

FUJI PROGRAMMABLE CONTROLLER

MICREX-F

**Loader Software Package
for Personal Computer
(Windows)**

USER'S MANUAL

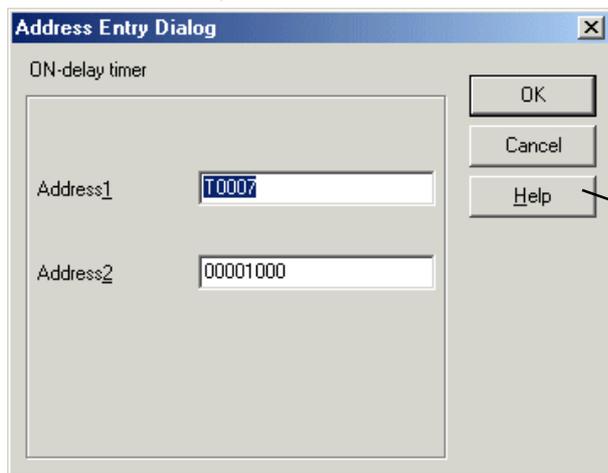
Type: NL4N-WNSB

When you unpack this product, make sure that you have all the items listed below. Also check that nothing has been damaged during transportation. If there is any problem, please contact your dealer.

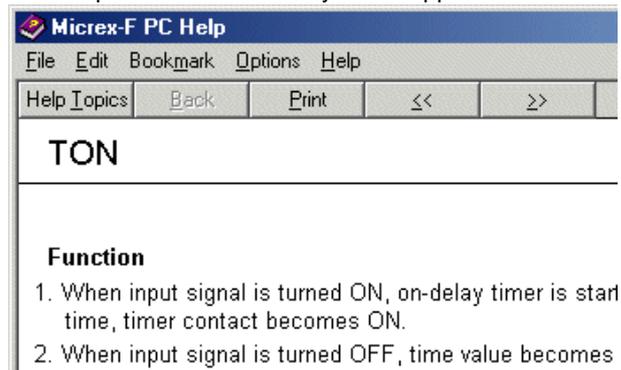
This User's Manual explains MICREX-F series personal computer Loader (for windows). Read this manual carefully to ensure correct operation.

For contents not described in the User's Manual, refer to Help. The [Help] screen corresponding to current operation appears.

(Example) Pressing [Help] in On Delay Timer



The Help screen for On Delay Timer appears.



In addition to this manual, we offer the following major User's Manuals for the MICREX-F series. Please read an appropriate one according to the purpose.

Name	Manual No.	Remarks
F55 series <HARDWARE>	FEH150	Explains about F55 series Hardware
F70/F70S series <HARDWARE>	FEH063	Explains about F70/70S series Hardware
F120S/F140S/F150S series <HARDWARE>	FEH084	Explains about F120S/F140S/F150S series Hardware
MICREX-F series <INSTRUCTION>	FEH160	Explains MICREX-F series Software
MICREX-F series <COMMUNICATION>	FEH161	Explains MICREX-F series T-Link, P-Link

Notes

1. This manual may not be reproduced in whole or part in any form without prior written approval by the manufacturer.
2. The contents of this manual (including specifications) are subject to change without prior notice.
3. If you find any ambiguous or incorrect descriptions in this manual, please write them down (along with the manual No. shown on the cover) and contact FUJI.
4. The loader software is subject to version up due to functional improvement, etc. Therefore, an explanation of some items may not be found in this manual. For details, please check the revision log included in "Preface", using the help function of the loader software.

*Microsoft, Windows are trademarks of Microsoft Corporation in the USA and other countries.

Preface

Special Notes

The following shows the relationship between PC models and applicable software versions.
PC models not described in this table cannot be used.

Model	Version			
	1.00.031...	1.10.026...	1.2X.XXX...	
F30	X	O	O	
F50, F50H	X	O	O	
F55 (main unit version 0.999 or earlier) Note 1)	X	O	O	
F55 (main unit version 1.001 or later)	O	O	O	
F60	X	O	O	
F70, F70S	O	O	O	
F80, F81	X	X	O	
F80H	X	O	O	
F100, F105	X	X	O	
F120, F125	X	X	O	
F120H	X	O	O	
F120S, F140S, F150S	O	O	O	

Note 1: Handled as "F80H" by the personal computer loader.

Safety Precautions

Be sure to read the "Safety Precautions" thoroughly before using the module.
Here, the safety precaution items are classified into "Warning" and "Caution."



: Incorrect handling of the device may result in death or serious injury.



: Incorrect handling of the device may result in minor injury or physical damage.

Even some items indicated by "Caution" may also result in a serious accident.
Both safety instruction categories provide important information. Be sure to strictly observe these instructions.

Caution

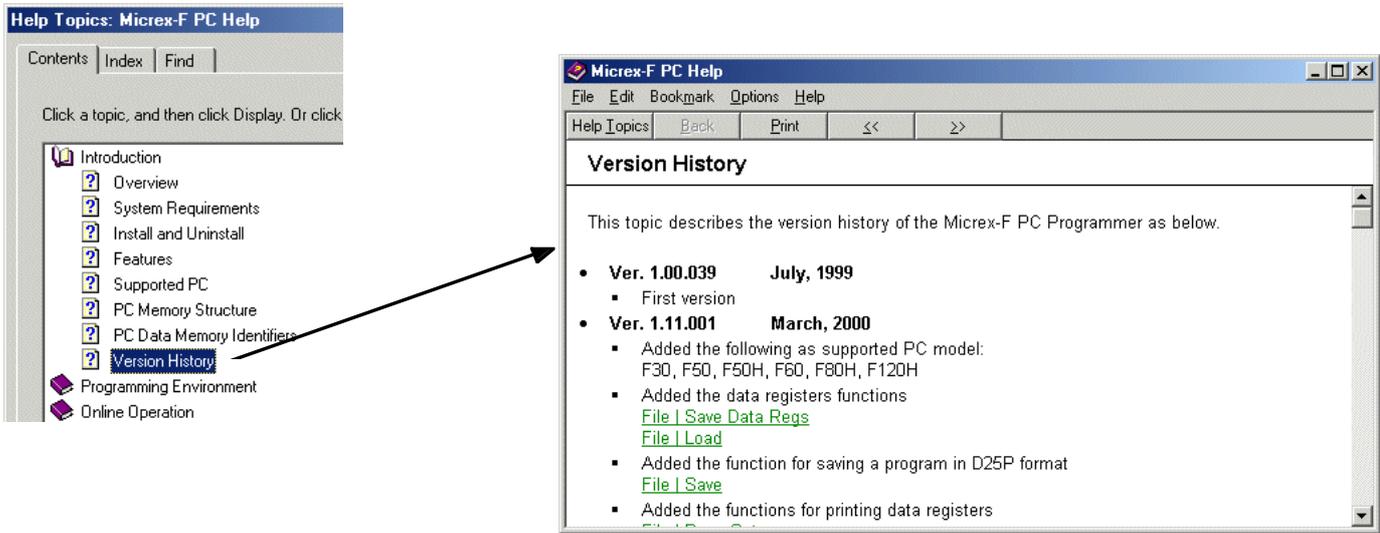
- ◇ Do not use one found damaged or deformed when unpacked, otherwise, failure or erratic operation might be caused.
- ◇ Do not shock the product by dropping or tipping it over, otherwise, it might be damaged or troubled.
- ◇ Do not leave the product in places where it is exposed to direct sunlight or where temperature and humidity are high. Otherwise, failure or malfunction might be caused.
- ◇ Keep the connectors free from accumulation of dusts. Otherwise, failure or malfunction might be caused.
- ◇ Engage the communication cable connector firmly and lock it, otherwise, erratic operation might be caused.
- ◇ When disengaging the communication cable or the power cable, do not pull the cord, otherwise, failure, erratic operation or damage might be caused.
- ◇ Sufficiently make sure of safety before program change, forced output, starting, stopping or anything else during a run. The wrong operation might break or cause machine problems.
- ◇ Do not turn off the loader during loader is in operation (accessing to the hard disk or the floppy disk, communicating to the PLC), otherwise, missing of *data, failure or erratic operation of products, damage or trouble of machines might be caused.
- ◇ Perform the version-up operation by the explanation of the user's manual, otherwise, failure or erratic operation might be caused.
- ◇ Use this package in the operating environment of software described in the user's manual, otherwise, failure or erratic operation might be caused.
- ◇ Carefully use the CD-ROM to keep its recording surface free from finger-print mark, stain, flaw, dust, water droplet, etc., which might cause failure or malfunction. Remove stain, dust, or other foreign matter sticking on the surface by lightly wiping with a dry soft cloth or commercially available CD cleaner. Do not use benzene, thinner, antistatic agent or LP cleaner for this purpose.
- ◇ Do not write characters or stick adhesive seal on the CD-ROM. Otherwise, failure or malfunction might be caused.
- ◇ Be sure to insert the CD-ROM or the communication cable in correct direction. Otherwise, failure or malfunction might be caused.
- ◇ Operate the loader in stable condition so that it does not drop or other abnormality does not occur. Operation in unstable condition might cause accidents.
- ◇ Do not play back the CD-ROM with ordinary CD player for audio system. Otherwise, your ears might get hurt or the speaker be damaged due to very large sound volume.
- ◇ Perform the periodic inspection for the floppy disk and the hard disk. If the data inside floppy disk, hard disk and CD-ROM are in fault status, failure or erratic operation of the system might be caused.
- ◇ Follow the regulations of industrial wastes when the device is to be discarded.

*Manual No. is shown on the cover.

Printed on	*Manual No.	Revision contents
Jun. 1999	FEH147	First edition (Products Version1.00.XXX...)
March. 2000	FEH147a	<p>Second edition (Products version 1.00.XXX...)</p> <ul style="list-style-type: none"> • F30, F50, F50H, F60, F80H and F120 H have ben additionally supported. • Data save and transfer functions have been added. • Print function has been reinforced (data print, ladder print with cross reference, etc.) • Text save function for RAS data has been added. • Duplex operation function is supported. • Loader network function is supported (only P-link and PE-link). • Sampling trace function and status latch function are supported. • Tag name duplicate use permit mode has been added.
Dec. 2000	FEH147b	<p>Third edition (Product Version 1.2X.XXX...)</p> <ul style="list-style-type: none"> • F80 and other models dropped from production have been supported. • Edit function has been reinforced (insert blank row, merge and divide lines, change tags on the ladder diagram, etc.) • Block diagram has been supported. • Trigger function has been supported. • Data display function has been reinforced (with D25P format display). • Instruction search function has been added. • Display and print functions for multiple tag rows have been added. • Display and save functions for previous RAS generations have been added.
Jun. 2001	FEH147c	Fourth edition (PDF manual for CD)

Revision

Check the details on the revision history by selecting Introduction in the [Help] contents and then [Version History].



Preface

Safety Precautions

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Section 1 Introduction

1-1 How to Use This Manual

The MICREX-F PC Programmer is a Windows-based programming tool for the MICREX-F Series PCs. This software has a number of offline and online functions, including program edit and print functions.

This manual describes the basic operations that are most frequently used. For operations not described in this manual and detailed contents of the operations, refer to the MICREX-F PC Programmer Help. The Help also contains the latest information about the use of the software functions, etc.

This manual does not describe the basic operations of Windows (maximization and minimization of the screen, use of the scroll bar, etc.). For the basic operations of Windows, refer to the appropriate manual of Windows.

1-1-1 Organization of this manual

Section 1 gives the outline of the software and describes the operating environment and installation of the software and the devices that are necessary for connection between the PC and the personal computer.

Section 2 describes programming, program editing, program saving, etc. performed offline with the PC.

Section 3 describes program/data monitoring, editing, etc. performed online with the PC.

The Appendixes provide supplementary information about such subjects as the compatibility with data created by a DOS-based loader.

1-1-2 Terms and symbols used in this manual

In this manual, the following terms and symbols are used.

On mouse operation

Click Pushing the right or left button of the mouse once and releasing it immediately.

Double-click Clicking the mouse twice quickly.

Drag Moving the mouse cursor with the left button of the mouse kept pushed.

On keyboard operation

A few examples of keyboard operations are given below. Basically, the keyboard operations are the same as those for Windows.

<SHIFT> key The key with letters {SHIFT} written on keytop.

<SHIFT> + <C> ... Pushing the <C> key with the <SHIFT> key kept pushed.

[File] - [New] Selecting item [File] displayed at the top of the screen first, then selecting item [New] from the list that appears on the screen.

On text description

- Used for enumeration of items.
- ◇ Used to indicate a particular operation to be performed.

1-2 Operating Environment

The environment required for installing and operating the software is as follows.

- A personal computer with following English version O/S.
(The software does not operate on Microsoft Windows 3.1.)
 - Microsoft Windows 95
 - Microsoft Windows 98
 - Microsoft Windows ME
 - Microsoft Windows NT4.0 (Service Pack 6 or later)
 - Microsoft Windows 2000
- 32 MB of memory or more.
- 10 MB of available hard disk or more.
- A pointing device, such as the mouse or track ball.
- A display device of 800 x 600 dots or more.
- A CD drive.

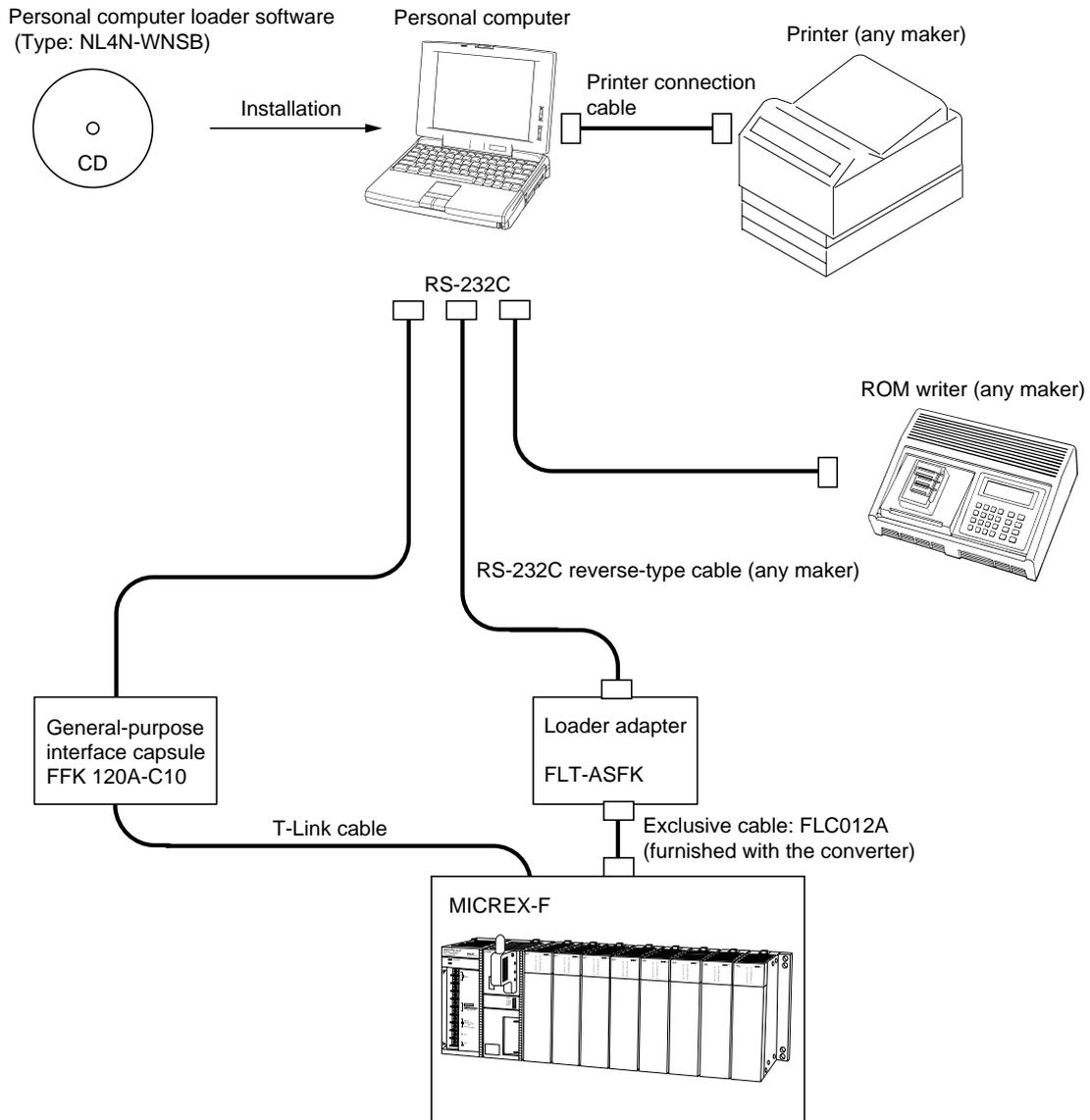
Note:

A program file saved with using a D25(LITE) can not be opened.

The capacity of a floppy disk in D25 defaults to 1.2MB. This diskette formatting is not generally readable on PCs. Please save the program file in 720KB formatted(2DD) using the D25 and open the file using the Micrex-F PC Programmer.

1-3 Personal Computer Loader System Configuration

By installing the software on a personal computer, it is possible to use it as a programming tool for the MICREX-F Series PCs.



1-3 Personal Computer Loader System Configuration

[Cable connection with the PC]

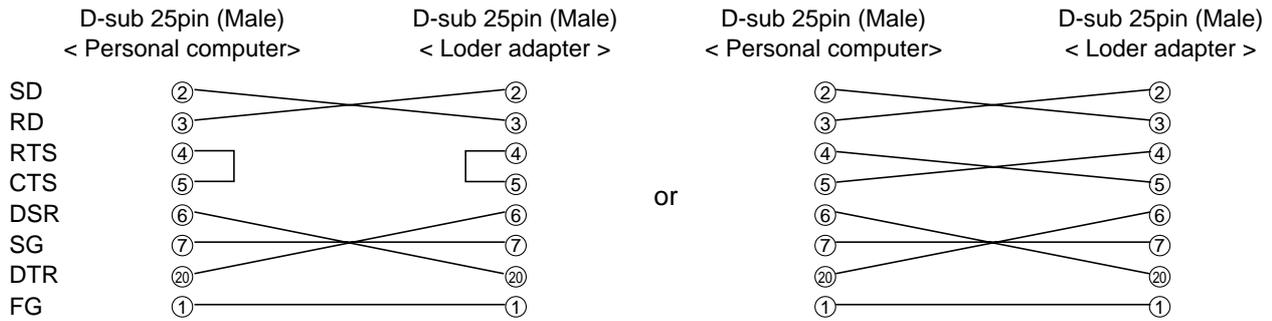
Use the cable specified below to connect between the personal computer and the loader adapter (or general-purpose interface capsule).

The loader adapter (general-purpose interface capsule) has a D-sub 25-pin (female) connector.

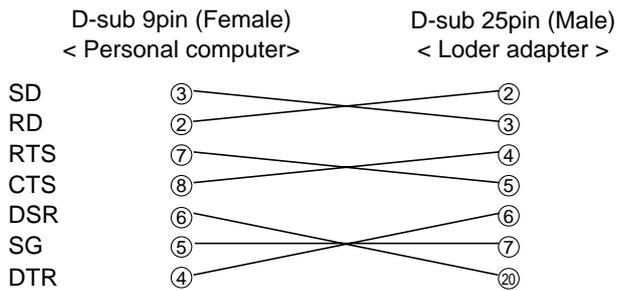
For cable connection between the personal computer and the ROM writer, refer to the specifications of the cable for connection between the personal computer and the PROM writer.

(Connecting RS-232C Cable)

(1) D-sub 25pin / D-sub 25pin



(2) D-sub 9pin / d-sub 25pin



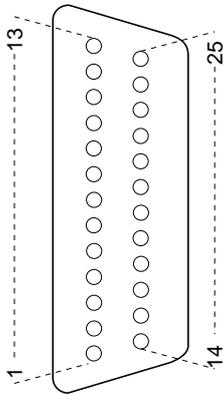
* Even when any other cables are connected, they do not affect the software operation.

1-3 Personal Computer Loader System Configuration

(Reference)

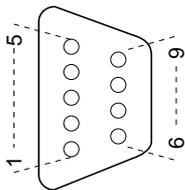
The pin arrangement of the cable connector to be connected to the personal computer is as follows.

(1) D-sub 25-pin connector



Pin No.	Signal name	Signal direction Personal computer-Loader adapter	Description
1	FG		Frame ground
2	SD	⇒	Send data
3	RD	⇐	Receive data
4	RTS	⇒	Send request
5	CTS	⇐	Clear to send
6	DSR	⇐	Data set ready
7	SG		Signal ground
20	DTR	⇒	Data terminal ready

(2) D-sub 9-pin connector



Pin No.	Signal name	Signal direction Personal computer-Loader adapter	Description
2	RD	⇐	Receive data
3	SD	⇒	Send data
4	DTR	⇒	Data terminal ready
5	SG		Signal ground
6	DSR	⇐	Data set ready
7	RTS	⇒	Send request
8	CTS	⇐	Clear to send

[Printer]

Use a printer which is compatible with Windows 95/98.
Use a printer cable which suits the personal computer used.

1-3 Personal Computer Loader System Configuration

[ROM writer]

Use an ROM writer which meets the following specifications.

(ROM writer recommended product)

Maker	Type
AVAL DATA Corporation	PECKER-11
ADVANTEST	R4945

(ROM writer specifications)

- The ROM writer shall be capable of sending and receiving data of Intel (extended Intel) HEX format or Motorola format using an RS-232C.
- The ROM writer shall be capable of controlling the XON/OFF flow (software flow).

(Connection cable specifications)

Use an RS-232C cable whose terminals are connected as shown below. In this manual, it is assumed that the ROM writer has a D-sub 25-pin (female) connector. When the ROM writer connector has a different number of pins, refer to the User's Manual of ROM Writer.

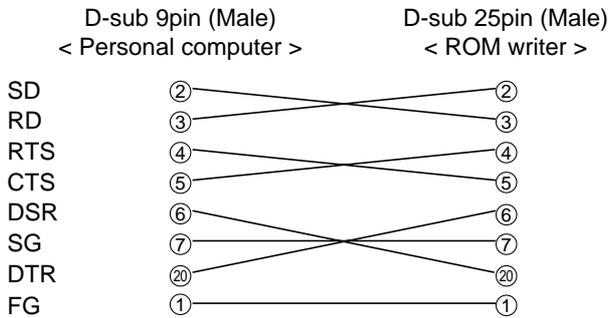
(Recommended product)

D-sub 25-pin/D-sub 9-pin type for DOS/V

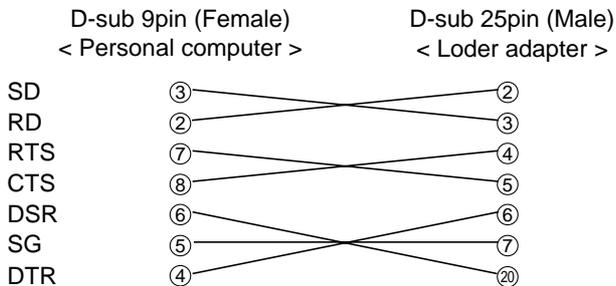
Maker	Type
Tokyo Needs Co., Ltd.	NCR-AR1

(Connecting RS-232C Cable)

(1) D-sub 25-pin / D-sub 25-pin



(2) D-sub 9-pin / D-sub 25-pin



1-4-1 Personal computer loader software

Program loader software package is supplied in the form of CD.

The installation CD includes the installation program which automatically executes operations necessary for installation as well as the registration of icons.

If you have already installed a beta edition of this software package, uninstall it first, then install the personal computer loader software. Do not overwrite the personal computer loader. If the personal computer loader software is installed without uninstalling the Windows-based personal computer loader, the software may not operate properly. For the method of uninstallation, refer to “1-5 Uninstall.”

1-4-2 Installation procedure

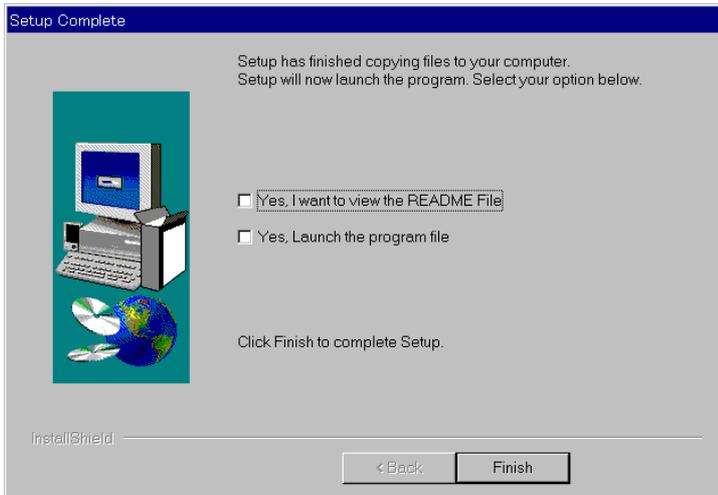
- ◇ Before installing the personal computer loader software, close all the Windows programs that are open.
- ◇ Insert the CD into CD drive.
CD automatically runs, and item selection dialog box appears.
- ◇ Left-click the [PC Programmer Setup].
{Install Shield Wizard Preparing} working box appears on the screen. Then, {Welcome} dialog box appears.
- ◇ Left-click the [Next >] button.
{Software license Agreement} dialog box appears.
- ◇ If you agree with those contents, left-click the [Yes] button.
The {Choose Destination Location} dialog box appears.
- ◇ When you want to change the default directory for installation (C:\Program Files\Micrex-F Programmer[E]), left-click the [Browse...] button, designate the desired directory for installation in the {Choose Directory} dialog box box, and left-click the [OK] button.



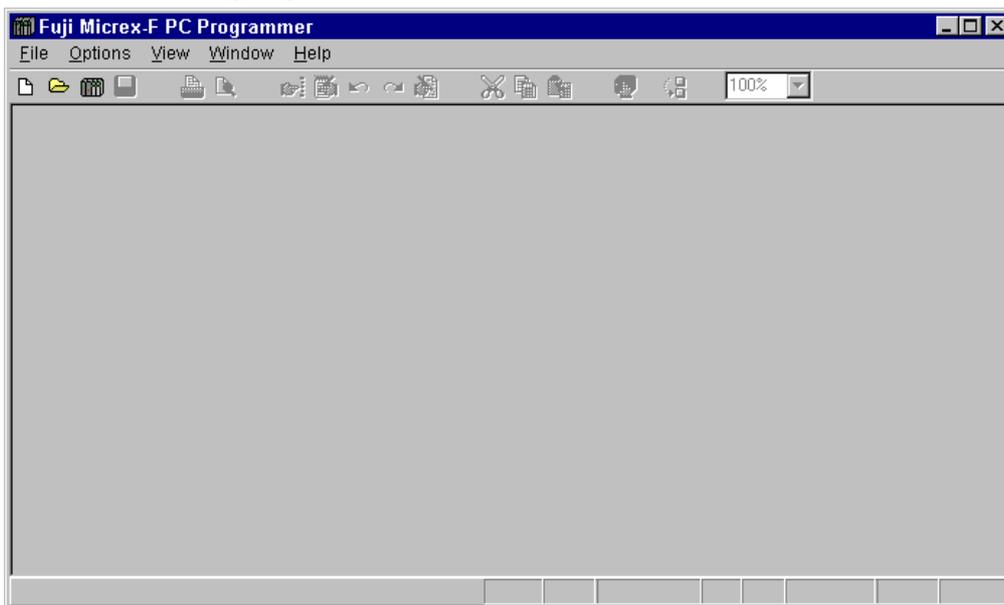
- ◇ The {Select Program Folder} dialog box is displayed. To change the default folder of the “MICREX-F PC Programmer,” enter an appropriate program folder name in the text box. Left-click the [Next >] button.
- ◇ The {Start Copying Files} dialog box is displayed. Confirm the content of the display and left-click the [Next >] button. The copying of files starts.

1-4 Method of Installation

◇ When setup completes, the following screen appears.



Check the box associated with the operation to be executed next, and left-click the [Finish] button. When the box of [Yes, launch the program file] is checked and the [Finish] button is left-clicked, the personal computer loader is activated as shown in the following diagram.



1-4-3 Group of programs installed

When the installation is completed, the following icons are registered in the program group.

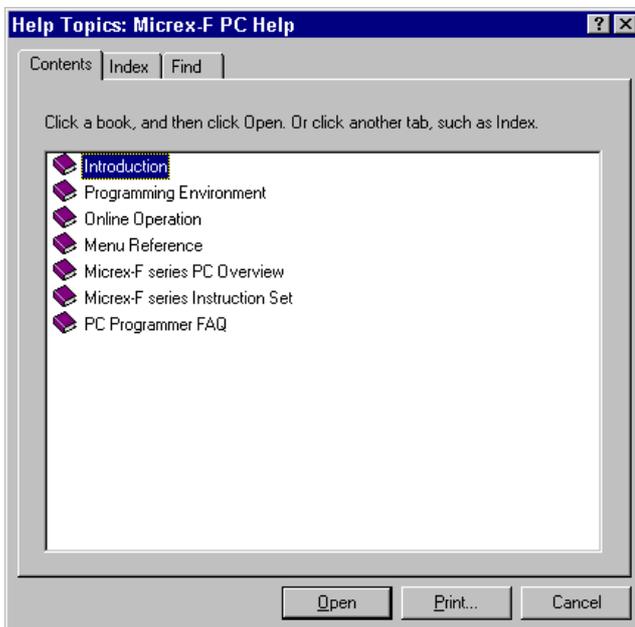


- **MICREX-F PC Programmer**

This is the loader software.

- **MICREX-F PC Programmer Help**

This is a file which contains the latest information that is helpful in using the loader software. This file can also be used as a reference. It is recommended that the user read through the file.



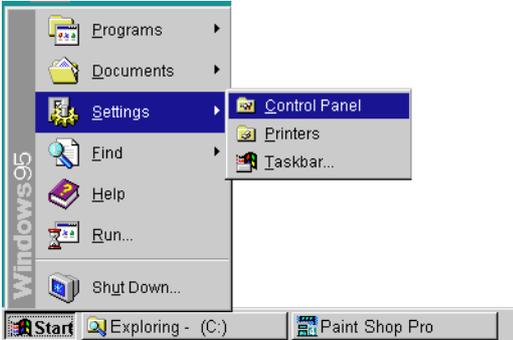
- **Please Read**

This is a file which contains the current supplementary explanations to the loader software. It is recommended that the user read through the file.

1-5 Uninstall

This is used to delete the personal computer loader software from the hard disk of the personal computer. Even when the loader software is uninstalled, all the files created by the user, such as ladder program files and tag files, remain installed together with the folders. To uninstall the loader software, execute the Uninstall program that is provided as a standard program of Windows. The uninstallation procedure is as follows.

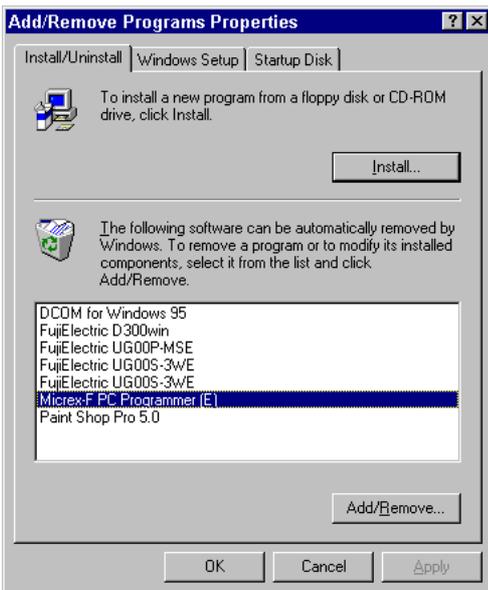
- ◇ Select [Control Panel] from the [Set] submenu of the [Start] menu.



- ◇ Left-double-click the [Add/Remove Programs] icon in the {Control Panel} dialog box.



- ◇ Select [MICREX-F PC Programmer] from the list displayed on the screen and left-click the [Add/Remove] button.



- ◇ The {Confirm File Deletion} dialog box is displayed. Left-click the [Yes] button.

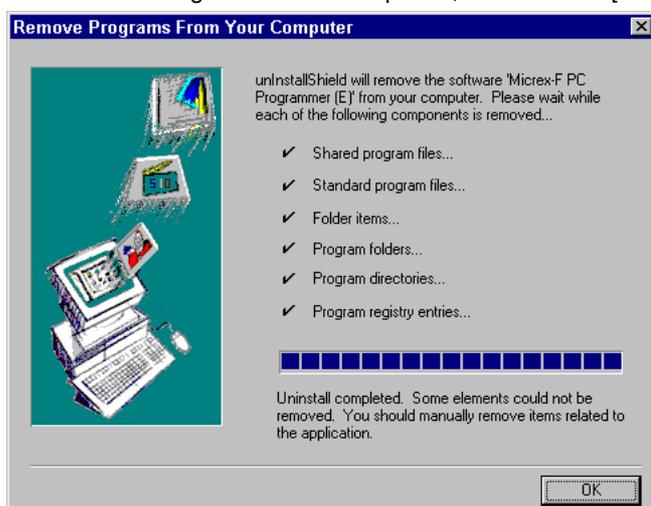


- ◇ The uninstall operation is started.

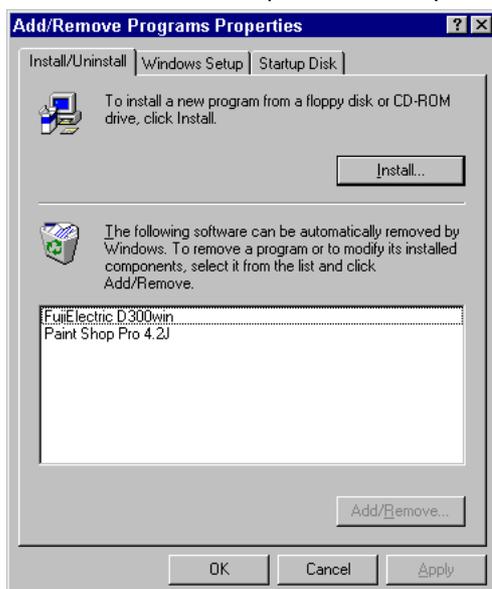
During this operation, the {Remove Shared File?} dialog box may be displayed as shown below. In this case, if you remove the shared file, it can happen that some programs do not function and in the worst case, Windows might fail to work. Normally, select either [No] or [No to All.]



- ◇ When the message "Uninstall Completed," left-click the [OK] button.

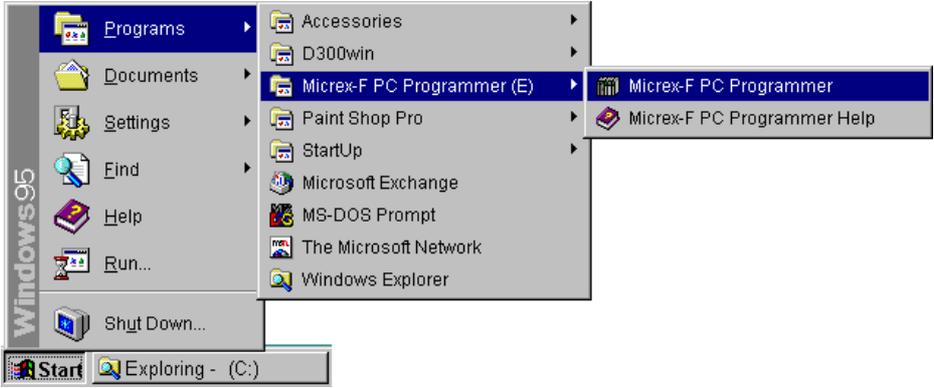


- ◇ The {Add/Remove Programs Properties} dialog box is displayed again. Left-click the [Cancel] button to close the dialog box. Now the uninstall operation is completed.

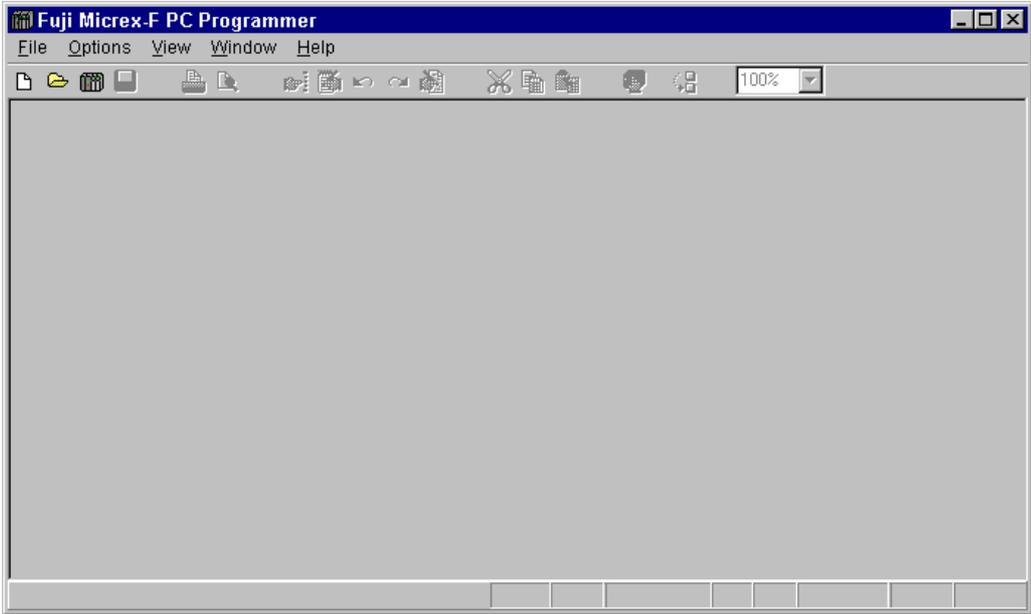


1-6 Starting the Personal Computer Loader

◇ First, select [MICREX-F PC Programmer] from the [Program] submenu of the [Start] menu. Then, select [MICREX-F PC Programmer] from the menu that appears on the screen.



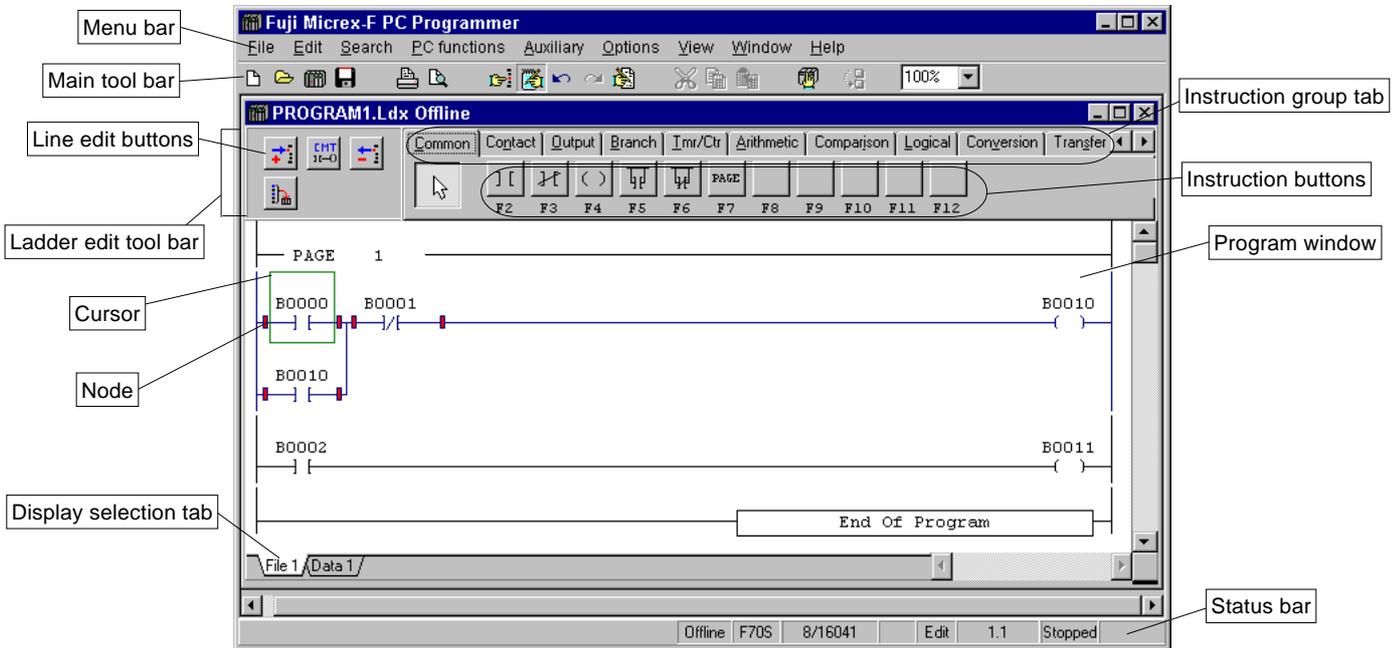
◇ The personal computer loader starts. From this screen, the user can perform desired offline and online operations. For the methods of offline and online operations, refer to "Section 2" and the subsequent sections.



1-7 Screen Configuration

1-7-1 Screen configuration

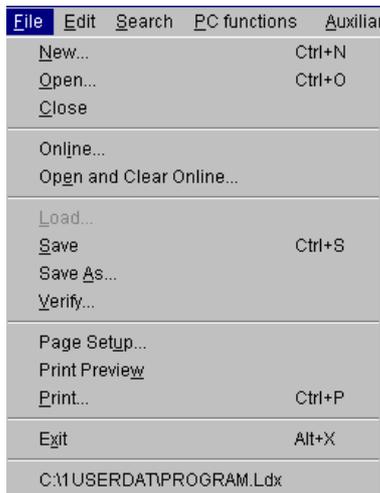
The personal computer loader screen contains various buttons, tool bars, etc. which are used to edit programs/data or display the current condition of a specific operation. Here, those components which are displayed on the screen are explained taking the offline edit screen as an example. Open the offline screen to enter the Edit mode, and the screen display becomes as follows.



Explanation of each component

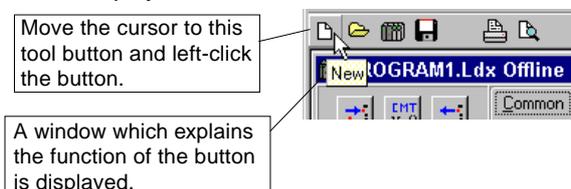
- **Menu bar**

The menu bar contains items for operating the software. When any of the items in the menu is left-clicked, a detailed command list associated with it appears on the screen.



- **Main tool bar**

The main tool bar contains tool buttons, each of which produces the same effect as when the command corresponding to it is selected from the menu bar and executed. For example, the [New] button executes the same operation as when [File] - [New] is selected from the menu bar and executed. To see the meaning of each of the tool buttons, move the cursor to the tool button and left-click the button, and a window which explains the function of the tool button is displayed as shown below.

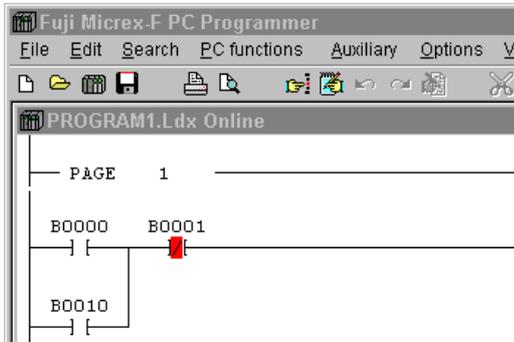


1-7 Screen Configuration

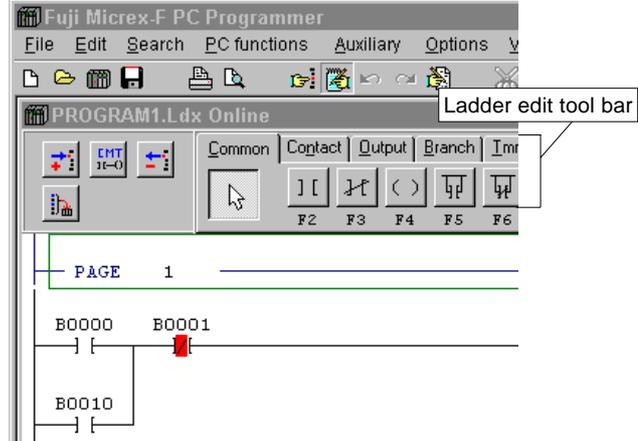
- Ladder edit tool bar**

This bar appears when the window is set in the [Edit] mode. It disappears when the window is set in the [Monitor] mode. To switch between the [Edit] mode and the [Monitor] mode, left-click the  [Edit] button. This bar contains tools which are necessary to edit programs.

[Monitor] mode



[Edit] mode



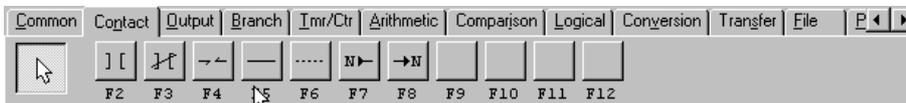
- Line edit buttons**

Buttons for editing lines, such as "Insert Line" and "Delete Line," are arranged here.

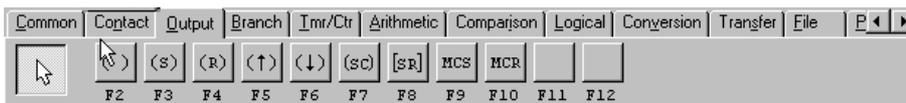
- Instruction group tab**

This tab is used to select the instruction group to be used. When any instruction group is selected and left-clicked, the associated instruction buttons change as illustrated below.

When [Contact] is selected



When [Output] is selected



To display a tab which is hidden in the right or left margin of the screen, left-click the Scroll Left or Scroll Right button.

- Instruction buttons**

These buttons are used to select ladder program instructions. To see the meaning of each of the instruction buttons, move the cursor to the instruction button and left-click the button, and a window which explains the meaning of the instruction button is displayed as shown below.

A window which explains the meaning of the button is displayed.

Move the cursor to this button and left-click the button.

1-7 Screen Configuration

- **Cursor**

The cursor indicates the currently selected item to be edited (in the example given below, [Normally Open Contact] of address {B0000}). It is displayed as an instruction selection frame when an instruction on a ladder line is left-clicked. It is also possible to move the cursor using the Arrow keys on the keyboard. The cursor can be moved to a node by <Ctrl> + < arrow> keys.

The cursor is displayed only in the [Edit] mode.

- **Node**

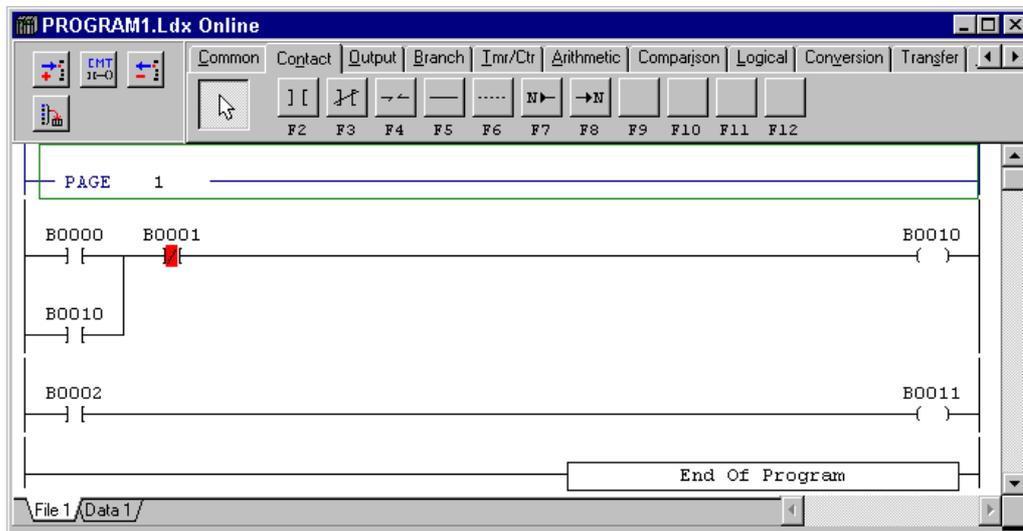
The node is a small square box displayed before and after each instruction. It is used for addition, deletion, etc. of an instruction. The node is displayed only in the [Edit] mode and only for the line currently selected.

- **Program window**

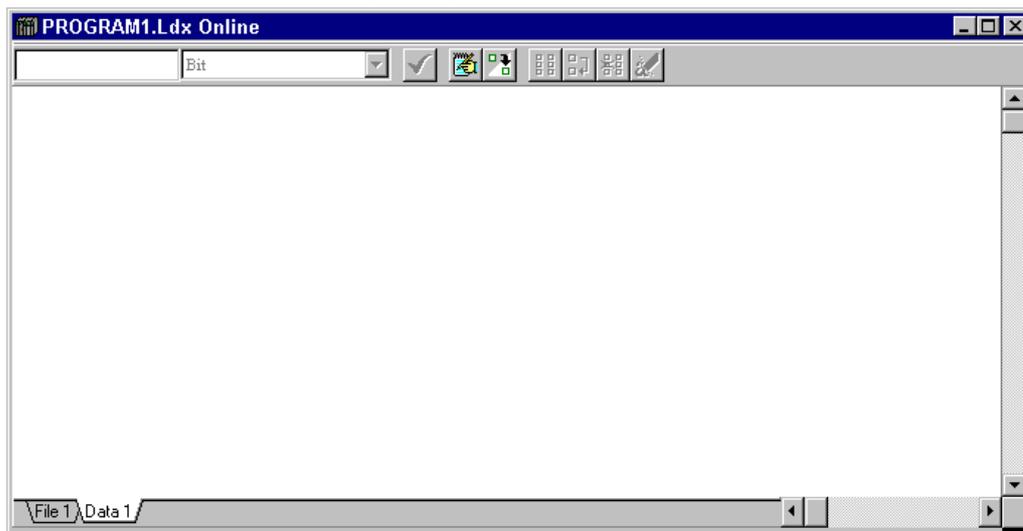
The program window is the entire screen area in which the ladder program that is being edited (or monitored) is displayed.

- **Display selection tabs**

To monitor/edit a ladder program, left-click the [File 1] tab.



To monitor/set data, left-click the [Data 1] tab.



1-7 Screen Configuration

• Status bar

The status bar indicates the mode and operating condition of the window that is currently being displayed, the help message for the tool bar button currently selected, etc.

Continuous Force on an element	Online	F70S	8/16041	Mon	1.0	Running	No Fault	
1)	2)	3)	4)	5)	6)	7)	8)	9)

- 1) Displays the help message for the tool bar button selected.
- 2) Indicates online display, offline display, or modem display.
- 3) Indicates the PC model selected.
- 4) Indicates the number of program steps currently used and the total number of program steps that can be used with the PC model selected.
- 5) Not used.
- 6) Indicates the current mode ([Edit] or [Monitor]).
- 7) In the [Edit] mode, indicates a Page/Line number currently selected.
In the [Monitor] mode, indicates the line number at the top of the ladder diagram currently being displayed on the screen.
- 8) Indicates whether the PC is in [operation] or [out] of operation.
- 9) Indicates the PC operating condition ([Normal], [Fatal fault], [Nonfatal fault]).

1-7-2 Window types

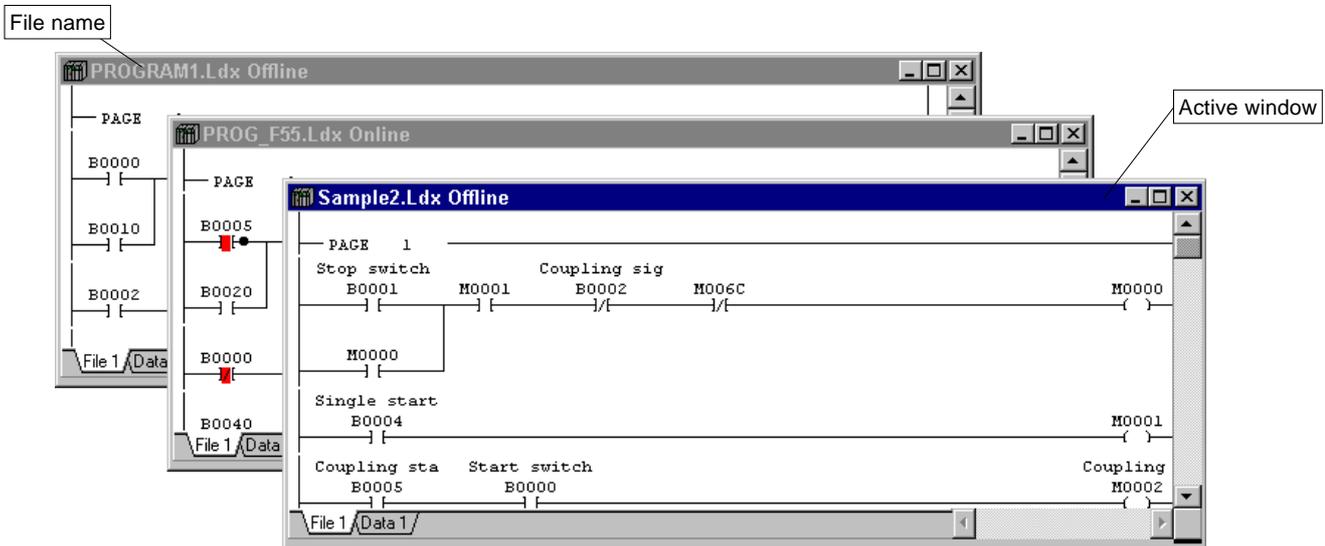
There are two types of windows—the offline window and the online window.

The offline window is used when monitoring/editing a ladder program which has been saved in the personal computer. It is possible to open more than one offline window at a time.

The online window is used when monitoring/editing a ladder program in the PC. Only one online window can be opened at a time.

It is possible to open an offline window and an online window at the same time.

The type (offline or online) of the window being opened is displayed on the title bar at the top of the window. When any point of the window being opened is left-clicked, the title bar changes in color. This indicates that the window has been selected as the one to be operated on. This window that has been selected is called an active window.



Any other window can be made “active” simply by clicking any point of it.

In the [Edit] mode, it is possible to copy a ladder program from one window to another on a line-by-line basis. For the offline operations, refer to “Section 2.” For the online operations, refer to “Section 3.”