

General-Purpose AC Servo

MELSERVO

Servo Configuration Software **MODEL** 

**MRZJW3-SETUP161E** 

**INSTALLATION GUIDE** 

Thank you for choosing the Mitsubishi general-purpose AC servo MELSERVO Servo Configuration Software.

To optimize the use of the Servo Configuration Software, please read over this Installation Guide and the corresponding AC servo Installation Guide before using the software. After reading the Installation Guide, always place this Installation Guide in a safe place.



# 通用型交流伺服 MILLSINU

伺服组态软件 型

MRZJW3-SETUP161E

安装指南

感谢您选择三菱通用型交流伺服 MELSERVO 伺服组态软件。为优化伺服配置软件的使用,请在使用软件前仔细阅读本安装指南和相应的交流伺服安装指南。阅读安装指南后,请务必将本安装指南放在安全的地方。

# Safety Instructions

(Always read these instructions before using the equipment.)

Do not attempt to install, operate, maintain or inspect the servo amplifier and servo motor until you have read through this Installation Guide, and appended documents carefully and can use the equipment correctly. Do not use the servo amplifier and servo motor until you have a full knowledge of the equipment, safety information and instructions.

In this Installation Guide, the safety instruction levels are classified into "WARNING" and "CAUTION".



Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight injury to personnel or may cause physical damage.

Note that the CAUTION level may lead to a serious consequence according to conditions. Please follow the instructions of both levels because they are important to personnel safety.

What must not be done and what must be done are indicated by the following diagrammatic symbols:



): Indicates what must not be done. For example, "No Fire" is indicated by 🕟 .





: Indicates what must be done. For example, grounding is indicated by 🔔 .



In this Installation Guide, instructions at a lower level than the above, instructions for other functions, and so on are classified into "POINT".

After reading this Installation Guide, always keep it accessible to the operator.



Before executing the test mode, always read Section 2.3 "Precaution for test

- Windows is a trademark of Microsoft Corporation.
- The "Mitsubishi general-purpose AC servo MELSERVO Servo Configuration Software" is a production of Mitsubishi Electric Corporation. Mitsubishi Electric Corporation reserves the copyright and all other rights of this software.
- \*This Installation Guide may not be reproduced or copied, in whole or part, without written consent of Mitsubishi Electric Corporation.
- · All other company and product names contained in this Installation Guide are registered trademarks or trademarks of their respective companies.

# 安全指导

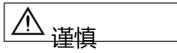
(请务必在使用设备前阅读这些说明。

请勿尝试安装、操作、维护或检查伺服放大器和伺服电机,直到您仔细阅读本安装指南和附加文档并能够正确使用设备。在您完全了解设备、安全信息和说明之前,请勿使用伺服放大器和伺服电机。

在本安装指南中,安全说明级别分为"警告"和"注意"。



表示不正确的操作可能会导致危险情况,从而导致死亡或重伤。



表示不正确的操作可能会导致危险情况,导致人员中度或轻微伤害,或可能导致物理损坏。

请注意,根据条件,CAUTION 级别可能会导致严重后果。请遵循这两个级别的指示,因为它们对人员安全很重要。

不能做什么和必须做什么由以下图解符号表示:



指示不能执行的操作。例如,"No Fire"由





: 指示必须执行的操作。例如, 接地由

在本安装指南中,比上述级别更低的说明、其他功能的说明等被归类为 "POINT"。

阅读本安装指南后,请始终让操作员能够访问它。



在执行测试模式之前,请务必阅读第 2.3 节 "测试模式的注意事项"。

- Windows 是 Microsoft Corporation 的商标。
- "三菱通用交流伺服 MELSERVO 伺服配置软件"是三菱电机公司的产品。Mitsubishi Electric Corporation 保留本软件的版权和所有其他权利。未经 Mitsubishi Electric Corporation 书面同意,不得全部或部分复制或复制本安装指南。本安装指南中包含的所有其他公司和产品名称是其各自公司的注册商标或商标。

A - 1

MEMO			

ИЕМO

# CONTENTS

1. INT	RODUCTION	1-1 to 1-12
1.1	Specifications	
1.2	System configuration	
	1.2.1 Components	
	1.2.2 Communication cable	
	1.2.3 Configuration diagrams	
1.3	Basic terms	
1.4	Basic operations	
1.5	Screen definitions	1-9
1.6	Installation procedure	1-10
2. HO	W TO USE THE SOFTWARE	2-1 to 2-8
2.1	Operation	
	2.1.1 Start-up	
	2.1.2 Command selection procedures	
	2.1.3 Operation procedures within the window	
2.2	Commands and display windows	
2.3	Precautions for test mode	2-6
2.4	Simple language for program operation	2-7
	2.4.1 Language	2-7
	2.4.2 Program example	2-8
	2.4.3 Instruction	2-8
3. TRO	DUBLESHOOTING	3-1 to 3-2
3.1	Communication error	
3.2	Message at startup	
3.3	Message at program shutdown	
3.4	HELP display	3-2

# 内容

1. 引	=	1-1 至 1-12
1. 1	规格 1-1	
1.2	系统配置 1-3	
	1.2.1 组件 1-3	
	1.2.2 通信电缆 1-4	
	1.2.3 配置图 1-5	
1.3	基本术语 1-6	
1.4	基本操作 1-7	
1.5	屏幕定义 1-9	
1.6	安装程序 1-10	
2. 如何	可使用软件	2-1 到 2-8
0.1	19 /b- 0. 1	
2. 1	操作 2-1	
	2.1.1 初创 2-1	
	2.1.2 命令选择程序 2-1	
	2.1.3 窗口 2-2 内的操作步骤	
2. 2	命令和显示窗口 2-3	
2.3	测试模式 2-6 的注意事项	
2.4	程序操作的简单语言 2-7	
	2.4.1 语言 2-7	
	2.4.2 程序示例 2-8	
	2.4.3 指令 2-8	
3 故障	<b>音排除</b>	3-1 到 3-2

- 3.1 通信错误 3-1
- 3.2 启动时的消息 3-1
- 3.3 程序关闭时的消息 3-2
- 3.4 HELP 显示 3-2

# **MEMO**

MEMO			

# 1. INTRODUCTION

# 1.1 Specifications

Using the communication function of the servo amplifier, the Servo Configuration Software allows functions, such as parameter setting change, point data maintenance, graph, program operation mode and test mode, to be implemented from a personal computer.

	Servo amplifier	MR-J2S-A(4)	MR-J2S-B(4)	MR-J2S-CP	MR-J2S-CL	MR-J2S-B- PY096 MR-J2S-B-	MR-J2S-B- S009U	MR-J2S-A- PY091 MR-J2S-A-	MR-J2S-CP- S084
Item						S096	30090	S091	3004
Communicat	tion signal				Conforms to	RS-232C			
	9600bps	0	0	0	0	0	0	0	0
	19200bps	0	0	0	0	0	0	0	0
Baud rate	38400bps	0	0	0	0	0	0	0	0
	57600bps	0	0	0	0	0	0	0	0
	Station selection	0		0	0			0	0
System	Axis selection								
v	Automatic demo	0	0			0	0	0	
	Display all • High speed monitor	0	0	0	0	0	0	0	0
Monitor	Multi-axis listing (Multi-station listing)								
	Trend graph			0	0			0	
	Display	0	0	0	0	0	0	0	0
Alarm	History	0	0	0	0	0	0	0	0
	Amplifier data	0	0	0	0	0	0	0	0
	I/O display	0	0	Ö	0	0	0	0	0
	Function device display			0	0	<u> </u>		<u> </u>	0
	No motor rotation	0	0	0	0	0	$\overline{}$		0
	Total power-on time	0	0	0	0	0	0	0	0
	Software number display	0	0	0	0	0	0	0	0
Diagnostic	Motor data display	0	0	0	0	0	$\sqrt{}$	0	0
	Tuning data	0	0	0	0	0	$\overline{}$	0	0
	Absolute encoder data	0	0	0	0	0	0	0	0
	Automatic voltage control	0	$\sim$	$\overline{}$	$\sim$	$\sim$	=	0	$\sim$
	Axis name setting	0		$\overline{}$	$\overline{}$		$\frac{1}{1}$	0	
	Unit composition listing	$\sim$	$\sim$	$\overline{}$	$\overline{}$	$\overline{}$	$\bigg $	$\sim$	$\sim$
	Fully closed diagnostics						//	$\overline{}$	
	Linear diagnostics					$\overline{}$		$\sim$	
	Parameter list			$\overline{}$	$\overline{}$		0		
	Tuning	0	0	0	0	0	0	0	0
	Change list	0	0	0	0	0	0	0	0
Parameters	Detailed information	0	0	0	0	0		0	0
1 arameters	IFU parameter	$\sim$	$\sim$	$\overline{}$	$\overline{}$	$\sim$		$\sim$	$\sim$
							//		
	DRU parameter Device setting						$\overline{}$		$\overline{}$
		$\overline{}$	$\overline{}$	0	0	$\overline{}$		$\overline{}$	0
	Jog Positioning	0	0	0	0	0		0	
		0	0	0	0	$\overline{}$		$\overline{}$	0
Toot	Operation w/o motor	0	0	0	0		$\int_{-}$	$\overline{}$	0
Test	Forced output Demo mode	0	0	$\overline{}$	$\overline{}$	0	0	0	$\overline{}$
		$\sim$	$\overline{}$	$\overline{}$		$\overline{}$		$\overline{}$	$\overline{}$
	Single-step feed Program tost			$\overline{}$					$\overline{}$
	Program test Machine analyzer	$\overline{}$	$\overline{}$		0			$\overline{}$	$\overline{}$
Advanced-		0	0	0	0	0	0	0	0
function	Gain search								
Deine 1.4	Machine simulation	$\sim$	$\sim$	0	$\overline{}$	$\sim$	$^{\circ}/$	$\sim$	0
Point-data	Point table			$\sim$	$\overline{}$		$\overline{}$		$\sim$
Program-	Program data				0				
data	Indirect-addressing				0				

<u> 1 리</u>

# 1. 引言

# 1.1 产品参数

伺服配置软件利用伺服放大器的通信功能,可以从个人计算机实现参数设定更改、点数据维护、图表、程序运行模式和测试模式等功能。

Jtem	伺服放大器	MR-J2S-A型	(4MR-J2S-B (4)	MR-J2S-CP 系	川MR-J2S-CL 系	MR-J2S-B- PY096 系列 MR-J2S-B- S096	MR-J2S-B- S009U 系列	MR-J2S-A- PY091 MR-J2S-A- S091	MR-J2S-CP- S084
通信信号					┏符合 RS-232C 标			3031	
Pain in V	-9600 基普	0	0	0		0	0	0	0
	19200 基普	0	0	0	0	0	0	0	0
波特率	38400 基普	0	0	0	0	0	0	0	0
	-57600 基普	0	0	0	0	0	0	0	0
	工位选择 轴选择 自动	0		0	0			0	0
系统	演示								
スペシル		0	0			0	0	0	
	显示全部 高速监视器 多轴列表	0	0	0	0	0	0	0	0
监控	(Multi-station listing) 趋势图								
		0	0	0	0	0	0	0	0
	-显示	0	0	0	0	0	0	0	0
报警	-历史	0	0	0	0	0	0	0	0
	放大器数据	0	0	0	0	0	0	0	0
	-I/O 显示	0	0	0	0	0	0	0	0
	功能 设备显示 无电机旋转 总通			0	0				0
	电时间 软件编号显示 电机数据	0	0	0	0	0	0	0	0
	显示 调谐数据 绝对编码器数据 自动电压控制 轴名称设置 <del>机组</del>	0	0	0	0	0	0	0	0
	组成列表 全封闭诊断 线性诊断	0	0	0	0	0	0	0	0
		0	0	0	0	0		0	0
		0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
		0						0	
		0	0	0	0	0	0	0	0
						0		0	
							0		
	-参数列表 Tuning	0	0	0	0	0	0	0	0
	Change 列表	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
参数	详细信息 IFU 参数	0	0	0	0	0	0	0	0
	_DRU 参数 设备设置								
				0	0				0
	-Jog	0	0	0	0	0		0	0
		0	0	0	0	0	0	0	0
	-无电机操作 强制输出 演示	0	0	0	0				0
Test	模式 单步进给 程序测试	0	0	0	0	0	0	0	0
		0	0			0	0	0	
				0					0
					0				
	机器分析器 Gain 搜索 机	0	0	0	0	0	0	0	0
高深-	器模拟	0	0	0	0	0	0	0	0
功能		0	0	0	0	0	0	0	0
_点数据	积分表			0					0
程序-	程序数据				0				
_data	间接寻址				0				

	Servo amplifier		MR-J2	M-P8A	MR-J2M-P8B		
Item	S040U MR-J2S-A- S240U	IFU	DRU	IFU (Axis 0)	DRU (Axis 1 to 8)		
Communication sig	nal		Con	forms to RS-	232C	•	
_	9600bps	0	0	0	0	0	
D J k	19200bps	0	0	0	0	0	
Baud rate	38400bps	0	0	0	0	0	
	57600bps	0	0	0	0	0	
	Station selection	0	0	0			
System	Axis selection				0	0	
	Automatic demo	0		0		0	
	Display all High speed monitor	0	0	0	0	0	
Monitor	Multi-axis listing						
WOIIIOI	(Multi-station listing)		0	0		0	
	Trend graph	0		0		0	
	Display	0	$\overline{}$	0		0	
Alarm	History	0	0	0	0	0	
	Amplifier data	0	0	0	0	0	
	I/O display	Ō	0		0		
	Function device display		0	0			
	No motor rotation	0		0			
	Total power-on time	0	0	0	0	0	
	Software number display	0	0	0	0	0	
	Motor data display			0		0	
Diagnostic	Tuning data	0		0			
Diagnostic	Absolute encoder data	0		0		0	
	Automatic voltage control	0					
	Axis name setting	0		0			
	Unit composition listing		0	0	0	0	
	Fully closed diagnostics						
	Linear diagnostics	0					
	Parameter list	0					
	Tuning	0		0		0	
	Change list	0	0	0	0	0	
Parameters	Detailed information	0	0	0	0	0	
	IFU parameter		0	0	0	0	
	DRU parameter		0	0	0	0	
	Device setting		0	0			
	Jog			0		0	
	Positioning	0		0		0	
	Operation w/o motor			0		0	
Test	Forced output	0	0		0		
	Demo mode	0		0		0	
	Single-step feed						
	Program test						
	Machine analyzer	0		0		0	
Advanced-function	Gain search	0		0		0	
	Machine simulation	0		0		0	
Point-data	Point table						
	Program data						
Program-data	Indirect-addressing						

伺服放大器 Item		MR-J2S-A-		MR-J2M-P8A 系列		MR-J2M-P8B 系列	
		S040U 系列 MR-J2S-A- S240U 系列	IFU	DRU	IFU (轴 0)	DRU (轴 1 到 8)	
通信信号		52.00 %(/)		.RS-232C 标准.			
	9600 个基点	0	0	0	0	0	
	-19200 基点————	0	0	0	0	0	
波特率	-38400 基点	0	0	0	0	0	
	57600 个基点	0	0	0	0	0	
	-工作站选择	0	0	0			
系统	- 1 作				0	0	
<b>尔</b>		0		0		0	
	自动演示 ———						
	显示全部	0	$\circ$	0	0		
116-12-	高速监视器						
监控	多轴列表(Multi-station		$\circ$		0		
	listing) 趋势图 ——			0		0	
	<del></del>	0	$\overline{}$	0		0	
III dide	-显示 ————	0	0	0	0	0	
报警	-历史	0	0	0	0	0	
	—————————————————————————————————————	0	0	$\overline{}$	0		
	I/O 显示 功能设备显示 无电	$\sim$	0		$\overline{}$		
	机旋转 总通电时间 软件编号		$\overline{}$	0			
	显示 电机数据显示 调谐数据 绝对编码器数据 自动电压控制	0	$\overline{}$	0		0	
	和名称设置 机组组成列表 全	0	0	0	0	0	
	封闭诊断 线性诊断	0	$\overline{}$	0	$\overline{}$	0	
	-			0		0	
诊断		0		0		0	
	<u> </u>	0		0		0	
	L	0					
		0		0		0	
	_		0	0	0	0	
	[						
	_	0					
	- 参数列表	0					
	- 调音	0		0		0	
		0	0	0	0	0	
£> ₩r	-更改列表 详细 <del>信息 IFU                                   </del>	0	0	0	0	0	
参数	●数 500 多数 以册以直		0	0	0	0	
	<u> </u>		0	0	0	0	
	<u> </u>		0	0			
	<del></del>		$\sim$	0			
	-Jog —			0		0	
	-定位 ————————————————————————————————————	$\sim$		0		0	
	-无电机操作		$\overline{}$	$\overline{}$			
Test	-强制输出 ————	0	$\sim$		$\overline{}$		
	-Demo 模式		$\overline{}$	0		$\circ$	
	- 单步进料		$\overline{}$				
	<b>——</b> 程序测试 —————						
	机器分析仪	0	$\overline{}$	0		0	
高级功能	- 增益搜索	0		0		0	
		0		0		0	
点数据 _							
	程序数据间接寻址						
程序数据							

### 1.2 System configuration

### 1.2.1 Components

To use the Servo Configuration Software, the following components are required in addition to the servo amplifier and servo motor. Configure the system according to the Installation Guide of each equipment:

Equipment		(Note 1) Description			
	os	Microsoft® Windows® 8 Enterprise / 8 Pro / 8 Microsoft® Windows® 7 Enterprise / 7 Ultimate / 7 Professional / 7 Home Premium / 7 Starter Microsoft® Windows Vista® Enterprise / Ultimate / Business / Home Premium / Home Basic Microsoft® Windows® XP Professional / XP Home Edition Microsoft® Windows® 2000 Professional Microsoft® Windows NT® Workstation 4.0 Microsoft® Windows® Me Microsoft® Windows® 98 Second Edition / 98 Microsoft® Windows® 95			
(Note 2, 4, 5, 6, 7, 8) Personal computer (IBM PC/AT compatible)	CPU	Pentium133MHz or more(Windows® 95, Windows® 98,			
	Memory	16MB or more(Windows® 95), 24MB or more(Windows® 98) 32MB or more(Windows® Me, Windows NT® Workstation 4.0, Windows® 2000) 128MB or more(Windows® XP) 1GB or more(Windows Vista®, Windows® 7, Windows® 8)			
	Hard Disk Communication interfaces	60MB or more of free space Serial port			
Display		One whose resolution is $800 \times 600$ or more and that can provide a high color (16 bit) display. Connectable with the above personal computer.			
Keyboard		Connectable with the above personal computer.			
Mouse		Connectable with the above personal computer. Note that a serial mouse is not used.			
Printe	er	Connectable with the above personal computer.			
Communicat	ion cable	MR-CPCATCBL3M When this cannot be used, refer to Section 1.2.2 and fabricate.			
RS-232C/RS-42	2 converter	Needed to use the RS-422 multidrop communication function of the servo amplifier. (Note 3)			

Note 1. Windows and Windows NT are the registered trademarks of Microsoft Corporation in the United State and other countries.

Pentium is the registered trademarks of Intel Corporation.

- 2. On some personal computers, this software may not run properly.
- 3. This function is available for the MR-J2S-A \* MR-J2M-P8A.
- 4. 64-bit Windows® XP, 64-bit Windows Vista® are not supported.
- 5. If Microsoft<sup>®</sup> Windows<sup>®</sup> XP or later is used, the following functions cannot be used. If any of the following functions is used, this product may not operate normally.
  - Start of application in Windows® compatible mode
  - Fast user switching
  - Remote desktop
  - Big fonts (Detail settings of screen property)
  - DPI setting other than the normal size (96DPI) (Detail settings of screen property)
- 6. If Windows Vista® or later is used, log in as a user having Administrator privileges.
- 7. If Windows® 7 or later is used, the following functions cannot be used.
  - Windows XP Mode
  - Touch
- 8. If Windows  $^{\tiny{\textcircled{\tiny{\$}}}}$  8 is used, the following functions cannot be used.
  - Hyper-V
  - Modern UI Style

1 리宣

### 1.2 系统配置

### 1.2.1 组件

要使用伺服配置软件,除了伺服放大器和伺服电动机外,还需要以下组件。根据每台设备的安装指南配置系统:

设备		(注 1) 描述			
	OS	MicrosoftWindows8 企业版 / 8 专业版 / 8 MicrosoftWindows7 企业版 / 7 Ultimate / 7 Professional / 7 Home Premium / 7 Starter MicrosoftWindows Vista企业版 / 旗舰版 / 商业版 / 家庭高级版 / 家庭普通版 MicrosoftWindowsXP Professional / XP Home Edition MicrosoftWindows2000 专业版 MicrosoftWindows NTWorkstation 4.0 MicrosoftWindowsMe MicrosoftWindows98 第二版 / 98 Microsoft Windows95			
(注 2、4、5、6、7、 8) 个人电脑 (兼容 IBM PC/AT)	СРИ	Pentium133MHz 或更高 (Windows 95、Windows98、			
	记忆	32GHz 或更高的 64 位 (x64) 处理器 (Windows 7、Windows8)  16MB 或更高 (Windows 95), 24MB 或更高 (Windows98)  32MB 或更多 (Windows Me、Windows NT Workstation 4.0、Windows 2000) 128MB 或更多 (WindowsXP) 1GB 或更多 (Windows Vista、Windows 7、Windows 8)			
	通信 	串行端口			
显示		分辨率为 800 的 (600 或更高,并且可以提供高彩色 (16 位) 显示。 可与上述个人电脑连接。			
		可与上述个人电脑连接。			
<b>記</b>		可与上述个人电脑连接。请注意,不使用串行鼠标。			
打印机		可与上述个人电脑连接。			
通讯电缆		MR-CPCATCBL3M 当无法使用时,请参阅 Section 1.2.2 并进行 fabricate。			
RS-232C/RS-422	转换器	需要使用伺服放大器的 RS-422 多点通信功能。(注 3)			

注 1.Windows 和 Windows NT 是 Microsoft Corporation 在美国和其他国家/地区的注册商标。

- 4. 不支持 64 位 WindowsXP、64 位 Windows Vista。
- 5. 如果使用 MicrosoftWindowsXP 或更高版本,则无法使用以下功能。如果使用以下任何功能,本产品可能无法正常运行。
  - 在 Windows 兼容模式下启动应用程序 快速用户切换 远
  - ■程桌面 大字体(屏幕属性的详细设置)

正常大小以外的 DPI 设置 (96DPI) (屏幕属性的细节设置) 6.如果使用 Windows Vista 或更高版本,请以具有管理员权限的用户身份登录。

- 7. 如果使用 Windows7 或更高版本,则无法使用以下功能。Windows XP 模式
  - 触摸
- 8. 如果使用 Windows8,则无法使用以下功能。Hyper-V 技术
  - · 现代 UI 样式

### 1.2.2 Communication cable

### (1) Selection

Use a communication cable for connection of the personal computer and the servo amplifier. Choose the communication cable according to the shape of the RS-232C connector of the personal computer used.

### **POINT**

 Depending on the personal computer used, any of the following cables may be used

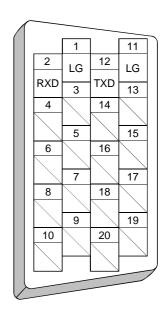
Confirm the RS-232C connector signal carefully, refer to this section and fabricate the cable.

Туре	Length [m(feet)]	Application	Des	cription
MR-CPCATCBL3M	3 (9.84)	For IBM series (D-SUB 9 pins)	Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M)	Connector: DE-9SF-N Case: DE-C1-J6-S6 (Japan Aviation Electronics)

For fabrication, refer to the connection diagram in this section. When fabricating the cable, read and follow the instructions below:

- 1) Always use a multi-core cable with a shield and connect the shield to FG securely.
- 2) Wiring distance depends on surrounding environment but should be as short as possible. Maximum distance is 15m(49.2feet) in environmentally good places with little noise, e.g. offices.

### (2) Communication connector signal pin-outs (CN3)



1 引言 -----

### 1.2.2 通讯电缆

### (1) 选择 使用通信电缆连接个人电脑和伺服放大器。

根据所用个人计算机的 RS-232C 连接器的形状选择通信电缆。

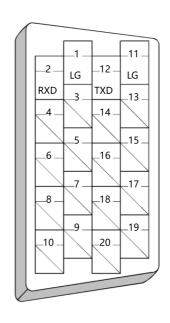
——点 —— 根据所使用的个人计算机,可以使用以下任何电缆。仔细确认 RS-232C 连接器信号,参考本节并制作电缆。

Туре	长度 <b></b> [m (英尺) <b>_</b>	应用	描述
MR-CPCATCBL3M	3 (9.84)	对于 IBM 系列 (D- SUB 9 引脚)	连接器: 10120-6000EL 外壳套 件: 10320-3210-000 (3M)

有关制造,请参阅本节中的连接图。制作电缆时,请阅读并遵循以下说明:1) 始终使用带屏蔽层的多芯电缆,并将屏蔽层牢固地连接到 FG。

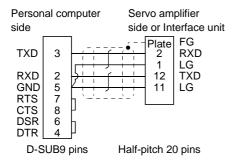
2) 布线距离取决于周围环境,但应尽可能短。 在环境良好且噪音小的地方,例如办公室,最大距离为 15 米 (49.2 英尺)。

### (2) 通信连接器信号引出线 (CN3)



# (3) Cable connection diagrams

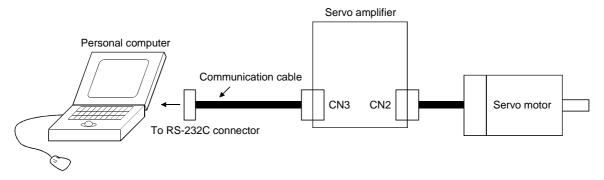
### • MR-CPCATCBL3M



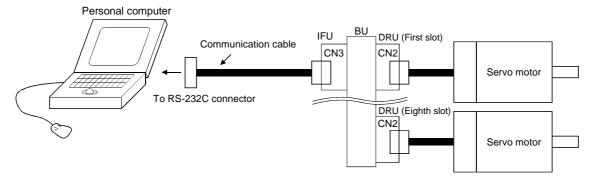
Note. Check the RS-232C connector shape of your personal computer.

### 1.2.3 Configuration diagrams

(1) MR-J2S-A • MR-J2S-B • MR-J2S-CP • MR-J2S-CL • MR-J2S-B-PY096 • MR-J2S-B-S096 • MR-J2S-B-S009U • MR-J2S-A-PY091 • MR-J2S-A-S091 • MR-J2S-CP-S084 • MR-J2S-A-S040U • MR-J2S-A-S240U

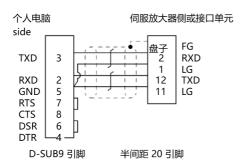


### (2) MR-J2M-P8A • MR-J2M-P8B



<u> 1 리</u>글 \_\_\_\_\_\_\_\_

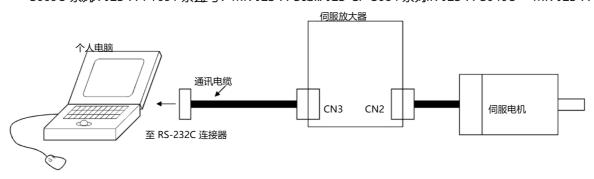
# (3) 电缆连接图 MR-CPCATCBL3M



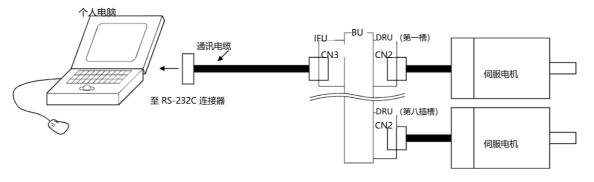
注意。检查个人计算机的 RS-232C 连接器形状。

### 1.2.3 配置图

(1) MR-J2S-AMR-J2S-B **京M**R-J2S-CP **京M**R-J2S-CL **京M**子-J2S-B-PY096 型号: MR-J2S-B-S**009R**-J2S-B-S009R-J2S-B-S009R-J2S-A-S040U MR-J2S-A-S240U 系列



(2) MR-J2M-P8AMR-J2M-P8B 系列



### 1.3 Basic terms

1) Mouse pointer

An on-screen arrow which moves with movements of the mouse.

2) Point

To move the mouse pointer to a particular item or position on the screen.

3) Click

To press and release the left button of the mouse once.

4) Double-click

To press and release the left button of the mouse twice.

5) Drag

To hold down the left button of the mouse and move the mouse.

6) Focus

Highlights characters, button or the like when the menu or button is ready to accept an input from the keyboard.

7) Text box

Box used to enter characters.

8) List box

Box used to select one of several items.



9) Combo box

Box used to select one of several items.

10) Check box

Box used to select one or more of several items. When a choice is made a mark appears in the box.

11) Option button

Button used to select only one of several items. When a choice is changed **1** moves to a new choice.

### 1.3 基本术语

1) 鼠标指针 随鼠标移动而移动的屏幕上的箭头。2) 指向 将鼠标指针移动到屏幕上的特定项目或位置。3) 单击以按下并释放鼠标的左键一次。

4) 双击 按下并释放鼠标左键两次。5) 拖动 按住鼠标左键并移动鼠标。6) 焦点 当菜单或按钮准备好接受来自键盘的输入时,突出显示字符、按钮等。7) 文本框 用于输入字符的框。8) 列表框 用于选择多个项目之一的框。



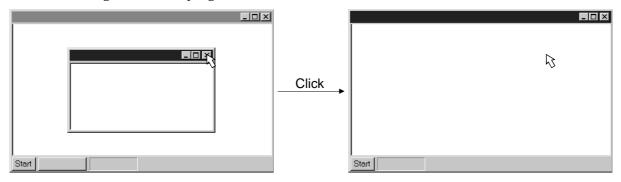
9) 组合框 用于选择多个项目之一的框。10) 用于选择多个项目中的一个或多个的复选框。做出选择后,框中会显示一个标记。11) 选项按钮 用于仅选择多个项目中一个的按钮。更改选择时

**3** 移至新选择。

# 1.4 Basic operations

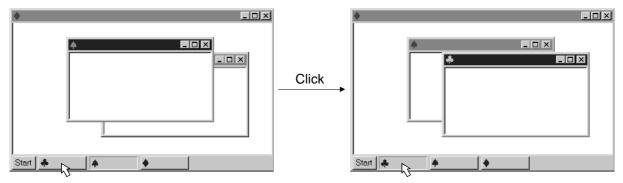
# (1) Closing the window

Click the closing bottom at top right corner of the window.



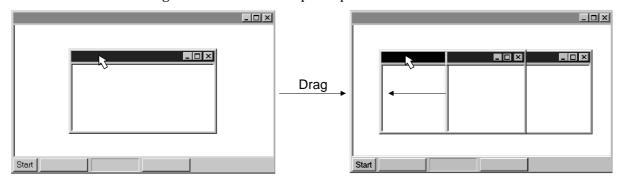
(2) Moving the focus from one window to another

Click the button of the task bar corresponding to the window to be used.



# (3) Moving the window

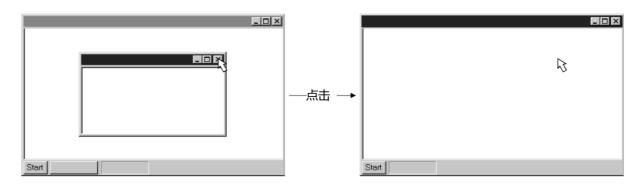
Point to the title bar, drag the window to the required position, and release the button.



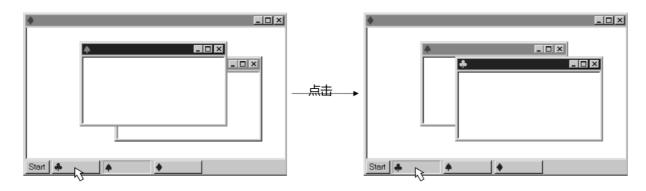
1 리宣 \_\_\_\_\_\_

### 1.4 基本操作

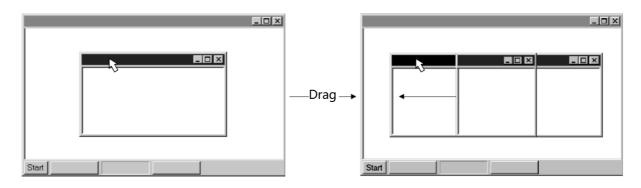
(1) 关闭窗口点击窗口右上角的关闭底部。



(2) 将焦点从一个窗口移动到另一个窗口,点击要使用的窗口对应的任务栏按钮。

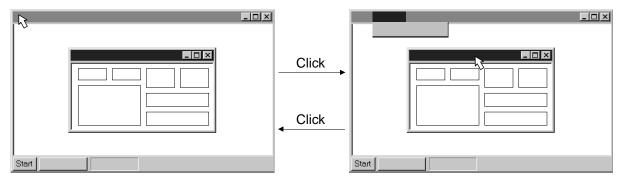


(3) 移动窗口 指向标题栏,将窗口拖动到所需位置,然后松开按钮。



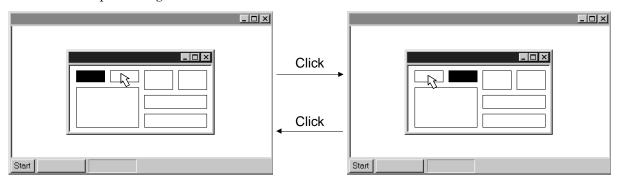
# (4) Moving the focus to the menu bar

Click the menu bar. To move the focus to a window, click the window.



# (5) Moving the focus inside the window

Click the object to be operated (such as a text box). When the object to be operated is a button, clicking it will start its processing.

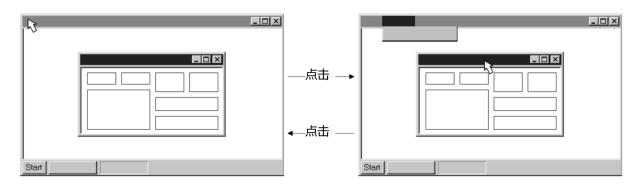


### <Short-cut keys>

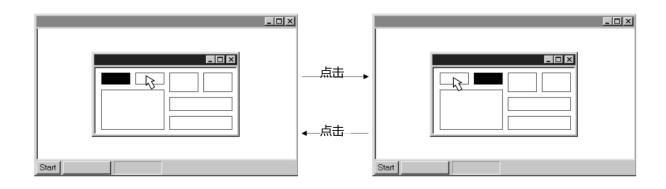
Any of the following short-cut keys may be used to perform operation from the keyboard:

Intended operation	Keyboard
End program	"Alt" + "F4"
Show start menu	"Ctrl" + "Esc"
Change window	"Alt" + "Tab"
Change object	"Tab"

(4) 将焦点移至菜单栏点击菜单栏。要将焦点移动到某个窗口,请单击该窗口。



(5) 在窗口内移动焦点 点击需要操作的对象(如文本框)。当要操作的对象是按钮时,单击它将开始处理。

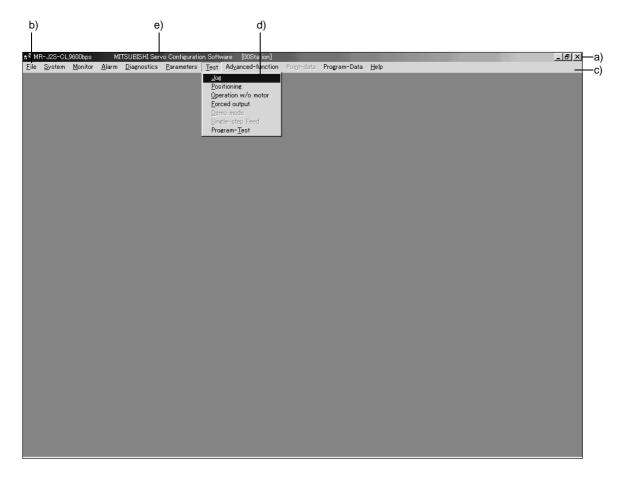


### 〈快捷键〉

以下任何快捷键都可用于从键盘执行操作:

	键盘
结束程序	"Alt" "F4"
显示开始菜单	"Ctrl" <sup>+</sup> "Esc" <del>(退出)</del>
更改窗口	"Alt" <sup>†</sup> "Tab" 选项卡
更改对象	"Tab" 选项卡

### 1.5 Screen definitions



- a) Title bar
- b) Menu title
- c) Menu bar Shows the menu title.
- d) Menu

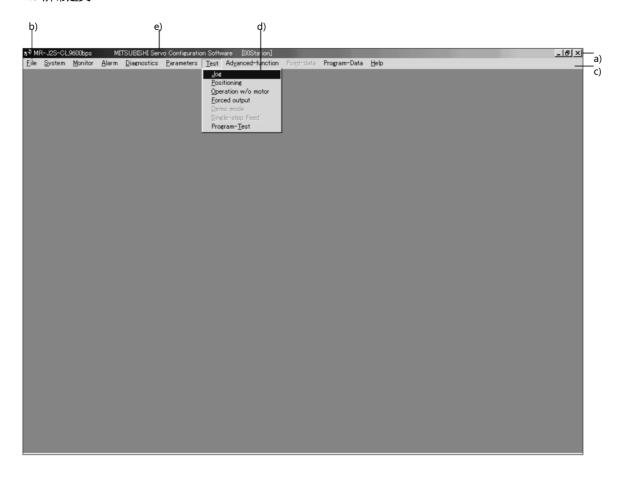
 $Command\ menu\ in\ tier\ 1$ 

e) System setting display area Shows the servo amplifier and baud rate which have been set.

Shows the servo amplifier and badd rate which have been set

<u>1 리</u>

### 1.5 屏幕定义



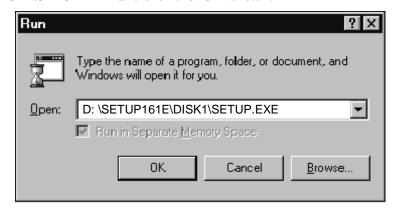
- a) 标题栏
- b) 菜单标题

### 1.6 Installation procedure

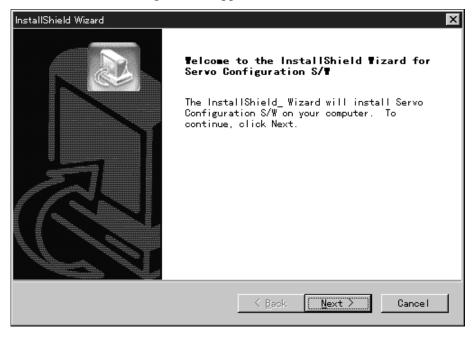
In this procedure, it is assumed that the hard disk drive of the personal computer is C and the CD drive is D.

Before running this program, always close all Windows programs.

1) Insert CD-ROM in Drive D (CD drive). Then, click the "Start" button of the task bar to open the start menu, specify the file name, and click "Run". When the following window has appeared, type "D:\SETUP161E\DISK1\SETUP.EXE" and click the "OK" button.



2) After the above window, the following window appears. Click "Next>" button.



1 리宣

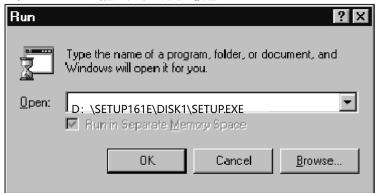
### 1.6 安装程序

在此过程中, 假定个人计算机的硬盘驱动器为 C, CD 驱动器为 D。

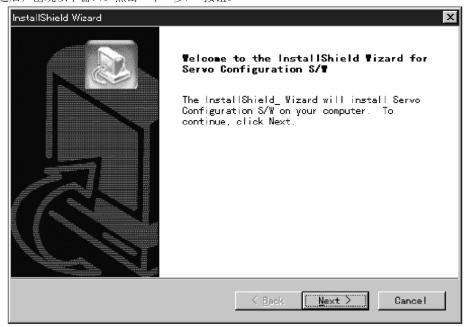
在运行此程序之前,请务必关闭所有 Windows 程序。

1) 将 CD-ROM 插入驱动器 D(CD 驱动器)。然后,单击任务栏的"开始"按钮打开开始菜单,指定文件名,然后单击"运行"。出现以下窗口后,键入

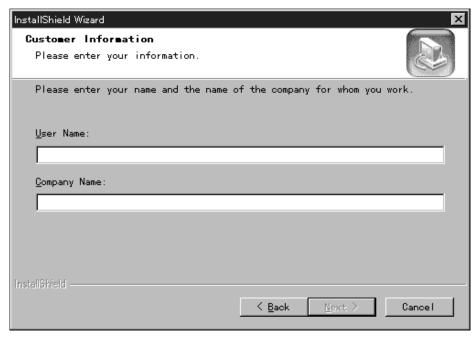
"D: \SETUP161E\DISK1\SETUP. EXE", 然后单击"确定"按钮。



2) 在上述窗口之后,出现以下窗口。点击"下一步》"按钮。



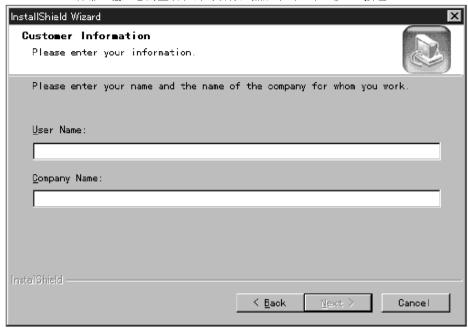
3) The User Information screen appears. Type your full name and company name and click "Next>" button.



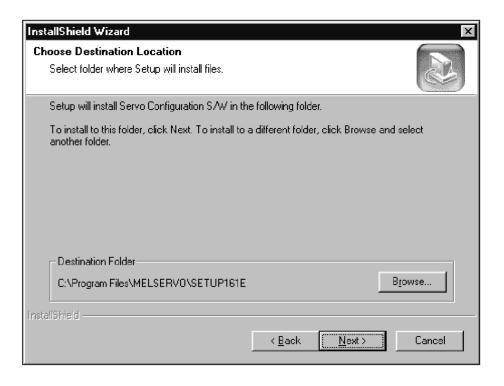
4) The Choose Destination Location screen appears. When you specify the destination folder and click "Next>" button, installation starts.



3) 显示 User Information 屏幕。输入您的全名和公司名称,然后单击"下一步〉"按钮。



4) 此时将显示 Choose Destination Location 屏幕。当您指定目标文件夹并单击 "Next>" 按钮时,安装开始。



5) When installation ends, any of the following screens appears. Click the "Finish" button to exit from Setup.



# **POINT**

• In the corresponding window, to stop installation, click the "Cancel" button or press the "Escape".

5) 安装结束后,将显示以下任何屏幕。单击 "Finish" 按钮退出 Setup。



点 -

· 在相应的窗口中,要停止安装,请单击"取消"按钮或按"Escape"。

### 2. HOW TO USE THE SOFTWARE

### 2.1 Operation

The method of selecting the command is the operation procedures using the mouse. Unavailable commands are grayed out.

### 2.1.1 Start-up

- 1) Click the "Start" button of the task bar to open the menu.
- 2) Point to submenu "MELSERVO", "SETUP\_Software" from "Programs".
- 3) Click "SETUP161E".

If Windows® 8 is used, start the software as show below.

- 1) Click on the "SETUP161E" tile at the startup screen.
- \* If the "SETUP161E" tile is not displayed on the startup screen, follow the procedure below.
- Right-click on the startup screen, and select "All apps" > "SETUP161E" in the "MELSERVO" group.

### 2.1.2 Command selection procedures

- 1. Clicking method
  - 1) Click the menu title on the menu bar to open the menu.
  - 2) Point to and click the command to be selected.

### 2. Dragging method

Point to the menu title on the menu bar, hold down the left button and drag the mouse to the command to be selected, and release the button.



2 加何使田软件

# 2. 如何使用软件

### 2.1 手术

选择命令的方法是使用鼠标的操作步骤。 不可用的命令灰显。

### 2.1.1 启动

- 1) 点击任务栏的"开始"按钮打开菜单。
- 2) 从"程序"指向子菜单"MELSERVO"、"SETUP\_Software"。
- 3) 点击"SETUP161E"。

如果使用 Windows8, 请按如下所示启动软件。

- 1) 点击启动屏幕上的"SETUP161E"磁贴。
- \* 如果启动屏幕上未显示"SETUP161E"磁贴,请按照以下步骤操作。
- ·右键单击启动屏幕,然后在 "MELSERVO" 组中选择 "所有应用程序" > "SETUP161E"。

### 2.1.2 指挥官选拔程序

- 1. 点击方式
  - 1) 点击菜单栏上的菜单标题以打开菜单。
  - 2) 指向并单击要选择的命令。
- 2. 拖动方法 指向菜单栏上的菜单标题,按住左键并拖动鼠标到需要选中的命令处,然后松开按钮。



# 2.1.3 Operation procedures within the window

Within the operation window, enter data and/or press the button.

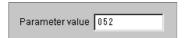
(1) Pressing a button

Click the button in the window.



## (2) Entering data

Click the setting area to move the focus there, and enter data from the keyboard.

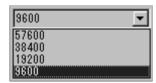


(3) Selecting data

Click the data to be selected.



- (4) Selecting the combo box data, etc.
  - 1) Click on the right of the setting portion to open the combo box.
  - 2) Make selection by clicking the data or like to be chosen.



(5) Pressing the option button Click the item or button.



### 2.1.3 窗口内的操作步骤

在操作窗口中,输入数据和/或按下按钮。

(1) 按下按钮点击窗口中的按钮。



(2) 输入数据点击设置区域,将焦点移动到该区域,然后从键盘输入数据。



(3) 选择数据点击要选择的数据。



- **(4) 选择组合框数据等** 1) 单击设置部分的右侧以打开组合框。
  - 2) 通过单击数据进行选择或喜欢被选择。

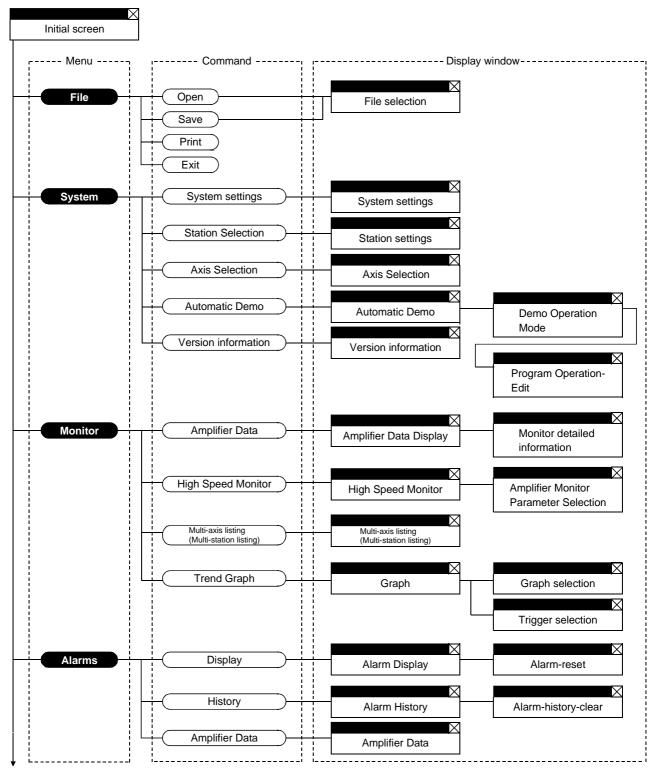


(5) 按下选项按钮点击项目或 按钮。

○ CH1

# 2.2 Commands and display windows

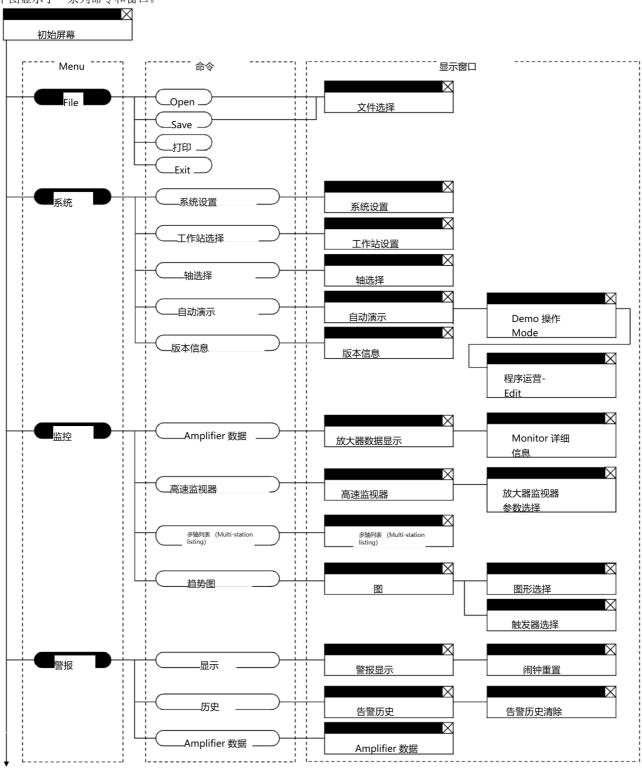
The following diagram shows a sequence of commands and windows.



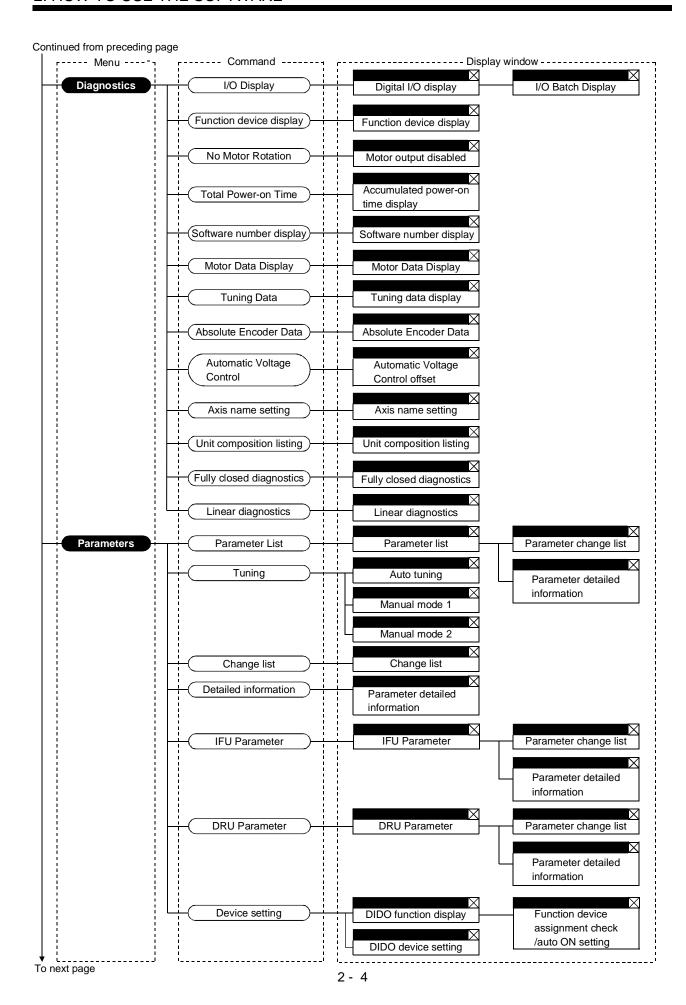
To next page

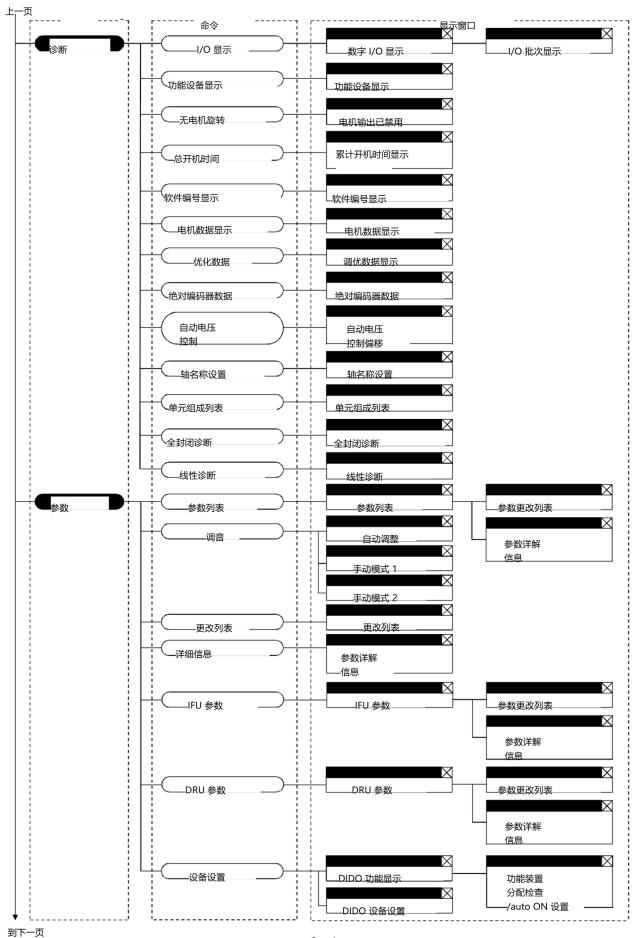
### 2.2 命令和显示窗口

下图显示了一系列命令和窗口。

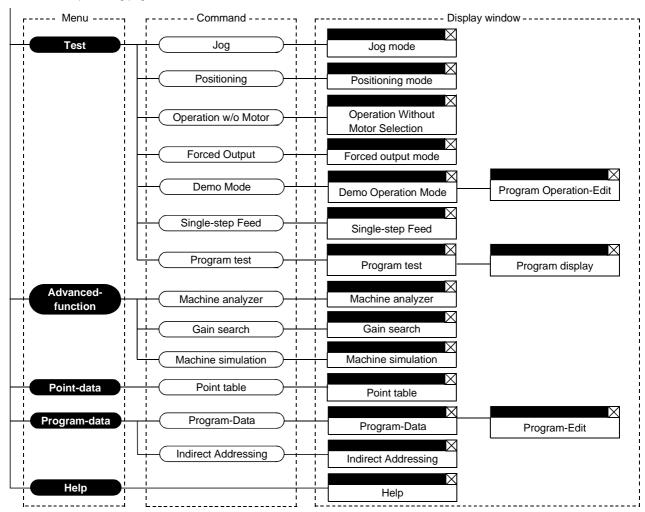


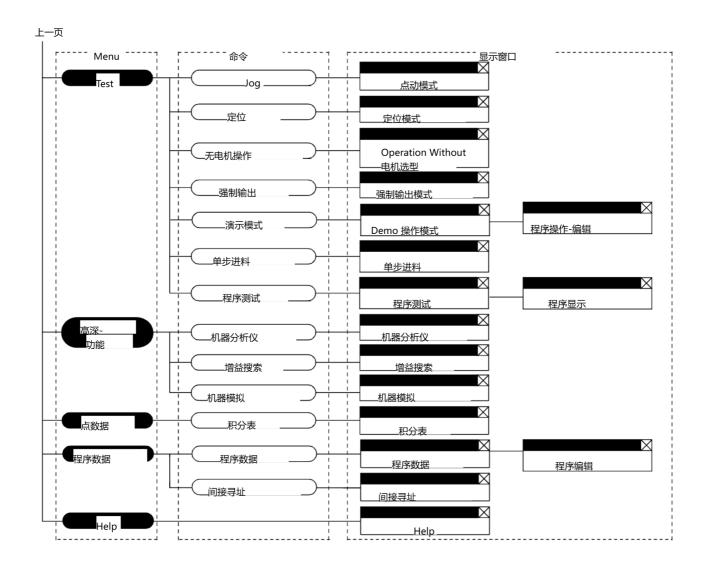
到下一页





#### Continued from preceding page





#### 2.3 Precautions for test mode

	Always touch the switches with dry hands. You may get an electric shock if you touch them with wet hands.
⚠ WARNING	<ul> <li>Always operate the equipment with the front cover installed. Removing the front cover will expose the terminals and charged area having high voltages, which may lead to an electric shock.</li> </ul>
	<ul> <li>Keep the front cover closed while power is on the equipment is running.</li> <li>Otherwise, you may get an electric shock.</li> </ul>

# ⚠ CAUTION '

- Before starting operation, make sure that the parameters are set to correct values.
   Depending on machines, they may operate unpredictably.
- While power is on or for some time after power-off, keep clear of the servo amplifier's heat sink and regenerative brake resistor, the servo motor, etc. as they may be high temperatures. Otherwise, you may get burned.

### (1) Servo on

In the Jog, Positioning, Demo Mode or Single-step Feed available in the Test, the servo amplifier's digital input signal SON is automatically switched on in the servo amplifier to start operation, independently of the ON/OFF status of SON. Also, any external command pulse or input signal (except emergency stop) is not accepted until the test mode window is closed to terminate the command.

SON is automatically switched on by the following operation:

Test mode	Mouse
Jog	Click the "Forward" or "Reverse" button.  The servo motor rotates while you are clicking the button.
Positioning	Click the "Forward" or "Reverse" button.
Demo Mode	Click the "Start" button.

#### (2) Stop

#### POINT

• To make an emergency stop, switch off the emergency stop signal of the servo amplifier or shut off the input power.

## 1) Perform the following operation to stop the test mode:

Test mode	Mouse
Jog	Click the "Pause" button.
Positioning	Click the "Pause" button.
Demo Mode	Click the "Reset" button.

- 2) The servo motor will stop if either of the following situations occurs in the test mode:
  - The communication cable is disconnected.
  - If the window is dragged or the other menu is opened, communication between the personal computer and the servo amplifier may be suspended temporarily, stopping the servo motor temporarily.

#### 2.3 测试模式注意事项警告

始终用干燥的手触摸开关。如果用湿手触摸它们,您可能会触电。始终在安装前盖的情况下操作设备。取下前盖会暴露出具有高电压的端子和充电区域,这可能会导致触电。
 ▲
 在设备运行的情况下,保持前盖关闭。
 否则,您可能会触电。

在开始操作之前,请确保将参数设置为正确的值。 根据机器的不同,它们可能会以不可预测的方式运行。 在通电时或断电后的一段时间内,请远离伺服放大器的散热器和再生制动电阻器、伺服电机等,因为它们可能处于高温状态。否则,您可能会被烫伤。

(1) 伺服开启 在测试中可用的 Jog、Positioning、Demo Mode 或 Single-step Feed 中,伺服放大器的数字输入信号 SON 在伺服放大器中自动开启,开始运行,

独立于 SON 的 ON/OFF 状态。此外,在关闭测试模式窗口以终止命令之前,不接受任何外部命令脉冲或输入信号(紧急停止除外)。

SON 通过以下操作自动开启:

DON WEST INTERSTITE	
测试模式	<b>鼠</b>
Ιοσ	点击 "Forward" 或 "Reverse" 按钮。 -单击按钮时,伺服电动机会旋转。
定位	上点击 "Forward" 或 "Reverse" 按钮。

#### (2) 停止

**一点 ——」** • 要进行紧急停止,请关闭伺服放大器的紧急停止信号或关闭输入电源。

1) 执行以下操作停止测试模式:测试模式 鼠标

Jog	
定位	点击 "Pause" 按钮。
海示模式	点击 "Reset" 按钮。

- 2) 在测试模式下,如果出现以下任何一种情况,伺服电机将停止:通讯电缆断开。
  - 如果拖动窗口或打开其他菜单,个人计算机和伺服放大器之间的通信可能会暂时暂停,从而暂时停止伺服电机。

# 2.4 Simple language for program operation

The language used in the program operation-edit window will be described below.

# 2.4.1 Language

The chart below describes the commands in the program operation-edit window to execute the program operation mode, in which the MR-J2S-A goes into the position control mode.

Describe a program in upper case characters and Enter or Return at the end of a line. Up to 300 lines may be described.

Command	Name	Setting (**: Set value)	Setting range	Unit	Description		
SPN	Feedrate	SPN (**)	0 to permissible instantaneous speed	r/min	Used to set the command speed given to the servo motor for positioning. The set value should be not more than the permissible speed of the servo motor used.		
STC	Acceleration/deceleration time	STC (**)	0 to 50000	ms	Used to set the acceleration/deceleration time. (Time required to reach the rated speed of the corresponding servo motor)		
MOV	Move command	MOV (**)	9999999 to 9999999	pulse	Used to execute movement by the preset pulses. Positioning operation is performed with the set values of the feedrate (SPN) and acceleration /deceleration time (STC).  No symbol: CCW rotation, —: CW rotation		
SYNC	Waiting external signal to switch on	SYNC (**)	As listed in the table at right.		This command is available for the MR-J2S-A · MR-J2M-P8A.  Used to hold the next operation until the preset digital input signal (DI) of the servo amplifier switches on. By setting 99, the next operation will be performed unconditionally. Set the input signal as listed below:  For the MR-J2S-A, any signal not allocated by signal assignment in the position control mode using parameters No. 43 to 48 will be invalid if it is selected.  For the MR-J2M-P8A, any signal not allocated by device setting will be invalid if it is selected here.  Set Value MR-J2S-A MR-J2M-P8A  0 SON SON  1 LSP LSP  2 LSN LSN  3 TL  4 5 PC PC  6 RES RES  7 CR CR  8 9  10  11  99 Unconditional Unconditional		
TIM	Dwell command time	TIM (**)	1 to 50	s	Used to hold the next operation until the preset time elapses.		
TIMES	Program count command	TIMES (**)	1 to 99	Times	Used to specify the number of cycles or times (from TIMES to STOP) that the positioning is to be repeated. Enter the TIMES (**) at the beginning and STOP at the end of a cycle. Not required for one positioning cycle.		
STOP	Program stop				Used to stop the program being executed. Need not be described on the last line.		

### 2.4 程序操作的简单语言

程序操作编辑窗口中使用的语言将在下面描述。

# 2.4.1 语言

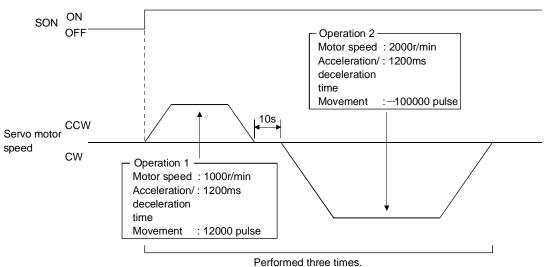
下图描述了程序操作编辑窗口中执行程序操作模式的命令,其中 MR-J2S-A 进入位置控制模式。用大写字符描述程序,并在 行尾添加 Enter 或 Return 键。最多可描述 300 行。

命令	Name	↓ 设置 → (**: 设置值)	设置范围	Unit	描述	
SPN	进给率	单值 (**)	0 到允许 瞬时 速度	r/min	用于设置给伺服马达的指令速度以进行定位。设定值应不大于所用伺服电机的允许转速。	
STC	加速/减速- 运行时间	STC (**)	0 到 50000	ms	用于设置加速/减速时间。(达到相应伺服电机的额定转速所需的时间)	
MOV	移动命令	MOV (**)	9999999 to 9999999	脉冲	用于通过预设脉冲执行移动。定位操作以进给率 (SPN) 和加减速时间 (STC) 的设定值进行。无符号: CCW rotation,: CW rotation 此命令可用于 MR-J2S-A MRJ2M-P8A。 用于保持下一个操作,直到伺服放大器的预设数字输入信号 (DI) 打开。通过设置 99, 将无条件执行下一个操作。按如下方式设置输入信号: 对于 MR-J2S-A,在位置控制模式下使用参数编号 43 至 48 分配信号时,任何未分配的信号如果被选中,将无效。对于 MR-J2M-P8A,如果在此处选择任何未由设备设置分配的信号,则该信号将无效。	
SYNC	等待外部信号接通	同步 (**)	如右侧的表格。			
TIM	Dwell 命令 time	时间 (**)	1 至 50	s	用于保留下一个操作,直到预设时间过去。	
次	程序计数命令	时间 (**)	1 至 99	次	用于指定要重复定位的周期数或时间数(从 TIMES 到 STOP)。在周期开始时输入 TIMES (**),在周期结束时输入 STOP。一个定位周期不需要。	
ST0P	程序停止				用于停止正在执行的程序。无需在最后一行描 述。	

#### 2.4.2 Program example

As soon as the "Start" button is clicked, SON is switched on automatically to start operation.

#### Timing chart



Program		
TIMES (3)	. Repeats the program up to STOP three times.	
SYNC (0)	. Holds the program from running until the input signal with value of 0 (SON) switches on.	the set
SPN (1000)	. Sets the command speed to 1000r/min.	
STC (1200)	. Sets the acceleration/deceleration time to 1200ms.	Operation 1
MOV (12000)	. Executes movement by 12000 pulses in the CCW direction	J
TIM (10)	. Hold the next operation for 10s.	Operation 2
SPN (2000)	. Sets the command speed to 2000r/min.	Operation 2
MOV (-100000)	. Executes movement by 100000 pulses in the CW direction.	
STOP		

In this example, the acceleration/deceleration time in Operations 1 and 2 are the same.

In this case, the acceleration/deceleration time in Operation 2 need not be set. In this way, set values different from those in the preceding operation need only be described in the operation program.

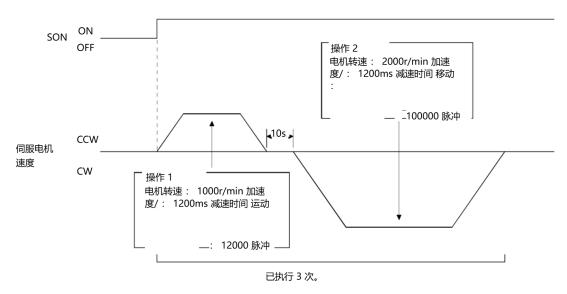
#### 2.4.3 Instruction

When the program operation mode is executed with the program operation mode window and another window (Amplifier Data Display window) being displayed at the same time, the program may progress slower, making the dwell command time longer than the set value.

#### 2.4.2 程序示例

一旦点击"开始"按钮, SON 就会自动开启以开始运行。

#### 时序图



程序

TIMES (3) 重复程序,直到 STOP 三次。

SYNC (0) 保持程序运行,直到设置值为 0 (SON) 的输入信号打开。

SPN (1000) 将指令转速设置为 1000r/min。

STC (1200) 将加减速时间设置为 1200ms。

MOV (12000) 沿 CCW 方向执行 12000 个脉冲的移动。

TIM (10) 按住下一个操作 10 秒。

SPN (2000) 将指令转速设置为 2000r/min。

**MOU**0000) 沿 CW 方向执行 100000 个脉冲的移动。STOP 在此示例中,操作 1 和 2 中的加速/减速时间相同。在这种情况下,无需设置操作 2 中的加速/减速时间。这样,设置与上述操作不同的值只需要在操作程序中描述即可。

操作 1

操作 2

#### 2.4.3 指令

当在程序运行模式窗口和另一个窗口(放大器数据显示窗口)同时显示的情况下执行程序运行模式时,程序的进度可能会变慢,从而使停留命令时间长于设定值。

### 3. TROUBLESHOOTING

#### 3.1 Communication error

If communication between the personal computer and the servo amplifier is suspended and the communication error as shown in the following window occurs, check the code on the right of the error message and remove its cause.

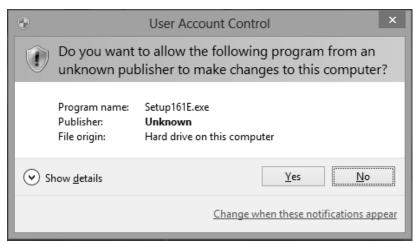
<Possible cause> Noise entry, hard disk fault, wiring fault, etc.



Code	Definition
001	Parity error occurred in the data sent from the personal computer.
002	Checksum error occurred in the data sent from the personal computer.
003	Character not given in the specifications was sent to the servo amplifier.
004	Command not given in the specifications was sent to the servo amplifier.
005	Data number not given in the specifications was sent to the servo amplifier.  Data outside the permissible range was sent to the servo amplifier.
None	Checksum error occurred in the data received by the personal computer.

### 3.2 Message at startup

The window below appears at startup of this setup software when Windows Vista® or later is used. Select "Yes".



3 坎底排胶

# 3. 故障排除

#### 3.1 通讯错误

如果个人计算机和伺服放大器之间的通信暂停,并且出现以下窗口所示的通信错误,请检查错误消息右侧的代码并消除其原因。

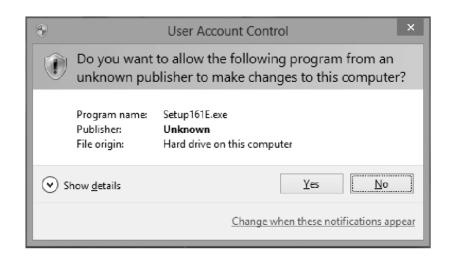
〈可能的原因〉噪音输入、硬盘故障、布线故障等。



Code	定义
001	从个人计算机发送的数据中出现奇偶校验错误。
002	从个人计算机发送的数据中发生校验和错误。
003	规格中未给出的字符被发送到伺服放大器。
004	规格中未给出的命令已发送到伺服放大器。
005	规格中未给出的数据编号被发送到伺服放大器。
005	超出允许范围的数据被发送到伺服放大器。
None	个人计算机接收的数据中出现校验和错误。

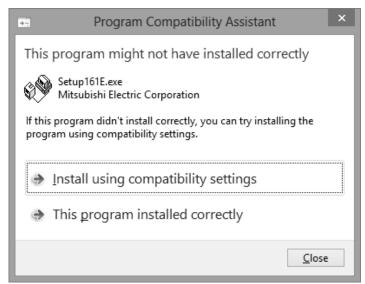
# 3.2 启动时的消息

当使用 Windows Vista 或更高版本时,在启动此设置软件时会出现以下窗口。选择 "Yes"。



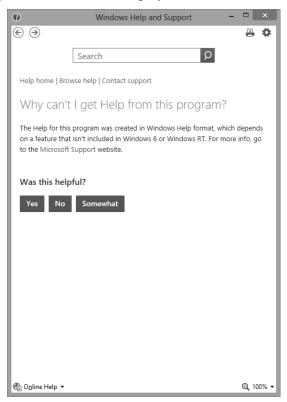
### 3.3 Message at program shutdown

The window below appears at program shutdown when Windows Vista® or later is used. Select "This program is installed correctly".



### 3.4 HELP display

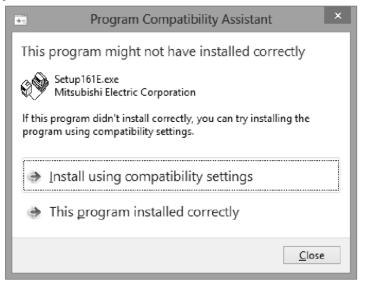
HELP may not be displayed when Windows Vista® or later is used. In that case, follow the window below which always appears at the HELP startup, and install "WinHelp32.exe", which is required for the HELP display.



3 故暗排除

#### 3.3 程序关闭时的消息

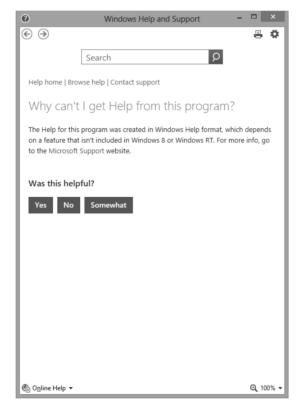
当使用 Windows Vista 或更高版本时,程序关闭时会出现以下窗口。 选择"此程序已正确安装"。



### 3.4 HELP 显示

使用 Windows Vista 或更高版本时,可能不显示 HELP。

在这种情况下,请按照下面始终出现在  $\rm HELP$  启动时的窗口进行操作,并安装  $\rm HELP$  显示所需的 "WinHelp32. exe"。



# **REVISIONS**

\*The manual number is given on the bottom left of the back cover.

Print Date	*Manual Number	Revision
Jun., 2000	IB(NA)0300017-A	First edition
Feb., 2001	IB(NA)0300017-B	Overall changes to the form
Dec., 2001	IB(NA)0300017-C	Updated from SETUP121E to SETUP151E
		Section 1.1 Table change
		Section 1.3.1 Table change
		Section 1.3.2 Addition of MR-J2S-CP, MR-J2M-P8A, MR-J2M-P8B servo amplifiers
		Section 1.3.3 Addition of MR-J2S-CP, MR-J2M-P8A, MR-J2M-P8B servo amplifiers
		Section 1.6 Screen change
		Section 1.7 POINT addition
		Installation screen change
		Section 2.1.2 Screen change
		Section 2.1.3 Partial screen change
		Section 2.2 Menu addition
		Section 2.4.1 Addition of MR-J2M-P8A servo amplifier
Nov., 2002	IB(NA)0300017-D	Section 1.1 Addition of MR-J2S-CL, MR-J2S-B-PY098/-S096/-S009U
		Addition of fully closed diagnosis, linear diagnosis, program test operation and
		program data
		Section 1.2 Deletion of Inspection at Delivery
		Section 1.2.1 Table reexamination
		Section 1.2.2 (1) Addition of MR-J2S-CL, MR-J2S-B-PY098/-S096/-S009U
		Section 1.2.2 (2) Text deletion
		Section 1.2.3 (1) MR-J2S-CL, MR-J2S-B-PY098/-S096/-S009U
		Section 1.5 Screen change
		Section 1.6 POINT deletion, text modification, reexamination
		Section 2.1.2 Screen change
		Section 2.2 Addition of fully closed diagnosis and linear diagnosis to the diagnosis
		commands
		Addition of program test operation to the test commands
		Addition of program data to the menu
Aug., 2003	IB(NA)0300017-E	Section 1.1 Addition of MR-J2S-CP-S084, MR-J2S-B-PY091, MR-J2S-\B4
		servo amplifier
		Section 1.2.1 Addition of Windows XP Professional, Windows XP Home Edition
		Section 1.2.3 Addition of MR-J2S-CP-S084, MR-J2S-B-PY091, MR-J2S-\B4 MR-J2S-\B4
		servo amplifier
		Section 1.5 Screen change
Feb., 2004	IB(NA)0300017-F	Section 1.1 Addition of MR-J2S-A-S040U, MR-J2S-A-S240U servo amplifier
		Section 1.2.1 Reexamination of description on Windows
		Addition of Windows® 98 Second Edition
		Change of Free hard disc space to 60MB.
		Section 1.2.3 Addition of MR-J2S-A-S040U, MR-J2S-A-S240U

# 修改

\*手册编号位于后盖左下角。

打印日期	*手动编号	校订				
2000 年 6 月	TB (NA) 0300017-A _	初版				
2001 年 2 月		对表单的总体更改				
2001 年 12 月	IB (NA) 0300017-C	   从 SETUP121E 更新到 SETUP151E				
		第 1.1 节 表格更改				
		第 1.3.1 节 表格更改				
		第 1.3.2 节 添加 MR-J2S-CP、MR-J2M-P8A、MR-J2M-P8B 伺服放大器				
		第 1.3.3 节 添加 MR-J2S-CP、MR-J2M-P8A、MR-J2M-P8B 伺服放大器				
		第 1.6 节 屏幕更改				
		第 1.7 节 POINT 添加				
		安装屏幕更改				
		Section 2.1.2 屏幕更改				
		Section 2.1.3 部分屏幕更改				
		第 2.2 节 菜单添加				
		第 2.4.1 节 MR-J2M-P8A 伺服放大器的添加				
2002 年 11 月	IB (NA) 0300017-D	第 1.1 节 MR-J2S-CL、MR-J2S-B-PY098/-S096/-S009U 的添加				
		增加全封闭诊断、线性诊断、程序测试操作和				
		程序数据				
		第 1.2 节 删除交货时检验				
		第 1.2.1 节 表重新检查				
		第 1.2.2 节 (1) 添加 MR-J2S-CL、MR-J2S-B-PY098/-S096/-S009U				
		第 1.2.2 节 (2) 文本删除				
		第 1.2.3 节 (1) MR-J2S-CL、MR-J2S-B-PY098/-S096/-S009U				
		第 1.5 节 屏幕更改 				
		第 1.6 节 POINT 删除、文本修改、重新检查				
		Section 2.1.2 屏幕更改				
		第 2.2 节 在诊断中增加完全封闭诊断和线性诊断				
		命令				
		在测试命令中添加了程序测试操作 将程序数据添加到菜单中				
2003 年 8 日	IB (NA) 0300017-E	第 1.1 节 MR-J2S-CP-S084、MR-J2S-B-PY091、MR-J2S- 的添加	A4、MR-J2S- B4			
2000   0 /1	IB (MI) OBOUTE	伺服放大器	HIV MIC 525 DI			
		第 1.2.1 节 Windows XP Professional、Windows XP Home Edition 的添加				
		第 1.2.3 节 MR-J2S-CP-S084、MR-J2S-B-PY091、MR-J2S- 的添加	A4、MR-J2S- B4			
		何服放大器				
		第 1.5 节 屏幕更改				
2004 年 2 月	IB (NA) 0300017-F	第 1.1 节 MR-J2S-A-S040U、MR-J2S-A-S240U 伺服放大器的添加				
		第 1.2.1 节 在 Windows 上重新检查描述				
		添加 Windows98 第二版				
		将可用硬盘空间更改为 60MB。				
		第 1.2.3 节 MR-T2S-A-S040U、MR-T2S-A-S240U 的添加				

Print Date	*Manual Number	Revision
Sep.,2013	IB(NA)0300017-G	Section 1.1 Reexamination of table format
		Correction of erroneous description
		Section 1.2.1 Addition of Windows Vista®, Windows® 7, Windows® 8
		Reexamination of table format
		Note is changed
		Section 1.4 Reexamination of short-cut keys
		Section 1.6 Correction of erroneous description
		The screen is changed
		Section 2.1.1 Addition of startup method when Windows® 8 is used
		Section 2.2 Correction of erroneous description
		Section 2.4.2 Correction of erroneous description
		Section 3.2 Deletion of "Screen unprintable"
		Addition of "Message at startup"
		Section 3.3 Addition of "Message at program shutdown"
		Section 3.4 Addition of "HELP display"
		Back cover Update to latest version

打印日期	*手动编号	校订
2013 年 9 月		I第(INAL) 初30面0面市屯视表格格式
		更正错误描述
		第 1.2.1 节 Windows Vista、Windows7、Windows8 的添加
		重新检查表格格式
		注意已更改
		第 1.4 节 重新审视快捷键
		第 1.6 节 更正错误描述
		屏幕已更改
		第 2.1.1 节 使用 Windows8 时添加启动方法
		第 2.2 节 更正错误描述
		第 2.4.2 节 更正错误描述
		第 3.2 节 删除 "Screen unprintable" 添加了 "Message at startup"
		第 3.3 节 添加 "程序关闭时的消息"
		Section 3.4 添加 "HELP display"
		封底更新到最新版本

MODEL	
MODEL CODE	

<b>A</b>				
<b>.</b>	MITSUBISHI	FI FCTRIC		
	MI I OUDIONI	ELECINIC	CURFUR	AIIUI

HEAD OFFICE : TOKYO BLDG MARUNOUCHI TOKYO 100-8310

型	
型 CODF	



总公司: 东京大厦 丸之内 东京 100-831