UNDEFINED MULTI LAYER CONDITION FILE [Decimal Data]  Detection:MOTION M.blk[5].d14	The multi-layer condition file which is no used is specified. (MLTSSET, MLTWSET)	Check the specified multi-layer condition file.
4556 TASK#0 - TASK#5	MULTI LAYER WELDING SECTION NUMBER UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d15	The number of the welding section as follow is not equal in the specified job. (SENSON COMARC - SENSOFF COMARC, SENSON SCOMARC - SENSOFF SCOMARC, ARCON - ARCOF) (MLTSMPL, MLTSCAL)	Equate the number of the welding section between jobs.
4557 TASK#0 - TASK#5	MULTI LAYER WELDING START INSTRUCTION DUPLICATION EXECUTION IMPOSSIBILITY [Decimal Data]  Detection:MOTION M.blk[5].d16	There are SENSON instruction and ARCON instruction between the welding sections at the specified job. (MLTSMPL, MLTSCAL)	Register it with pairs as SENSON COMARC and SENSOFF COMARC, SENSON SCOMARC and SENSOFF SCOMARC, ARCON and ARCOF. Do not register SENSON and ARCON instructions in that sections. (MLTSMPL, MLTSCAL)
4558 TASK#0 - TASK#5	MULTI LAYER WELDING SECTION NUMBER OVER [Decimal Data]  Detection:MOTION M.blk[5].d17	The number of the welding section exceeds 10. (MLTSMPL, MLTSCAL)	Adjust the number of the welding sections in the job to 1-10.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4559 TASK#0 - TASK#5	MULTI LAYER MOVE INSTRUCTION UNMATCH [Decimal Data]  Detection:MOTION M.blk[5].d18	The type of the move instruction which corresponds between the jobs is not equal. (MLTSCAL)	Equate type of the move instruction which corresponds between the jobs.
4560 TASK#0 - TASK#5	SCALING SHIFT SAME POINT ERROR (MOVL3 POINTS) [No indication data]  Detection:MOTION M.blk[9].d20	Same three points of the MOVL instruction are registered in the scaling shift section. (MLTSCAL)	Same point must be two or less.
4561 TASK#0 - TASK#5	SCALING SHIFT SAME POINT ERROR (REFP) [No indication data]  Detection:MOTION M.blk[9].d21	The REFP instruction is registered with the same point in the scaling shift section. (MLTSCAL)	Re-teach the same points of the REFP.
4562 TASK#0 - TASK#5	SCALING SHIFT SAME POINT ERROR (Start point/End point) [No indication data]  Detection:MOTION M.blk[9].d22	The start point and the end point in the scaling shift sections are registered at the same point (MLTSCAL)	Teach the start point and the end point at the different point.
4563 TASK#0 - TASK#5	SCALING SHIFT ERROR [Decimal Data] [No indication data]  Detection:MOTION M.blk[9].d23		Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4564 TASK#0 - TASK#5	INTERNAL STATUS ERR (SEARCH HALT) [Decimal Data]  Detection:MOTION M.blk[18].d13	The process error occurs between the motion part and the servo part when execution of the start point detecting function (SRCH), the search function of the general sensor (ASRCH), and the force detecting function (TSRCH) are completed.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
4565 TASK#0 - TASK#5	SOFTWARE UNMATCH [Decimal Data]  Detection:MOTION M.blk[18].d15		Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4566 TASK#0 - TASK#5	USER COORDINATES GENERATION ERROR [Decimal Data]  Detection:MOTION M.blk[9].d19		
4567 TASK#0 - TASK#5	CANNOT MONITOR DISTANCE  Detection:MOTION M.blk[18].d20	MOVJ or MOVS are executed at the arc retry, or the arc restart.	Disable the arc retry, the arc restart, or change the instructions (interpolation) to the MOVL or MOVC.
4568 TASK#0 - TASK#5	UNDEFINED PRESS CHARACTERISTIC FILE  [Decimal Data]  Detection:MOTION M.blk[5].d21	"Unused State" is specified in the press characteristic file used in the job.	Set "Used State" in the press characteristic file.
4569 TASK#0 - TASK#5	PRESS RESOLUTION DATA UNSET [Decimal Data]  Detection:MOTION M.blk[5].d22	"Uncompleted" is specified in the press resolution data file used in the job.	Set "Completed" with inputting the data and pressing "Data Set".
4570 TASK#0 - TASK#5	SERVO FLOAT MODE SETTING ERROR  Detection:MOTION M.blk[18].d18	The float mode can not be specified at the FLOATON instruction execution.	Check the proper ROM version for the WRCA circuit board. It is necessary to replace the SL circuit board and investigate the problem if the error occurs again. Contact the Motoman service staff.
4571 TASK#0 - TASK#5	SERVO FLOAT MODE RELEASE ERROR [Decimal Data]  Detection:MOTION M.blk[18].d19	The float mode can not be canceled at the FLOATOF instruction execution time.	Check the proper ROM version for the WRCA circuit board. It is necessary to replace the SL circuit board and investigate the problem by Motoman if the error occurs again. Contact the Motoman service staff.
4572 TASK#0 - TASK#5	UNDEFINED MOTOR GUN CONTROL GRP [No indication data]  Detection:MOTION M.blk[5].d23 <X1.80>	The control group as motor gun is not specified.	Configure again on customer maintenance mode, set the motor gun axis correctly.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4573 TASK#0 - TASK#5	SPOT WELDER NUMBER ERROR [No indication data]  Detection:MOTION M.blk[5].d24	There is a mistake in the welder number specified in the gun characteristic file.	Set correct welder number.
4574 TASK#0 - TASK#5	SPOT WELD COMPLETE TIME LIMIT [No indication data]  Detection:MOTION M.blk[5].d25	Welding completion signal or welding error signal from the timer conductor is not turned ON even if the specified time is passed.	Solve the generated problems like unswitched timer conductor etc., then try again. Set the longer time if it takes a long time to get a response from the timer by the system configuration.
4575 TASK#0 - TASK#5	ERROR IN WELD START TIMING SET [No indication data]  Detection:MOTION M.blk[5].d26	When the second pressure is not specified at the servo gun, welding timing is specified to "After First Pressure".	Set the second pressure or, change the start timing.
4576 TASK#0 - TASK#5	ERR IN SERVO GUN CONT MODE [No indication data]  Detection:MOTION M.blk[18].d22	There are no response even if the servo gun command of control/release is indicated to the servo part by the motion part.	Check the proper ROM version for the WRCA circuit board. It is necessary to replace the SL circuit board and investigate the problem by Motoman if the error occurs again. Contact the Motoman service staff.
4577 TASK#0 - TASK#5	ERR IN SERVO GUN MODE RLSE [No indication data]  Detection:MOTION M.blk[18].d20	There are no response even if the servo gun command of control/release is indicated to the servo part by the motion part.	Check the proper ROM version for the WRCA circuit board. It is necessary to replace the SL circuit board and investigate the problem by Motoman if the error occurs again. Contact the Motoman service staff.
4578 TASK#0 - TASK#5	SPOT WELD ERROR [Decimal Data]  Detection:MOTION M.blk[5].d27	The welding abnormality occurs at the series timer conductor specified by the data. Decimal data: series number	Reset the timer conductor that the welding abnormality occurred, then try again.
4579 TASK#0 - TASK#5	ANTICIPATION CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[5].d28	The error occurs at the processing of the participation function. The alarm may occur when the work instructions are registered consecutively.	Register the move instruction between work instructions. PAINTON      PAINTON PAINTOF → MOVL PAINTOF MOVL
4580 TASK#0 - TASK#5	ANTICIPATION DISTANCE SHORTAGE [No indication data]  Detection:MOTION M.blk[18].d24	There is no return step at the re-painting function after the emergency stop. The error occurs at restart after the emergency stop is performed during the movement to the top step of the job called in the painting section.	Reset the alarm then try again Refer to the Painting System Additional Function Manual for details.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4581 TASK#0 - TASK#5	DEFECTIVE ANTICIPATION FILE [Decimal Data]  Detection:MOTION M.blk[5].d29	The value is not correctly set in the anticipation output file. The OT output and OG output are specified to “-”. 1: OT output number abnormality 2: OG output number abnormality	Reset the alarm, then reset the set value correctly.
4582 TASK#0 - TASK#5	MPCT FUNCTION NOT DESIGNATED [No indication data]  Detection:MOTION M.blk[5].d31	MPC tool function is used even if “Conveyer Cue Using Permission” is not specified in the conveyer characteristic file. <No function for the moment>	Set [1] (Permission) to “Conveyer Cue Using Permission” of the conveyer characteristic file first, then use the MPC tool function.
4583 TASK#0 - TASK#5	CANNOT EXECUTE GUN TYPE [No indication data]  Detection:MOTION M.blk[6].d00	The gun is specified to the operation mode which can not be controlled.	Change the operation mode suited to the gun.
4584 TASK#0 - TASK#5	STRWAIT TIME OUT [No indication data]  Detection:MOTION M.blk[6].d01	There is no input of the confirmation signal specified by the stroke switch confirmation instruction even if the specified time is passed.	Remove the cause of defaults and defective things of the LS etc., then try again. If the error occurs again, contact the Motoman service staff.
4585 TASK#0 - TASK#5	SERVO PART PG POWR ON ERROR [Decimal Data]  Detection:MOTION M.blk[18].d25	The power supply of the encoder is not able to be turned on when the control power supply is turned on.	Check the encoder cable connection of the servo gun.
4586 TASK#0 - TASK#5	SERVO PART PG POWR OFF ERROR [Decimal Data]  Detection:MOTION M.blk[18].d26	Not used.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4587 TASK#0 - TASK#5	MOTOR GUN CHANGE ERROR [Decimal Data]  Detection:MOTION M.blk[18].d27 <X1.80>	The error occurs when the gun change is executed. Data stands for the alarm factor. 1: The GUNCHG instruction is executed at the system configuration which is unable to use the function of the gun change. 2: The GUNCHG PICK instruction is executed when the motor of the servo gun is in the servo on state. 3: The GUNCHG PICK instruction is executed when the ATC is in the unchuck state. 4: The GUNCHG PLACE instruction is executed when the ATC is in the unchuck state. 5: The encoder power supply cannot be turned on when the GUNCHG PICK instruction is executed. 6: The encoder power supply cannot be turned off when the GUNCHG PICK instruction is executed. 7: The gun number specified by the GUNCHG instruction is different from the gun recognition signal.	1: Reset the state of connection of the gun (station axis) in the maintenance mode. 2: Execute the GUNCHG PICK instruction when the motor of the servo gun is in the servo off state. 3: Execute the GUNCHG PICK instruction when the ATC is in the chuck state. 4: Execute the GUNCHG PLACE instruction when the ATC is in the chuck state. 5: Check the encoder cable connection of the servo gun. 6: Check the encoder cable connection of the servo gun. 7: Check the number of the gun characteristic file of the GUNCHG instruction. Check the state of the gun recognition signal.
4588 TASK#0 - TASK#5	COMPENSATION DIRECTION UNSETTING [No indication data]  Detection:MOTION M.blk[6].d04 <X3.10>Deleted	The function such as “Contact Teaching” and “Wear Correction” is used when the direction of the fixed chip correction of the gun characteristic file is not 1 and 2.	Set the direction of fixed chip correction to fit with the gun. If the error occurs again, contact the Motoman service staff.
4589 TASK#0 - TASK#5	ABRASION BASIS POS UNSETTING [Decimal Data]  Detection:MOTION M.blk[6].d03 <X3.10>Deleted	Various standard positions are not registered when the wear correction function is used with the servo gun. 1: Standard A 2: Standard B 3: Standard C	Resister necessary standard position.
4590 TASK#0 - TASK#5	NO SERVO HAND CONTROL GROUP [No indication data]  Detection:MOTION M.blk[6].d05	Not used	
4591 TASK#0 - TASK#5	SERVO PART SPEED CONTROL MODE SETTING ERROR  [No indication data]  Detection:MOTION M.blk[18].d28		

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4592 TASK#0 - TASK#5	SERVO PART SPEED CONTROL MODE RELEASE ERROR [No indication data]  Detection:MOTION M.blk[18].d29		
4593 TASK#0 - TASK#5	SERVO HAND CONTROL MODE SETTING ERROR [No indication data]  Detection:MOTION M.blk[18].d30	Not used	
4594 TASK#0 - TASK#5	SERVO HAND CONTROL MODE RELEASE ERROR [No indication data]  Detection:MOTION M.blk[19].d00	Not used	
4595 TASK#0 - TASK#5	FORM CUTTING MOTION IMPOSSIBILITY [Decimal Data]  Detection:MOTION M.blk[8].d30		1: Check the value of the radius. 2: Check the value of the horizontal. 3: Check the value of the vertical. 4: Check the radius value of the corner. 5: Check the value of the overlap amount. 6: Check the value of the cutting speed. 7: Execute FORMCUT instruction at the independent job. 8: Check the set value of the minimum radius. 9: Check the set value of the maximum radius.
4596 TASK#0 - TASK#5	FORMCUT ERROR [Decimal Data]  Detection:MOTION M.blk[6].d06	1: Restart impossibility	
4597 TASK#0 - TASK#5	OFFLINE POSITION DATA CONVERSION ERROR [Decimal Data]  Detection:MOTION M.blk[9].d18		

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4598  TASK#0 - TASK#5	PAINTOUT ERROR [Decimal Data]  Detection:MOTION M.blk[6].d07	1: Parameter setting error	
4599  TASK#0 - TASK#5	SERVO COMMAND ERROR [Decimal Data]  Detection:MOTION M.blk[0].d07		
4600  TASK#0 - TASK#5	GUN CHANGE SIGNAL NOT SPECIFIED [[Decimal Data]  Detection:MOTION M.blk[6].d02	Not used	
4601  TASK#0 - TASK#5	UNDEFINED GUN COND FILE [Decimal Data]  Detection:MOTION M.blk[6].d10	Gun condition file is not specified.	Set the gun condition file completely.
4602  TASK#0 - TASK#5	CONTROL GROUP NVALID (COLLISION DETECTION) [Control Group]  Detection:MOTION M.blk[6].d11 <X1.50>  Deleated<X1.50>		
4603  TASK#0 - TASK#5	WIRE STICKING [Decimal Data]  Detection:MOTION M.blk[5].d31 <X1.40>	The wire sticking is detected by the welder. 1: Welder1 2: Welder2 3: Welder3 4: Welder4	Remove the wire sticking factor of the welder.
4604  TASK#0 - TASK#5	DESIGNATED AXIS HOME POSITION CORRECTION DATA NON-EXISTING [Decimal Data]  Detection:MOTION M.blk[0].d26 <X1.50>		

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4605 TASK#0 - TASK#5	SETTOOL ERROR [Decimal Data]  Detection:MOTION M.blk[0].d26 <X2.10>	The different value between a present tool constant and the setting value exceeds a permissible range (parameter setting value). 1: Maximum deviation permissible rang over	Check whether the setting value is correct. Check whether the parameter setting is correct.
4606 TASK#0 - TASK#5	GLOBAL VARIABLE AREA OVERFLOW [Decimal Data]  Detection:MOTION M.blk[3].d13 <X3.00>	The value of the number setting parameter of the global variable (user variable) is defective.	Reset the global variable (user variable) number and the position variable setting parameter.
4607 TASK#0 - TASK#5	MACRO COMMAND EXECUTION ERROR [Decimal Data]  Detection:MOTION M.blk[2].d06 <X3.50>	1: Macro execution job unset 2: Macro interruption job unset 3: Unstartable job from the specified macro command (attribute) 4: Macro execution cancel error1 5: Macro execution cancel error2	
4608 TASK#0 - TASK#5	JOB ARGUMENT GET ERROR [Decimal Data]  Detection:MOTION M.blk[3].d23 <X3.50>	1: Job argument unset 2: No specific argument numbers 3: Argument data type unmatched	
4609 TASK#0 - TASK#5	MEMORY PLAY FILE [Decimal Data]  Detection:MOTION M.blk[4].d20 <X3.50>		
4610 TASK#0 - TASK#5	MEMORY PLAY SAMPLING ERROR [Decimal Data]  Detection:MOTION M.blk[9].d15 <X3.50>		
4611 TASK#0 - TASK#5	OPTON INSTRUCTION EXECUTION NUMBER OVER  Detection:MOTION M.blk[3].d22 <X3.50>	It exceeds the limitation numbers of the execution.	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4612 TASK#0 - TASK#5	TSYNC ERROR [Decimal Data]  Detection:MOTION M.blk[1].d07 <X3.31>	Synchronization number unmatched Data stands for the synchronization number executed at the first.	
4613 TASK#0 - TASK#5	SERVO SEALING GUN CONTROL ERROR [Decimal Data]  Detection:MOTION M.blk[9].d14 <X3.50>	1: The set up of the “Sealing Gun Characteristic File” is not completed. 2: Sealing guns does not exist at the job which executes the sealing gun control. 3: Robot does not exist at the job which executes the sealing gun control. 4:The specification of the control method for the servo sealing control is not correct. (PRM1 of the OPTON instruction must be specified to 1 or 2.) 5: The specification value of the needle position is not correct. (PRM2 must be specified to 0-100 when PRM=1 in the OPTON instruction.) 6: The specification value of the painting width is not correct. (PRM2 must be specified to 0-30 when PRM1=2 in the OPTON instruction.)	
4614 TASK#0 - TASK#5	SEALING GUN CHARACTERISTIC FILE UNSET  Detection:MOTION M.blk[9].d13	Sealing gun characteristic file unset	Complete the sealing gun characteristic file.
4615 TASK#0 - TASK#5	I/O AXIS MOTION IMPOSSIBILITY (during playback) [Decimal Data]  Detection:MOTION M.blk[0].d08 <X3.50>	The job with the control group that the I/O axis is operating is specified for execution by the CALL or JUMP instructions.	Stop the I/O axis operation, or review the job.
4616 TASK#0 - TASK#5	AXIS SHIFT ERROR [Decimal Data]  Detection:MOTION M.blk[9].d12 <X3.50>		
4617 TASK#0 - TASK#5	SU-Axes MOTION IMPOSSIBILITY (LR-Axes pose error) [Decimal Data]  Detection:MOTION M.blk[9].d11 <X3.61>	S axis and U axis cannot be operated at the position of a present L axis and R axis.	Add the teaching position before the move instruction where the alarm is occurred, or change the previous teaching point, and save L axis and R axis at the home position.



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4618 TASK#0 - TASK#5	SHIFT INSTRUCTION EXECUTION ERROR [Decimal Data]  Detection:MOTION M.blk[9].d10 <X3.60>	1: At the tool shift in Eulerian angles $\pm$ 90 degrees, the shift value is specified besides Y axis.	
4619 TASK#0 - TASK#5	JOB REGISTRATION ON TABLE UNSET [Decimal Data]  Detection:MOTION M.blk[4].d13 <X3.91>	1-1024:Specified registration number	
4620 TASK#0 - TASK#5	ARM(TOOL) INTERFERENCE [Bit Pattern]  Detection:MOTION M.blk[10].d16 <X5.00>		
4800 SV#1 - SV#6	OVER CURRENT (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d01 <X3.90>	Alarm code (Code:10) from SGDx in the mechatro link communication	
4801 SV#1 - SV#6	GROUND FAULT(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d02 <X3.90>	Alarm code (Code:11) from SGDx in the mechatro link communication	
4802 SV#1 - SV#6	REGENERATIVE (SGDB)  Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d03 <X3.90>	Alarm code (Code:30) from SGDx in the mechatro link communication	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4803 SV#1 - SV#6	OVER VOLTAGE (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d04 <X3.90>	Alarm code (Code:40) from SGDx in the mechatro link communication	
4804 SV#1 - SV#6	UNDERVOLTAGE (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d05 <X3.90>	Alarm code (Code:41) from the SGDx mechatro link communication	
4805 SV#1 - SV#6	SPEED ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d06 <X3.90>	Alarm code (Code:51) from the SGDx mechatro link communication	
4806 SV#1 - SV#6	OVERLOAD (CONTINUE) (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d07 <X3.90>	Alarm code (Code:72) from the SGDx in the mechatro link communication	
4807 SV#1 - SV#6	OVERLOAD (MOMENT)(SGDB)  Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d08 <X3.90>	Alarm code (Code:71) from the SGDx in the mechatro link communication	
4808 SV#1 - SV#6	TEMPERATURE ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d09 <X3.90>	Alarm code (Code:7A) from the SGDx at the mechatro link communication	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4809 SV#1 - SV#6	ENCODER BATTERY ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d13 <X3.90>	Alarm code (Code:83) from SGDx at the mechatro link communication	
4810 SV#1 - SV#6	ENCODER SPEED ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d15 <X3.90>	Alarm code (Code:85) from SGDx at the mechatro link communication	
4811 SV#1 - SV#6	MAIN POWER SUPPLY CIRCUIT ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d24 <X3.90>	Alarm code (Code:B6) from SGDx at the mechatro link communication	
4812 SV#1 - SV#6	MOTOR ERROR (SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d25 <X3.90>	Alarm code (Code:C1) from SGDx at the mechatro link communication	
4813 SV#1 - SV#6	SERVO TRACKING ERROR(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[4].d30 <X3.90>	Alarm code (Code:D0) from SGDx at the mechatro link communication	
4814 SV#1 - SV#6	OPEN PHASE(SGDB) Robot/Station [Axis Data]  Detection:SERVO SV.blk[5].d01 <X3.90>	Alarm code (Code:F1) from SGDx at the mechatro link communication	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4816 SV#1 - SV#6	SGDB MAIN POWER SUPPLY READY ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d27 <X3.90>	The main power supply signal is not turned on in the servo ON sequence. The main power supply signal is not on during the servo on. The main power supply signal is not on in the servo OFF sequence. The main power supply signal is not off during the servo OFF. (emergency stop).	
4817 SV#1 - SV#6	SGDB BASE BLOCK SIGNAL ERROR Robot/Station [Axis Data]  Detection:SERVO SV.blk[3].d28 <X3.90>	The base block signal is not released in the servo ON sequence. The base block signal is not released during the servo ON. The base block signal is released in the servo OFF sequence. The base block signal is released during the servo OFF. (emergency stop)	
4818 SV#1 - SV#6	SGDB EXECUTION IMPOSSIBILITY [Decimal Data]  Detection:SERVO SV.blk[3].d28 <X3.90>	Processing which cannot be used in the mechatro link mode is specified for execution. (X3.90)	
4901 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d00 <X3.60Z>Live-line	Cube/Axis interference 1	
4902 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d01 <X3.60Z>Live-line	Cube/Axis interference 2	
4903 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d02 <X3.60Z>Live-line	Cube/Axis interference 3	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4904 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d03 <X3.60Z>Live-line	Cube/Axis interference 4	
4904 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d03 <X3.60Z>Live-line	Cube/Axis interference 4	
4905 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d04 <X3.60Z>Live-line	Cube/Axis interference 5	
4906 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d05 <X3.60Z>Live-line	Cube/Axis interference 6	
4907 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d06 <X3.60Z>Live-line	Cube /Axis interference 7	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4908 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d07 <X3.60Z>Live-line	Cube /Axis interference 8	
4909 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d08 <X3.60Z>Live-line	Cube/Axis interference 9	
4910 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d09 <X3.60Z>Live-line	Cube/Axis interference 10	
4911 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d10 <X3.60Z>Live-line	Cube /Axis interference 11	
4912 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d11 <X3.60Z>Live-line	Cube/Axis interference 12	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4913 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d12 <X3.60Z>Live-line	Cube/Axis interference 13	
4914 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d13 <X3.60Z>Live-line	Cube/Axis interference 14	
4915 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d14 <X3.60Z>Live-line	Cube/Axis interference 15	
4916 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d15 <X3.60Z>Live-line	Cube/Axis interference 16	
4917 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d16 <X3.60Z>Live-line	Cube/Axis interference 17	

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4918 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d17 <X3.60Z>Live-line	Cube/Axis interference 18	
4919 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d18 <X3.60Z>Live-line	Cube /Axis interference 19	
4920 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d19 <X3.60Z>Live-line	Cube/Axis interference 20	
4921 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d20 <X3.60Z>Live-line	Cube/Axis interference 21	
4922 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d21 <X3.60Z>Live-line	Cube/Axis interference 22	



Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
4923 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d22 <X3.60Z>Live-line	Cube/Axis interference 23	
4924 TASK#0 - TASK#5	CUBE/ AXIS INTERFERENCE Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d23 <X3.60Z>Live-line	Cube/Axis interference 24	
4930 TASK#0 - TASK#5	DOUBLE ARM INTERFERENCE (EXCEPTED FOR WRISTS PARTS) Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d24 <X3.60Z>Live-line		
4931 TASK#0 - TASK#5	DOUBLE ARM INTERFERENCE (WRISTS PARTS)  Robot/Station [Axis Data]  Detection:MOTION M.blk[20].d25 <X3.60Z>Live-line		
5000	IP ADDRESS SETTING ERROR  Detection:NET NET.blk[0].d01 <X1.70>	The setting of the I P address of the local station or server is (0,0,0,0) or (255,255,255,255).	Ensure the setting value and change to an appropriate numerical value in the system configuration.
5001	SUBNET MASK SETTING ERROR  Detection:NET NET.blk[0].d01 <X1.70>	The setting of the sub net mask is (0,0,0,0) or (255,255,255,255).	Ensure the setting value and change to an appropriate numerical value in the system configuration.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
5002	GATEWAY SETTING ERROR  Detection:NET NET.blk[0].d01 <X1.70>	The setting of the IP address of the gateway does not exist in the same local station and the same network.	Ensure the setting value and change to the correct gateway IP address in the network specified by the sub-net mask in the system configuration.
5003	ETHERNET PROCESSING ERROR  Detection:NET NET.blk[0].d01 <X1.70>	XIF02 circuit board initialization error	Turn on the control power again. If the error occurs again, contact the Motoman service staff.
5010	ANALOG INPUT ERROR(XCP02) [Decimal Data]  Detection:SL SL.blk[0].d01 <X1.80>	The value of the analogue input on the XCP02 circuit board can not be readable correctly. Data stands for the channel where an input error has occurred.	Check the cable. Replace the XCP02 circuit board.
5011	TRANSMISSION ERROR(XCP02) [Bit Pattern]  Detection:SL SL.blk[0].d02 <X1.80>	An error occurs in the serial transmission of the XCP02 circuit board. Data stands for the defective contents. d0: Receiving FIFO error d1: Framing error d2: Parity error d3: Overrun error d4: Check sum error d5: NAK receiving error d6: Sending time over d7: Receiving time over	Check the receiving and sending communication parameter. Check the communication cable.
5012	SYSTEM ERROR(COMARC) [Decimal Data]  Detection:SL SL.blk[0].d08 <X1.80>	An error occurs in the system on the sensor part of the COMARC function. Data stands for the contents of the errors.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
5013	COMARC PROCESSING ERROR [Decimal Data]  Detection:SL SL.blk[0].d09 <X1.80>	An error occurs in the system on the sensor part of the COMARC function. Data stands for the contents of the errors.	Reset the alarm then try again. If the error occurs again, contact the Motoman service staff.
5020	SENSOR PARAMETER ERROR [123]  Detection:SL(CV) SL.blk[0].d01 <X2.10>	The value of the sensor (SE) is abnormal.	Review the sensor (SE) parameter.

Table 3-3 Alarm Message List

Alarm No.	Message	Cause	Remedy
5021	CONVEYER CHARACTERISTIC FILE ERROR [123]  Detection:SL(CV) SL.blk[0].d05 <X2.10>	Data of the conveyer characteristic file is abnormal. Date stands for the conveyer characteristic number.	Correct the data of the conveyer characteristic file.
5022	CONVEYER POSITION LIMIT OVER [123]  Detection:SL(CV) SL.blk[0].d07 <X2.10>	The position of the corrected conveyer exceeds the limited value of $\pm 21\text{m}$ . Date stands for the conveyer characteristic number.	Review the synchronization motion section. This alarm does not require the update of the conveyer position, therefore re-synchronization motion after the alarm reset is not necessary. Perform at the conveyer position where the alarm occurs.
5023	CONVEYER COUNTER LIMIT OVER [123]  Detection:SL(CV) SL.blk[0].d06 <X2.10>	The counter pulse of the conveyer position is overflowed. Date stands for the conveyer characteristic number.	Review the conveyer resolution or the section of synchronization. This alarm does not require the update of the conveyer position, therefore re-synchronization motion after the alarm reset is not necessary. Perform at the conveyer position where the alarm occurs.
5030	SYSTEM ERROR (General Sensor) [Decimal Data]  Detection:SL SL.blk[0].d08 <X2.30>	An error occurs in the system of the sensor part of the general sensor function. Data stands for the alarm factor.	Turn the power off then back on. If the error occurs again, contact the Motoman service staff.
5031	GENERAL SENSOR PROCESSING ERROR [Decimal Data]  Detection:SL SL.blk[0].d09 <X2.30>	An error occurs in the system of the sensor part of the general sensor function. Data stands for the alarm factor.	Turn the power off then back on. If the error occurs again, contact the Motoman Service staff.
5040	CONTROLNET COMMUNICATION ERROR [Decimal Data]  Detection:SL SL.blk[0].d03 <X5.00>	Communication error occurs.	Check the function and the connection of the network devices such as the cables.

## 3.6 I/O Alarm Message List

### 3.6.1 Arc Welding Application

	Alarm No.	Registration No.	I/O Alarm Message
System Section			
	9000	00	
	9010	01	MISSING ARC GENERATION CONFIRM
	9020	02	ARC SHORTAGE
	9030	03	
	9040	04	GAS SHORTAGE (RESTART)
	9050	05	WIRE SHORTAGE (RESTART)
	9060	06	
	9070	07	
	9080	08	
	9090	09	
	9100	10	
	9110	11	
	9120	12	
	9130	13	
	9140	14	
	9150	15	
	9160	16	
	9170	17	
	9180	18	
	9190	19	
	9200	20	
	9210	21	
	9220	22	
	9230	23	
User Section			
	9240	24	
	9250	25	
	9260	26	
	9270	27	
	9280	28	
	9290	29	
	9300	30	
	9310	31	

### 3.6.2 Handling Application

	Alarm No.	Registration No.	I/O Alarm Message
System Section			
	9000	00	AIR PRESSURE LOWERED
	9010	01	
	9020	02	
	9030	03	
	9040	04	
	9050	05	
	9060	06	
	9070	07	
	9080	08	
	9090	09	
	9100	10	
	9110	11	
	9120	12	
	9130	13	
	9140	14	
	9150	15	
	9160	16	
	9170	17	
	9180	18	
	9190	19	
	9200	20	
	9210	21	
	9220	22	
	9230	23	
User Section			
	9240	24	
	9250	25	
	9260	26	
	9270	27	
	9280	28	
	9290	29	
	9300	30	
	9310	31	

### 3.6.3 Spot Welding Application

	Alarm No.	Registration No.	I/O Alarm Message
System Section			
	9000	00	ERR OF WELD TIMER COOLING WATER
	9010	01	ERROR OF GUN COOLING WATER
	9020	02	ERROR IN TRANSTHERMO OF GUN
	9030	03	AIR PRESSURE LOWERED
	9040	04	
	9050	05	
	9060	06	
	9070	07	
	9080	08	
	9090	09	
	9100	10	
	9110	11	
	9120	12	
	9130	13	
	9140	14	
	9150	15	
	9160	16	
	9170	17	
	9180	18	
	9190	19	
	9200	20	
	9210	21	
	9220	22	
	9230	23	
User Section			
	9240	24	
	9250	25	
	9260	26	
	9270	27	
	9280	28	
	9290	29	
	9300	30	
	9310	31	

### 3.6.4 General Application

	Alarm No.	Registration No.	I/O Alarm Message
System Section			
	9000	00	
	9010	01	
	9020	02	
	9030	03	
	9040	04	
	9050	05	
	9060	06	
	9070	07	
	9080	08	
	9090	09	
	9100	10	
	9110	11	
	9120	12	
	9130	13	
	9140	14	
	9150	15	
	9160	16	
	9170	17	
	9180	18	
	9190	19	
	9200	20	
	9210	21	
	9220	22	
	9230	23	
User Section			
	9240	24	
	9250	25	
	9260	26	
	9270	27	
	9280	28	
	9290	29	
	9300	30	
	9310	31	

## *NOTES*



# SECTION 4

## ERRORS

### 4.1 Error Messages

Error warns the operator not to advance to the next operation caused by a wrong operation and the access method when programming pendant operation or an external equipment(computer, PLC, etc.)accesses.

When an error occurs, release it after the confirmation of the content of the error.

To release the error perform following the operation.

- Press [CANCEL] on programming pendant.
- Input alarm/error reset signal (specific input).

*Note: An error is different than an alarm because it does not stop the robot even if it occurred while the robot was operated (during playback).*

#### 4.1.1 System and General Operation

Table 4-1 System and General Operation Errors

Error NO.	Data	Message	Contents
10	-	Turn off servo power and perform corrective action	It cannot be operated on servo power supply.
20	-	Depress TEACH	Out of specified mode operation
30	-	Illegal setting for number of variables	Parameter setting error
31	-	Illegal setting for number of variables name	Limit of variables name is 64
40	-	Undefined robot position variables	Position type variable cannot be used
50	-	Depress MODIFY	
60	-	Undefined points (ORG, XX, XY)	Not registered user coordinates basic 3 points(ORG, XX, XY)
70	-	Program and current tool different	The tool number registered with teaching position data didn't match the the tool number.selected at the programming pendant.
80	-	Same position in the 3 points	
90	-	Set robot exactly to taught position	
100	-	On overrun recovery status	
110	-	Turn ON servo power	
120	-	Set to PLAY mode	

Table 4-1 System and General Operation Errors

Error NO.	Data	Message	Contents
130	-	No start using external signal	
140	-	No start using P.BOX	
150	-	TEACH-LOCK mode	
170	-	Servo off signal ON	
180	-	TEACH mode select signal ON	
190	-	Defined group axis	
200	-	Undefined coordinated robots	
210	-	Cannot register between stations	
220	-	Taught by other robot	
230	-	While releasing soft limit	
240	-	Undefined robot	
250	-	Defined condition No.	
260	-	Undefined file	
270	-	Undefined gun condition file	
280	-	Lack of number of I/O points	
290	-	Cannot set same No.	
300	-	Undefined user frame	
310	-	Cannot register Master JOB	
320	-	Cannot operate CHECK-RUN	
330	-	Cannot operate MACHINE LOCK	
340	-	Cannot operate Master JOB	
350	-	Cannot initialize	
360	-	Teach point not specified	
370	-	No SYNCHRO operation	
380	-	Position not checked	Second home position was not checked
390	-	Can specify servo off by safety relay	
400	-	Wrong specification of measure interval	Wrong specification of measure interval for TRT function.
410	-	Time could not be measured	Time could not be measured
420	-	Incorrect number of taught points	Taught points for tool calibration were incorrect.

Table 4-1 System and General Operation Errors

Error NO.	Data	Message	Contents
430	-	Register start reserved JOB	
440	-	Clear data to teach at the tool because other tool is set	
450	-	Wrong JOB for measuring	
460	-	Excess time for measuring	
470	-	Calibration at another file	
480	-	Calibration at another robot combination	
490	-	Cannot calibrate at this combination	
500	-	Undefined robot calibration data	
510	-	Undefined axis	
520	-	Cannot select two coordinated combination	
530	-	Start reservation mode	
540	-	Not start reservation mode	
550	-	Start reserved JOB change prohibit is set	
560	-	Cannot teach position while soft limit released	
570	-	Turn on all contactor's servo power	
580	-	Connect group axis to one contactor	
590	-	Register group axis combination	[SYNCHRO] key for coordinated job which was not registered as group was pressed.
600	-	Out of setting data range	
610	-	Cannot use the user coordinate	
620	-	Select JOB (robot)	
630	-	Not completed to load original tool file	
640	-	Not specified tool file	
650	-	Incorrect measured data	
660	-	Wrong data type of position variable	
670	-	Enter path number	
680	-	Defined data	
	XXX		File No.

Table 4-1 System and General Operation Errors

Error NO.	Data	Message	Contents
690	-	Illegal path number	
700	-	Wrong CMOS memory board type	
710	-	Enter path number	
720	-	Defined file name	
730	-	Undefined Name Position file	
740	-	This name cannot be defined	
750	-	Undefined Name Position	
760	-	Error in start condition set	
770	-	During robot operation	
780	-	Quit operation by mini operation pendant	
790	-	FWD/BWD don't work in the handle operation	
800	-	The gun of designation is not connected	
810	-	Servo power supply is limited	
820	-	Modification range over	
830	-	Cannot move while modifying speed	
840	-	Unregistered key	
850	-	Cannot register instruction	
860	-	Please release key registration mode	
870	-	This key cannot be allocated	
880	-	Same relay cannot be set	
890	-	This key has already been registered. Cannot register them once	
900	-	Relay No. not set	
910	-	Cannot be registered because job control group not same	
920	-	Cannot modify this setting	
930	-	Undefined conveyor calibration data	
940	-	The mandatory action pressurizing signal is being input	<X3.10>
950	-	The correction distance is a minus	<X3.10>

### 4.1.2 Editing

Table 4-2 Editing Errors

Error No.	Data	Message	Contents
1010	-	EDIT LOCK mode	
1020	-	Enter correct value	
1030	-	Unauthorized ID No.	
1040	-	-	
1050	-	Enter correct date	
1060	-	Enter correct clock	
1070	-	Enter a number in 8 figures	

### 4.1.3 Job Defined Data

Table 4-3 Job Defined Data

Error No.	Data	Error Message	Error Contents
2010	-	Incorrect character	
2020	-	Name not entered	
2030	-	Undefined JOB name	
2040	-	Defined JOB name	
2050	-	Address not found	
2060	-	Select master	
2070	-	Set robot exactly to taught position	
2080	-	Press INSERT or MODIFY	
2090	-	Only modifying move instruction possible	
2100	-	JOB cannot be edited.	
2110	-	Over soft limit	
2120	-	Cannot insert/alter/delete with servo off	
2130	-	Only modifying move instruction possible	
2150	-	Inserting is not possible from this point	
2160	-	Cannot modify or delete this position	
2170	-	Press INSERT to record same step as previous step	

Table 4-3 Job Defined Data

Error No.	Data	Error Message	Error Contents
2180	-	Cannot insert data	
2190	-	Cannot delete data	
2200	-	Cannot modify data	
2210	-	Illegal data setting	
2220	-	Display edit instruction	
2230	-	Illegal instruction equation	
2240	-	Excessive instruction equation	
2250	-	Unmatched number of parentheses in equation	
2260	-	Wrong group axis selection	
2270	-	Cannot insert any more instruction in JOB	
2280	*	JOB memory is full	
	1		Lack of position file memories
	2		Lack of JOB registering memories
	3		Lack of instruction file memories
	4		Lack of memory pool
	5		Lack of pass condition file for multi-layer
2290	-	Undefined master JOB	
2291	*	Undefined SUB Master JOB	
	1		Sub-master 1
	2		Sub-master 2
	3		Sub-master 3
	4		Sub-master 4
	5		Sub-master 5
2292	-	Undefined MASTER START JOB	

Table 4-3 Job Defined Data

Error No.	Data	Error Message	Error Contents
2293	*	Undefined SUB START JOB	
	1		Sub-master 1
	2		Sub-master 2
	3		Sub-master 3
	4		Sub-master 4
	5		Sub-master 5
2300	-	Cannot teach JOB without group-axis specification	
2310	*	Same label exists	
	XXX		
2320	-	Cannot creat coordinated JOB	Line No.
2330	-	Cannot edit coordinated instruction	Calibration not complete
2340	-	Pasted data not found	
2350	-	Editing data not found	
2360	-	Cannot create editing area	
2370	-	Cannot cut/copy NOP and END instructions	
2380	-	Wiring JOB selection	
2390	-	Wrong group axis selection	
2400	-	Cannot move in cut & paste editing	
2410	-	When variable is used for speed setting, perform a line-edit	
2420	-	When variable is used for teach setting, perform a line-edit	
2430	-	Reverse data not found	
2440	-	Move C-and W-axis to basic position	Lazer cutting
2450	-	Relative JOB not permitted	
2460	-	Specified JOB is already converted	
2470	-	Wrong JOB type	
2480	-	Wrong JOB coordinates setting	
2490	-	Execute NEXT/BACK operation once	
2500	-	Cannot convert the JOB	
2510	-	Cannot correct position in the JOB	

Table 4-3 Job Defined Data

Error No.	Data	Error Message	Error Contents
2520	-	Enter JOB name	
2530	-	Illegal step number	
2540	-	Enter step number	
2550	-	Duplicated step number	
2560	-	Cannot correct steps of position variables and REFP	
2570	-	The step does not contain speed	
2580	-	The step dose not contain PL/CONT	
2590	-	Soft limit range over	
2600	-	Cannot teach position in concurrent JOB	
2610	-	Wrong JOB kind	
2620	-	Cannot correct play speed in the JOB	
2630	-	Conveyor position not reset	
2640	-	Incorrect JOB name	
2650	-	Defined JOB name	
2660	-	Register MOVL inst. after circular block	
2670	-	Undefined target JOB	
2680	-	Wrong designation of welding section	
2690	-	Defined same kind JOB	
2700	-	Press position not reset	
2710	-	Relative job can't be shifted with pulse type	
2720	-	Cannot correct position variables	
2730	-	The robot macro job is unable to be registered	<X3.50>
2740	-	The concurrent job is unable to be registered	<X3.50>
2750	-	The job which has the group axis specification is unable to be registered	<X3.50>



## 4.1.4 External Memory Equipment

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3010	-	Floppy disk cable not connected	
3020	-	Floppy disk not inserted into floppy disk drive	
3030	-	Floppy disk protection is ON	
3040	-	File not saved on floppy disk	
3050	-	File saved on floppy disk	
3060	-	Out of memory on floppy disk	
3070	-	Number of files on floppy disk	
3080	-	I/O error on floppy disk	
3090	*	Transmission error with floppy disk drive	
	1		Framing error
	2		Overrun error
	3		Parity error
	4		Data code error
	5		Data read error
	6		Dat write error
	7		Data time out
	8		Serial I/O error
	9		Error other than described above
3100	-	Total checksum error	
3110	-	Syntax error	
3120	*	HEX code error	
	1		Specification error of data record
	2		Specification error of FEO record
	3		Record type error
	4		Total check error of record
3130	-	Verify error	
3140	-	Wrong pseudo instruction	

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3150	*	Concurrent I/O record error	
	1		Format error
	2		Ladder program is too long
	3		Exceed the range of the data
	4		Specification error of channel No.
	5		Specification error of relay No.
	6		Timer value error
	7		Specification error of timer No.
3160	-	Cannot load illegal system data	
3170	*	Condition file data error	
	1		Format error
	2		Specified file No. is omitted
	3		Specified tool No. is omitted
	4		User file is not registered
3180	-	Concurrent I/O data transmission error	

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3190	*	Error in JOB data record	
	1		The number of position data (NPOS) record wrong for the format
	2		Record on the user coordinate No. is wrong for the format
	3		Tool record is wrong for the format
	4		Record on the position data section is wrong for the format
	5		Robot type of XYZ data (RCONF) record is wrong for the format
	6		Date record is wrong for the format
	7		Comment record is wrong for the format
	8		JOB attribute data (ATTR) record is wrong for the format
	9		Control group (GROUP) record is wrong for the format
	10		Local variable (LVAR) record is wrong for the format
	11		JOB argument (JARGS) record is wrong for the format
	12		Teaching coordinates for relative JOB (FRAME) record is wrong for the format
	13		Position data coordinates do not match relative job coordinates
3200	-	NOP or END instruction not found	
3210	-	Position No. storage area not found	
3220	*	Syntax error in instruction data	
	2		Interior control error
	3		Undefined instruction/tag
	4		Instruction/tag shortage
	5		Disuse instruction/tag
	6		Sub instruction
	7		Non instruction

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3220	8		Invalid instruction
	9		Invalid tag
	10		Invalid character
	11		Undefined intermediate code
	12		Intermediate code shortage
	13		Syntax stack overflow
	14		Syntax stack underflow
	15		Array type tag incompleted Tag [ARRAY]
	16		Element type tag incompleted Tag [ELEMENT]
	17		Macro JOB unregistered
	18		Input format error
	19		Date size over
	20		MIN value over
	21		MAX value over
	22		Operation expression error
	23		JOB call argument setting error
	24		Macro JOB call argument setting error
	25		Position vector setting error
	26		System error
	27		Soft key designate error
	28		Numerical input buffer overflow
	29		Real type data precision error
	30		Element format error
	35		[BOOL TYPE] data error
	36		[CHAR] data error
	37		[BYTETYPE] [BINARY] / HEXA- DECIMAL BYTE TYPE] data error
	38		[INTEGER TYPE] [DECIMAL EORD TYPE] data error

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3220	39		[BINARY/HEXADECIMAL WORD TYPE] data error
	40		[DOUBLE PRECISION TYPE] [DECIMAL DWORD TYPE] data error
	41		[BINARY/HEXADECIMAL WORD TYPE] data error
	42		[REAL TYPE] data error
	43		[LADDER SPECIAL TYPE] data error
	44		JCL text
	45		Invalid text
	46		[LABEL NAME] data error
	47		[JOB NAME] data error
	48		[STRING] data error
	49		[COMMENT] data error
	58		Invalid instruction/tag detection
3230	-	Syntax not matched	
3240	-	Undefined application	
3250	-	Cannot load this file	
3260	-	Excess input data	
3270	-	Cannot verify this file	
3280	-	Wrong welding condition (STANDARD/ ENHANCED)	
3290	-	Serial port not defined	
3300	-	Serial port being used	
3310	-	Protocol being used	
3320	-	Wrong GUN type	
3330	-	Undefined multilayer data	
3340	-	Illegal number of multilayer data	
3350	-	Not enough memory	
3360	-	Invalid directory	
3370	-	Incorrect directory name	

Table 4-4 External Memory Equipment Errors

Error No.	Data	Message	Contents
3380	-	Drive not ready	
3390	-	File not found	
3400	-	File already exists on the media	
3410	-	Out of memory on the media	
3420	-	Max number of files has been reached	
3430	-	I/O error on the drive	
3440	-	Wrong media type	
3450	-	The macro job is unable to load in presnt security mode	Load it in the management mode. <X3.30>
3460	*	It is unable to backup to the PC card	<3.12-07>
	1		The lack capacity of the PC card
	2		It is unable to access to the PC card.

#### 4.1.5 Concurrent I/O

Error No.	Data	Message	Contents
4010	*	Illegal relay No.	
	XXX		Line No.
4020	*	Illegal block No.	
	XXX		Line No.
4030	*	Illegal instruction	
	XXX		Line No.
4040	*	Relay/register No. duplicated in OUT/ GOUT or arithmetic instruction	Plural output are instructed to the relay or register
	XXX		Line No.
4050	*	The relay is not used	
	XXX		Line No.
4060	*	Excess STR-[-NOT] instructions	
	XXX		Line No.

Error No.	Data	Message	Contents
4070	*	Excess AND [OR] STR instructions	
	XXX		Line No.
4080	*	Syntax error in CNT instructions	
	XXX		Line No.
4090	*	Enter STR [-NOT] at head of block	Need STR [-NOT]
	XXX		Line No.
4100	*	Relay No. duplicated in TMR and CNT	Timer and counter are used twice
	XXX		Line No.
4110	-	Excessive ladder scan-time	Ladder scan time is too long
4120	-	Concurrent I/O memory is full	Exceeds memory capacity
4130	-	END instruction not found	END instruction not found
4140	-	Wrong ladder program	Position and number of PART instruction are wrong
4150	*	Wrong use of GSTR, GOUT commands	GSTR and GOUT is not used together
	XXX		Line No.
4160	-	Cannot edit system section	
4170	-	Cannot modify/delete	
4180	-	Press INSERT/MODIFY/DELETE keys	
4190	-	Ladder program not found	
4200	-	Cannot specify system variables (\$)	
4210	-	Cannot edit line	
4220	-	Excess TMR/CNT or arithmetic instructions	More than 100 TMR, CNT or arithmetic instruction used

### 4.1.6 Maintenance Mode

Table 4-5 Maintenance Mode Errors

Error No.	Data	Message	Contents
8010	-	Too many axes	<X1.50>
8020	-	Too many I/O points	<X1.50>
8030	-	XFB01B(MASTER) address number over	
8040	-	Memory error (Control net output condition)	
8050	-	The type of the machine is not registered	



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