Cat. No. W382-E1-02

WS02-CFDC1-E DeviceNet Configurator
3G8F5-DRM21 ISA Board
3G8E2-DRM21 PCMCIA Card

DeviceNet Configurator

Ver. 2.□

OPERATION MANUAL

OMRON

WS02-CFDC1-E DeviceNet Configurator
3G8F5-DRM21 ISA Board
3G8E2-DRM21 PCMCIA Card
DeviceNet Configurator Ver. 2.□

Operation Manual

Revised November 2001

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Notice:

OMRON products are manufactured for use according to proper procedures by a qualified operator and only for the purposes described in this manual.

The following conventions are used to indicate and classify precautions in this manual. Always heed the information provided with them. Failure to heed precautions can result in injury to people or damage to property.

⚠DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠Caution Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

OMRON Product References

All OMRON products are capitalized in this manual. The word “Unit” is also capitalized when it refers to an OMRON product, regardless of whether or not it appears in the proper name of the product.

The abbreviation “Ch,” which appears in some displays and on some OMRON products, often means “word” and is abbreviated “Wd” in documentation in this sense.

The abbreviation “PC” means Programmable Controller and is not used as an abbreviation for anything else.

Visual Aids

The following headings appear in the left column of the manual to help you locate different types of information.

Note Indicates information of particular interest for efficient and convenient operation of the product.

Reference Indicates supplementary information on related topics that may be of interest to the user.

1,2,3... 1. Indicates lists of one sort or another, such as procedures, checklists, etc.

Trademarks and Copyrights

DeviceNet is a registered trademark of the Open DeviceNet Vendor Association, Inc.

Windows, Windows 95, Windows 98, Windows NT, and Windows 2000 are registered trademarks of the Microsoft Corporation.

Other product names and company names in this manual are trademarks or registered trademarks of their respective companies.

The copyright of the DeviceNet Configurator software belongs to OMRON Corporation.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

TABLE OF CONTENTS

TABLE OF CONTENTS

About this Manual:

This manual describes the installation and operation of version 2 of the DeviceNet Configurator and includes the sections described below.

Please read this manual and all manuals for related products carefully and be sure you understand the information provided before attempting to install and operate the DeviceNet Configurator. **Be sure to read the precautions provided in the following section.**

Section 1 Section 1 describes the features, specifications, operating conditions, and interfaces of the DeviceNet Configurator.

Section 2 Section 2 explains how to install the ISA Board or PCMCIA Card hardware in the computer, make the necessary hardware settings and computer settings, and install the DeviceNet Configurator software in the computer.

Section 3 Section 3 explains the basic operation of the DeviceNet Configurator.

Section 4 Section 4 explains how to enable remote I/O communications by creating device parameters for a virtual network constructed with the DeviceNet Configurator.

Section 5 Section 5 explains the online operation of the DeviceNet Configurator, such as data downloading to or uploading from devices and device monitoring.

Section 6 Section 6 provides information on manipulating files, including saving and reading procedures.

The ***Appendices*** provide information on error messages, troubleshooting, the error history, Unit replacement, replacing the C200W-DRM21 on a CS1-series PC with the CS1W-DRM21, replacing the C200W-DRT21 with the CS1W-DRM21's slave functions, and the dimensions of PCMCIA Card and Unit.

The following manuals provide information on the DeviceNet and OMRON DeviceNet products.

Manual	Products	Contents	Cat. No.
DeviceNet Configurator Ver. 2.□ Operation Manual (This manual)	WS02-CFDC1-E DeviceNet Configurator 3G8F5-DRM21 ISA Board 3G8E2-DRM21 PCMCIA Card	Information on using the Configurator.	W382
CS/CJ-series DeviceNet Unit Operation Manual	CS1W-DRM21 CJ1W-DRM21 DeviceNet Unit	Information on CS/CJ-series DeviceNet Units.	W380
DeviceNet (CompoBus/D) Operation Manual	CVM1-DRM21-V1 DeviceNet Master Unit C200HW-DRM21-V1 DeviceNet Master Unit	Information on C200H-series, CVM1, and CV-series DeviceNet Units, as well as general DeviceNet communications specifications and wiring methods.	W267

⚠ **WARNING** Failure to read and understand the information provided in this manual may result in personal injury or death, damage to the product, or product failure. Please read each section in its entirety and be sure you understand the information provided in the section and related sections before attempting any of the procedures or operations given.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

PRECAUTIONS

This section provides general precautions for using the DeviceNet Configurator and related devices.

The information contained in this section is important for the safe and reliable application of the DeviceNet Configurator and personal computer. You must read this section and understand the information contained before attempting to set up or operate a DeviceNet Configurator and personal computer.

1 Intended Audience

This manual is intended for the following personnel, who must also have knowledge of electrical systems (an electrical engineer or the equivalent).

- Personnel in charge of installing FA systems.
- Personnel in charge of designing FA systems.
- Personnel in charge of managing FA systems and facilities.

2 General Precautions

The user must operate the product according to the performance specifications described in the operation manuals.

Before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems, machines, and equipment that may have a serious influence on lives and property if used improperly, consult your OMRON representative.

Make sure that the ratings and performance characteristics of the product are sufficient for the systems, machines, and equipment, and be sure to provide the systems, machines, and equipment with double safety mechanisms.

This manual provides information for installing and operating the DeviceNet Configurator. Be sure to read this manual before operation and keep this manual close at hand for reference during operation.

⚠WARNING It is extremely important that a PC and all PC Units be used for the specified purpose and under the specified conditions, especially in applications that can directly or indirectly affect human life. You must consult with your OMRON representative before applying a PC System to the above-mentioned applications.

3 Safety Precautions

⚠WARNING Never attempt to disassemble a Board or Card or touch the inside of a Board or Card while power is being supplied. Doing so may result in serious electrical shock or electrocution.

⚠WARNING Provide safety measures in external circuits, i.e., not in the Programmable Controller (CPU Unit including associated Units; referred to as “PC”), in order to ensure safety in the system if an abnormality occurs due to malfunction of the PC or another external factor affecting the PC operation. Not doing so may result in serious accidents.

- Emergency stop circuits, interlock circuits, limit circuits, and similar safety measures must be provided in external control circuits.
- The PC will turn OFF all outputs when its self-diagnosis function detects any error or when a severe failure alarm (FALS) instruction is executed. As a countermeasure for such errors, external safety measures must be provided to ensure safety in the system.
- The PC outputs may remain ON or OFF due to deposition or burning of the output relays or destruction of the output transistors. As a counter-

measure for such problems, external safety measures must be provided to ensure safety in the system.

- When the 24-VDC output (service power supply to the PC) is overloaded or short-circuited, the voltage may drop and result in the outputs being turned OFF. As a countermeasure for such problems, external safety measures must be provided to ensure safety in the system.

⚠ **WARNING** The CPU Unit refreshes I/O even when the program is stopped (i.e., even in PROGRAM mode). Confirm safety thoroughly in advance before changing the status of any part of memory allocated to I/O Units, Special I/O Units, or CPU Bus Units. Any changes to the data allocated to any Unit may result in unexpected operation of the loads connected to the Unit. Any of the following operation may result in changes to memory status.

- Transferring I/O memory data to the CPU Unit from a Programming Device.
- Changing present values in memory from a Programming Device.
- Force-setting/-resetting bits from a Programming Device.
- Transferring I/O memory files from a Memory Card or EM file memory to the CPU Unit.
- Transferring I/O memory from a host computer or from another PC on a network.

⚠ **Caution** Confirm safety at the destination node before transferring a program to another node or changing contents of the I/O memory area. Doing either of these without confirming safety may result in injury.

4 Operating Environment Precautions

Do not install the Unit in any of the following locations.

- Locations subject to direct sunlight.
- Locations subject to temperatures or humidities outside the range specified in the specifications.
- Locations subject to condensation as the result of severe changes in temperature.
- Locations subject to corrosive or flammable gases.
- Locations subject to dust (especially iron dust) or salt.
- Locations subject to exposure to water, oil, or chemicals.
- Locations subject to shock or vibration.

Provide proper shielding when installing in the following locations:

- Locations subject to static electricity or other sources of noise.
- Locations subject to strong electromagnetic fields.
- Locations subject to possible exposure to radiation.
- Locations near to power supply lines.

⚠ **Caution** The operating environment of the PC System can have a large effect on the longevity and reliability of the system. Improper operating environments can lead to malfunction, failure, and other unforeseeable problems with the PC System. Be sure that the operating environment is within the specified conditions at installation and remains within the specified conditions during the life of the system.

5 Application Precautions

Observe the following precautions when using the DeviceNet Configurator.

⚠WARNING Failure to abide by the following precautions could lead to serious or possibly fatal injury. Always heed these precautions.

- Always connect to a class-3 ground (100 Ω or less) when installing the Units.

⚠Caution Failure to abide by the following precautions could lead to faulty operation or the PC or the system or could damage the PC or PC Units. Always heed these precautions.

- Enable the scan list to before operating the system.
- When adding a new node to the network, make sure that the baud rate is the same as other nodes.
- Use specified communications cables.
- Do not extend connection distances beyond the ranges given in the specifications.
- Always turn OFF the power supply to the personal computer, Slaves, and Communications Units before attempting any of the following.
  - Attaching or detaching the DeviceNet Board or Card.
  - Assembling the Units.
  - Setting rotary switches.
  - Connecting or wiring the cables.
  - Connecting or disconnecting connectors.
- Be sure that the communications cables and other items with locking devices are properly locked into place.
- Be sure that all Board mounting screws, connector screws, and cable screws are tightened to the torque specified in this manual.
- Always use the power supply voltage specified in this manual.
- Double-check all the wiring and connection of terminal blocks and connectors before mounting the Units.
- Use crimp terminals for wiring. Do not connect bare stranded wires directly to terminals.
- Observe the following precautions when wiring the communications cable.
  - Separate the communications cables from the power lines or high-tension lines.
  - Do not bend the communications cables.
  - Do not pull on the communications cables.
  - Do not place heavy objects on top of the communications cables.
  - Be sure to wire communications cable inside ducts.
  - Use appropriate communications cables.
- Before touching the PCI Board, be sure to first touch a grounded metallic object in order to discharge any static build-up. Not doing so may result in malfunction or damage.

- Take appropriate measures to ensure that the specified power with the rated voltage and frequency is supplied in places where the power supply is unstable. An incorrect power supply may result in malfunction.
- Install external breakers and take other safety measures against short-circuiting in external wiring. Insufficient safety measures against short-circuiting may result in burning.
- Double-check all the wiring and switch settings before turning ON the power supply.
- Check the user program for proper execution before actually running it on the Unit. Not checking the program may result in an unexpected operation.
- After replacing Units, resume operation only after transferring to the new CPU Unit and/or Special I/O Units the contents of the DM Area, HR Area, and other data required for resuming operation. Not doing so may result in an unexpected operation.
- When transporting or storing the product, cover the PCBs with electrically conductive materials to prevent LSIs and ICs from being damaged by static electricity, and also keep the product within the specified storage temperature range.
- Do not touch the mounted parts or the rear surface of PCBs because PCBs have sharp edges such as electrical leads.
- Do not attempt to disassemble, repair, or modify any Units.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

SECTION 1
Overview

This section describes the features, specifications, operating conditions, and interfaces of the DeviceNet Configurator.

1-1 Introduction

The Configurator is a software package that allows the user to construct, set up, and maintain a multivendor DeviceNet network through user-friendly graphic displays.

The Configurator internally constructs a virtual network in the Network Configuration Window, making it possible to set up and monitor DeviceNet devices.

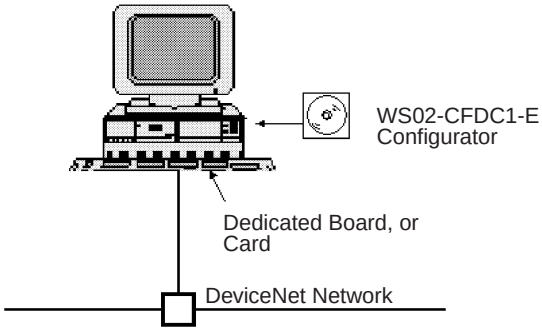
The Configurator is referred to as simple the Configurator in the rest of this manual.

1-1-1 Connecting to the DeviceNet Network

The Configurator is connected to the DeviceNet network using one of the following three methods. The same online functions are supported by all three methods.

Connection from Dedicated Board/Card Installed in Computer

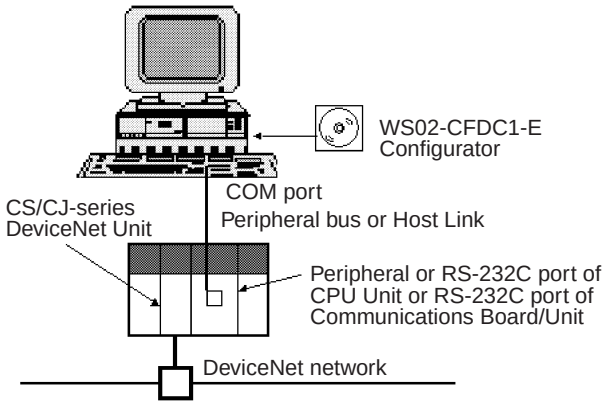
The computer running the Configurator is connected to the DeviceNet network by installing an OMRON DeviceNet Board in the computer.



The Configurator is treated as a single DeviceNet node.

Serial Connection from COM port of Computer

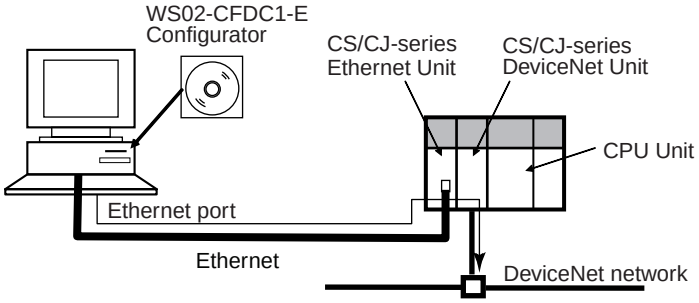
The computer running the Configurator is connected to the DeviceNet network by connecting from the COM port of the computer to the serial communications port (peripheral port) of a CS/CJ-series CPU rack containing a CS1W-DRM21 or CJ1W-DRM21 DeviceNet Unit.



The Configurator is not treated as a single DeviceNet node.

Ethernet Connection

The computer running the Configurator is connected to the DeviceNet network by connecting from the Ethernet port of the computer to a CS/CJ-series Ethernet Unit.



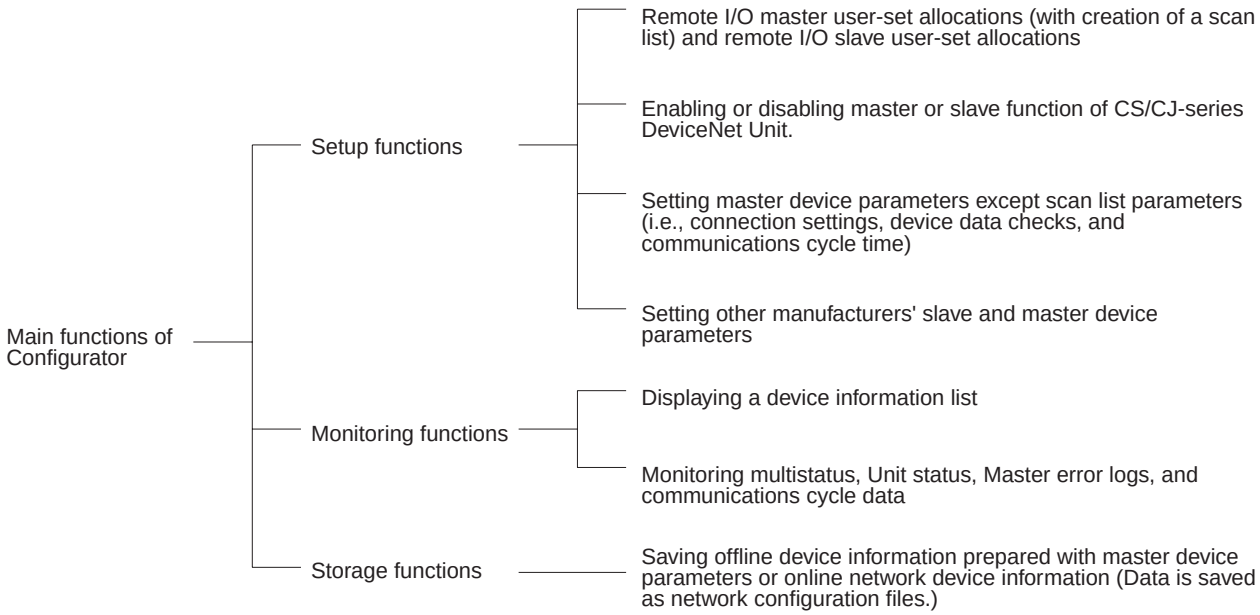
1-1-2 Models

Product	Model	Contents	Method of connecting to DeviceNet network	Personal computer	Applicable OS
Configurator (Ver. 2.□)	WS02-CFDC1-E	Installation disk (CD-ROM)	Either one of the following methods • Dedicated Board/Card (See note.) • Serial connection from COM port of computer • Ethernet connection from Ethernet port of computer	IBM PC/AT or compatible	Windows 95, 98, Me, 2000 or NT4.0

Note Use the following dedicated Boards and Card.

Model	Contents	Personal computer	Applicable OS
3G8F5-DRM21	Dedicated ISA Board and Configurator (Ver. 2.□) installation disk	IBM PC/AT or compatible	Windows 95, 98 or NT4.0
3G8E2-DRM21	Dedicated PCMCIA Card and Configurator (Ver. 2.□) installation disk		Windows 95 or 98

1-1-3 Overview



Note Master device parameters used in a scan list are created with either of the following methods.

a) Using the Parameter Wizard

b) Setting all parameters

1-1-4 Configurator Specifications

Item		Specification	
Operating environment	Hardware	Personal computer: IBM PC/AT or compatible CPU: Pentium 166 MHz or higher Memory: 32 Mbytes Hard disk: A minimum of 15 Mbytes	
	OS	Windows 95, 98, Me, or NT4.0, or 2000 (Some limitations exist for the Dedicated Boards.)	
Network connection method		Dedicated Board/Card	3G8F5-DRM21: Dedicated ISA Board 3G8E2-DRM21: Dedicated PCMCIA Card
		Serial connection	Connect from the COM port of the computer to the DeviceNet network, via the following serial communications port (Toolbus or Host Link) on a CS/CJ-series PLC. • Peripheral port of CPU Unit • RS-232C port of CPU Unit • RS-232C port of Serial Communications Board/Unit **Note** The CS/CJ-series DeviceNet Unit (CS1W-DRM21 or CJ1W-DRM21) is necessary to connect to the DeviceNet network using serial communications.
		Ethernet connection	Connect from the Ethernet port of the computer to the DeviceNet network, via an Ethernet Unit for a CS/CJ-series PLC. **Note** The CS/CJ-series Ethernet Unit (CS1W-ETN□□ or CJ1W-ETN□□) and CS/CJ-series DeviceNet Unit (CS1W-DRM21 or CJ1W-DRM21) are necessary to connect to the DeviceNet network using Ethernet.
Node address used	Dedicated Board/Card	A single node address is used.	
	Serial connection	No node address is used.	
Connectable number of Boards/ Cards		One/network	
DeviceNet masters		OMRON CS1W-DRM21, CJ1W-DRM21, CVM1-DRM21-V, or C200HW-DRM21-V1 **Note** Device parameters of OMRON DeviceNet Units are output in the DRM_UNIT file format for open network controllers or the NX-Server file format for the DeviceNet.	

Item		Specification
Main functions	Setup functions	Master device parameter settings for OMRON's Master • Remote I/O master user-set allocations (with a scan list) The node address order can be set as desired. Two output blocks and two input blocks can be allocated. (See note.) • Remote I/O slave user-set allocations • Setting master remote I/O communications connections. • Setting slave remote I/O communications connections. • Enabling or disabling device data checks through remote I/O communications (checks on slave vendor, device type, and product code data). • Setting an explicit message monitor timer list. • Setting a COS/cyclic heart beat timer value. • Setting the communications cycle time. Note 1. A device Parameter Wizard is supported for the Master. 2. Using remote I/O master user-set allocations eliminates restrictions on node addresses. Furthermore, a number of masters can be mounted to the PC with no allocation area duplication.
		Setting parameters for slaves (including other manufacturers' slaves).
		Setting node addresses and baud rates.
		Setting I/O comments (for slave I/O data).
	Monitoring functions	• Listing information on devices connected to the network (in node address order or remote I/O configuration order, for example). • Monitoring status of OMRON Master Unit. • Monitoring error history of OMRON Master Unit (time, error code, and error condition). • Monitoring communications cycle time. • Monitoring slave status and parameters.
	Storage functions	• Saving the parameters of devices connected to the network as network configuration files. • Saving the parameters of each device, in device units, as device parameter files.
	File export functions	• Exporting the network configuration list (contents displayed in the Detailed Display Mode) in the CSV file format. • Exporting I/O comments in CSV file format. • Device parameters of OMRON's Master Units are exported in the DRM_UNIT (virtual unit) file format for open network controllers. • Device parameters of OMRON's Master Units are exported in the NX-Server file format for the DeviceNet.
	Other functions	• Reading/preparing EDS files. • Printing master/slave device parameters. • Setting/reading parameters with explicit messages.

Note To use the Configurator to construct a DeviceNet network or make master or slave settings, the EDS file is required. If other manufacturers' slaves are used, obtain the correct EDS files.

1-1-5 Upgrade History for DeviceNet Configurator Ver. 2.□

Changes Made from Ver. 2.01 to Ver. 2.02

The following new devices were supported.

- DeviceNet-compatible 1-axis positioner (3F88M-DRT141)
- I/O Link Unit (CPM1A-DRT21) for CPM2A/CPM1A

When changing the I/O size of a slave with ***Device***, ***Property*** and the **I/O Information** Tab, the new version made it possible to select whether or not to automatically update the I/O size registered in the master scan list. (This can be switched from the Option Menu. It is set not to automatically update as the default.) (Refer to *4-4-2 CVM1-DRM21-V1 or C200HW-DRM21-V1.)*

When setting the I/O size of a slave with the ***Device, Property*** and the **I/O Information** Tab, the new version made it possible to attain the I/O size from the master scan list. This is possible, however, only with OMRON Master Units, and the I/O size cannot be attained with the slave function of the CS1W-DRM21. (Refer to *4-4-2 CVM1-DRM21-V1 or C200HW-DRM21-V1.)*

When the slave I/O size and the I/O size registered in the master scan list do not match, an exclamation mark (!) was made to appear next to the slave icon.

The new version made it possible to send explicit requests other than Get Attribute Single and Set Attribute Single with ***Setup Parameters*** in the Tools Menu.

Changes Made from Ver. 2.02 to Ver. 2.10

The following new devices were supported.

- CJ-series DeviceNet Unit (CJ1W-DRM21)
- Fiber Amplifier Communications Unit (E3X-DRT21)

With a CS/CJ-series DeviceNet Unit and an Ethernet Unit both mounted, the new version made it possible for the Configurator computer to connect directly to the Ethernet network to make DeviceNet settings via Ethernet. This became possible by selecting the CS/CJ Ethernet Unit interface with ***Select Interface*** in the Option Menu. Refer to *3-3 Connecting to the Network*.

Changes were made so that when the detailed display of the Network Configuration Window is shown, the master/slave relationship is clarified. It was also made so that the explanations set for each device would be shown as comments in the detailed display. Refer to *3-1-2 Network Configuration Window*.

The new version made it possible to save CVM1-DRM21-V1, C200HW-DRM21-V1, CS1W-DRM21, and CJ1W-DRM21 error histories in the CSV file format. Refer to *5-4-2 Monitoring Devices*.

Changes Made from Ver. 2.10 to Ver. 2.11

When connected via a serial communications port, the new version made it possible to connect to the DeviceNet network across three network levels. Refer to *3-3 Connecting to the Network*.

When connected via Ethernet, the new version made it possible to connect to the DeviceNet network across three network levels. Refer to *3-3 Connecting to the Network*.

The new version made it possible to remove the hardware list for use in a separate window. Refer to *3-3 Connecting to the Network*.

When downloading parameters to the Master Unit with the PLC not in the Program mode, a confirmation dialog box was made to appear to confirm whether or not to switch to Program mode. Refer to *5-2-2 Downloading Device Parameters*.

In the Network Configuration Window, the WD30-S DeviceNet Wireless Unit (slave) was made to be displayed also in the DeviceNet network configuration under the Master Unit.

The monitor screen was made easier to see.

The new version made it possible to compare the entire network configuration (including each device parameter). Refer to *5-3-3 Verifying the Network Configuration*.

1-1-6 Files Created with Configurator

It is possible to create the following files with the Configurator.

Files	Description	Extension
Network configuration files	The parameter file for all devices (master and slave devices) on a single virtual network (Network Configuration Window)	.npf
Device parameter files	Parameters for each device (master or slave)	.dvf
EDS files	A common device definition file on the DeviceNet network	.eds

Note In addition, files can be exported and saved in the following formats.

- The network configuration (contents displayed in the Detailed Display Mode) can be saved in the CSV file format.
- I/O comments can be exported to a CSV file
- Device parameters of OMRON Master Units can be saved in the DRM_UNIT (virtual unit) file format for open network controllers.
- Device parameters of OMRON Master Units can be saved in the NX-Server file format for the DeviceNet.

1-1-7 Importing Version 1 Configurator Files

Version 2 of the Configurator can import files created with version 1 of the Configurator.

Files	Description	Extension
Network configuration files	The parameter file for all devices (master and slave devices) on a single virtual network (Network Configuration Window).	.ntf
Master parameter files	Parameters for each master device	.dsf
Slave parameter files	Parameters for each slave device	.dpf

1-1-8 Functions of the Configurator

The DeviceNet Configurator has 2 modes: Online and offline.

Online: The Configurator is connected to the DeviceNet network for network communications.

Offline: The Configurator is not connected to the DeviceNet network.

The Configurator has the following functions that allow the user to design, set up, and control the DeviceNet network.

Windows 95, 98, Me, and NT4.0 or 2000 Compatibility

The Configurator will operate under the Windows operating systems.

Other applications can be run simultaneously while monitoring the DeviceNet network's status.

Note The ISA Board is compatible with Windows 95, 98, and NT4.0 only.
The PCMCIA Card is also compatible with Windows 95 and 98 only.

Graphic Displays

The Configurator has Windows-style displays that are easy to understand and easy to use.

Required master and slave settings are made just by selecting the icons. It is not necessary to input complicated commands. Even a beginner can make settings and monitor operation with ease.

Network Management

The Configurator constructs a virtual network in the Network Configuration Window and adds necessary devices to the network. The construction of the network is thus possible offline.

It is possible for the virtual network (i.e., the Network Configuration Window) to read the network configuration from a file or actual network.

Furthermore, the network configuration can be downloaded from the virtual network (i.e., the Network Configuration Window) and all settings can be registered with actual devices.

Online Connections to DeviceNet Network

The online functions of the Configurator are executed by connecting the Configurator to the DeviceNet network through a dedicated Board or Card. (In that case, the Configurator will be treated as a single node on the DeviceNet network.)

Connection can also be made from the COM port of the computer to the serial communications port of a CS/CJ-series CPU Unit (or the Serial Communications Board/Unit) via Toolbus or Host Link. In this case, a CS/CJ-series DeviceNet Unit (CS1W-DRM21 or CJ1W-DRM21) is necessary for connection to the DeviceNet network.

Similarly, connection can be made from the Ethernet port of the computer via a CS/CJ-series Ethernet Unit. In this case also, a CS/CJ-series DeviceNet Unit (CS1W-DRM21 or CJ1W-DRM21) is necessary for connection to the DeviceNet network.

Device Settings

The following parameter settings are for other manufacturers' slaves as well as OMRON's master and slave devices.

A comment can be added to the I/O data of each device.

Setting	Description	CS1W-DRM21	C200HW-DRM21-V1 and CVM1-DRM21-V1
Master functions enable/disable	Enables or disables the master functions for remote I/O communications.	Yes	No
I/O allocations	Slaves are allocated to the master in the desired areas and order. If the I/O allocations are simple, the Parameter Wizard can be used to allocate I/O very easily. I/O allocations are possible as well by just dragging and dropping the slave to the allocation area.	Yes	Yes
Communication cycle time	Sets the communication cycle time. (The interval for I/O communications with slaves.)	Yes	Yes
Connection setting	During remote I/O communications, the user can make connection settings for up to two connections per slave. Automatic connection settings can be selected as well.	Yes	No
Device data check	Determines whether slave device data items (i.e., the vendor, device type, and product code) are checked during remote I/O communications.	Yes	No
Slave functions enable/disable	Enables or disables the slave functions for remote I/O communications.	Yes	No
Slave functions I/O allocation	I/O allocations can be made for slaves of the CS1-series DeviceNet Unit. (I/O can be allocated freely.)	Yes	No

Setting	Description	CS1W-DRM21	C200HW-DRM21-V1 and CVM1-DRM21-V1
Remote I/O communications startup	Determines whether or not to start remote I/O communications when the master is started.	(See note 1.)	Yes
Explicit message communications set/reset	Setting or resetting the function to enable explicit message communications without remote I/O communications.	(See note 2.)	Yes

Note
1. The same function can be achieved with the master functions enable/disable setting.
2. When not registered in the scan list, explicit message communications are possible without remote I/O communications.

Device Monitoring

The status, error log, etc., of a device can be monitored, provided that the device supports the monitor function. The monitor function is supported by OMRON's Master Units and some Special Slaves.

Master Status Monitor

The status of the specified OMRON master is displayed. The status of a slave will be displayed as well if it is in remote I/O communications with the Master.

Slave Status Monitor

The status of the specified MULTIPLE I/O TERMINAL (i.e., DRT1-COM Communications Unit) will be displayed. The configuration of the I/O Unit connected to the Communications Unit will be displayed as well.

Master Error Log Display

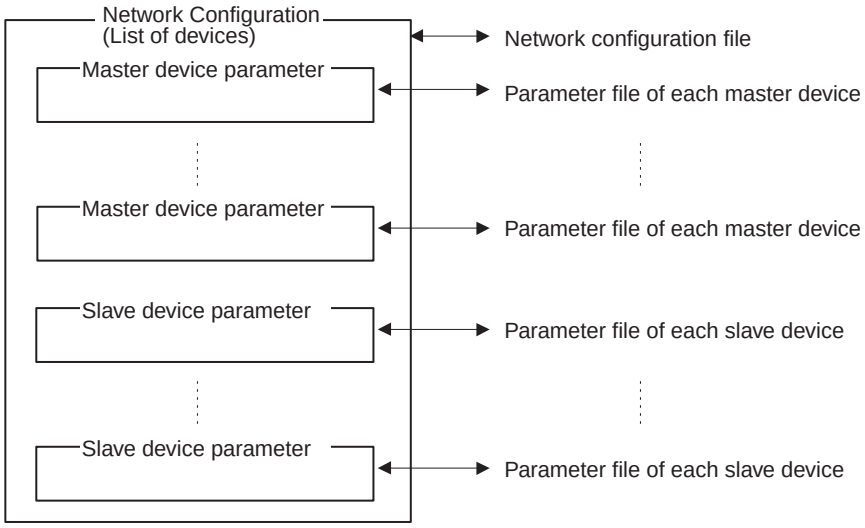
The error log in the specified OMRON master can be read, displayed, or cleared.

Communication Cycle Time Display

The present communication cycle time of the specified OMRON master will be displayed. The maximum communications cycle time and minimum communications cycle time counted from the moment previous values are refreshed will be displayed as well. The maximum communications cycle time and minimum communications cycle time can be reset any time.

File Management

The Configurator saves or loads the following data in files.



- The network configuration file includes the parameters for all devices (master and slave devices). The parameter file for each master and slave device contains the individual device parameters. Parameter files can be managed independently from network configuration files.
- Files from version 1 of the Configurator are not compatible with those of version 2. Files from version 1 of the Configurator can be read, however, by using the import function.

Note Device parameter files of the CS-series CS1W-DRM21 DeviceNet Unit are compatible with Unit setup files that can be backed up in the Memory Card of the CS1-series CPU Unit.

Device (EDS File) Management

The construction of a network with the Configurator requires the appropriate EDS files. Information on each device is obtained from the EDS file.

If no EDS file is provided, use the hardware (EDS file) management function to install or create an EDS file.

Other Functions

DeviceNet vendor definition files, device type definition files, and slave setup files for the MULTIPLE I/O TERMINALs can be set for the Configurator, with which additional DeviceNet vendors and device types can be used.

Furthermore, the Expansion Module can be installed so that edit and monitoring functions can be added for other manufacturers' devices (masters and slaves) or OMRON devices that will be released in the future.

Note When the dedicated Board is used to connect to the DeviceNet network, the Configurator will be a single node on the DeviceNet network. Be sure that the node address of the computer is not duplicated with that of any other node.

1-1-9 Comparison with Previous Versions of the Configurator

The following table lists the difference in function between version 1.20 and version 2.□ of the Configurator.

Item		Version 2.□	Version 1.20
Basic configuration/operations		Dragging and dropping offline make it possible to create a virtual network (for display) in the Configurator. Each device (Master or slave) can also be set online.	Each device must be set online, except the scan list of the master.
Network connection		• Dedicated ISA Board • Dedicated PCMCIA Card • From the COM port of the computer to the serial port of the PLC. (Possible with CS/CJ-series PLCs only.) • From the Ethernet port of the computer to the Ethernet Unit of the PLC. (Possible with CS/CJ-series PLCs only.)	• Dedicated ISA Board • Dedicated PCMCIA Card
Supported DeviceNet masters	OMRON masters	CS1W-DRM21, CJ1W-DRM21, CVM1-DRM21-V1 or C200HW-DRM21-V1 **Note** Output is possible in file formats compatible with open network controllers or NX-Servers for DeviceNet.	CVM1-DRM21-V1 or C200HW-DRM21-V1 **Note** The CS1W-DRM21, open network controllers, or NX-Servers for DeviceNet cannot be used.
	Slave remote I/O allocations	Possible with CS/CJ-series PLCs only.	Impossible
	Master remote I/O communications settings	Possible with CS/CJ-series PLCs only.	Impossible
	Slave remote I/O communications settings	Possible with CS/CJ-series PLCs only.	Impossible
	Enabling or disabling device data checks in remote I/O communication	Possible with CS/CJ-series PLCs only.	Impossible
	Explicit message monitoring timer list settings	Possible with CS/CJ-series PLCs only.	Impossible
	COS/Cyclic heart beat timer settings	Possible with CS/CJ-series PLCs only.	Impossible
	I/O comment settings (for slave I/O data)	Possible	Impossible
Monitor functions	Display of list of data on network devices	Possible	Possible
	Unit status monitoring	Possible with CS/CJ-series PLCs only.	Impossible
	Slave function monitoring	Possible	Impossible
Storage functions	Network configuration files	Possible (extension: .npf)	Possible (extension: .ntf)
	Device parameter files	Possible (extension: .dvf)	Possible (master: Extension: .dsf slave: Extension: .dpf)
	EDS files	Possible (extension: .eds)	Impossible
	Compact flash memory	Stored in compact flash memory and downloaded to the master. (Possible with CS/CJ-series PLCs only.)	Impossible

Item			Version 2.□	Version 1.20
File export functions	I/O command output in CCV file format		Possible	Impossible
	Device parameter of OMRON masters	Output for open network controllers in DRM_UNIT file format	Possible	Impossible
		Output for NX-Servers for DeviceNet in NX-Server file format	Possible	Impossible
	EDS file creation		Possible Device discrimination data and I/O data files are created. Device parameter data files cannot be created.	Conditionally possible Tentative EDS files (with device discrimination data only) are created. Device I/O data or parameter data files cannot be created.
	I/O allocation duplication check between Masters		Impossible	Possible

1-2 Confirming Product Contents

Please check the contents of your product as soon as if arrives.

Product	Contents	Quantity
WS02-CFDC1-E Configurator	Configurator installation disk (CD-ROM)	1
	3G8F5/3G8E2 setup disk (driver setup tool on CD-ROM)	1
	Operation manual (this manual)	1
	User registration card and software license	1
3G8F5-DRM21 ISA Board	Dedicated ISA board	1 (with 1communications connector included)
	Configurator installation disk (CD-ROM)	1
	3G8F5/3G8E2 setup disk (driver setup tool on CD-ROM)	1
	Operation manual (this manual)	1
	User registration card and software license	1
3G8E2-DRM21 PCMCIA Board	Dedicated PCMCIA board	1 (with 1communications connector included)
	Configurator installation disk (CD-ROM)	1
	3G8F5/3G8E2 setup disk (driver setup tool on CD-ROM)	1
	Operation manual (this manual)	1
	User registration card and software license	1

1-3 Operating Environment

The Configurator operates in the following environment.

Compatible personal computer	IBM PC/AT or compatible personal computer
OS	Windows 95, 98, Me, NT4.0, or 2000
CPU	Pentium 166 MHz or better
Available hard disk space	15 Mbytes min.
Memory	32 Mbytes min.
CD-ROM drive	1 (used for software installation)
Display	VGA or better
Hardware for network connection	One of the following is required for online connection to the DeviceNet network. OMRON DeviceNet Board/Card Dedicated PCMCIA Card (3G8E2-DRM21) Dedicated ISA Board (3G8F5-DRM21) Ethernet port COM port

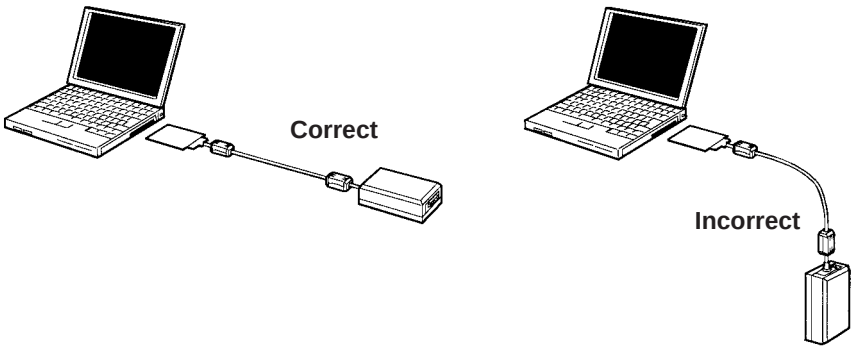
1-3-1 Configurator Precautions

Observe the following precautions when using the Configurator.

- The only DeviceNet masters that can be handled by the Configurator are OMRON's CS1W-DRM21, CJ1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1.
- When a dedicated Board or Card is used, the Configurator is connected to the DeviceNet network as a single node. The Configurator cannot be connected to the network unless a node address is available. No node address is required if the Configurator is connected via Ethernet or a serial communications port.
- Do not use the Configurator in a location with too much electromagnetic noise. If noise is too extreme, the computer may run out-of-control, although there will be no negative effects on the DeviceNet network even if noise causes the computer to run out-of-control.

1-3-2 PCMCIA Card Precautions

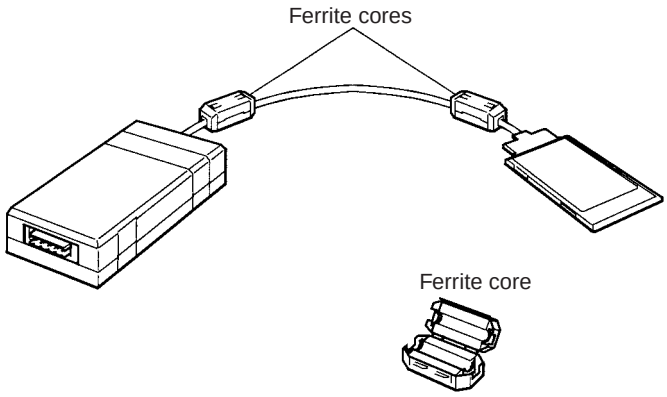
- Use the PCMCIA Card Unit on a level surface, as shown in the following diagram.



- Do not bend or pull the cable that connects the PCMCIA Card and the PCMCIA Card Unit.
- The PCMCIA Card is a portable peripheral device. Do not leave it connected to the network.

- Attaching ferrite cores between the PCMCIA Card and the PCMCIA Card Unit can reduce noise from the network.

  Attach one ferrite core near the Unit and another near the card, as shown in the following diagram.



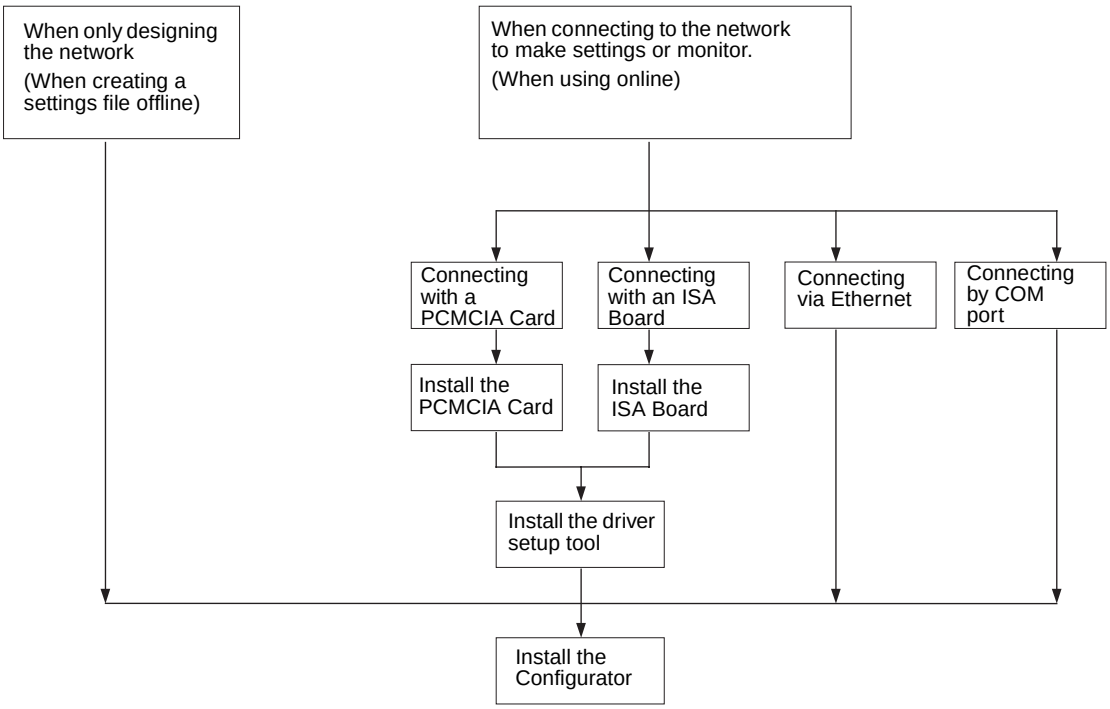
We recommend one of the following ferrite cores.
Company: Fair-Rite Products Corp.
Models: 0443-164251
045A-164257
Address: PO Box J, One Commercial Row, Wallkill, NY 12589 USA
Phone: (845) 895-2055
Fax: (845) 895-2629

SECTION 2
Installation

This section explains how to install the ISA Board, PCI Board, or PCMCIA Card hardware in the computer, make the necessary hardware settings and computer settings, and install the DeviceNet Configurator software in the computer.

2-1 Installation Procedure

The following flowchart shows the steps involved in installing the Configurator.



2-2 ISA Board Installation

This section explains how to set the dedicated ISA Board used by the Configurator and install the Board in the computer.

2-2-1 Preparation for Installation

The dedicated ISA Board used by the Configurator is not a plug-and-play board. Before installing the Board, check the items listed in the following table.

Item	Description
Windows OS	Verify that the OS is Windows 95, 98, or NT4.0.
Unused expansion slot	Verify that there is an unused expansion slot (ISA slot) in the computer.
Available memory	The ISA Board for the Configurator occupies 16 KB of memory between the memory range of C0000 and DFFFF as a system resource. Verify that the computer has 16 KB of available memory between the memory range of C0000 and DFFFF and select a leading address. The leading address is needed during the driver installation.
Unused I/O port address	The ISA Board for the Configurator occupies 8 port addresses between the memory range of 200 and 2FF as a system resource. Verify that the computer has 8 addresses available and select a leading I/O address. The leading I/O address is needed when setting the ISA Board's DIP switch.

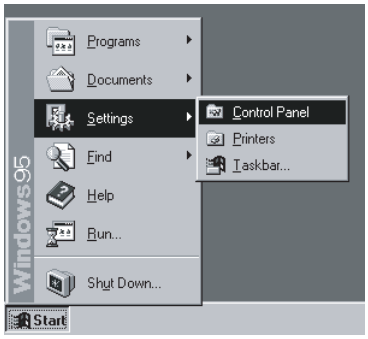
Note The dedicated ISA Board used by the Configurator cannot be used with Windows Me or 2000.

Windows 95/98 Procedure

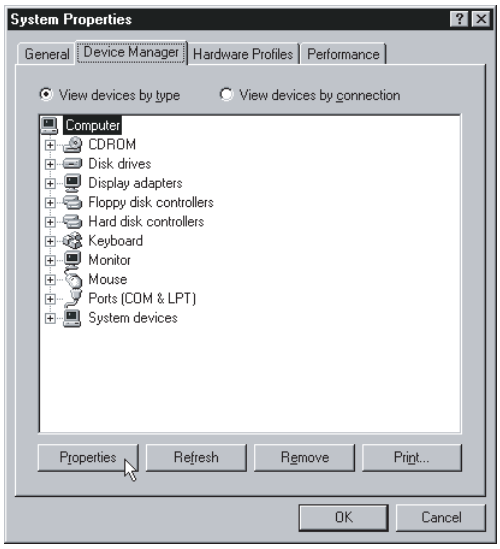
When Windows 95/98 is being used, follow this procedure to verify the available memory and I/O port addresses and reserve these addresses for the Configurator's ISA Board.

1,2,3...

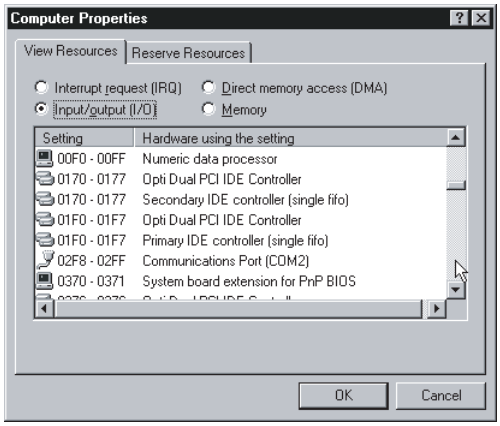
1. Click the **Start** Button and select ***Control Panel*** from the Settings Menu.



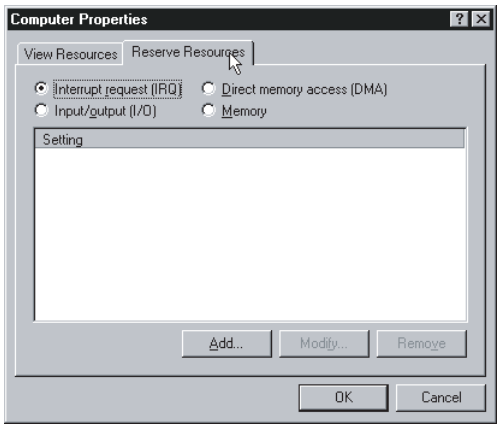
2. Double-click the **System** Icon in the Control Panel Window.
3. Select the **Device Manager** Tab from the System Properties Window.
4. Select ***Computer*** and click the **Properties** Button at the bottom of the window.



5. Select the **View Resources** Tab.
6. Select **Input/output (I/O)** from the View Resources Page and click the **OK** Button. The current I/O port allocations will be displayed. Find an unused I/O port address that can be used for the ISA Board.

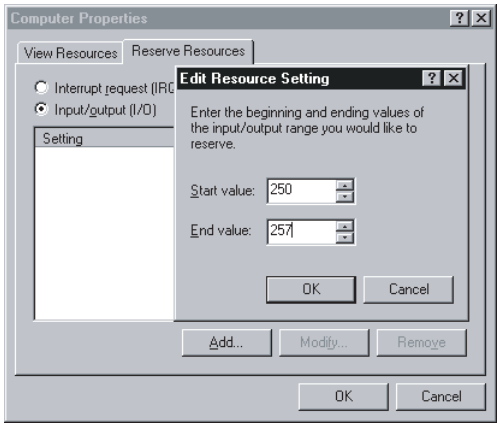


7. Select the **Reserve Resources** Tab.



8. Selecting ***Input/output (I/O)*** from the Reserve Resources Page, click the **Add** Button, and register the range of I/O port addresses for the ISA Board as shown in the following diagram.

   In this example, I/O port addresses 250 through 257 (hexadecimal) are reserved.



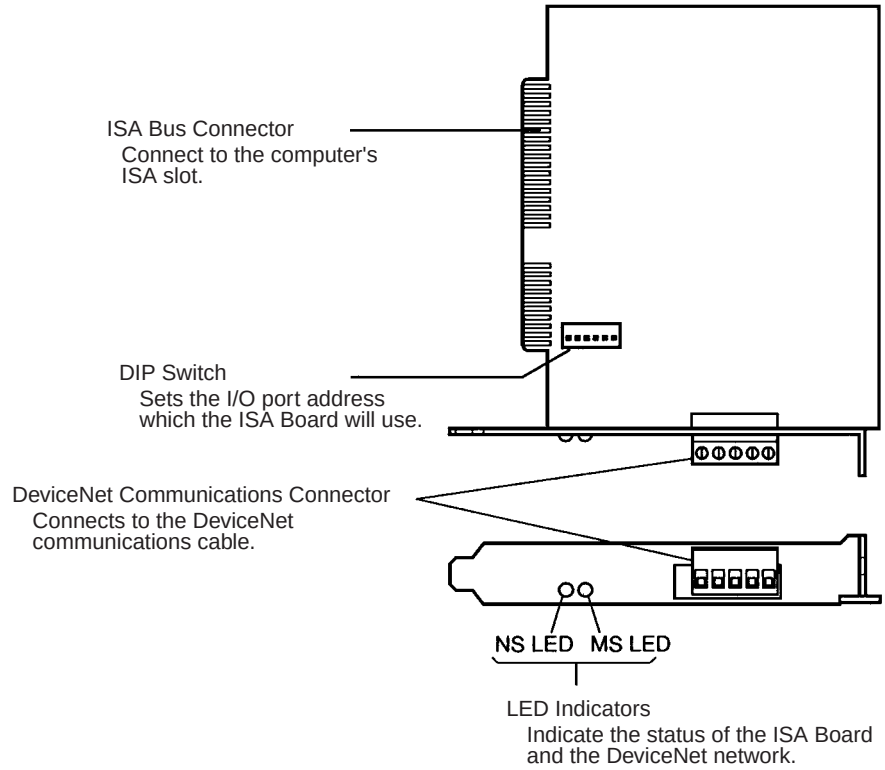
9. Follow the same procedure in steps 5 to 8 to reserve 16-Kbytes of memory.
10. Click the **OK** Button at the bottom of the Computer Properties Window to accept the changes and close the window. A pop-up window will appear; restart the computer as required.

Windows NT 4.0 Procedure

When Windows NT 4.0 is being used, the operating system does not monitor the status of memory and I/O port addresses. Refer to the user's manuals for the computer and peripheral devices being used and locate an unused address for the Configurator's ISA Board.

2-2-2 ISA Board Components and Functions

The following diagram shows the main components of the Configurator's ISA Board and their functions.



2-2-3 DIP Switch Settings

Before connecting the ISA Board to the computer, set the I/O port address that the Board will use with the Board's DIP switch.

⚠ **Caution** Do not touch the ISA Boards connectors or components. Take precautions against static electricity when handling the ISA Board.

Set the I/O port address with the DIP switch as shown in the following table. Be sure to set addresses that aren't being used by another device in order to avoid a conflict. (A pin setting of 0 is OFF and 1 is ON.)

I/O port addresses (Hexadecimal)	DIP switch pin settings						Remarks
	1	2	3	4	5	6	
200 to 207	0	0	0	0	0	0	Used for the game port.
208 to 20F	1	0	0	0	0	0	---
210 to 217	0	1	0	0	0	0	---
218 to 21F	1	1	0	0	0	0	---
220 to 227	0	0	1	0	0	0	---
228 to 22F	1	0	1	0	0	0	---
230 to 237	0	1	1	0	0	0	---
238 to 23F	1	1	1	0	0	0	---
240 to 247	0	0	0	1	0	0	---
248 to 24F	1	0	0	1	0	0	---
250 to 257	0	1	0	1	0	0	Factory default setting.
258 to 25F	1	1	0	1	0	0	---

I/O port addresses (Hexadecimal)	DIP switch pin settings						Remarks
	1	2	3	4	5	6	
260 to 267	0	0	1	1	0	0	---
268 to 26F	1	0	1	1	0	0	---
270 to 277	0	1	1	1	0	0	---
278 to 27F	1	1	1	1	0	0	Used for LPT2.
280 to 287	0	0	0	0	1	0	---
288 to 28F	1	0	0	0	1	0	---
290 to 297	0	1	0	0	1	0	---
298 to 29F	1	1	0	0	1	0	---
2A0 to 2A7	0	0	1	0	1	0	---
2A8 to 2AF	1	0	1	0	1	0	---
2B0 to 2B7	0	1	1	0	1	0	---
2B8 to 2BF	1	1	1	0	1	0	---
2C0 to 2C7	0	0	0	1	1	0	---
2C8 to 2CF	1	0	0	1	1	0	---
2D0 to 2D7	0	1	0	1	1	0	---
2D8 to 2DF	1	1	0	1	1	0	---
2E0 to 2E7	0	0	1	1	1	0	---
2E8 to 2EF	1	0	1	1	1	0	Used for COM port 4.
2F0 to 2F7	0	1	1	1	1	0	---
2F8 to 2FF	1	1	1	1	1	0	Used for COM port 2.

Note There are some boards marketed that cannot distinguish between I/O port addresses 200 through 2FF and addresses 600 through 6FF. If one of these boards is allocated address 2□□, it will occupy address 6□□ as well. To avoid any possible conflicts when assigning an address between 600 and 6FF, be sure to assign an address that corresponds to an unused address between 200 and 2FF. (For example if 6A0 to 6A7 are selected, make sure that 2A0 to 2A7 are unused.)

2-2-4 Installation in the Computer

The ISA Board must be installed into one of the computer's expansion slots (ISA slots). When installing the Board, turn OFF the computer's power and take precautions against static electricity. Refer to the computer's user's manual for detailed installation procedures.

If there are no problems with the I/O port settings, the computer should recognize the ISA Board when the computer is turned ON and the ISA Board should be usable. If the ISA Board has been installed successfully, proceed to *2-2-5 3G8F5/3G8E2-DRM21 Driver Setup Software Installation*.

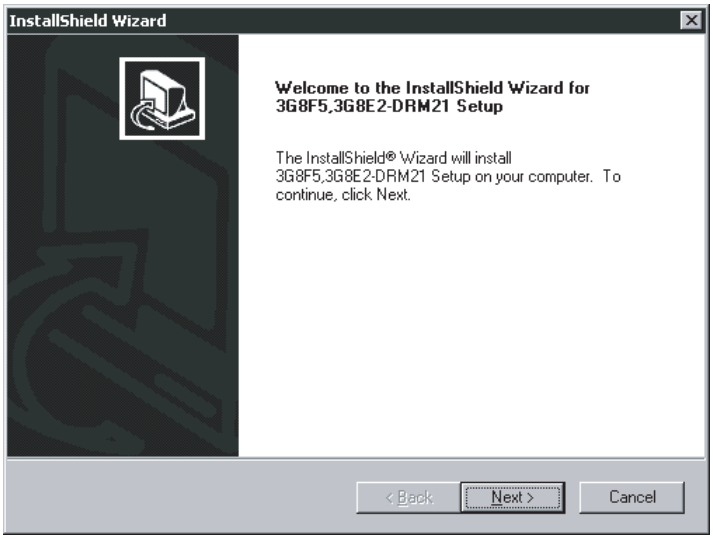
2-2-5 3G8F5/3G8E2-DRM21 Driver Setup Software Installation

The operations and displays shown in the following procedure may differ slightly depending on the version of Windows software being used. The displays for Windows 98 are shown here.

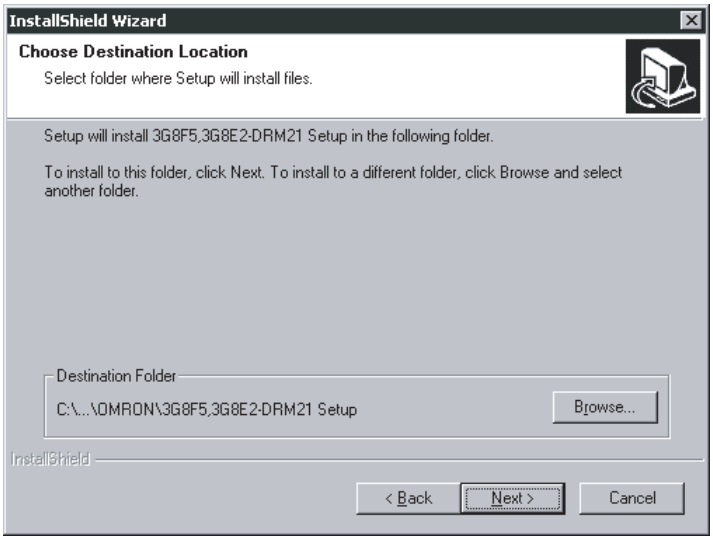
1,2,3...

1. Exit all other Windows-based programs.
2. Insert 3G8F5/3G8E2-DRM21 setup disk into the CD-ROM drive.
3. Double-click ***Setup.exe***.
   The 3G8F5/3G8E2-DRM21's setup program will start.

The following window will be displayed when the setup program has been loaded. Click the **Next** Button after reading the precautions.

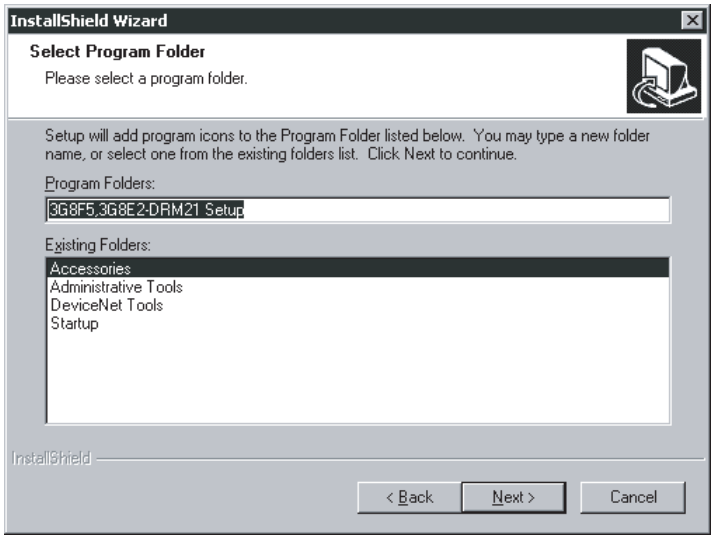


4. Specify the destination directory for the driver files. If the default directory shown in the window is acceptable, click the **Next** Button. To specify a different directory, click the **Browse** Button, specify the desired directory, and click the **Next** Button. If a new directory is specified, the software will create it automatically.

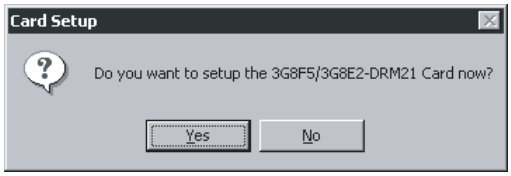


5. Specify the name of the 3G8F5/3G8E2-DRM21 program folder where the Software icons will be registered. If the default program folder is acceptable, click the **Next** Button. To specify a different folder, select an existing folder or enter a new folder name and then click the **Next** Button.

Note The program folder name specified here will be registered under DeviceNet Tools in the Start Menu.



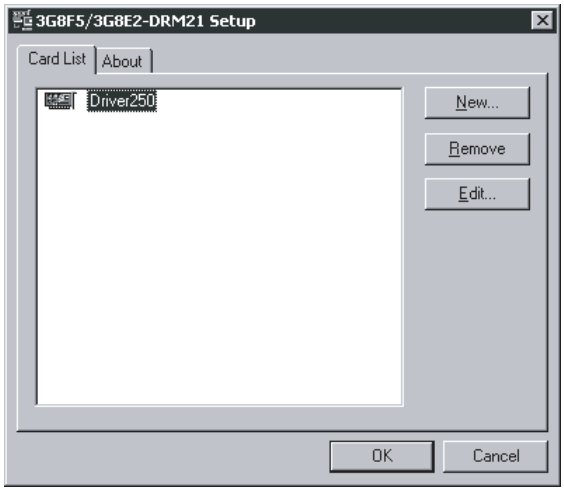
6. The installation program will be started and the 3G8F5/3G8E2-DRM21 files will be copied to the destination directory.
7. A program group folder will be created automatically when the 3G8F5/3G8E2-DRM21 Driver Setup Software installation has been completed.
8. A pop-up window will be displayed asking whether you want to setup the device driver. If you click the **No** Button, the installation program will end without performing the setup for the ISA Board or PCMCIA Card.



Note The setup for the ISA Board or PCMCIA Card can be performed later by clicking the **Start** Button, then selecting ***Program***, ***DeviceNet Tools***, ***3G8F5/3G8E2-DRM21 Setup***, ***3G8F5/3G8E2-DRM21-Setup***.

9. The setup program for the device driver will start. There is already a card driver called Driver250 registered, so click the **Edit** Button. The New selection is used to add a driver for the ISA Board or PCMCIA Card.

The ***Remove*** selection is used to delete the selected driver.



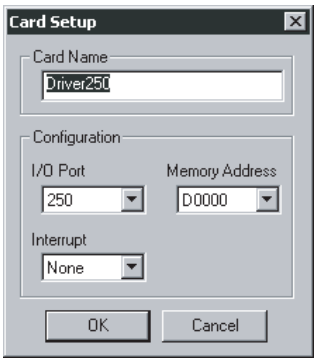
Note a) The card name registered here will be used on the Configurator to access the ISA Board or PCMCIA Card.

b) Register a name for each ISA Board and PCMCIA Card.

10. Set the I/O port address, memory address, and interrupt (IRQ) for the ISA Board or PCMCIA Card being used with the Configurator. (Refer to the screen in step 11.)
11. Input the I/O port address set on the board's DIP switch and input a memory address that is available in the computer. Set the interrupt to None.

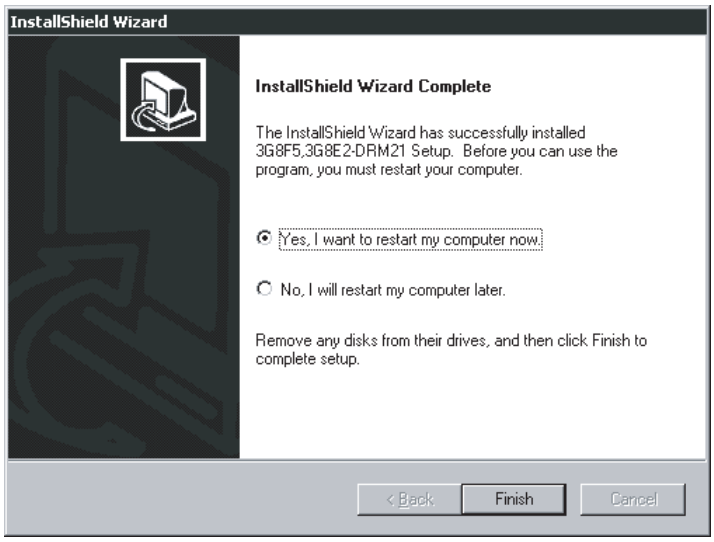
    The Card Name and Driver Name can be changed if necessary.

    Make sure that all of the settings are correct and click the **OK** Button. The Configuration Window shown in step 9 will be displayed.



Note The Configurator does not use interrupts. Set the interrupt level to None.

12. Click the **OK** Button to exit the setup program.



With Windows 95/98, the Configurator can be run immediately. Click the **OK** Button to start the Configurator. With Windows NT, a pop-up window will be displayed asking whether or not to restart Windows.

13. This completes installation of the 3G8F5-DRM21 or 3G8E2-DRM21 Driver Setup Software.

2-3 PCMCIA Card Installation

This section explains how to set the PCMCIA Card used by the Configurator and install the card in the computer.

2-3-1 Preparation for Installation

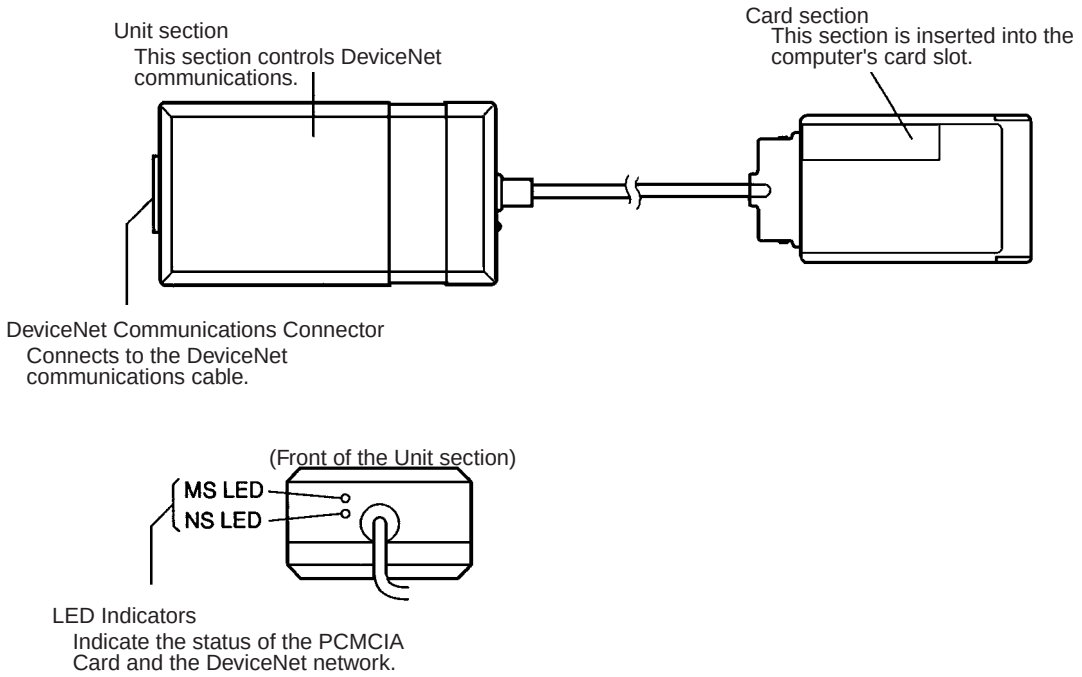
Before installing the PCMCIA Card, check the items listed in the following table.

Item	Description	
Windows OS	Verify that the OS is Windows 95 or 98. The PCMCIA Card can only be used in this environment.	
Unused card slot	Verify that there is an unused card slot (type II) in the computer.	
Available memory	The PCMCIA Card used by the Configurator occupies 16 KB of memory as a system resource. Verify that the computer has 16 KB of available memory.	The PCMCIA Card memory and I/O port combinations used by the Configurator are set automatically by the Windows 95/97 Plug & Play feature. Use one of the automatically set combinations.
Unused I/O port address	The PCMCIA card used by the Configurator occupies 3 ports as a system resource. Verify that the computer has 3 I/O port addresses available.	

Note The PCMCIA Card for the Configurator can't be used with the Windows Me, NT4.0, or 2000 operating systems.

2-3-2 PCMCIA Card Components and Functions

The following diagram shows the main components of the Configurator's PCMCIA Card (Card and Unit sections) and their functions.



2-3-3 PCMCIA Card Setup

The operations and displays shown in the following procedure may differ slightly depending on the version of Windows software being used. Use the following procedure for setup.

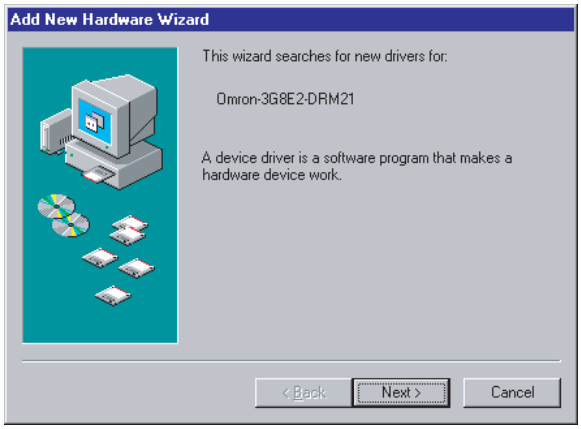
Before Starting the Setup

Before starting the setup procedure, remove any PCMCIA Cards (including those used by the Configurator) that are currently being used. Since the PCMCIA Card can't be used temporarily during the setup, it may not be possible to continue the setup operation midway through the operation.

PCMCIA Card Setup

1,2,3... 1. Insert the 3G8F5/3G8E2-DRM21 setup disk into the CD-ROM drive.

2. Install the PCMCIA Card when the Windows system is active. The PCMCIA Card will be recognized as new hardware and the Add New Hardware Wizard Window will be displayed. Click the **Next** Button.

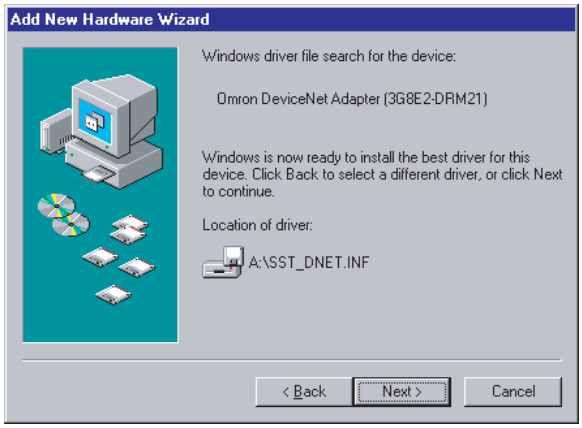


3. Select ***Search for the best driver for your device*** as the driver search method, then click the **Next** Button.

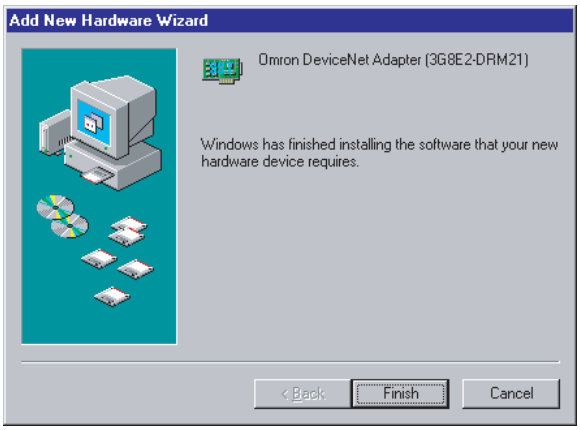
4. Select ***CD-ROM drive*** as the driver location to be searched, then click the **Next** Button.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

5. The driver file will be recognized as shown below. Click the **Next** Button to install the driver.



6. After the driver has been installed, click the **Finish** Button.

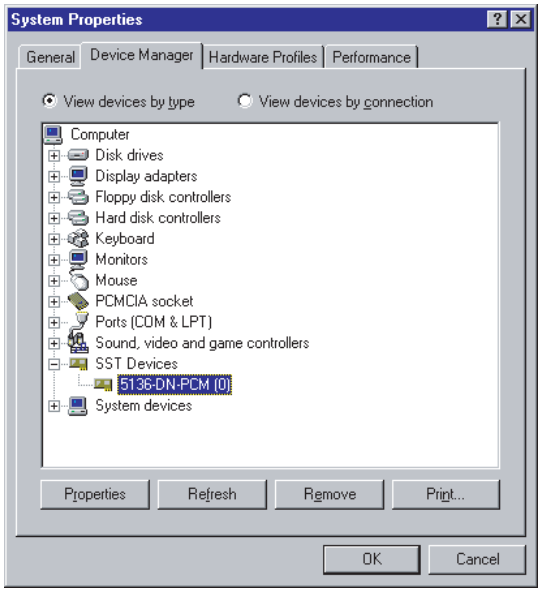


Verifying Driver Resources

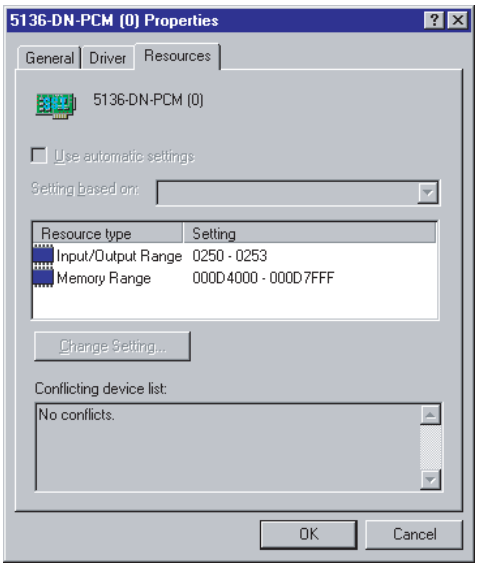
1,2,3...

1. Check that the driver has been installed correctly, as follows:
Click the **Start** Button, select ***Control Panel*** from the Settings Menu, double-click the **System** Icon in the Control Panel, and select the **Device Manager** Tab from the top of the System Properties Window (refer to page 24). Check that the SST Device has been added, then click the **+** to the left of

SST Devices to check that x or ! is not displayed at PCMCIA Card driver 5136-DN-PCM(n), where n is the PCMCIA slot number.



2. Verify the resources currently being used, as follows:
Double-click ***5136-DN-PCM(n)*** to display the 5136-DN-PCM(n) Properties Window and select the **Resources** Tab from the top of the window. The automatically set Input/Output Range and Memory Range values will be displayed.



This completes installation of the PCMCIA Card driver. Write down the values of Input/Output Range and Memory Range because these will be needed later when installing the Configurator.

2-3-4 3G8F5/3G8E2-DRM21 Driver Setup Software Installation

The operations and displays shown in the following procedure may differ slightly depending on the version of Windows software being used. The displays for Windows 98 are shown here.

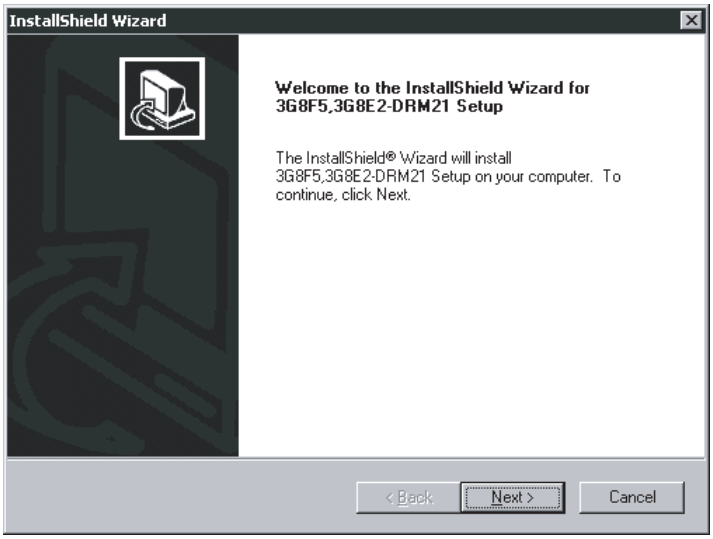
1,2,3...

1. Exit all other Windows-based programs.
2. Insert 3G8F5/3G8E2-DRM21 setup disk into the CD-ROM drive.

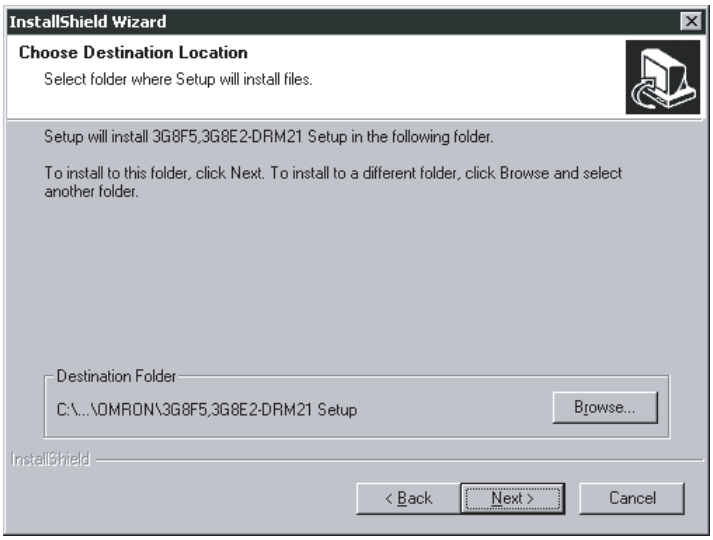
AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

3. Double-click ***Setup.exe***.
   The 3G8F5/3G8E2-DRM21's setup program will start.

   The following window will be displayed when the setup program has been loaded. Click the **Next** Button after reading the precautions.

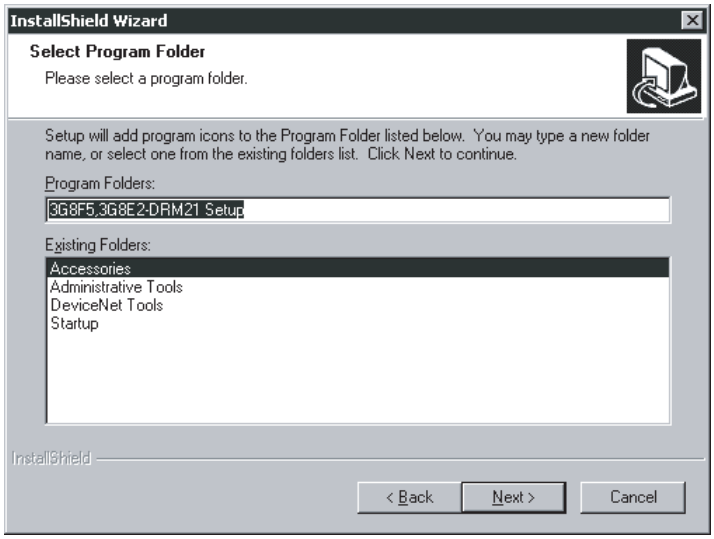


4. Specify the destination directory for the driver files. If the default directory shown in the window is acceptable, click the **Next** Button. To specify a different directory, click the **Browse** Button, specify the desired directory, and click the **Next** Button. If a new directory is specified, the software will create it automatically.

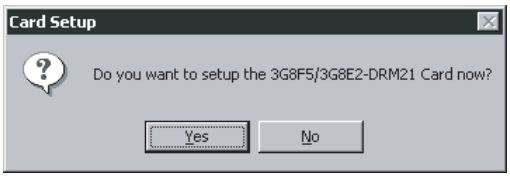


5. Specify the name of the 3G8F5/3G8E2-DRM21 program folder where the Software icons will be registered. If the default program folder is acceptable, click the **Next** Button. To specify a different folder, select an existing folder or enter a new folder name and then click the **Next** Button.

Note The program folder name specified here will be registered under DeviceNet Tools in the Start Menu.



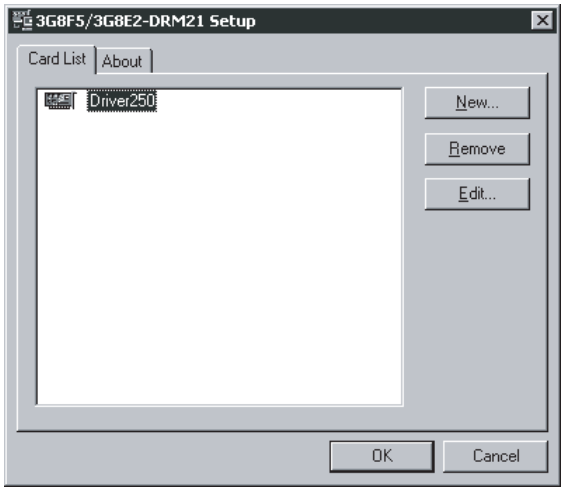
6. The installation program will be started and the 3G8F5/3G8E2-DRM21 files will be copied to the destination directory.
7. A program group folder will be created automatically when the 3G8F5/3G8E2-DRM21 Driver Setup Software installation has been completed.
8. A pop-up window will be displayed asking whether you want to setup the ISA Board or PCMCIA Card. Click the **Yes** Button. If you click the **No** Button, the installation program will end without performing the setup for the ISA Board or PCMCIA Card.



Note The setup for the ISA Board or PCMCIA Card can be performed later by clicking the **Start** Button, then selecting ***Program***, ***DeviceNet Tools***, ***3G8F5/3G8E2-DRM21 Setup***, ***3G8F5/3G8E2-DRM21-Setup***.

9. The setup program for the device driver will start. There is already a card driver called Driver250 registered, so click the **Edit** Button. The New selection is used to add a driver for the ISA Board or PCMCIA Card.

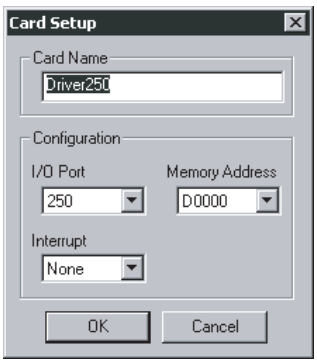
The ***Remove*** selection is used to delete the selected driver.



Note a) The card name registered here will be used on the Configurator to access the ISA Board or PCMCIA Card.

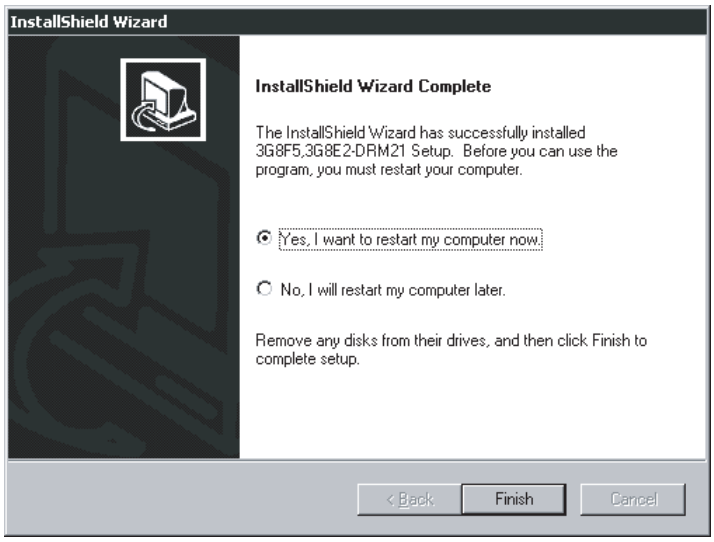
b) Register a name for each ISA Board and PCMCIA Card.

10. Set the I/O port address, memory address, and interrupt (IRQ) for the ISA Board or PCMCIA Card being used with the Configurator. (Refer to the screen in step 11.)
11. Input the values that were confirmed in the PCMCIA Card setup for the I/O Port, Memory Address, and Interrupt (IRQ).
    The Card Name and Driver Name can be changed if necessary.
    Make sure that all of the settings are correct and click the **OK** Button. The Configuration Window shown in step 9 will be displayed.



Note The Configurator does not use interrupts. Set the interrupt level to None.

12. Click the **OK** Button to exit the setup program.



With Windows NT, a pop-up window will be displayed asking whether or not to restart Windows.

13. This completes installation of the 3G8F5-DRM21 or 3G8E2-DRM21 Driver Setup Software.

2-4 Configurator Installation

This section explains how to install the Configurator. The Configurator is installed by executing the setup program of the Configurator.

Preparation for Installation

Prior to upgrading to a newer Configuration version, be sure to uninstall the previous Configuration version. (Uninstalling is not necessary, however, when the update module is used.)

If the update module was used to upgrade in the past, the update module must also be uninstalled.

When upgrading from a Ver. 1.□ Configurator to a Ver. 2.□ Configurator, install the driver setup tool first after uninstalling the Ver. 1.□ Configurator.

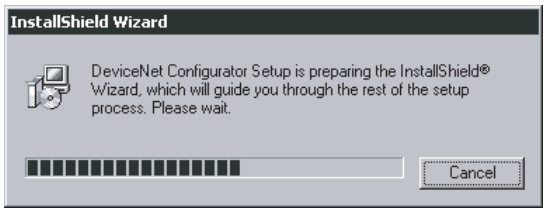
Note Select ***Settings***, ***Control Panel***, and ***Add/Remove Programs*** from the Start Menu for uninstalling.

Installation

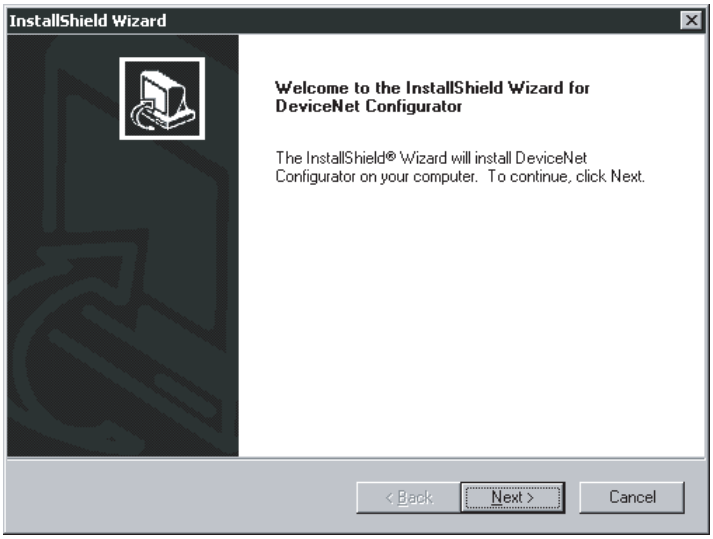
The operations and displays shown in the following procedure may differ slightly depending on the version of Windows software being used. The displays for Windows 98 are shown here.

1,2,3...

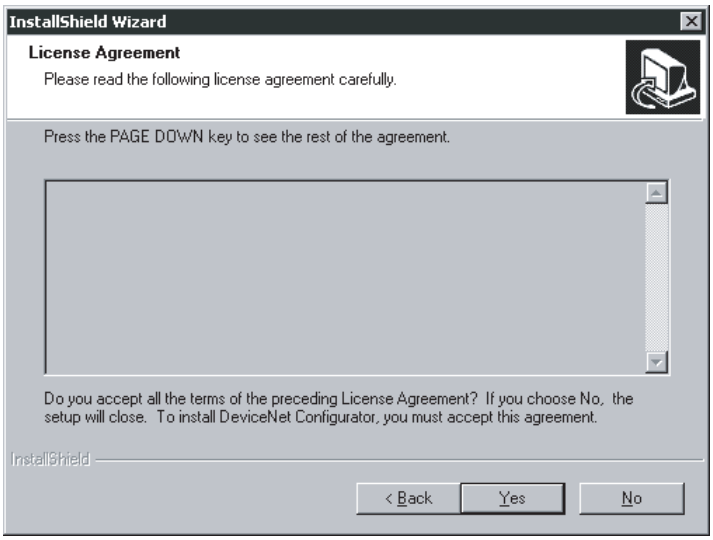
1. Exit all other Windows-based programs.
2. Insert the setup disk (CD-ROM) into the CD-ROM drive.
3. Double-click ***Setup.exe***.
   The setup program of the Configurator will start. A pop-up window will indicate the progress of the setup as the program is loaded.



4. The following window will be displayed when the setup program has been loaded. Click the **Next** Button after reading the precautions.

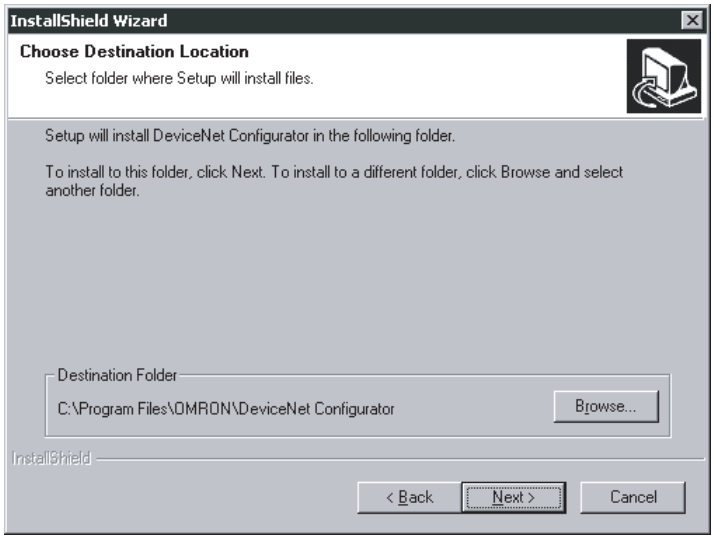


5. The license agreement will be displayed.
   Read the license agreement. Click the **Yes** Button if you agree to all the contents. If **No** Button is selected, the setup procedure will be canceled.

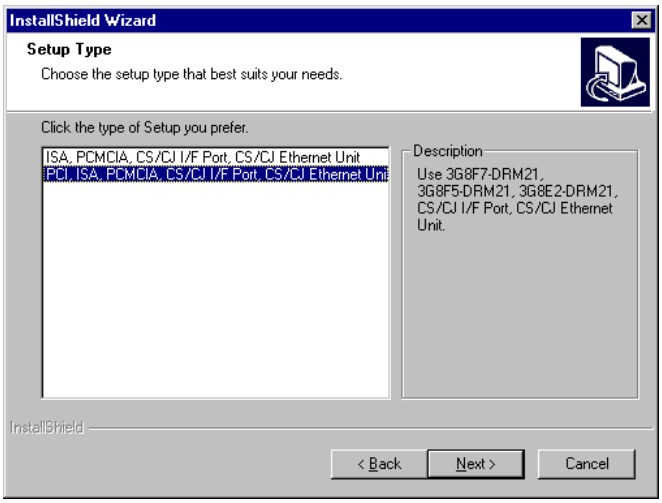


6. Specify the destination directory for the Configurator files. If the default directory shown in the window is acceptable, click the **Next** Button. To specify a different directory, click the **Browse** Button, specify the desired

directory, and click the **Next** Button. If a new directory is specified, the software will create it automatically.

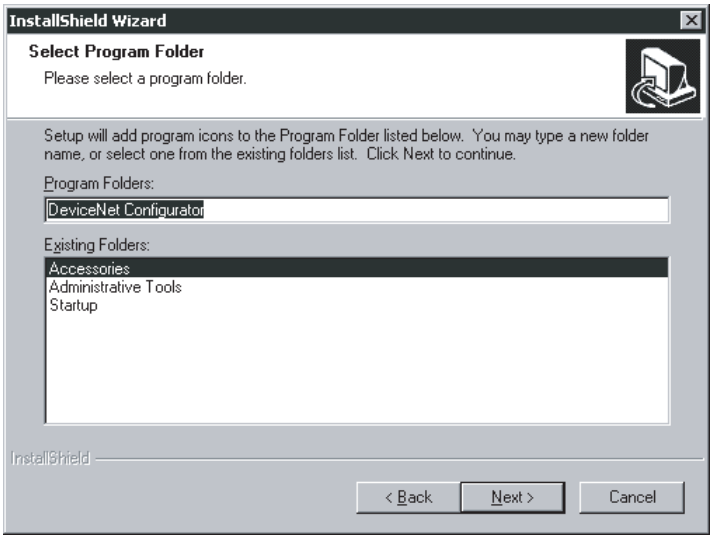


7. Specify the name of the interface to be used.
   If the default interface is acceptable, click the **Next** Button.

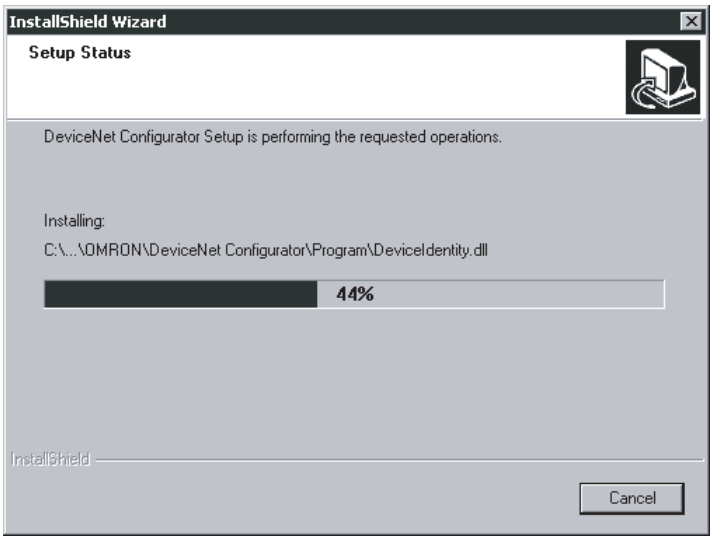


8. The installation program will be started and the Configurator files will be copied to the destination directory. If the default program folder is acceptable, click the **Next** Button. To specify a different folder, select an existing folder or enter a new folder name and then click the **Next** Button.

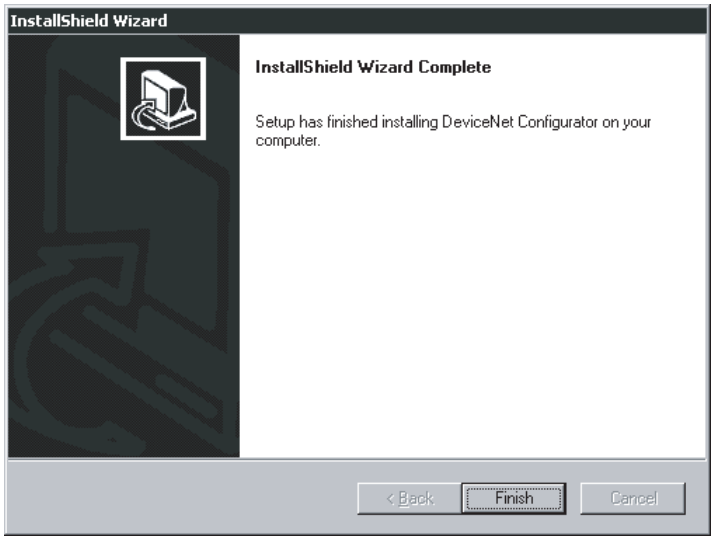
Note The program folder name specified here will be registered under DeviceNet Tools in the Start Menu.



9. The installation program will be started and the Configurator files will be copied to the destination directory.



10. The following window will be displayed when the installation of the Configurator completes.



11. Click the **OK** Button to exit the setup program.
    This completes installation of the Configurator.

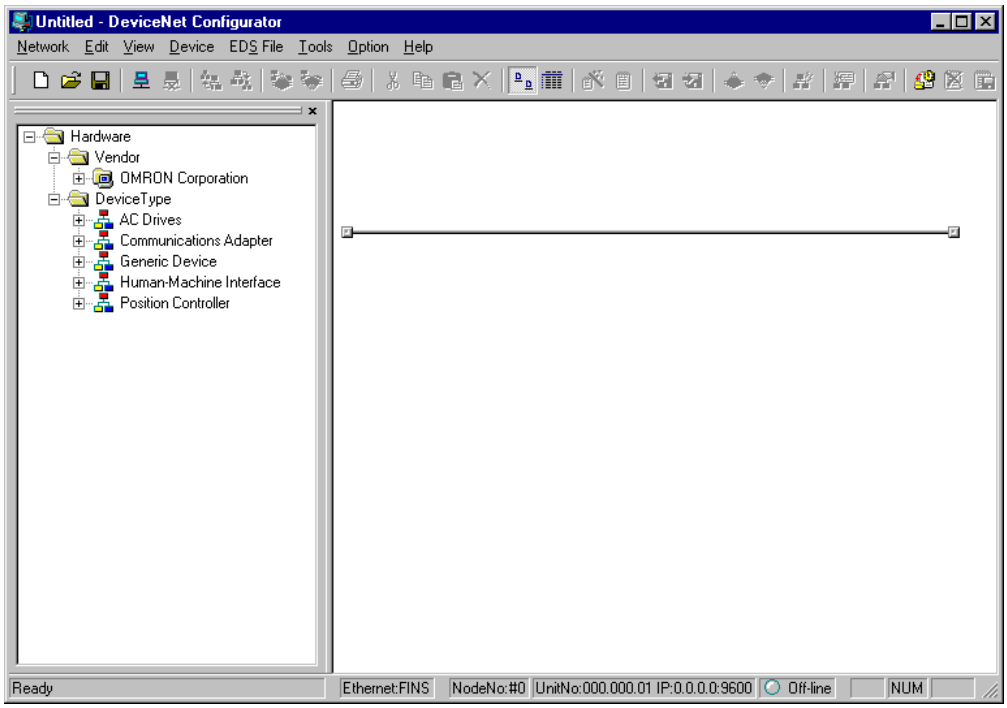
AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

SECTION 3
Basic Operation

This section explains the basic operation of the DeviceNet Configurator.

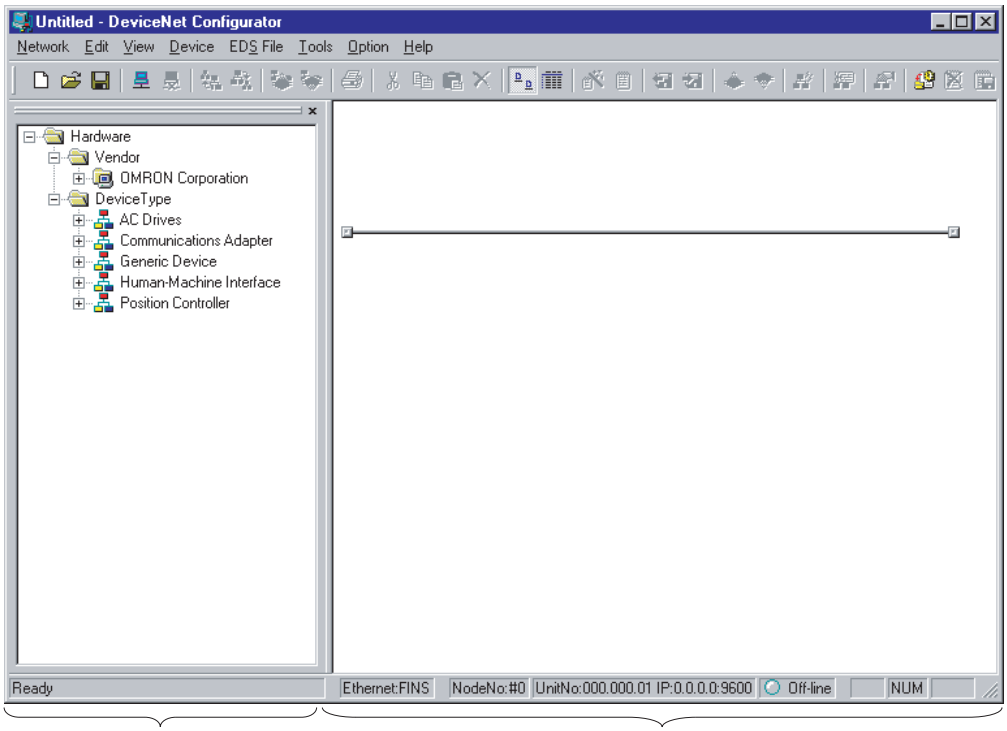
3-1 Starting the Configurator and the Main Window

Select ***Program***, ***DeviceNet Tools***, and ***DeviceNet Configurator***, from the Start Menu if the default program folder name is used. The Configurator will start and the following Main Window will be displayed.



The following description provides information on the Main Window of the Configurator.

The Main Window consists of the hardware list and Network Configuration Window.



Hardware list
A list of devices that can be added to the network.

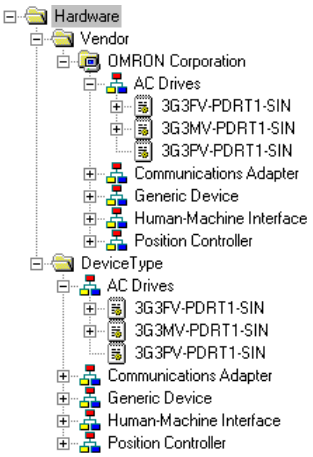
Network Configuration Window
A virtual network.

3-1-1 Hardware List

The hardware list shows the devices in which EDS files have been installed. To simplify searching, it is divided into Vendor and Device Type groups.

The same devices are found in each of these groups, and can be selected from whichever one is easiest to search.

Devices can be added to the network by selecting them from the hardware list and dragging them into the Network Configuration Window.



Vendor Group

When the Configurator is first installed, the Vendor group contains only OMRON hardware. If products (containing EDS files) from other manufacturers are installed, their list will automatically be built.

Device Type Group

The Device Type group consists of the following types of devices.

Device type	Description
Generic Device	General-purpose I/O devices. Many OMRON slaves currently belong to this category.
Communications Adapter	These serve as a network gateway. OMRON's DeviceNet Master Units, MULTIPLE I/O TERMINAL Communications Units, Digital Fiber Amplifiers, and Wireless Units currently belong to this category.
Human-Machine Interface	These devices function as human-machine interfaces. OMRON's PT Interface Unit currently belongs to this category.
AC Drives	These are AC drives. Inverters currently belong to this category.
Position Controller	These are devices with positioning functions, such as servomotors and stepping motors. The Single-axis Positioner currently belongs to this category.

Devices will not be displayed in the hardware list unless they have had an EDS file installed.

Note The hardware list can be moved left/right and up/down, removed for use as a separate window, or closed.

- To move or remove for use as a separate window
  Drag the top of the hardware list to move it. To remove it for use as a separate window, drag it to the center of, or outside, the Network Configuration Window.
- To close
  Click the Close button to close the window with the hardware list.
- To display
  Activate ***Hardware List*** from the View Menu.

3-1-2 Network Configuration Window

The Network Configuration Window is a virtual network. Devices dragged from the hardware list and dropped in this window will be added to the virtual network, where the devices can be setup or monitored.

It is possible to select either one of the following display modes in the Network Configuration Window.

Network display: Large icons are displayed in the image of network connection devices.

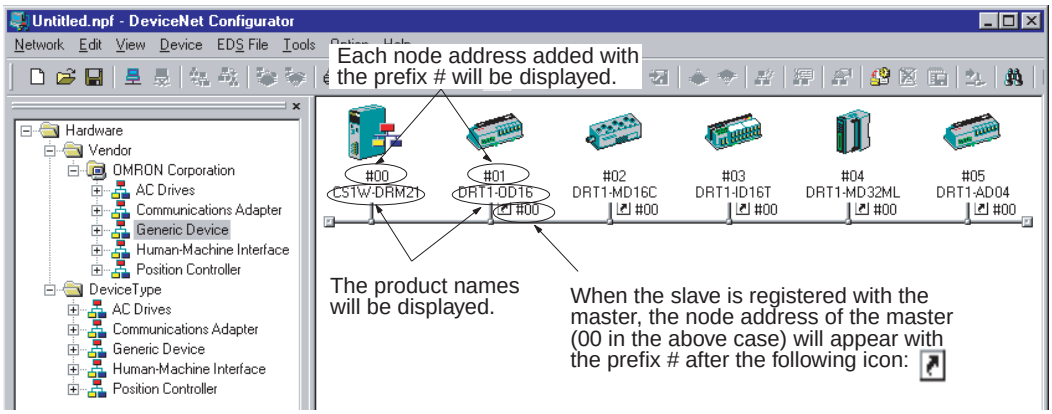
Detailed display: Device data is displayed in a report format.

The display mode is selected with the tool bar or from the View Menu.

Network Display

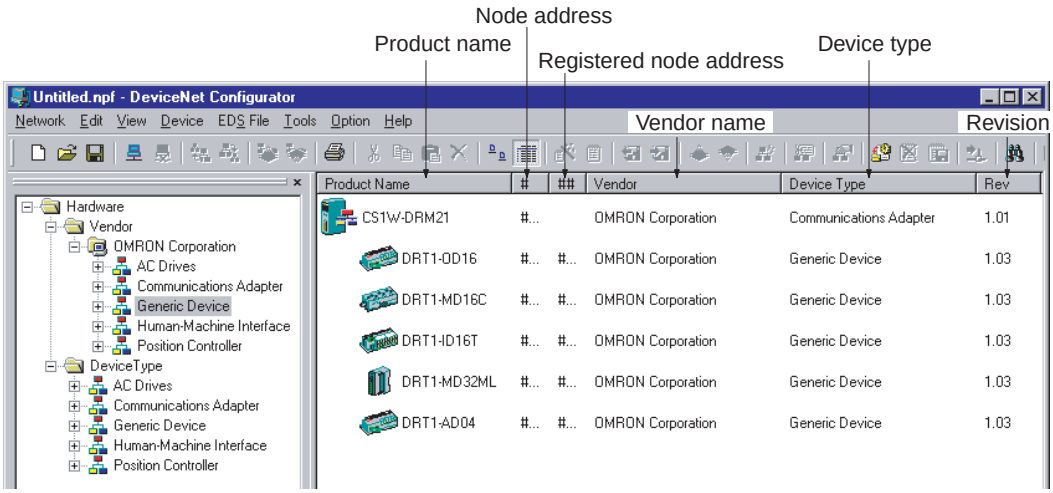
While the Network Display Mode is selected, the following Network Configuration Window will be displayed.

In Detailed Display Mode, click the **Large Icons** Icon or select ***Large Icons*** from the View Menu to display the network configuration.

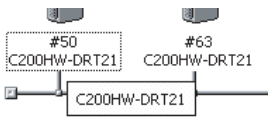


Detailed Display

In Network Display Mode, click the **Detailed Display** Icon or select ***Details*** from the View Menu to display the following Network Configuration Window.



Note By clicking the right mouse button in the window in network display or Detailed Display Mode, all the functions in the Edit or Device Menu can be accessed. Furthermore, by moving the mouse pointer to a device, an explanation for the device will be shown in a pop-up message.



3-2 Menu Commands

The following table describes all of the commands in the menus of the Configurator.

3-2-1 Main Menu

Network Menu

Command	Description	Offline	Online
New	Creates a new network configuration.	OK	OK
Open	Opens a network configuration file.	OK	OK
Save	Saves the displayed network configuration.	OK	OK
Save As	The Save as command is the same as Save, but the Filename Specification Window is always displayed.	OK	OK
Connect	Connects the Configurator to the network	OK	No
Disconnect	Disconnects the Configurator from the network	No	OK
Move to Upper Network	Displays the upper network.	No	OK
Move to Lower Network	Displays the lower network.	No	OK
Upload	Uploads device data from the network to the Configurator.	No	OK
Download	Downloads device data from the Configurator to network devices.	No	OK
Compare Structure	Compares the current network configuration with the actual configuration of the network to which the Configurator is connected.	No	OK
Export	Outputs a file in the CSV file format containing the contents of the detailed display.	OK	OK
Import	Imports network configuration files created on version 1 of the Configurator.	OK	OK
Print	Prints device parameters and the I/O comment list.	OK	OK
Setup Printer	Sets up the printer.	OK	OK
Exit	Exits the Configurator program.	OK	OK

Edit Menu

Command	Description	Offline	Online
Cut	Cuts devices to paste them to the clipboard.	OK	OK
Copy	Copies devices to the clipboard.	OK	OK
Paste	Copies devices from the clipboard to the cursor position.	OK	OK
Delete	Deletes selected devices.	OK	OK
All	Selects all devices.	OK	OK

View Menu

Command	Description	Offline	Online
Tool Bar	Turns the tool bar ON or OFF.	OK	OK
Status Bar	Turns the status bar ON or OFF.	OK	OK
Large Icons	Changes to Network Display Mode.	OK	OK
Details	Changes to Detailed Display Mode.	OK	OK
Hardware List	Displays or hides the hardware list.	OK	OK

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Device Menu

Command		Description	Offline	Online
Parameter	Wizard	Sets desired parameters for supported devices in the wizard format.	OK	OK
	Edit	Edits device parameters.	OK	OK
	Open	Reads parameters from device parameter files.	OK	OK
	Save As	Saves device parameters in files.	OK	OK
	Upload	Uploads device parameters from network devices.	No	OK
	Download	Downloads device parameters to network devices.	No	OK
	Compare	Compares network devices and device parameters.	No	OK
Monitor		Monitors supported network devices.	No	OK
Reset		Resets supported network devices.	No	OK
Register to the other Device		Registers devices with other devices.	OK	OK
Export		Exports I/O comments or device parameters in other file formats used for supported devices only.	OK	OK
Import		Imports device parameter files created on version 1.□□ of the Configurator.	OK	OK
Change Node Address		Changes device node addresses.	OK	OK
Change Device Comment		Changes device comments.	OK	OK
Edit I/O Comment		Edits I/O comments.	OK	OK
Property		Displays device properties.	OK	OK

Note By clicking the right mouse button in the Network Configuration Window, some of the functions in the Device Menu and Edit Menu can be accessed.

EDS File Menu

Command	Description	Offline	Online
Install	Adds new EDS files to the EDS list.	OK	OK
Create	Creates and adds new EDS files to the EDS list.	OK	OK
Delete	Deletes EDS files from the EDS list.	OK	OK
Save As	Saves EDS files in the EDS list with new EDS file names.	OK	OK
Find	Searches for specified EDS files in the EDS list.	OK	OK
Add to Network	Adds hardware from the EDS list to the DeviceNet network.	OK	OK
Property	Displays EDS file properties.	OK	OK

Note By clicking the right mouse button in the Hardware List Window, all the functions in the EDS File Menu can be accessed.

Tools Menu

Command	Description	Offline	Online
Setup Parameters	Makes parameter settings using explicit messages.	OK	OK
Setup Node Address/Baud rate	Makes node address and transmit rate settings for network devices.	OK	OK

Option Menu

Command	Description	Offline	Online
Select Interface	Selects the interface used for the Configurator.	OK	OK
Edit Configuration File	Edits a variety of set files.	OK	OK

Command	Description	Offline	Online
Setup Monitor Refresh Timer	Sets the monitor refresh timer (screen refresh intervals in device monitoring operation).	OK	OK
Install Plug-in Module	Installs an Expansion Module.	OK	OK
Parameter Auto Update when I/O Size Changes	Automatically changes the I/O size of a slave registered in the master scan list when the size is changed. The default setting is OFF (not update), and should normally be kept OFF.	OK	OK

Help Menu

Command	Description	Offline	Online
Topic	Searches for help topics.	OK	OK
About	Displays version information on the Configurator.	OK	OK

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

3-2-2 Tool Bar Icons

Frequently used functions can be easily selected with the following icons.

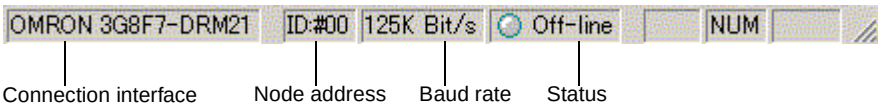
Icon	Description	Equivalent menu command
	Creates a new network configuration.	Network–New
	Opens a network configuration file.	Network–Open
	Saves the displayed network configuration.	Network–Save
	Connects the Configurator to the network.	Network–Connect
	Removes the Configurator from the network.	Network–Disconnect
	Displays the upper network.	Move to Upper Network
	Displays the lower network.	Move to Lower Network
	Uploads device data from the network to the Configurator.	Network–Upload
	Downloads device data from the Configurator to network devices.	Network–Download
	Prints.	Network–Print
	Cuts devices.	Edit–Cut
	Copies devices.	Edit–Copy
	Pastes devices.	Edit–Paste
	Deletes devices.	Edit–Delete
	Displays the screen in network configuration mode.	---
	Displays the screen in detailed report mode.	---
	Device parameter wizard.	Device–Parameter–Wizard
	Edits device parameters.	Device–Parameter–Edit
	Reads parameters from device parameter files.	Device–Parameter–Open
	Saves device parameters in files.	Device–Parameter–Save As
	Uploads device parameters.	Device–Parameter–Upload
	Downloads device parameters.	Device–Parameter–Download
	Monitors supported network devices.	Device–Monitor
	Edits I/O comments.	Device–Edit I/O Comment
	Displays device properties.	Device–Property
	Adds new EDS files.	EDS File–Install
	Deletes EDS files.	EDS File–Delete

Icon	Description	Equivalent menu command
	Saves new EDS files with new EDS file names.	EDS File–Save As
	Adds the selected device to the Network Configuration Window.	EDS File–Add to Network
	Searches for EDS files.	EDS File–Find
	Displays EDS file properties.	EDS File–Property

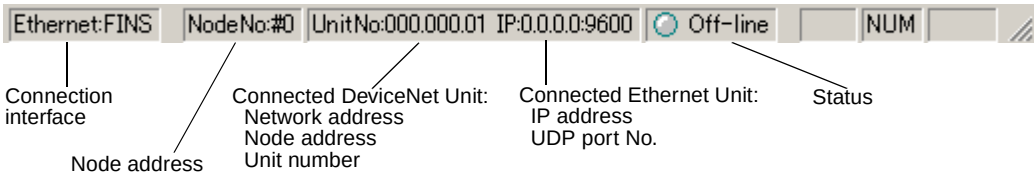
3-2-3 Status Bar

The status bar displays menu explanations and the status of the Configurator.

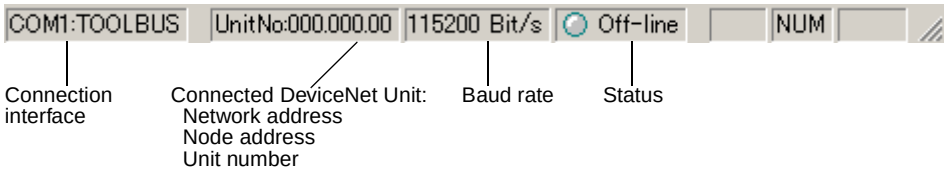
When Connecting Via DeviceNet Dedicated Board



When Connecting Via Ethernet



When Connecting Via Serial Port



According to the status of the Configurator, the status portion will change as shown below.

Indicator color	Status
Gray	Offline
Blue	Online
Red	Bus OFF error

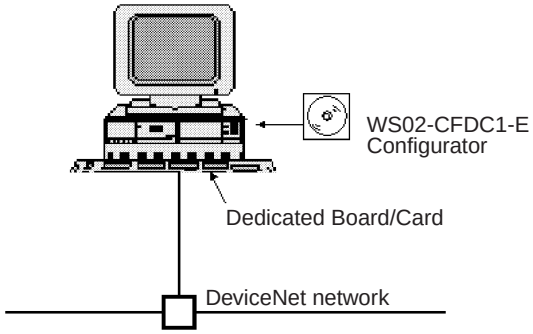
Note If a Bus OFF error is detected, set the Configurator offline and set it online again.

3-3 Connecting to the Network

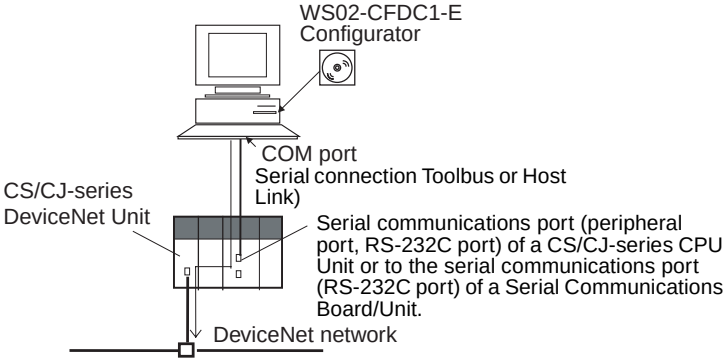
3-3-1 Connecting to the DeviceNet Network

The Configurator can be connected to the DeviceNet network online through either of the following interfaces.

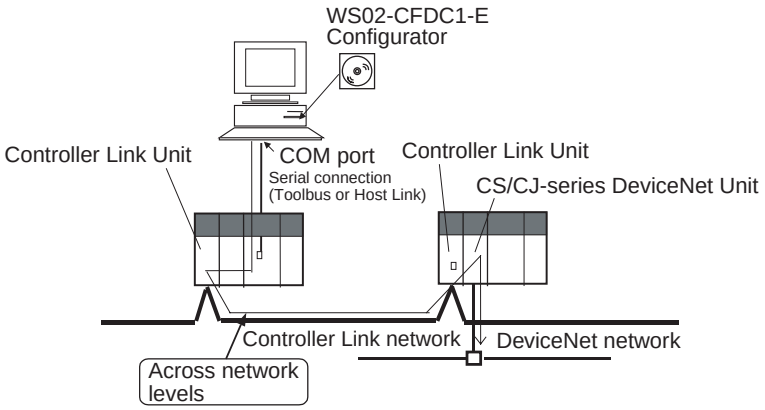
1,2,3... 1. Dedicated Board/Card
3G8F5-DRM21: Dedicated ISA Board
3G8E2-DRM21: Dedicated PCMCIA Card



2. Connection can also be made from the COM port of the computer to the serial communications port (peripheral port, RS-232C port) of a CS/CJ-series CPU Unit or to the serial communications port (RS-232C port or RS422A/485 port) of a Serial Communications Board/Unit. In this case, a CS/CJ-series DeviceNet Unit (CS1W-DRM21 or CJ1W-DRM21) is necessary for connection to the DeviceNet network.

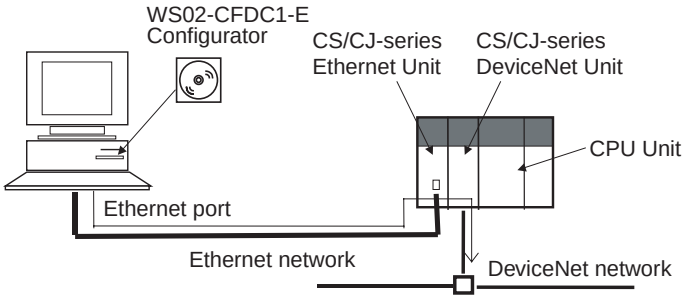


If the Configurator is Ver. 2.11 or newer, it is possible to connect to the DeviceNet network across (up to three) network levels via serial communications, as shown below.

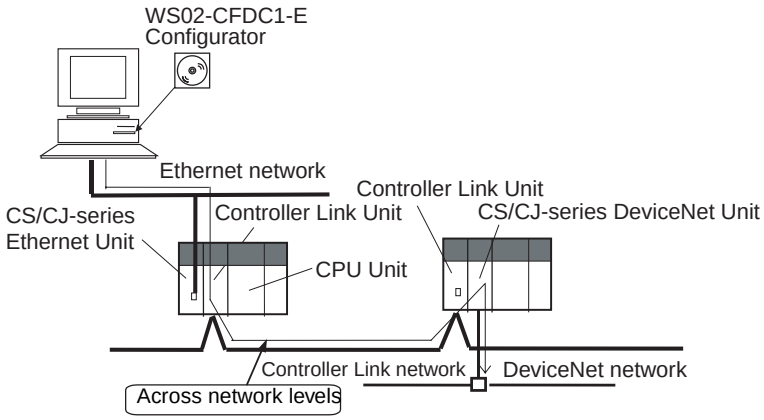


3. Connection can be made from the Ethernet port of the computer via a CS/CJ-series Ethernet Unit. In this case also, a CS/CJ-series DeviceNet Unit

(CS1W-DRM21 or CJ1W-DRM21) is necessary for connection to the DeviceNet network.



If the Configurator is Ver. 2.11 or newer, it is possible to connect to the DeviceNet network across (up to three) network levels via Ethernet, as shown below.



3-3-2 Designating the Interface

Use the following procedure to designate the interface.

Note The interface is designated together with online connection settings.

1,2,3... 1. Select ***Select Interface*** from the Option Menu.
(The interface presently selected is indicated with a check mark.)

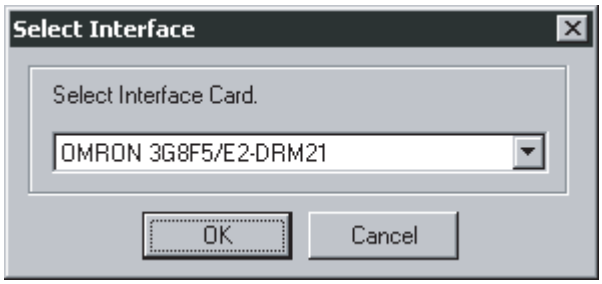
2. Select the interface from those displayed on the menu.
   - Select *DeviceNet IF Card* if a dedicated Board or Card is used.
   - Select *SYSMAC CS1 IF Port* for a serial port connection.
   - Select *SYSMAC CS/CJ Ethernet Unit IF* for an Ethernet connection.

   Note The interface cannot be changed when the Configurator is online. Select ***Network*** and ***Cancel Connection*** first. Then select the interface offline.

3. Select ***Network*** and ***Connection*** from the menu bar.
   The window corresponding to the designated interface will be displayed.

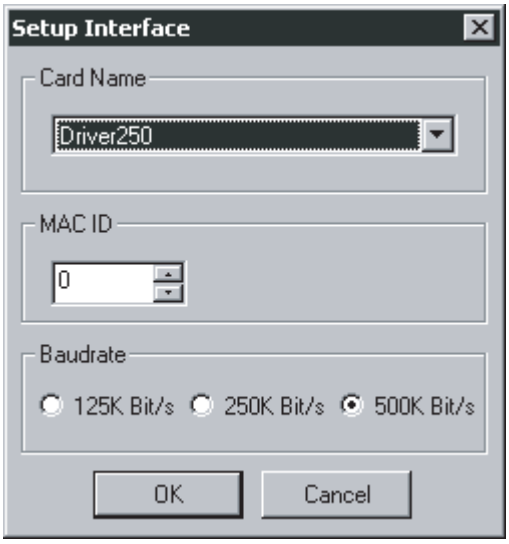
Selecting DeviceNet IF Card

4. The DeviceNet Board Selection Window will open.



5. Select the DeviceNet interface to be used and click the **OK** Button.
   The Setup Interface will appear.

   For the 3G8E5-DRM21 or 3G8E2-DRM21



Set the following items.

Card

The card name that was set with the driver setup tool is specified.

MAC ID

Specify the node address of the Configurator. Set a unique node address.

Baud Rate

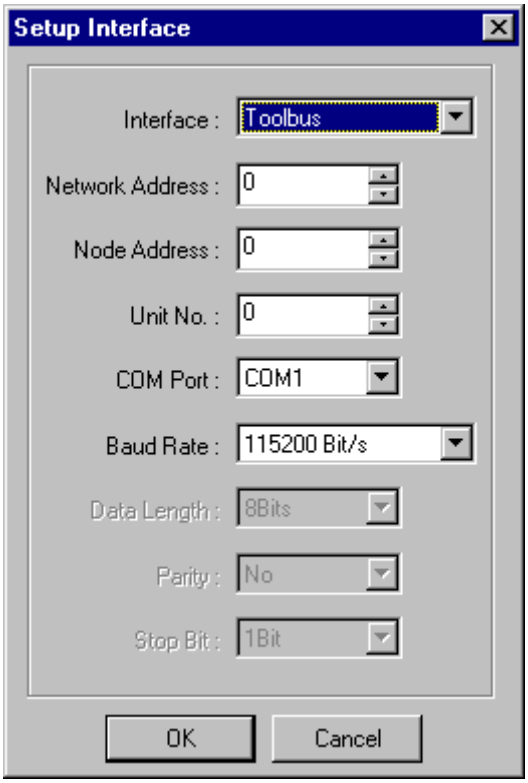
Set the same baud rate as the one set for the DeviceNet network. A network communications error may result if the same baud rate is not used.

6. Click the **OK** Button.
   A confirmation window will appear. Click the **OK** Button. The Configurator will be connected to the DeviceNet network. When the Configurator is connected online, the color of the status indicator on the status bar will change to blue and *Online* will be displayed.

Selecting SYSMAC CS/CJ IF Port

Perform steps 1 through 3 of the above procedure.

4. The Setup Interface Dialog Box will appear if a SYSMAC CS/CJ IF Port is specified.



Set the following items.

Interface

Select the interface from the following settings for the serial communications mode at the serial communications port of the CS/CJ-series PLC.

- Host Link
- Toolbus

Network Address

Input the network address of the DeviceNet Unit to be connected. Input if crossing networks past the serial communications of the CS/CJ-series CPU Unit. If not crossing networks, input 0.

Node Address

Input the node address of the DeviceNet Unit to be connected. Input if crossing networks past the serial communications of the CS/CJ-series CPU Unit. If not crossing networks, input 0.

Unit No.

Input the unit number within the following range for the CS1W-DRM21 DeviceNet Unit as a CPU Bus Unit. The unit number must be the same as that set with the thumbwheel switches on the front panel of the CS1W-DRM21.

- 0 to 15

COM Port

Select the COM port of the computer running the Configurator within the following range.

- Select from the list of usable COM ports.

Baud Rate

Select the baud rate for the serial communications port of the CS/CJ-series PLC from the following settings.

- 9,600 bps, 19,200 bps, 38,400 bps, or 115,200 bps

Note The Tool bus and Host Link are different to each other in available baud rate. For details, refer to the *CS/CJ Operation Manual*.

Data Length

Select the data length for the serial communications port of the CS/CJ-series PLC from the following settings if Host Link is used.

- 8 or 7 bits

Parity

Select the parity for the serial communications port of the CS/CJ-series PLC from the following settings if Host Link is used.

- None, even, or odd

Stop Bits

Set the number of stop bits for the serial communications port of the CS/CJ-series PLC from the following settings if Host Link is used.

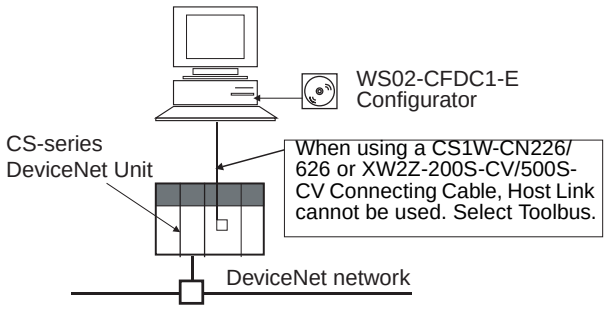
- 1 bit or 2 bits

5. Click the **OK** Button.

   A confirmation window will appear. Click the **OK** Button. The Configurator will be connected to the DeviceNet network. When the Configurator is connected online, the color of the status indicator on the status bar will change to blue and *Online* will be displayed.

Note When using a CS1W-CN226/626 or XW2Z-200S-CV/500S-CV Connecting Cable to make a serial connection to a CS-series CPU Rack containing a CS1W-DRM21, Host Link is selectable as the interface, but connection will not be possible if it is selected. In this case, select Toolbus.

However, when using an XW2Z-200S-CV/500S-CV Connecting Cable or CS1W-CN114 + CQM1-CIF02, connection is possible by selecting Host Link as the interface.



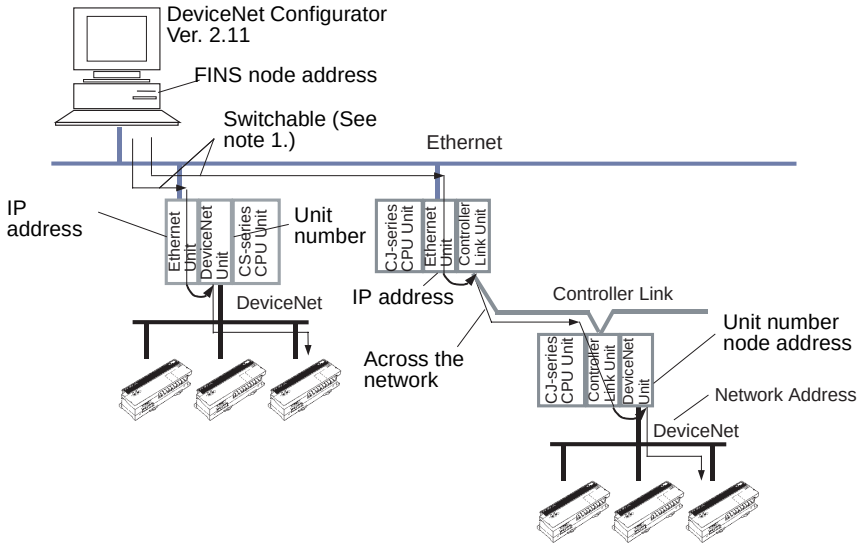
Note When Host Link is selected, it may take several minutes to download from the network. Selecting Toolbus is therefore recommended for serial connections.

Selecting SYSMAC CS/CJ Ethernet Unit IF

The Configurator can be connected directly to the DeviceNet network via Ethernet through a CS/CJ-series Ethernet Unit and a CS/CJ-series DeviceNet Unit.

Note The Ethernet connection can be made only with the CS/CJ-series Ethernet Unit and CS/CJ-series DeviceNet Unit combination. Connection by the combination of other PLC-series Units is not possible.

Also, if multiple PLCs (using Ethernet Units and DeviceNet Units) are connected via Ethernet, connection can be made to a designated DeviceNet network by switching the connection target. The IP address of the Ethernet Unit and the unit number of the DeviceNet Unit are designated to register the DeviceNet network to be connected.



Note

1. DeviceNet networks can be switched by designating the registered name for the network to be connected. The name of the DeviceNet network to be connected can be registered as follows.
   - Designate the IP address and UDP port number.
   - Designate the DeviceNet Unit network address, node address, and Link Unit number.
   - Designate the FINS node address of the personal computer containing the Configurator.
2. Connection is not possible through the combination of a CVM1/CV Ethernet Unit and CVM1/CV DeviceNet Unit. It is also not possible through the combination of a C200HX/HG/HE PLC Card Unit (Ethernet Set) and C200HX/HG/HE DeviceNet Master Unit.
3. Configurator Ver. 2.10 allows Ethernet connection to the DeviceNet network across one network level only. DeviceNet networks cannot be connected to across multiple network levels. (For example, configurations such as Ethernet → Controller Link → DeviceNet, or Host Link (Toolbus) Ethernet → DeviceNet are not possible.)
   With Configurator Ver. 2.11, it is possible to cross network levels as long as FINS message communications are supported by the networks.

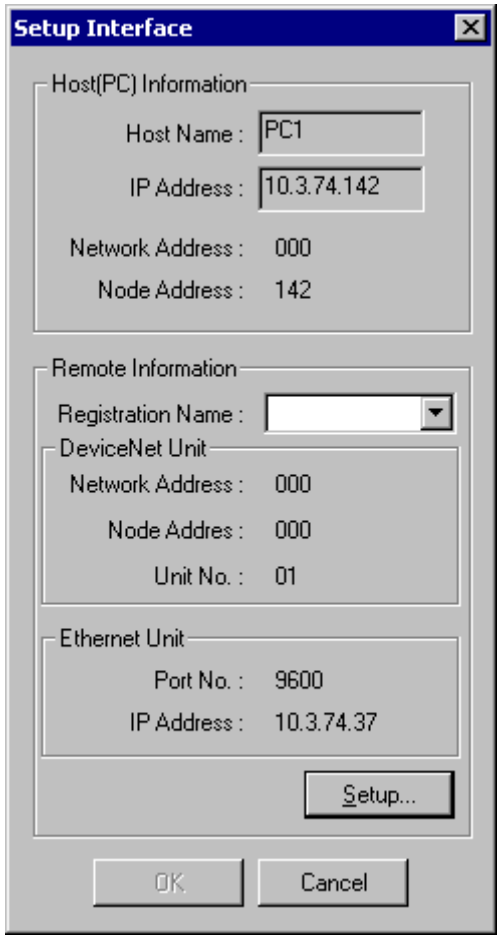
Registering DeviceNet Networks to Be Connected

For connection via Ethernet, the DeviceNet network(s) to be connected must be registered in advance. Up to 20 DeviceNet networks can be registered, using the following procedure.

1,2,3...

1. Select ***Network*** and ***Connect***.

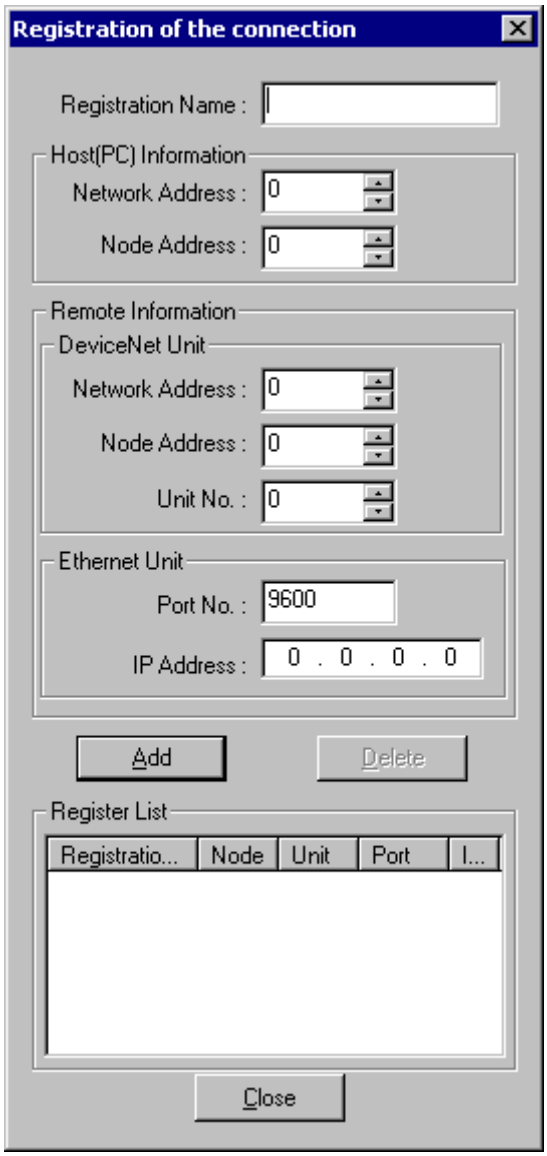
2. The Setup Interface Dialog Box shown below will appear.



Setup Interface Dialog Box

Host (PC) Information	The settings for the computer running the Configurator will be displayed.	
	Host Name	The name of the computer will automatically appear.
	IP Address	The IP address of the computer will automatically appear.
	Network Address	The FINS network address set for the computer will appear. (The value set with the Registration of the connection Dialog Box, after clicking the Setup Button as described in following step (step 3), will appear.)
	Node Address	The FINS node address set for the computer will appear. (The value set with the Registration of the connection Dialog Box, after clicking the **Setup** Button as described in the following step (step 3), will appear.)

3. Click the **Setup** Button. The Registration of the connection Dialog Box shown below will be displayed.



Registration of the connection Dialog Box

Registration Name	The registration name for the DeviceNet network to be connected is set here. Up to 20 networks can be set, each up to 25 characters in length.		
Host (PC) Information	This is the setting for the Configurator computer.		
	Network Address	The user inputs the FINS network address for the computer here. Set the same address as the one set for the Ethernet Unit. Input 0 if no other address is going to be set.	
	Node address	The user inputs the FINS node address for the computer here.	
Remote Information	These are the settings for the DeviceNet Unit and Ethernet Unit that are used to connect with the DeviceNet network.		
	DeviceNet Unit	Network Address	Input the FINS network address for the DeviceNet to be connected. Input if crossing networks past the direct Ethernet connection. If not crossing networks, input 0.
		Node Address	Input the node address for the DeviceNet to be connected. Input if crossing networks past the direct Ethernet connection. If not crossing networks, input 0.
		Unit No.	Input the unit No. of the DeviceNet to be connected, for use as a CPU Bus Unit.
	Ethernet Unit	Port No.	Input the Fins UDP port No. for the Ethernet Unit.
		IP Address	Input the IP address for the Ethernet Unit.

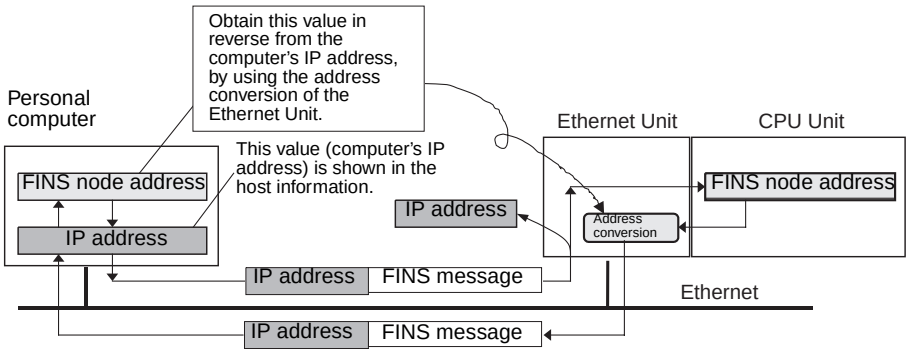
Setting the Network Address in Host (PC) Information:

Set the FINS network address for the computer. The computer running the Configurator uses OMRON's FINS communications service to connect to the DeviceNet network via Ethernet. Thus, the computer must have not only an IP address, but also a FINS network address and node address. The relationship between the FINS node address and the IP address is specified by the address conversion in the Ethernet Unit.
Obtain the FINS node address corresponding to the IP address (See note.) of the computer from the address conversion of the Ethernet Unit. Refer to *Information on Address Conversion* on page 57 for details.

Setting the Node Address in Host (PC) Information:

Set the FINS node address for the computer.
Obtain the FINS node address corresponding to the IP address (See note.) of the computer from the address conversion of the Ethernet Unit. Refer to *Information on Address Conversion* on page 57 for details.

Note The computer's IP address is automatically displayed in the Host (PC) Information setting in the Setup Interface Dialog Box.



Setting the Network Address in the DeviceNet Unit Section Inside Remote Information

Set the FINS network address of the DeviceNet Unit on the DeviceNet network to be connected. Input if crossing networks past the direct Ethernet connection. If not crossing networks, input 0.

Setting the Node Address in the DeviceNet Unit Section Inside Remote Information

Set the node address of the DeviceNet Unit on the DeviceNet network to be connected. Input if crossing networks past the direct Ethernet connection. If not crossing networks, input 0.

Setting the Port No. in the Ethernet Unit Section Inside Remote Information

Set the UDP port No. for FINS communication service by the Ethernet Unit. Set it to the same value that is set in the CPU Bus Unit System Setting Area inside the CPU Unit to which the Ethernet Unit is mounted. Normally, this setting is 9600.

Setting the Unit. No in the DeviceNet Unit Section Inside Remote Information

Set the unit No. (0 to F) of the DeviceNet Unit for CPU Bus Unit use on the DeviceNet network to be connected.

Setting the IP Address in the Ethernet Unit Section Inside Remote Information

Set the IP address for the Ethernet Unit. For the CS-series Ethernet Unit, the value that is set with the rotary switch on the back of the Unit is input here. For the CJ-series Ethernet Unit, the value that is set in the Allocated Words in the DM Area, or in the System Setup for CPU Bus Units, is input here.

Note For details on setting the IP address for the Ethernet Unit, refer to the SYSMAC CS/CJ-series Ethernet Units Operation Manual (catalog No. W343).

4. Click the **Add** Button. The set value is registered and displayed in the Register List.
   - Registration Name: The registration name for the DeviceNet network to be connected to.
   - Node: The FINS network address and FINS node address. (The third digit is always 0.)
   - Unit: The FINS network address, FINS node address, and unit number of the DeviceNet Unit.
   - Port: The FINS UDP port No. for the Ethernet Unit.

- IP Address: The IP address for the Ethernet Unit.

5. To exit the registration procedure, click the **Close** Button. The Setup Interface Dialog Box will be displayed again.

Selecting the Registration Name

Select the DeviceNet network to be connected to from among those in the Registration Name column that were set with the Setup Interface Dialog Box.

1. Select the desired Registration Name from the Registration Name drop-down list in Remote Information. The following parameters are displayed for the selected Registration Name in Remote Information.
   - Network Address: The FINS network address for the DeviceNet Unit.
   - Node Address: The node address for the DeviceNet Unit.
   - Unit No.: The unit No. DeviceNet Unit.
   - Port No.: The FINS UDP port No. for the Ethernet Unit.
   - IP Address: The IP address for the Ethernet Unit.
2. Click the **OK** Button.

   A confirmation window will appear. Click the **OK** Button. The Configurator will be connected to the DeviceNet network. When the Configurator is connected online, the color of the status indicator on the status bar will change to blue and *Online* will be displayed.

Information on Address Conversion

Ethernet Unit Address Conversion Method

The FINS communications service is used inside the PLC. Because there is no IP address information added to the FINS communications service, the IP address is determined from the FINS node address in order to send a FINS message (command or response) with the PLC's Ethernet Unit.
The Ethernet Unit address conversion is done by either of the three following methods (set in the System Setup for CPU Bus Units of the CPU Unit to which the Ethernet Unit is mounted).

- IP address table
- Automatic generation
- Combined method

The computer's FINS node address calculation for each address conversion method is described below.

Address conversion method	Computer's FINS node address calculation
IP address table	The FINS node address is set according to the computer's IP address based on a preset correspondence table called an IP address table.
Automatic generation	The FINS node address is automatically generated from the computer's IP address and the subnet mask.
Combined method	If the computer's IP address has been set in the IP address table, the FINS node address in the table is set. If the computer's IP address has not been set in the IP address table, a FINS node address that is automatically generated from the computer's IP address, or from the subnet mask, is set.

Note For details on address conversion, refer to the SYSMAC CS/CJ-series Ethernet Units Operation Manual (catalog No. W343).

Obtaining the FINS Node Address from the Automatic Generation Method of Address Conversion

The FINS node address corresponding to the computer's IP address is obtained from the rightmost byte of the computer's IP address and the rightmost byte of the network address as follows:

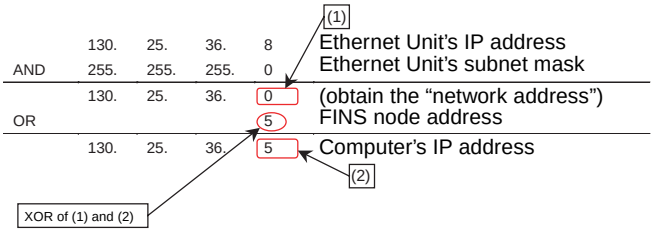
FINS node address = The rightmost byte of (the Ethernet Unit's IP address AND the Ethernet Unit's subnet mask) XOR the rightmost byte of the computer's IP address.

This can be easily calculated using the Windows Calculator.

Note Address conversion from the Ethernet Unit's automatic generation method is obtained as follows.

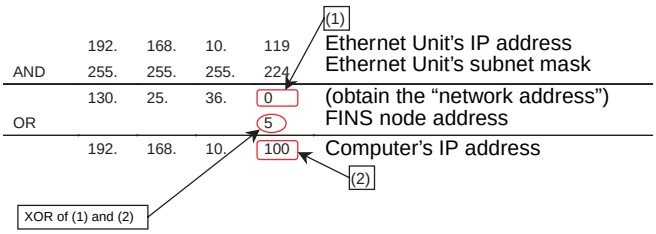
Computer's IP address = (the Ethernet Unit's IP address AND the Ethernet Unit's subnet mask) OR FINS node address.

Accordingly, the FINS node address can be determined by taking the XOR of the network address and the computer's IP address.



Calculation example:

Computer's IP address = 192.168.10.100
Ethernet Unit's IP address = 192.168.10.119
Ethernet Unit's subnet mask = 255.255.255.224
FINS node address = (119 AND 224) XOR 100 = 4



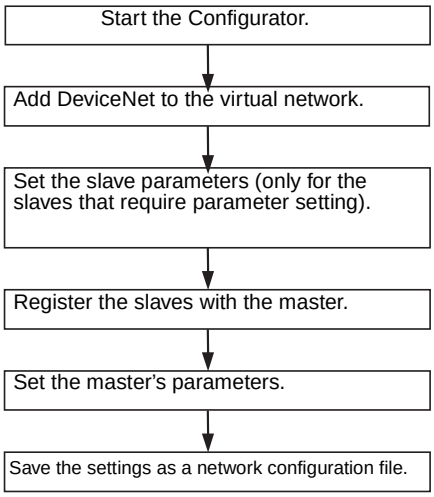
3-4 Operation Flowcharts

The following flowcharts show the flow of Configurator operations.

3-4-1 Offline Operation

Prior to constructing the actual network, it can be designed and the master and slave parameters can be set with the Configurator.

The set parameters can be saved as a network configuration file. The network configuration file contains the parameters of all of the devices on the network.



3-1 Starting the Configurator and the Main Window on page 38.

4-1 Adding Devices to the Virtual Network on page 62.

4-2 Setting Slave Parameters on page 66.

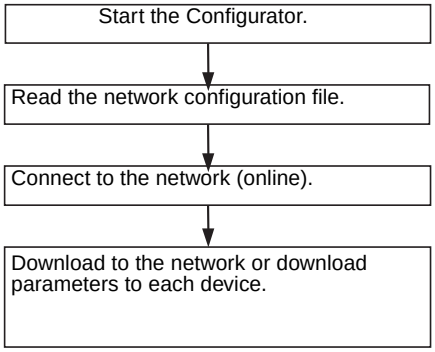
4-3 Adding Slaves to the Master on page 70.

4-5 Editing Master Parameters on page 75.

6-1 Saving and Reading Files on page 130.

3-4-2 Downloading Saved Parameters

The parameters for all of the devices on the network can be set (downloaded) from a network configuration file saved in advance.



3-1 Starting the Configurator and the Main Window on page 38.

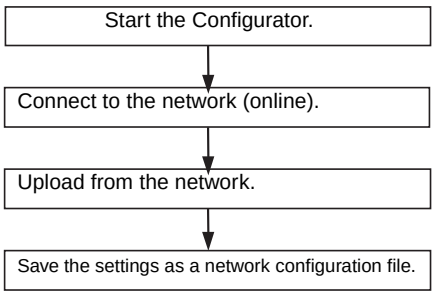
6-1-2 Reading Network Configuration Files on page 130.

3-3 Connecting to the Network on page 46.

5-2 Downloading the Network Configuration/ Device Parameters to Devices on page 110.

3-4-3 Saving the Parameters for the Entire Existing Network

The parameters for all of the devices on the network can be saved for use in maintenance.



3-1 Starting the Configurator and the Main Window on page 38.

3-3 Connecting to the Network on page 46.

5-3 Uploading and Verifying Device Parameters on page 115.

6-1 Saving and Reading Files on page 130.

SECTION 4
Editing Device Parameters

This section explains how to enable remote I/O communications by creating device parameters for a virtual network constructed with the DeviceNet Configurator.

4-1 Adding Devices to the Virtual Network

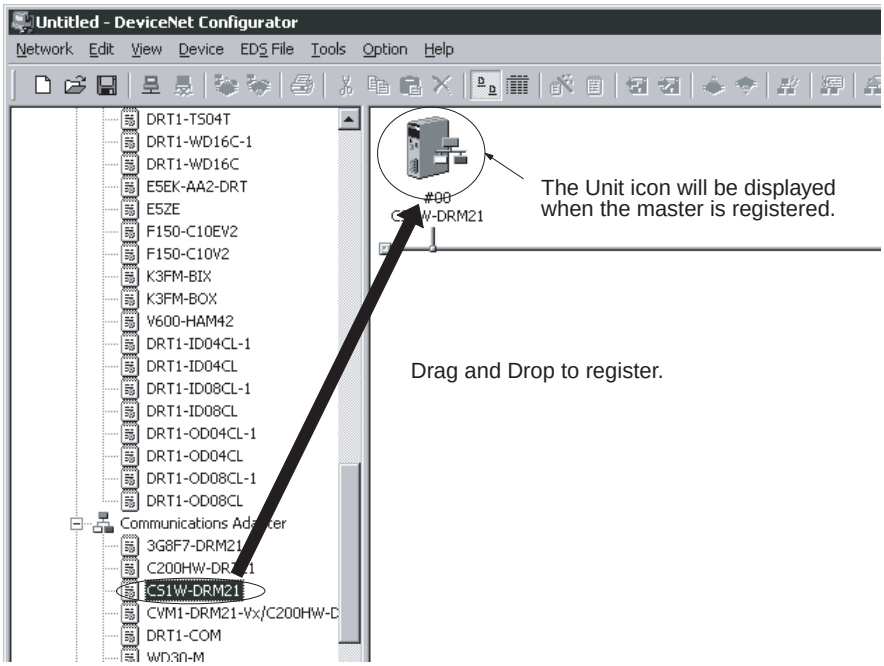
This section describes how to add devices (master and slave devices) to the virtual network in the Network Configuration Window of the Configurator.

4-1-1 Adding Devices

To add a device, drag the device from the Hardware List Window and drop it on the Network Configuration Window.

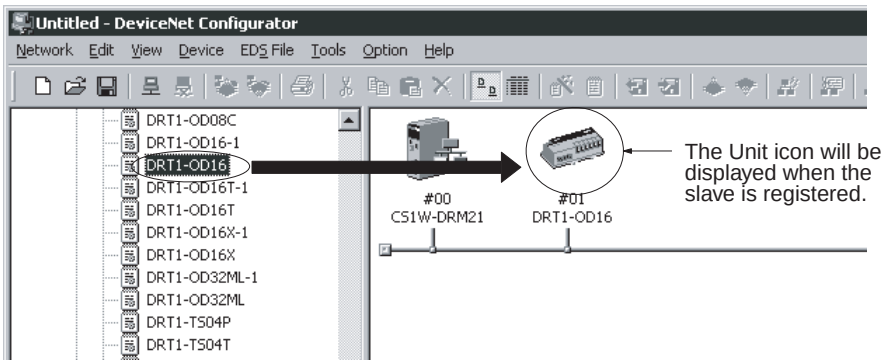
Select the device from the Hardware List Window on the left and then drag and drop it on the Network Configuration Window on the right.

Adding a Master

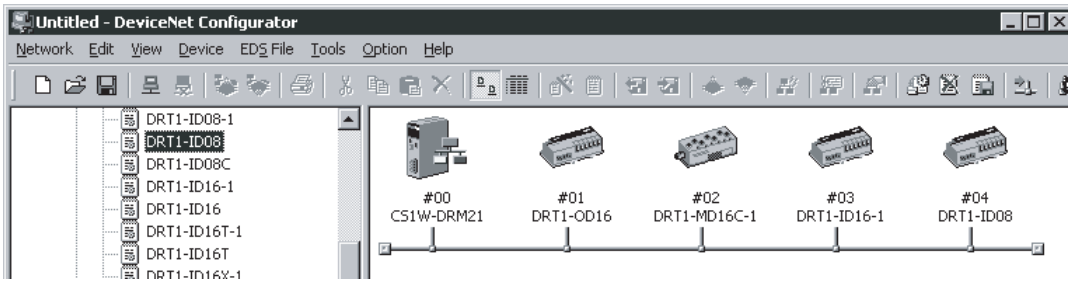


Adding Slaves

Drag and drop the slaves in sequence in the same way.



Example of Addition by Dragging



Note A device can be also added by selecting the device in the hardware list on the left pane, clicking the right mouse button, and selecting ***Add to Network*** or by selecting ***Add to Network*** from the EDS File Menu.

4-1-2 Changing Node Addresses

Device - Change Device ID

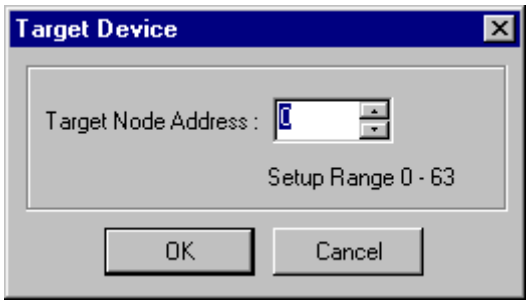
Unused node addresses between 0 and 63 will be allocated in sequence to the respective devices that have been added.

To change the allocated node addresses, use the following procedure.

1,2,3...

1. Select the device for which the node address is to be changed.
2. Select ***Device*** and ***Change Device ID*** or click the right mouse button and select ***Chance Device ID*** from the pop-up menu.

   The following window will be displayed.



3. Click the **OK** Button to change the node address.

   Repeat the above steps and add all the necessary devices to the Network Configuration Window.

4-1-3 Reading the Network Configuration from the Network

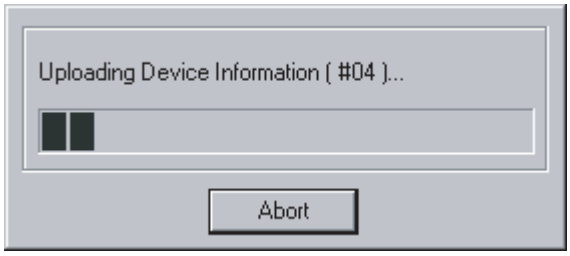
Network - Upload

Use the following procedure to read the network configuration from the actual network.

1,2,3...

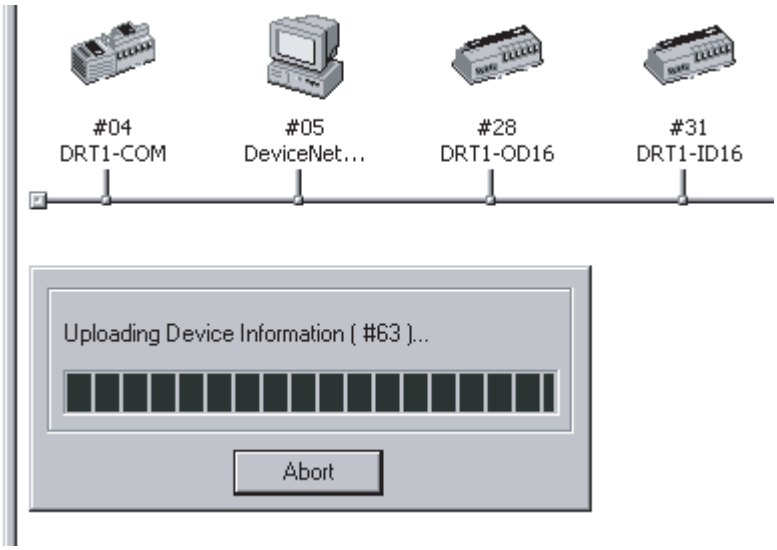
1. Place the Configurator online.
2. Select ***Network***.
3. Select ***Upload***.

The upload operation will start and the following window indicating the uploading progress will be displayed.



The user can interrupt the upload operation by clicking the **Cancel** Button.

4. The network devices will be displayed in sequence in the Network Configuration Window.



5. After the upload operation completes, add any additional devices are required using the procedure explained in *Adding Devices*.

4-1-4 Editing Devices

Deleting Devices

Edit - Delete

To delete network devices, use the following procedure.

1,2,3...

1. Select the devices. (A number of devices can be selected at one time.)
2. Select ***Edit***.
3. Select ***Delete***.
4. A confirmation window will be displayed. Click the **OK** Button to delete the devices.

If slaves registered with the master are deleted, the slave registration with the master will be lost and the slaves will be purged from the scan list automatically.

Copying Devices

Edit - Copy

To copy the network devices, use the following procedure.

1,2,3...

1. Select the devices. (A number of devices can be selected at a time.)
2. Select ***Edit***.
3. Select ***Copy***.

The devices including the set parameters will be copied to the clipboard in the Configurator.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Pasting Devices

Edit - Paste

To paste a device from the clipboard in the Configurator, use the following procedure.

1,2,3...

1. Select the network device existing at the insertion position.
2. Select ***Edit***.
3. Select ***Paste***.

An unused node address will be allocated to the network device that was added.

Changing Device Comments

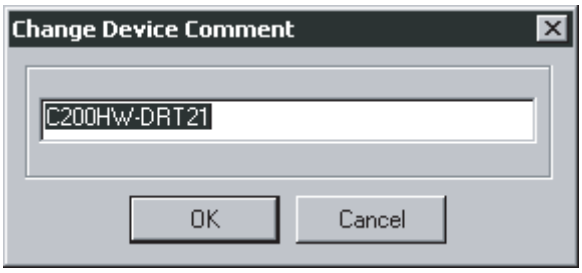
Device - Change Device Comment

A device comment can be added to each network device that has been registered. The product name is by default allocated as the device comment of each network device. To change the device comment, use the following procedure.

1,2,3...

1. Select the network device.
2. Select ***Device***.
3. Select ***Change Device Commen***t.

   The following window will be displayed.



4. Input the device comment and click the **OK** Button.

The device comment will be displayed by moving the mouse pointer to the position of the device in the Network Configuration Window.

Note In the Network Display Mode, the device comment will be displayed when the mouse pointer is moved to the icon. In the Detailed Display Mode, the device comment will be displayed in the Comment column.

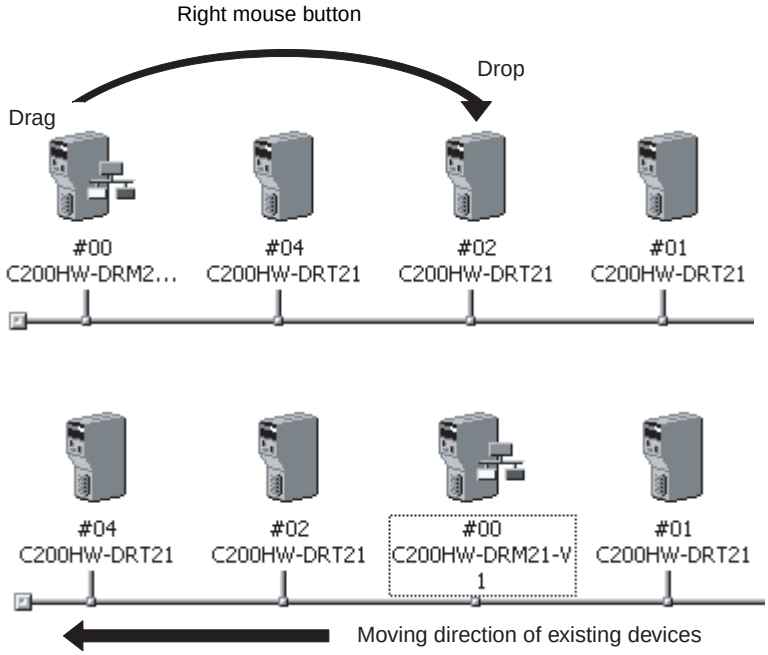
Changing Device Positions

To change the display position of a network device, use the following procedure.

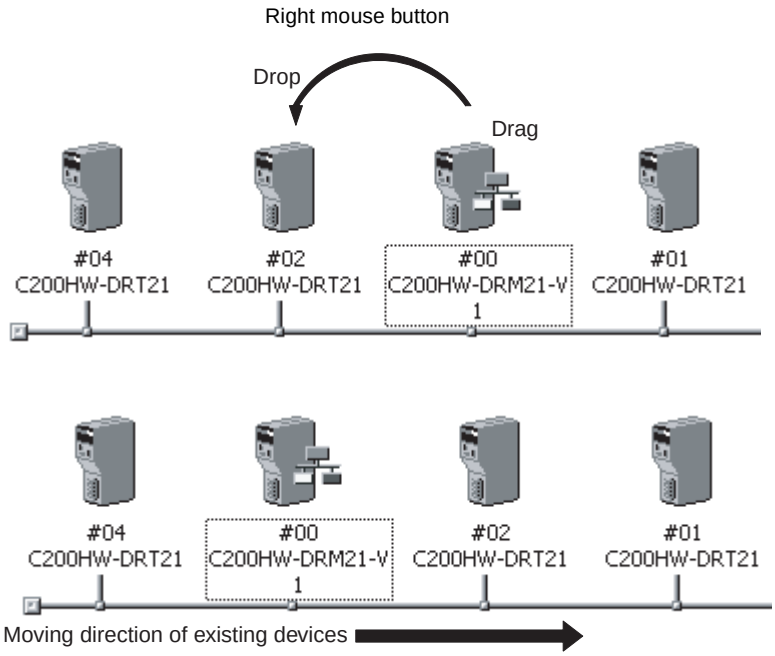
1,2,3...

1. Drag the network device with the right mouse button.
2. Drop the network device at the desired position occupied by another network device.
3. The dragged network device will move to the specified position.

- The following example shows a network device with node address #00 is dragged and dropped on node address #02.



- The following example shows a network device with node address #01 is dragged and dropped on node address #02.



4-2 Setting Slave Parameters

4-2-1 Editing Slave Parameters

Device - Parameter - Edit

The parameters of some slaves can be set. However, doing so may cause the I/O size to change. Because of this, the slave parameters must all be set before setting the master's parameters.

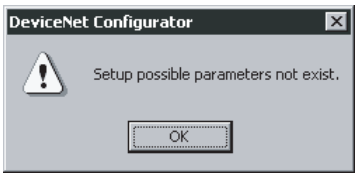
EDS files are required for setting the parameters. If there are no EDS files available, they must be obtained from the device manufacturer.

Note Slaves must be added to the Network Configuration Window to edit the parameters. Creating the network configuration will be explained later in this section.

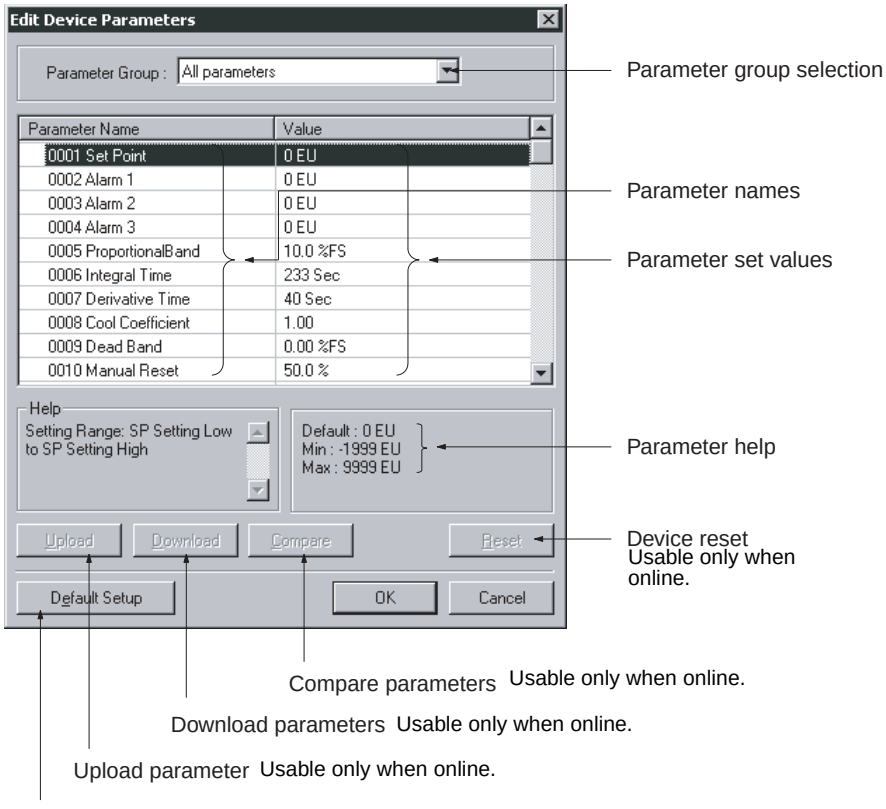
To edit the parameters, use the following procedure.

1,2,3...

1. Select the device.
2. Select ***Device***, ***Parameter***, and ***Edit***.
3. The following warning will be displayed if there are no editable parameters existing.
   Slaves for which this message is displayed do not require parameter setting.

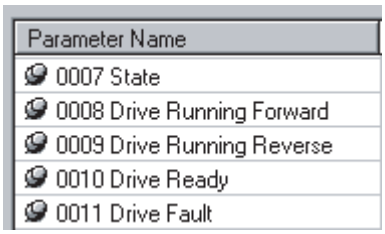


The following window will be displayed if editable parameters exist.



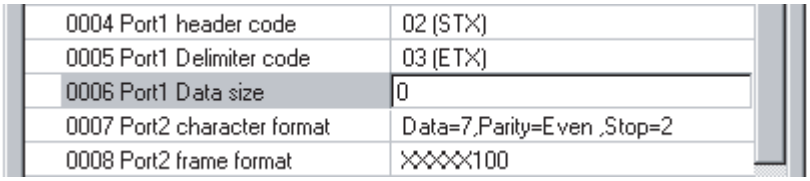
4. Select the parameter and press the **Enter** Key or double-click the parameter.

If a push-pin icon is displayed next to a parameter name, it is a read-only parameter and cannot be edited.



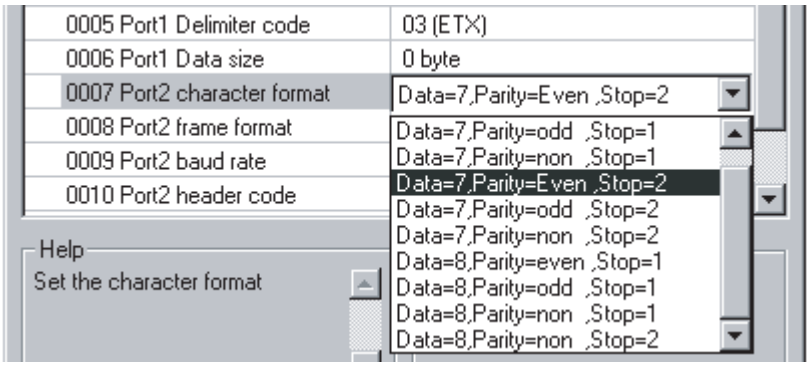
The set value will be changed as shown below according to the parameter input type.

Numerical Input within Certain Range



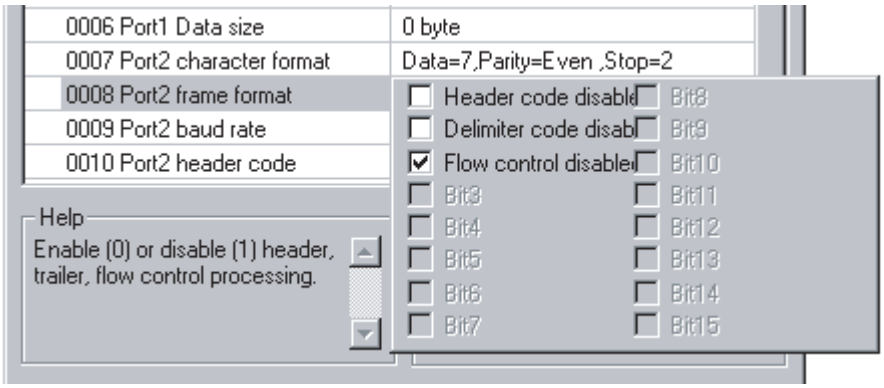
Set the value between the maximum and minimum values.

Selection from Limited Items



Select the set value from the set value list.

ON/OFF Settings



Select the item and turn it ON or OFF.

5. Press the **Enter** Key to input the set value.
   Press the **ESC** Key to cancel the change.
6. Click the **OK** Button when all the items have been edited.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

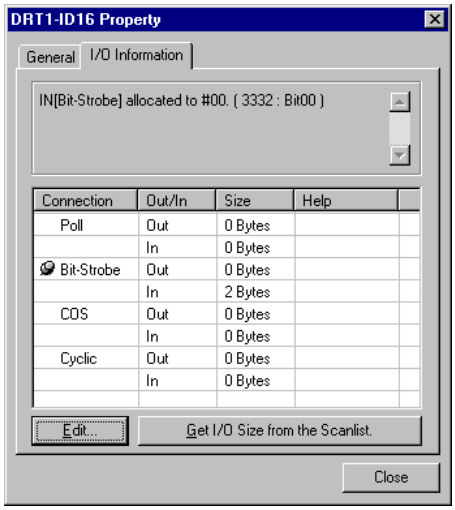
Note There is a special setting window for the following slaves. For information on setting parameters for these slaves, refer to their respective operation manual.

- DRT1-COM MULTIPLE I/O TERMINAL
- WD30-M DeviceNet Wireless Units
- E3X-DRT21 Fiber Amplifier Sensor Communication Units

4-2-2 Checking and Setting I/O Size

Checking I/O Size

Device - Property - I/O Information



The I/O size of this slave can be checked with the **I/O Information** Tab of the Property Window. Check to make sure that the I/O size listed is correct. To change it, use the following procedure.

Setting the I/O Size

For slaves in which the I/O size can be changed by switches, or by tools other than the Configurator, the Configurator cannot be used to confirm that the I/O size is correct.

For these slaves, use the following procedure to directly input the I/O size.

1,2,3...

1. Select the desired slave, then select ***Device*** and ***Property***.
2. Select the **I/O Information** Tab.
3. Click the **Edit** Button. The Edit I/O Size Dialog Box will be displayed.
4. Input the correct I/O size for each connection. If the connection is not known, input the correct I/O size in the *Poll* settings.
5. Click the **OK** Button.

Note The following are OMRON slaves.

- DRT1-AD04 Analog Input Terminal
  Input (4-word/2-word) can be changed by DIP switch.
- GT1-AD08MX Analog Input Unit for MULTIPLE I/O TERMINAL.
  Input (8-word/4-word) can be changed by DIP switch.
- NT-DRT21 Programmable Terminal DeviceNet (CompoBus/D) Interface Unit
  The I/O data area can be set from 1 to 64 words with the PT system menu.

Use the same kind of input procedure for slaves of other manufacturers that allow the I/O size to be changed.

Obtaining I/O Size Information from the Master Scan List

When connecting the Configurator to a network that is already operating, for example using OMRON Master Units with fixed allocation, the slave I/O size can be obtained from the master scan list for use in setting.

However, this is possible only with OMRON masters. Also, the slave I/O size cannot be obtained from the slave function of the CSW-DRM21.

Use the following procedure to obtain the I/O size from a master scan list.

1,2,3...

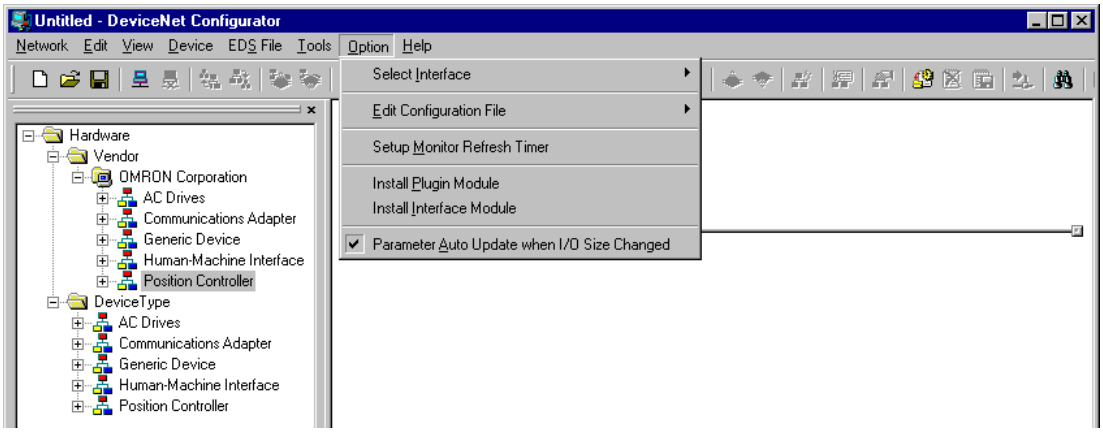
1. Select the desired slave, then select ***Device*** and ***Property***.
2. Select the **I/O Information** Tab.
3. Click the Get I/O Size from the Scanlist Button.

Parameter Auto Update When I/O Size Changed

The function to automatically update the I/O size registered on the master scan list when the I/O size is changed can be switched on or off.

To automatically update the I/O size registered on the master scan list, select ***Option*** and ***Parameter Auto Update When I/O Size Changed***.

When this function is enabled, the ☑ mark will be displayed in the menu. The default is set to not automatically update.



Note If the function to automatically update the I/O size is enabled and there is no EDS file, some operations will cause the I/O size in the master scan list to be updated to zero. For this reason, the function to automatically update the I/O size should normally be disabled.

4-3 Adding Slaves to the Master

4-3-1 Automatic I/O Area Allocation with Registration

When a slave is registered to the master, it can automatically be allocated to the memory block set for I/O allocation.

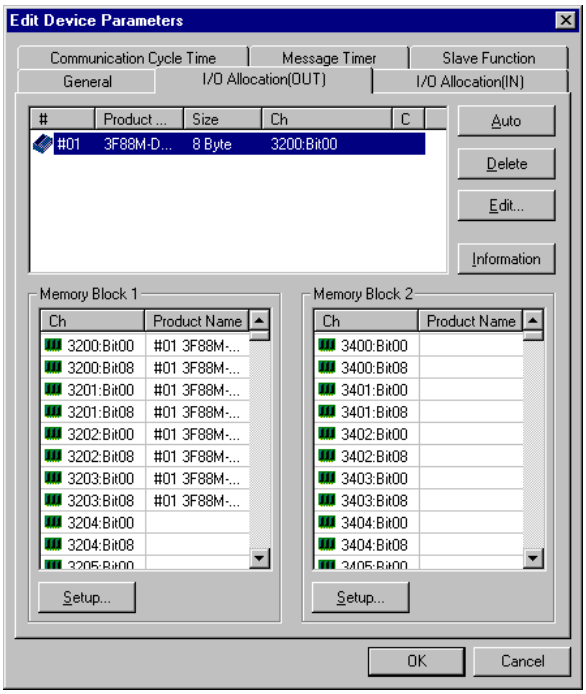
The allocation, for both Out Size and In Size, will be made in the order of registration beginning with the unoccupied area of memory block 1. When memory block 1 is filled, the allocation will be made to memory block 2. Before adding slaves, set the area and range of the allocation memory block.

Note The allocation area can be changed later if desired.

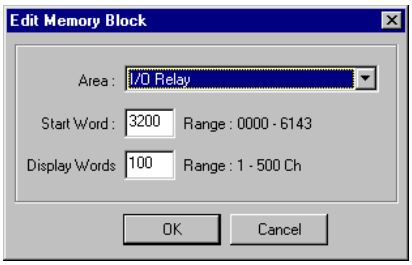
Setting the Allocation Memory Block

1,2,3...

1. Select the master, then select ***Device***, ***Parameter***, and ***Edit***. The Edit Device Parameters Dialog Box is then displayed.
2. Select the **I/O Allocation (OUT)** Tab.



3. Click the **Setup** Button for Memory Block 1.
4. Set the area, start word, and the number of words for the block.



5. Set Memory Block 2 in the same way.
6. Select the **I/O Allocation (IN)** Tab, and make the memory block settings in the same way as for the **I/O Allocation (OUT)**.

Note

1. If a block is not to be used, select **Not Used** for the area setting.
2. *Display Words* refers to the number of words in the block displayed on the Configurator. This value is not downloaded to the master.
   If the occupied area of the block is less than 100 words when uploaded, *Display Words* will be set to 100 and displayed as such.

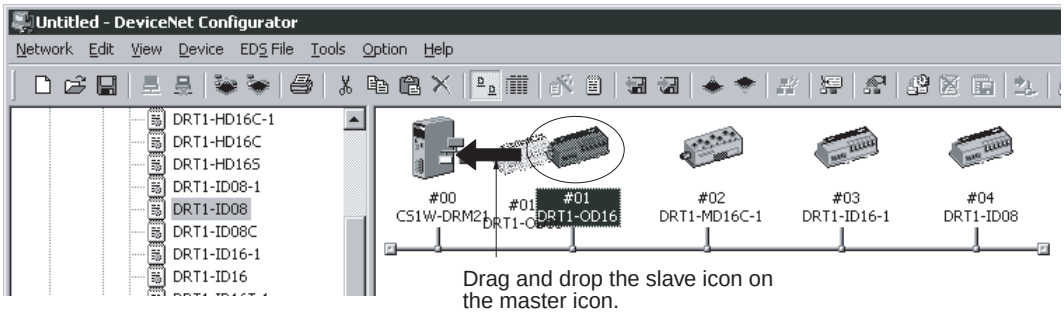
4-3-2 Adding Slaves

The following three methods are supported for adding slaves.

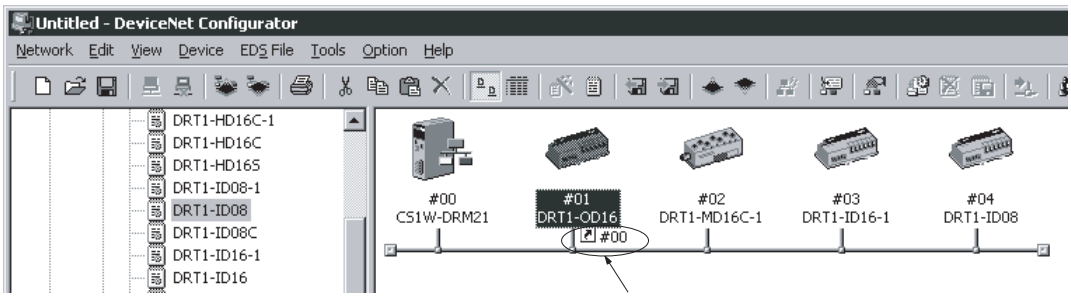
Dragging and Dropping

Select the slave from the Network Configuration Window on the right and drag and drop it on the master icon.

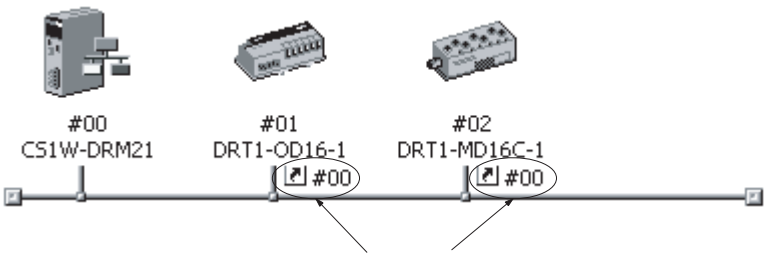
When slaves are registered with the master, I/O words will be automatically allocated to the slaves in the order they are registered.



After Registration



Master Node Address Displayed after Registration



Clicking the Right Mouse Button and Selecting *Register to other Device*

A slave can also be added by selecting the slave in the Network Configuration Window, clicking the right mouse button, selecting ***Register to other Device*** or selecting ***Register to other Device*** from the Device Menu, and then selecting the master from the menu. The menu will appear on the right-hand side.

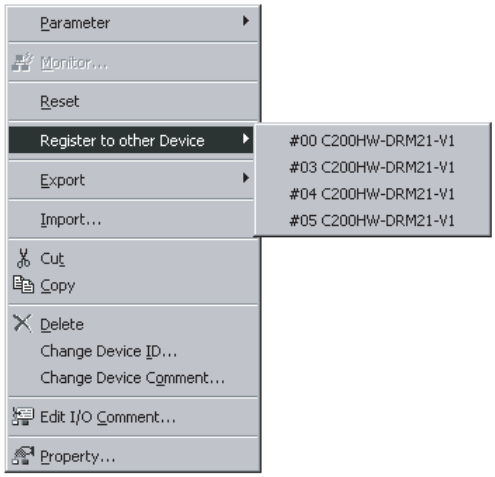
At the time of I/O allocation, the registered slave can be deleted or settings can be made for the registered slave by using the Parameter Wizard or by editing the parameters of the master.

Note To select a device from the menu and register it, use the following procedure.

1,2,3...

1. Select the device.
2. Select ***Device***.
3. Select ***Register to other Device***.

The following master candidates will be displayed in the **Register to other Device** Menu.



4. Select the device with which the slave is to be registered.

   The slave registered will be automatically added to the scan list of the master and I/O will be allocated.

If the user attempts to register a slave that has already been registered with another device, the following confirmation window will be displayed. By clicking the **Yes** Button, the duplicated registration of the slave will be possible.

However, if the registration is duplicated, the slave will only be able to communicate with one device. If the same slave is registered to multiple masters, it will lead to communications errors.

Registering in the Edit Device Parameters Window

Slaves can be added and I/O areas allocated in the Edit Device Parameters Window. Refer to *4-7 Master Parameter Editing Details (Tab Descriptions)* on page 80 for details.

4-4 Setting Master Properties

This section describes how to set properties for OMRON masters. The **Device – Property** Command is used.

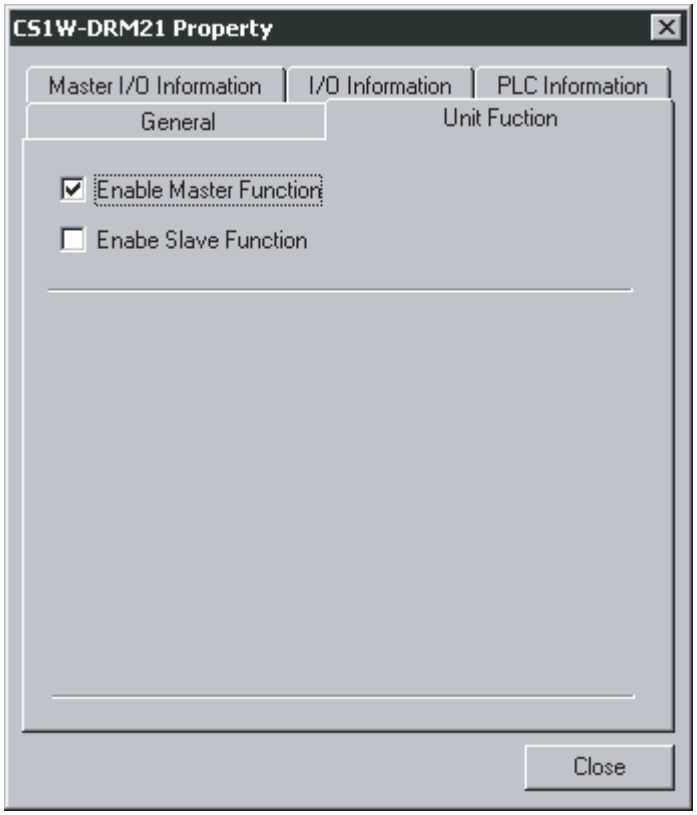
4-4-1 CS1W-DRM21

To set the master and slave functions, use the following procedure.

1,2,3...

1. Select the master from the Network Configuration Window on the right.
2. Select ***Device*** and ***Property***.

The following window will be displayed. Select the **Unit Function** Tab.



3. Select ***Enable Master Function*** and/or ***Enable Slave Function***.

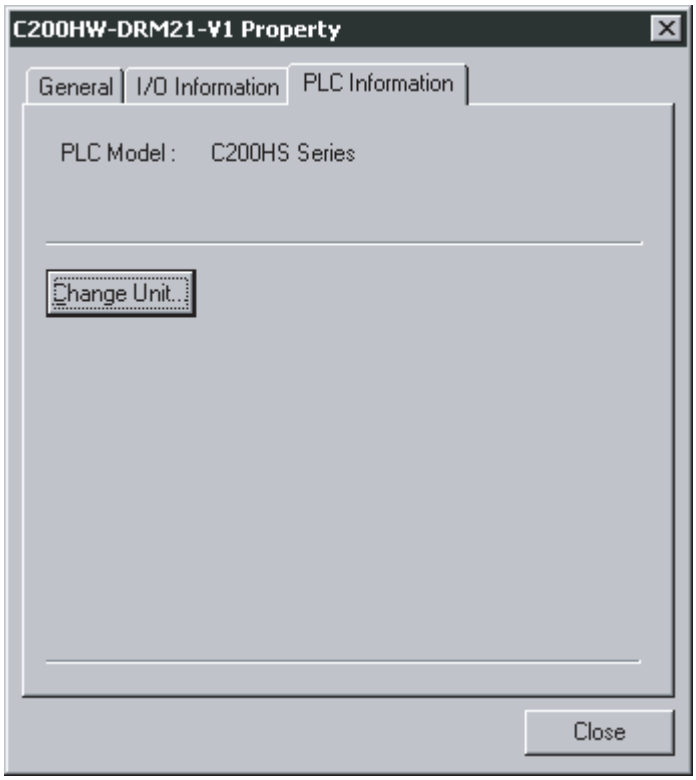
4-4-2 CVM1-DRM21-V1 or C200HW-DRM21-V1

To set the PLC model on which the Unit is mounted, use the following procedure.

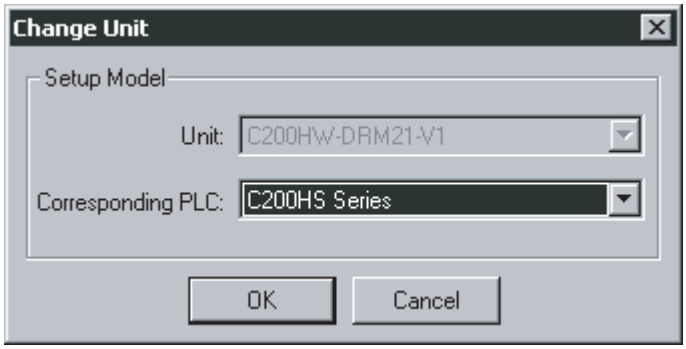
1,2,3...

1. Select the device.
2. Select ***Device***.
3. Select ***Property***.

The following window will be displayed. Select the **PLC Information** Tab.



4. Click the **Change Unit** Button.
   The following window will be displayed.



5. Specify the PLC model. Click the **OK** Button.

Note When the PLC model is changed, all the settings presently made will be cleared and default values will be set.

4-5 Editing Master Parameters

Device parameters are classified into master device parameters and slave device parameters. The following description provides information on how to edit master device parameters.

The master device parameters that can be edited include slave device I/O allocations to the master, communication cycle time settings, and connection settings. The following two methods can be used to edit parameters for the master.

Parameter Wizard

The Parameter Wizard is an interactive interface that makes I/O allocations possible in order of node addresses.

Editing Parameters

Parameters can be edited to allocate I/O and make settings as required, including the communication cycle time, connection, and device information check settings.

The Configurator allows settings, such as the following function settings, for the OMRON CS1W-DRM21 DeviceNet Unit, CJ1W-DRM21 DeviceNet Unit, CVM1-DRM21-V1 DeviceNet Master Unit, and C200HW-DRM21-V1 DeviceNet Master Unit.

Function	Setting method		CS1W-DRM21	C200HW-DRM21-V1 or CVM1-DRM21-V1
	Parameter Wizard (*Device - Parameter - Wizard*)	**Parameter editing (*Device - Parameter - Edit*)**		
I/O Allocations	Parameter Wizard	I/O Allocation (OUT) and I/O Allocation (IN) Tabs	OK	OK
Communication Cycle Time	---	Communication Cycle Time Tab	OK	OK
Connections		Advanced Setup Button in General Tab	OK	No
Device Information Compare			OK	No
Message Timer		Message Timer Tab	OK	No
Slave Function		Slave Function Tab	OK	No
Startup Remote I/O Communications		General Tab	(See note 1.)	OK
Explicit Message Communications			(See note 2.)	OK

Note

1. The same function can be achieved with the setting to enable/disable the master function.
2. Explicit message communications is possible whether or not registration has been made on the scan list.
3. Before making device I/O allocations to the master, the device must be added to the Network Configuration Window, regardless of whether or not it has been registered as a slave with the master. Refer to *4-1 Adding Devices to the Virtual Network* to create the network configuration.

4-6 Parameter Wizard

Device - Parameter - Wizard

- The Parameter Wizard is an interactive function making it possible to allocate I/O with ease.
- This function ensures easy I/O allocations in order of node addresses beginning with block 1. Each block consists of a maximum of 100 words.

When block 1 is full, the remaining I/O will be allocated to block 2.

Note After I/O allocations are made with the Parameter Wizard, node addresses or I/O allocations can be changed by editing the parameters individually.

The following procedure uses the Parameter Wizard with the CS1W-DRM21 as an example. The same method can be used for the CVM1-DRM21-V1 and C200HW-DRM21-V1.

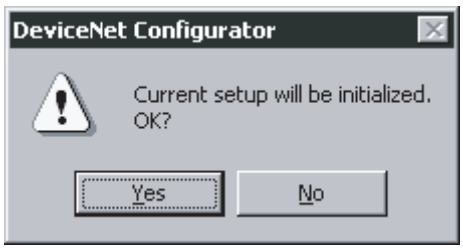
Specify the first address of each block (fixed to 100 words in size), the allocation method (i.e., allocation in blocks of words or minimum required number of words), and the registration or deletion of slaves.

Note To make allocations in excess of 100 words per block, use ***Parameter - Edit***.

To allocate I/O of slave devices to the master with the Parameter Wizard, use the following procedure.

1,2,3...

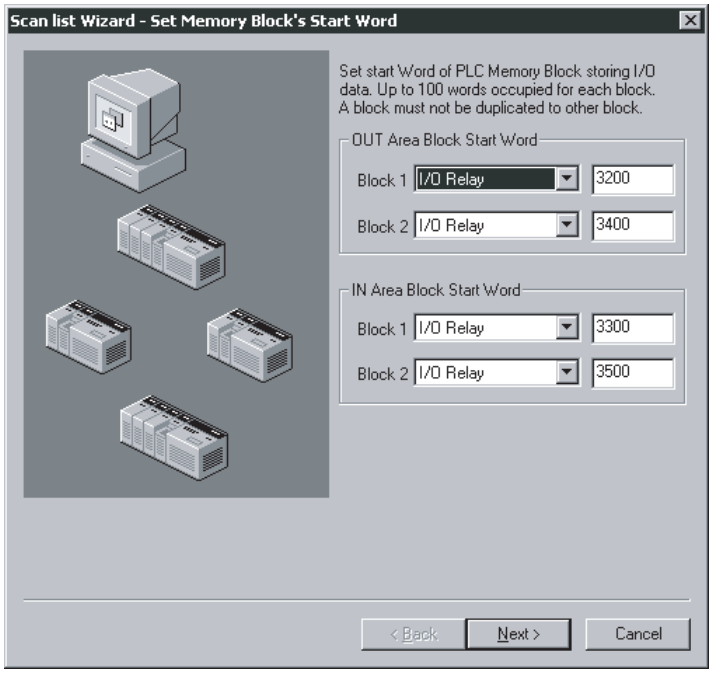
1. Select the master.
2. Select ***Device***, ***Parameter***, and ***Wizard***.
3. When settings are made with the Parameter Wizard, the present settings will be cleared and default values will be set. The following confirmation window will be displayed. Click the **Yes** Button.



4. The following Scan List Wizard-Set Memory Block's Start Word Window will be displayed.

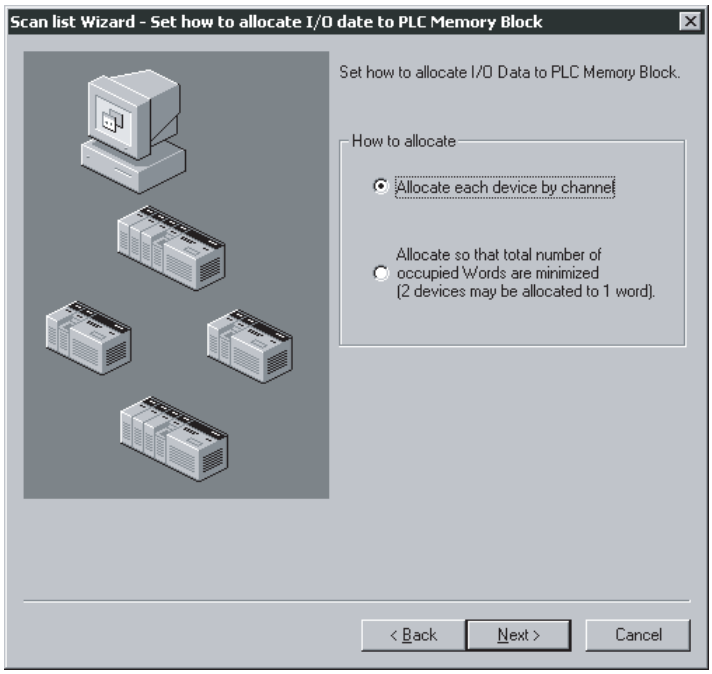
   Set the memory area to be used and the start word and click the **Next** Button. I/O will be automatically allocated to block 1. When block 1 is full, I/O will be allocated to block 2. Each block consists of a maximum of 100 words.

   Note It is not possible to go to the next step if there is any duplication between blocks or the first word is not within the permissible set range.

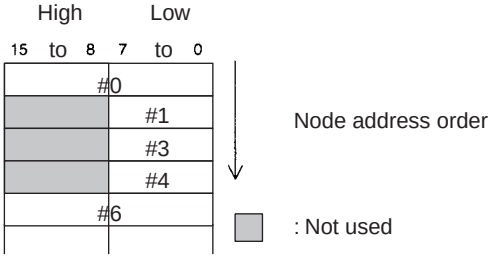
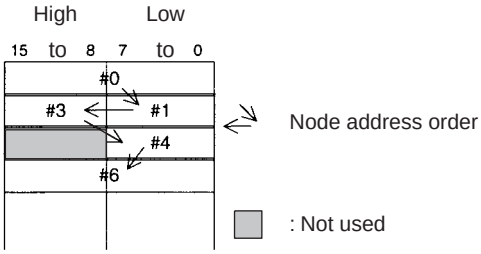


5. The Scan list Wizard-Set How to Allocate I/O Date to PLC Memory Block Window will be displayed.

Specify the allocation method and click the **Next** Button.



The following two allocation methods are supported.

Allocate each node by word.	Slaves are always allocated memory starting with the seven rightmost bytes in the word. Even slaves that require just one byte of I/O memory will be allocated one word. Example: 
Allocate so that total number of allocated words are minimized.	If there are slaves that require just one byte of I/O memory, they are allocated the rightmost seven bits or leftmost seven bits so that the total number of occupied words is minimized. Example: 

An allocation example is shown below.
I/O Example:

#00	1 byte
#01	2 bytes
#02	1 bytes
#03	4 bytes
#04	1 byte
#05	1 bytes

Allocation in Units of Words

	High		Low	
	15	8	7	0
+0CH			#00	
+1CH	#01			
+2CH			#02	
+3CH	#03			
+4CH	#03			
+5CH			#04	
+6CH			#05	

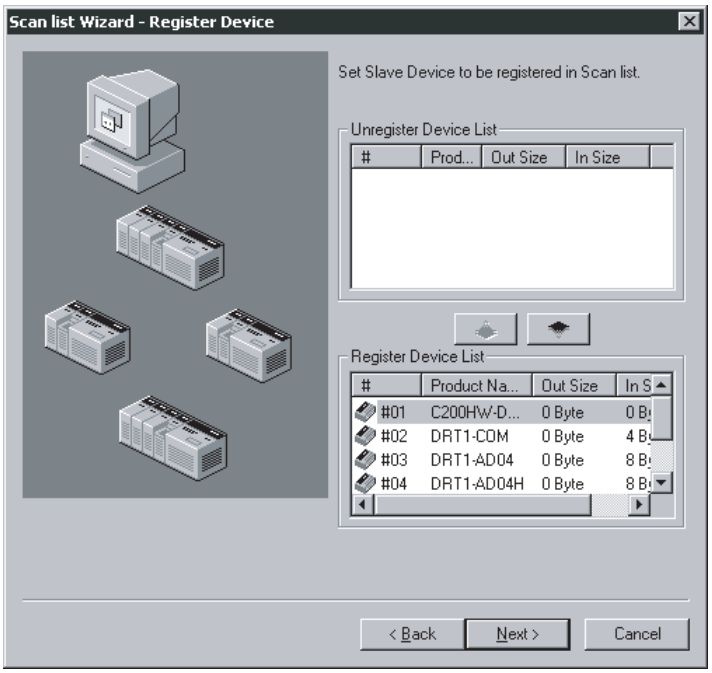
Allocation with Allocated Words Minimized

	High		Low	
	15	8	7	0
+0CH	#02		#00	
+1CH	#01			
+2CH	#03			
+3CH	#03			
+4CH	#05		#04	

6. Slave Registration/Deletion

   The following Scan List Wizard - Set Memory Block's Start Word Window will be displayed.

   Specify the slave to be registered with the master and click the **Next** Button.



   The devices on the network are shown in the Registered Device List.

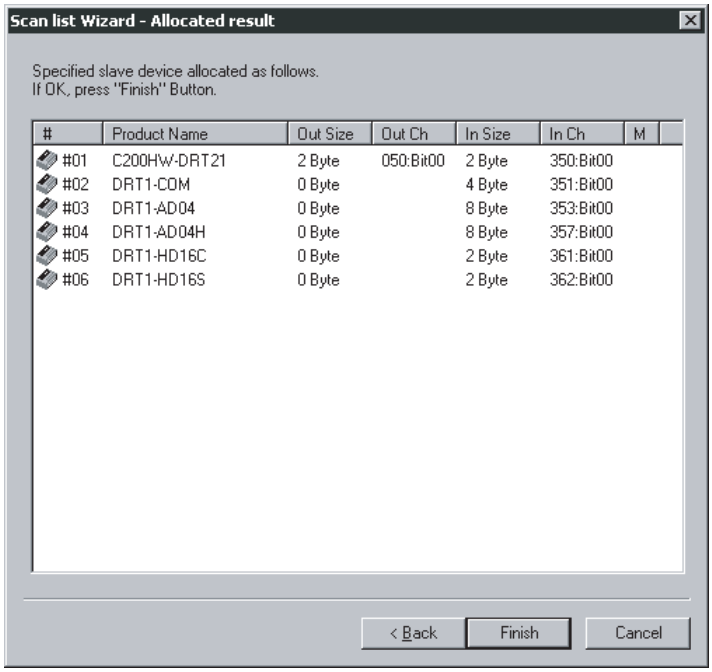
   To cancel the registration of a device, click the following icon: 

   The user cannot go to the next step if no devices are registered.

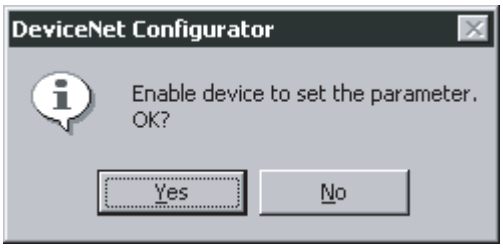
7. The following Scan List Wizard-Allocated Result Window will be displayed after remote I/O allocations have been made as specified.

Click the **Finish** Button if the displayed details are OK. The Parameter Wizard will finish. The user can click the **Back** Button to return to the previous window.

The displayed details will be set as device parameters.



8. When the Configurator is online, the following window will be displayed.



Click the **Yes** Button and edit the master parameters. Remote I/O communications according to the new settings will start.

Note Device parameters set with the Parameter Wizard can be edited by individually if necessary.

4-7 Master Parameter Editing Details (Tab Descriptions)

Device - Parameter - Edit

The user can individually edit allocations for remote I/O communications and make advanced settings, such as the communication cycle time and connection settings. Possible setting items vary with the master model.

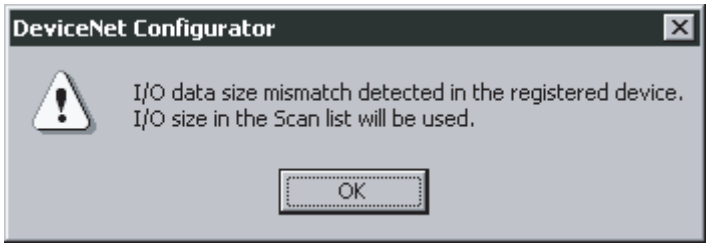
The following description provides information on editing individual parameters. Refer to *4-8 Manual I/O Allocations* on page 86 and *4-9 Advanced Settings (Connection, Communication Cycle Time, Slave Function Settings, Etc.)* on page 93 for further information on editing parameters manually.

To edit the parameters, use the following procedure.

1,2,3...

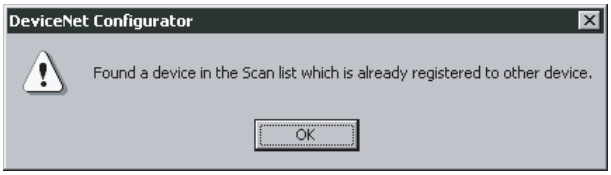
1. Select the device for which parameters are to be edited.
2. Select ***Device***, ***Parameter***, and ***Edit***.
3. The Edit Device Parameters Window will be displayed.

Note a) If the I/O size of the device displayed in the Network Configuration Window does not coincide with the I/O data size of the device registered with the scan list, the following warning dialog will be displayed along with the Edit Device Parameters Window. In this case, the I/O size in the scan list will take priority.



If an EDS file has not been installed in the slave, obtain the EDS file and install it. Also, set the correct I/O size in all slaves that require changes in the I/O size.

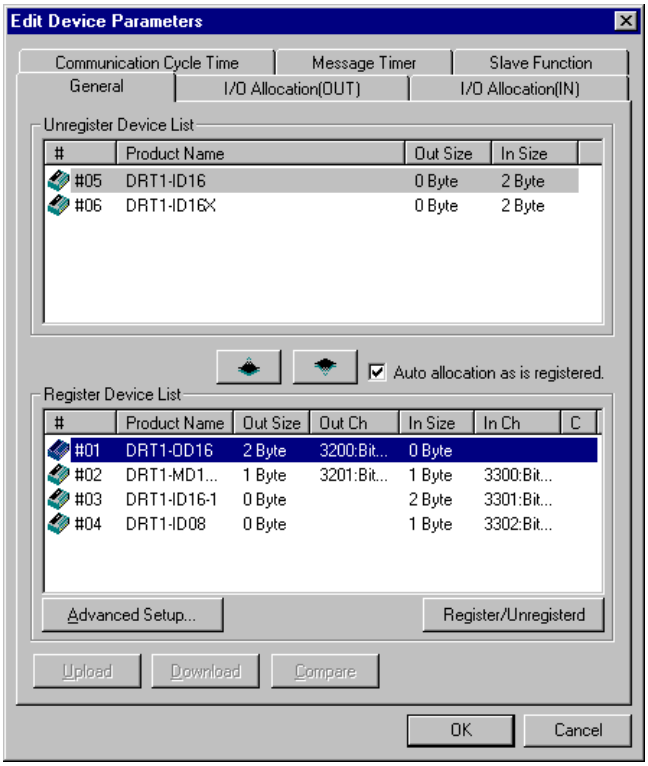
b) If the slave device registered with the scan list has already been registered with another master, the following warning will be displayed along with the Edit Device Parameters Window.
Revise the slaves registered in the scan list.



4-7-1 Edit Device Parameters on CS1W-DRM21/CJ1W-DRM21

Note When the CS1W-DRM21/CJ1W-DRM21 DeviceNet Unit is used, select the device and then select ***Device***, and ***Property*** and turn ON *Enable Master Function* in the Properties Dialog Box.

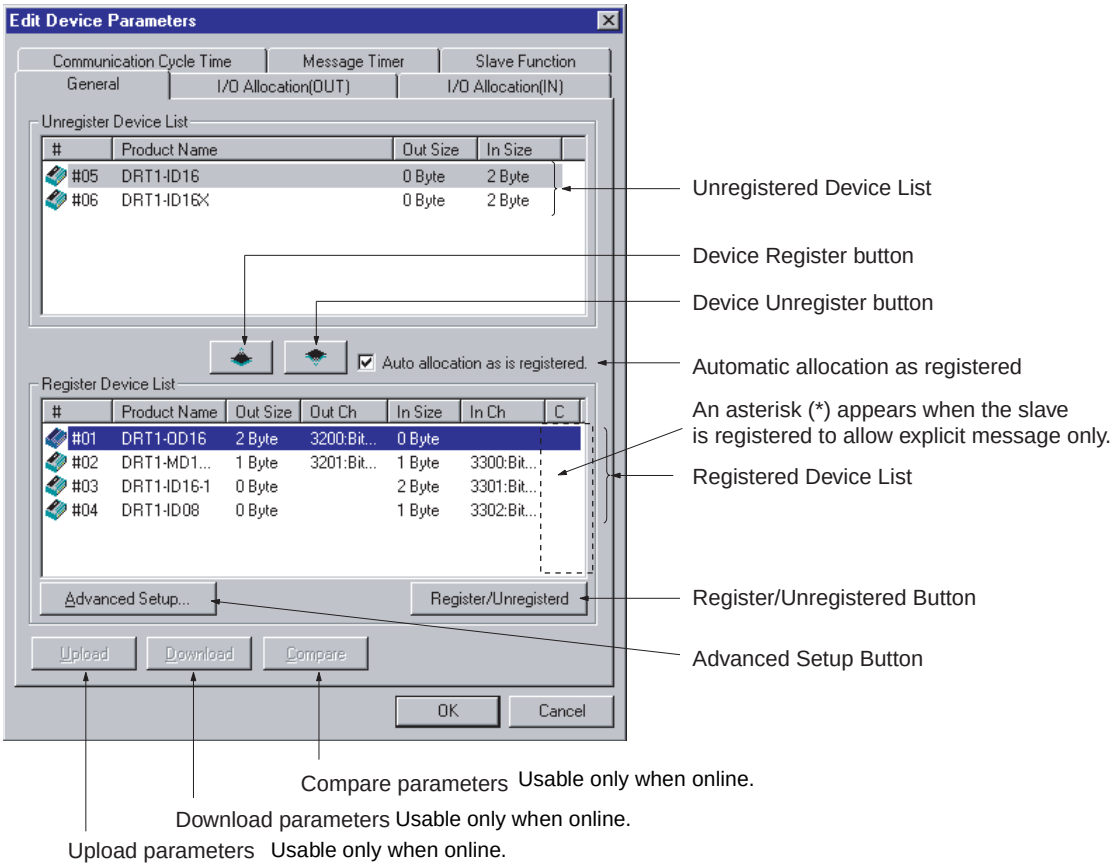
The following window will be displayed when the CS1W-DRM21/CJ1W-DRM21 is selected.



The Edit Device Parameters Window consists of the following six tabs.

Tab	Description
General	Registers the device with the scan list and makes I/O allocations automatically.
I/O Allocation (OUT)	Allocates the output data and sets the output memory block for the CPU Unit with the advanced setup function.
I/O Allocation (IN)	Allocates the input data and sets the input memory block in the CPU Unit with the advanced setup function.
Communication Cycle Time	Sets the communication cycle time.
Slave Function	Makes necessary settings that enable the slave function.
Message Timer	Makes monitor timer settings for message communications (both explicit and FINS message communications).

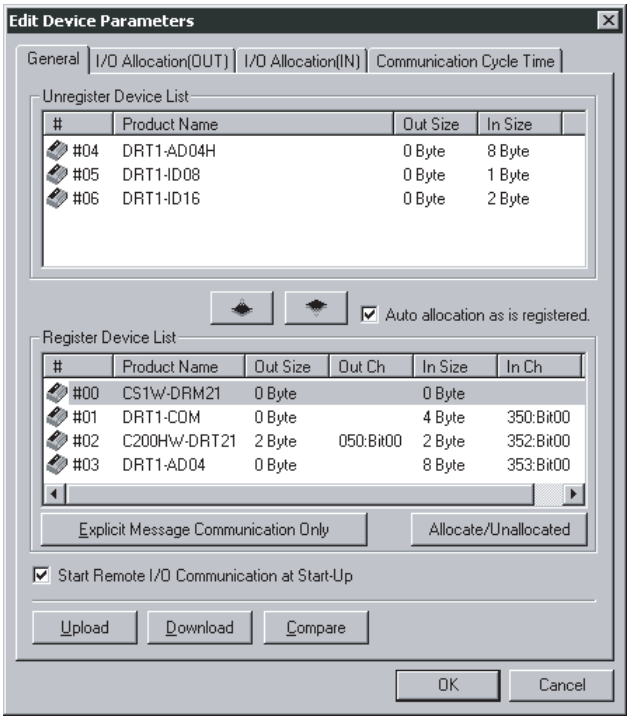
General Tab of CS1W-DRM21/CJ1W-DRM21



Item	Description
Unregistered Device List	Displays unregistered devices. Unregistered devices refer to slaves that are displayed in the Network Configuration Window but have not been registered with a master.
Registered Device List	Displays slaves that are presently registered with a master.
Device Register and Unregister Buttons	 By pressing this button, the selected device will move from the Unregistered Device List to the Registered Device List.  By pressing this button, the device will move from the Registered Device List to the Unregistered Device List.
Auto allocation as is registered	Check this box when registering the slaves with the master in the Edit Device Parameters Window so that the slaves will be allocated to an unused area in blocks of words in order of registration.
Register/ Unregistered Button	Click this button to unregister the I/O allocation of the selected slaves or to make the I/O reallocation of the slaves in the order of earlier addresses.
Advanced Setup Button	Click this button to set the connections or display the device information.
Upload	Uploads the parameters of the network device online.
Download	Downloads the parameters to the network device on line.
Compare	Compares the parameters of the selected network device with the parameters stored in the Configurator.

4-7-2 Editing Device Parameters on CVM1-DRM21-V1 and C200HW-DRM21-V1

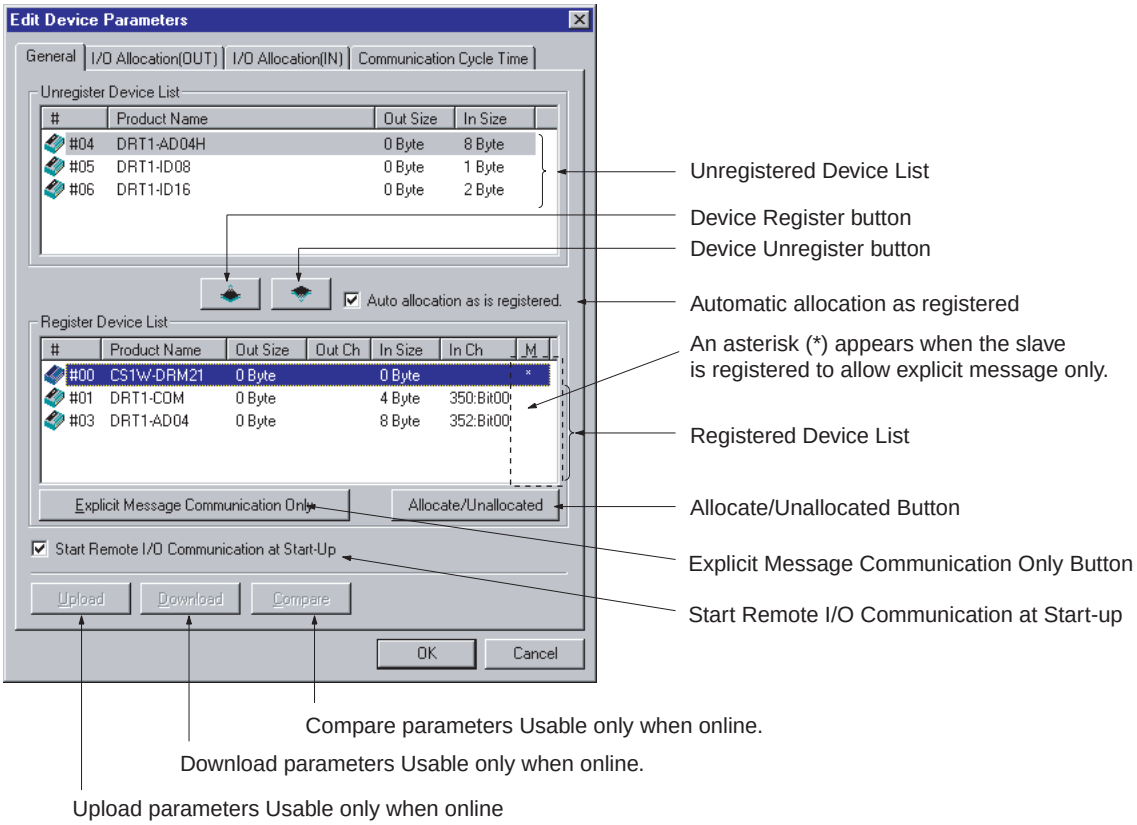
The following window will be displayed when the CVM1-DRM21-V1 or C200HW-DRM21-V1 DeviceNet Master Unit is selected.



The Edit Device Parameters Window consists of the following four tabs.

Tab	Description
General	Registers the device with the scan list and makes I/O allocations automatically.
I/O Allocation (OUT)	Allocates the output data and sets the output memory block the CPU Unit with the advanced setup function.
I/O Allocation (IN)	Allocates the input data and sets the input memory block in the CPU Unit with the advanced setup function.
Communication Cycle Time	Sets the communication cycle time.

General Tab of CVM1-DRM21-V1 or C200HW-DRM21-V1



Item	Description
Unregistered Device List	Displays unregistered devices. Unregistered devices refer to slaves that are displayed in the Network Configuration Window but have not been registered with the master.
Registered Device List	Displays slaves that are presently registered with the master.
Device Register and Unregister Buttons	 By pressing this button, the selected device will move from the Unregistered Device List to the Registered Device List.  By pressing this button, the device will move from the Registered Device List to the Unregistered Device List.
Auto allocation as is registered	Check this box when registering the slaves with the master in the Edit Device Parameters Window so that the slaves will be allocated to an unoccupied area in blocks of words in order of registration.
Allocate/Unallocated Button	Click this button to unregister the I/O allocations or to make the I/O reallocations.
Explicit Message Communication Only Button	Check this button to enable explicit message communications (transmission only) without remote I/O communications.
Start Remote I/O Communication at Start-Up	Check this box to enable remote I/O communications automatically when the master starts up.
Upload	Uploads the parameters of the network device online.
Download	Downloads the parameters to the network device on line.
Compare	Compares the parameters of the selected network device with the parameters stored in the Configurator.

4-7-3 Canceling Slave Registration with the Master

Device - Parameter - Edit - General Tab - Register/Unregistered (Allocate/Unallocated) Button

Note This procedure is the same for the CS1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1.

The General Tab is used to register slaves with the master or unregister slaves.

To register or unregister a slave, use the following procedure.

1,2,3... 1. Select the slave to be registered or unregistered.

2. Click the  Register or  Unregister Button.

A unregistered slave will be displayed in the Unregistered Device List.

A registered slave will be displayed in the Registered Device List.

4-7-4 Automatic Allocation with Registration

Device - Parameter - Edit - General Tab - Auto allocation as is registered - Register/Unregistered (Allocate/Unallocated) Button

Note This procedure is the same for the CS1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1.

- If the *Auto allocation as is registered* Box is checked when the slaves are registered with the master in the Edit Device Parameters Window, the I/O allocation of the slaves will be made in units of words automatically in order of registration. This checkbox will be enabled in the Edit Device Parameters Window only. The automatic allocation of the slaves will be made in units of words automatically in order of registration beginning with the unoccupied area of block 1 of the corresponding memory block.
- It is possible to unregister the I/O allocation of the selected slaves or to make the I/O reallocation of the slaves in the order of earlier addresses anytime by clicking on Register/Unregistered Button. The advanced setup function (explained later) will not be available is automatic allocation is specified.

4-8 Manual I/O Allocations

Device - Parameter - Edit - I/O Allocation Tab

Manual I/O allocation is possible with no restrictions on node address order or block size 1 or 2.

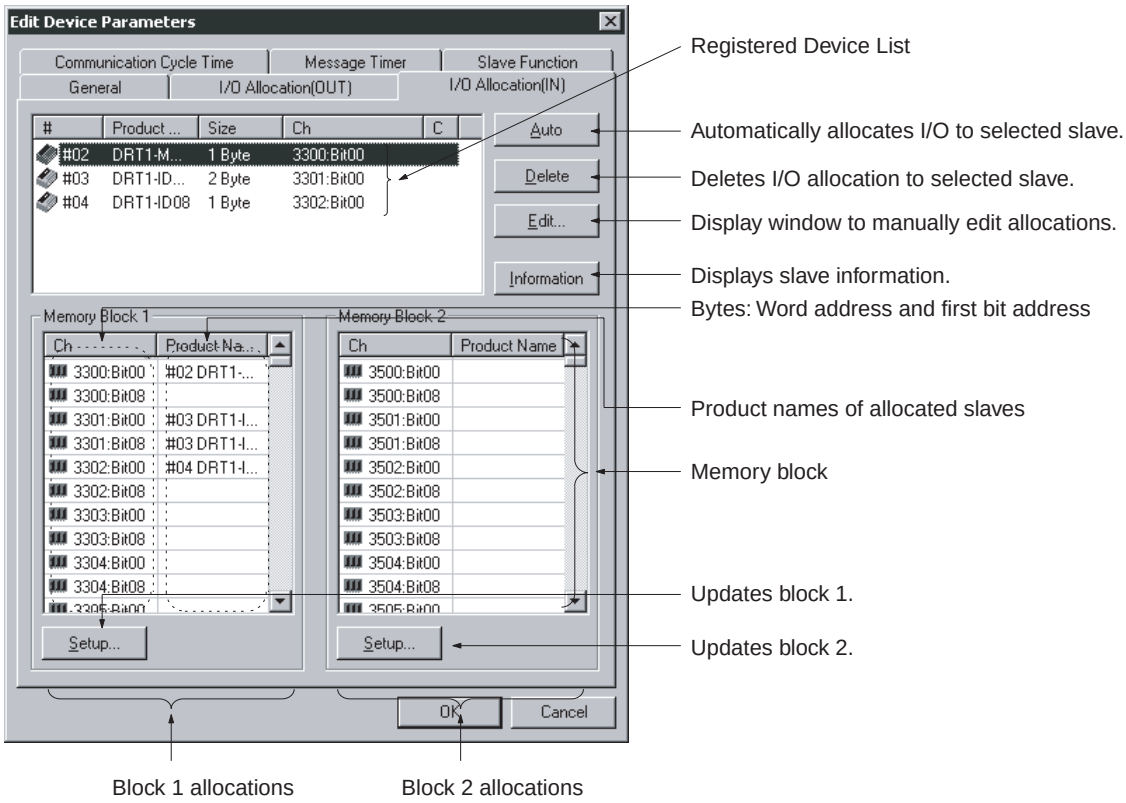
Note This procedure is the same for the CS1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1. In the following setting example, the CS1W-DRM21 is used.

4-8-1 I/O Allocation Tab Page

Make the following settings on the I/O Allocation Tab Page.

1,2,3... 1. I/O allocation of each OUT/IN memory block (1/2) to the I/O memory area of the CPU Unit

2. Click the **I/O Allocation (OUT)** or **I/O Allocation (IN)** Tab. The following window will be displayed.



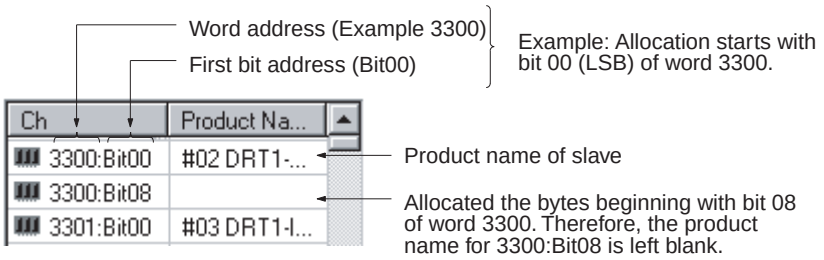
Item		Description
Registered Device List		Only devices with valid output or input data among all devices registered with the General Tab will be displayed.
Auto Button		Allocates in units of words the slaves selected from the Registered Device List to an unoccupied area in the order of earlier addresses.
Delete Button		Unregisters the I/O allocations of the selected slaves in the Registered Device List.
Edit Button		Allows manual allocation through the Edit Window.
Information Button		Displays slave information items (i.e., the allocation area and I/O comment data).
Memory Blocks		Displays the allocation status of each slave (product name) of block 1 and block 2.
	Ch	Bit address where allocation starts. The first bit address will be displayed after the word address.
	Product Name	Block 1 and block 2
Setup Button		Sets the first address and first address size (i.e., the number of words) of block 1 or block 2.

Allocation Status of Blocks 1 and 2

The block allocation status list displays the words of the CPU Unit and the product names of devices allocated in the respective areas of the CPU Unit.

The start bit and the word address for each device are indicated in the *Ch* column.

Example:
3300:Bit00: Starts with bit 00 (LSB) of word 3300.
3300:Bit08: Starts with bit 08 (MSB) of word 3300.



No words in the CPU Unit will be displayed for any memory block that is not in use.

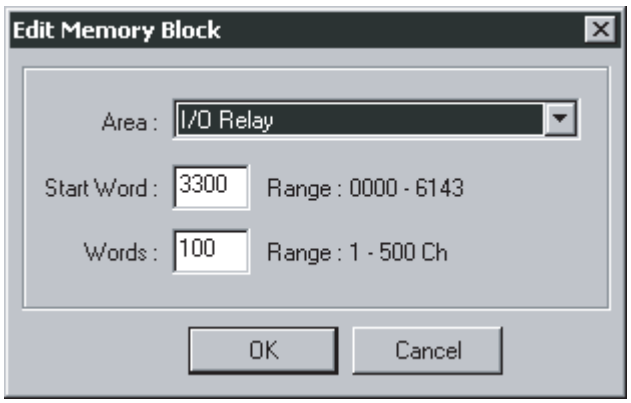
4-8-2 Changing the First Address of Output/Input Block

Device - Parameter - Edit - I/O Allocation Tab - Setup Button

To change the output/input block allocation areas in the I/O memory of the CPU Unit, use the following procedure.

1,2,3...

1. Click the **Setup** Button of the block to be changed.
2. The following window will be displayed.



3. Set the area, start word, and the number of words for the block.

   The number of words to be displayed in a block by the Configurator is set in the Words field. For the CS1W-DRM21, the maximum number of words that can be allocated to one block is 500. For the C200HW-DRM21-V1 and CVM1-DRM21-V1, the maximum number of words that can be allocated to one block is 100.
   The ranges that can be set are shown below.

   - **CS1W-DRM2**1

PC model	Data area	Range
CS Series	CIO Area	0000 to 6143
	DM Area	DM 0000 to DM 8191
	Work Area	WR 000 to WR 511
	HR Area	HR 000 to HR 511
	EM Area	EM 00000 to EM 32767

Banks 0 to 12 of the EM area can be used.

• **C200HW-DRM21-V1**

PC model	Data area	Range
C200HS	IR/SR Area	000 to 511
	HR Area	HR 00 to HR 99
	LR Area	LR 00 to LR 63
	DM Area	DM 0000 to DM 5999
C200HE-CPU11	IR/SR Area	000 to 511
	HR Area	HR 00 to HR 99
	LR Area	LR 00 to LR 63
	DM Area	DM 0000 to DM 4095
C200HX/C200HG/ C200HE(-Z) other than the above	IR/SR Area	000 to 511
	HR Area	HR 00 to HR 99
	LR Area	LR 00 to LR 63
	DM Area	DM 0000 to DM 5999

• **CVM1-DRM21-V1**

PC model	Data area	Range
CV500,CVM1-CPU01	IR/SR Area	0000 to 2555
	CPU Bus Link Area	G 000 to G 511
	DM Area	DM 0000 to DM 8191
CV Series and CVM1 other than the above	IR/SR Area	0000 to 2555
	CPU Bus Link Area	G 000 to G 511
	DM Area	DM 00000 to DM 24575

Note a) *Words* refers to the number of words in the block displayed on the Configurator. This value is not downloaded to the master.

b) If the occupied area of the block is less than 100 words when uploaded, *Words* will be set to 100 and displayed as such.

4. Click the OK Button. The memory block will be changed by clicking on OK.

   If a device has already been allocated, it will be allocated to a new memory block. If an area-over error occurs, however, the allocation of the device will be canceled. Reallocate the device, if necessary.

4-8-3 Allocating I/O

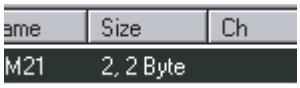
Device - Parameter - Edit - I/O Allocation Tab

The following three methods are supported for I/O allocation.

1,2,3...

1. Manual Allocation through the Edit Window
   Select the slave from the Registered Device List, click the **Edit** Button and use the Edit Window to manually allocate the slave.
2. Drag-and-drop Allocation
   Drag the slave from the Registered Device List and drop the slave at the desired work position in the memory block.
3. Automatic Allocation
   Select the slaves from the Registered Device List and click the **Auto** Button. The slaves will be automatically allocated in units of words in the order of earlier addresses. If the user has made connections settings in the **General** Tab with the advanced setup function, automatic allocation will not be possible.

Note The I/O data size of devices will be displayed in the *Size* column of the Registered Device List as shown below if connections settings have been made for the devices.



To allocate the I/O data on the left-hand side with the mouse, drag and drop the I/O data with the left mouse button. To allocate the I/O data on the right-hand side, drag and drop the I/O data with the right mouse button. If there is only a single connection, use the left mouse button.

Manual Allocation through the Edit Window

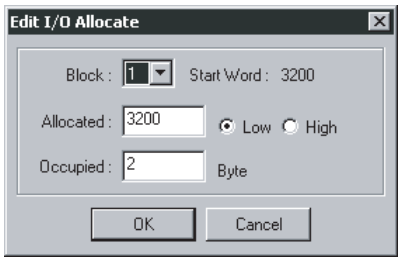
I/O Allocation Tab - Edit Button

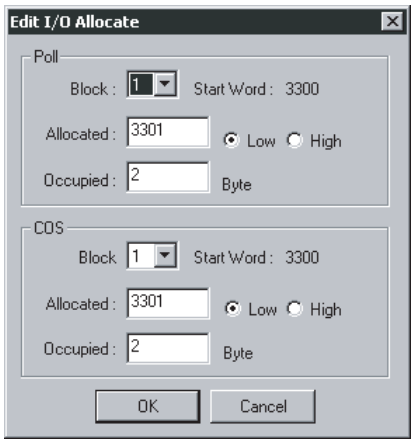
To make allocations through the Edit Window, use the following procedure.

1,2,3...

1. Select the device to edit the I/O allocations of the device.
2. Click the ***Edit*** Button.
3. The following I/O Allocation Dialog Box will be displayed.

   Specify block 1 or block 2, allocation word, start byte (LSB: Low or MSB: High), and the number of allocated bytes.





Connections are specified in the General tab with the advanced setup function.

Specify the first word to allocate and the number of allocated words. The MSB (high) or LSB (low) position can be set for the first word to allocate. The user must set the byte position to LSB if the number of bytes allocated is 2 or more.

- Example: Device with 1 byte allocated in the LSB.

	High		Low	
	15	8	7	0
+0CH			#00	
+1CH				
+2CH				

• Example: Device with 1 byte allocated in the MSB.

	High		Low	
	15	8	7	0
+0CH	#00			
+1CH				
+2CH				

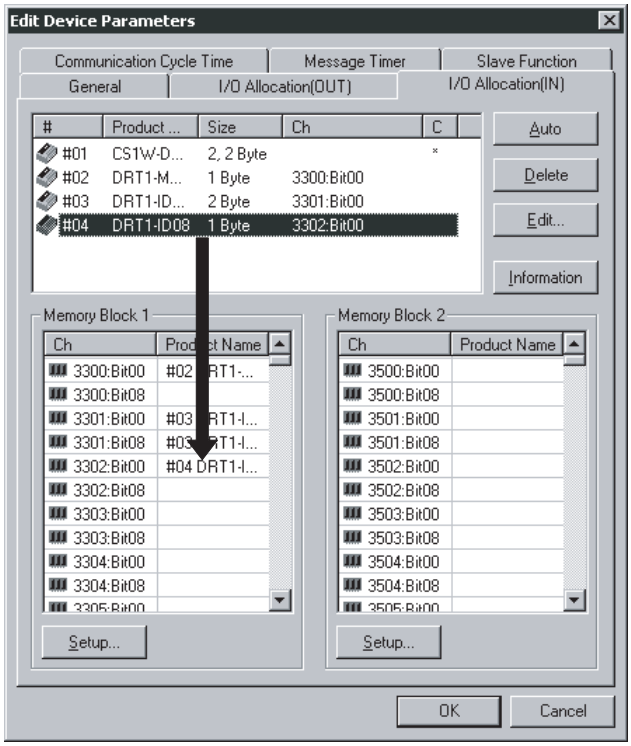
4. Click the **OK** Button to start I/O allocation.

Drag and Drop

Drag and Drop on ***I/O Allocation Tab***

1,2,3...

1. Display the Memory Block List.
2. Select the slave from the Registered Device List.
3. Drag the slave to the first byte of the desired position.



Memory Block List

In the Memory Block List, the *Ch* column displays each byte address (the word and first bit addresses). The *Product Name* column displays the product name for the slave.

Registered Device List

The # column of the Registered Device List displays the node address, the *Product Name* column displays the product name of the slave, and the *Size* column displays the number of allocated bytes for the slave. The *Ch* column displays the first byte (the word and first bit addresses) of the slave allocated.

To unregister the allocations of slaves, select the slaves in the Registered Device List, and click the **Delete** Button.

Note To register in units of words the slaves in the order of earlier addresses, select the slaves in the Registered Device List, and click the Auto Button.

Automatic Allocation ***I/O Allocation Tab - Register/Unregistered (Allocate/Unallocated) Button***

Note This procedure is the same for the CS1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1.

- To allocate in units of words the selected slaves to an unoccupied area in the order of earlier addresses, click the **Auto** Button.
- To unregister the allocations of the selected slaves, click the **Delete** Button. The advanced setup function (to be explained later) is not possible while automatic allocation is specified.

4-8-4 Slave Information

I/O Allocation Tab - Information Button

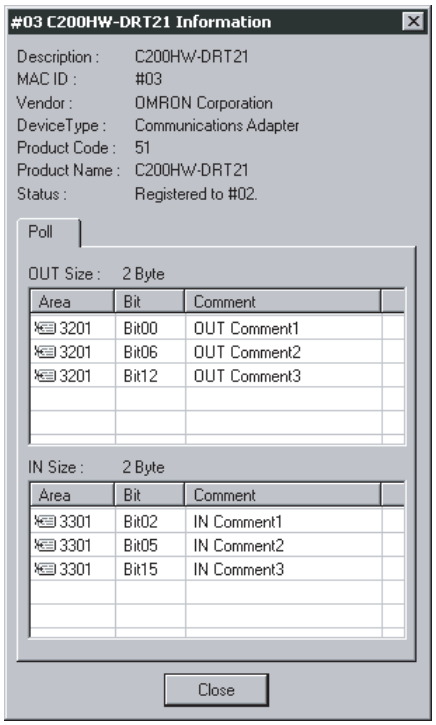
Device information on registered slaves, such as I/O comments, can be checked with the I/O Allocation Tab Page. The I/O comment is set to the I/O data of a slave by selecting *Edit I/O Comment* from the Device Menu.

To display information on the slave, use the following procedure.

1,2,3...

1. Select the device.
2. Click the **Information** Button.

   The following window will be displayed.



When the registered device is selected in the above window, the slave information will be refreshed to information on the selected device.

4-9 Advanced Settings (Connection, Communication Cycle Time, Slave Function Settings, Etc.)

The following description provides information on the connection, device information display and check, communication cycle time, message timer, and slave function settings.

4-9-1 Advanced Settings

Select ***Device***, ***Parameter***, ***Edit***, and the **General** Tab. Select the slave and click the **Advanced Setup** Button.

Make advanced setup settings (such as device information display/compare and connections settings) for remote I/O communications.

Note These settings are available for the CS1W-DRM21 only.

Device Information Display/Compare Settings

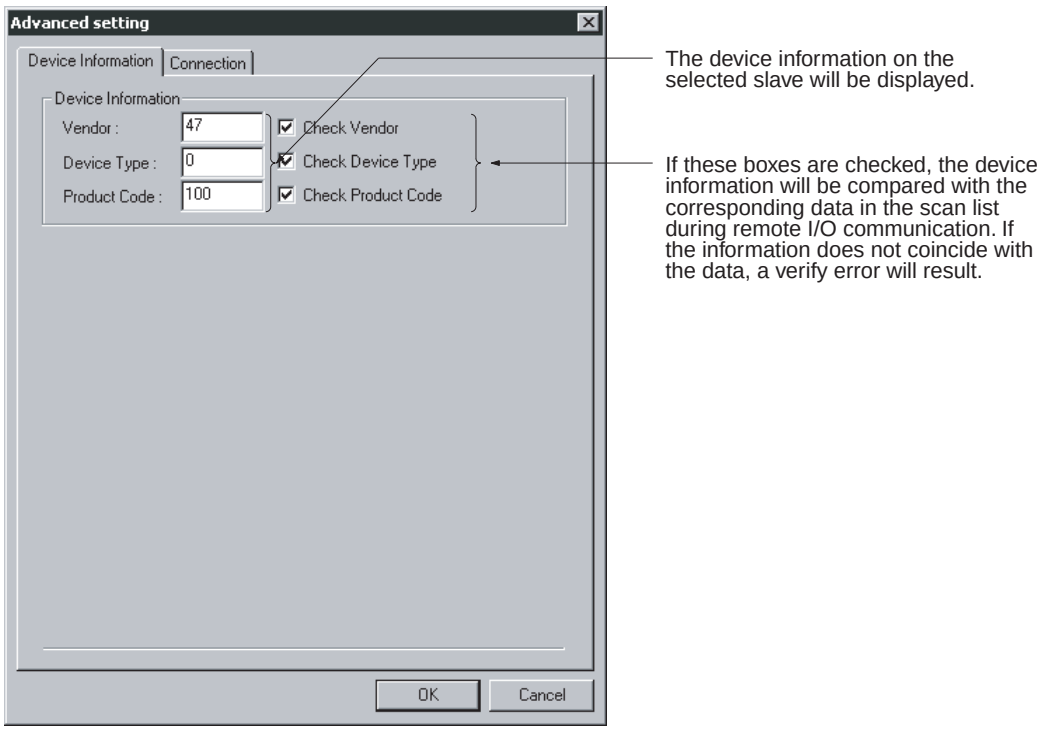
Device Information Tab

The following settings make it possible to display or compare device information on slaves.

Use the following procedure.

1,2,3...

1. Select the slave from the Registered Device List.
2. Click the **Advanced Setup** Button.
3. The following window will be displayed.
   Click the **Device Information** Tab.



The device information (consisting of vendor, device type, and product code data) on the selected slave is displayed.

By checking the above boxes, the device information will be compared with the corresponding data in the scan list when I/O communication connections are established.

Connections

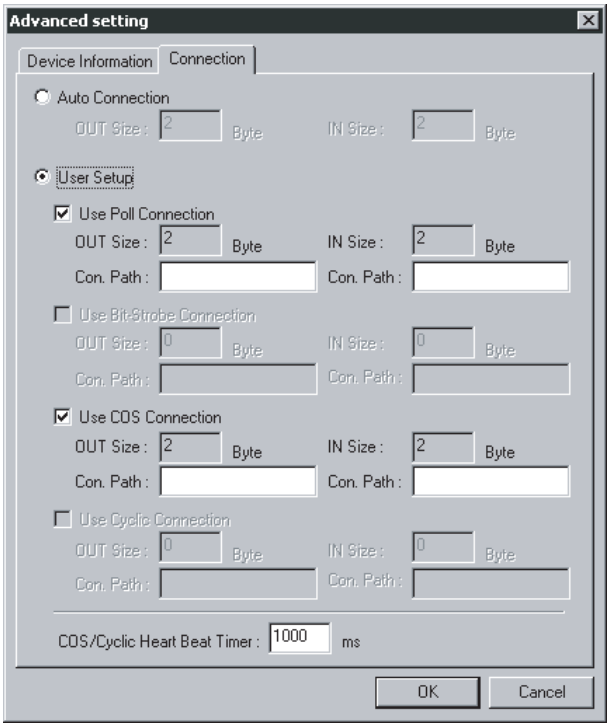
Connection Tab

When the user specifies the connections for remote I/O communications, up to two connections can be set for each slave.

Use the following procedure.

1,2,3...

1. Select the slave in the Registered Device List.
2. Click the **Advanced Setup** Button.
3. The following window will be displayed.
   Click the **Connection** Tab.



Automatic connections are set by default.

To specify the connections, use the following procedures.

1,2,3...

1. Select ***User Setup***.
   Possible connections are ready for selection.
2. Select the connections.
   Up to two connections can be selected.
   Note Both *COS* and *Cyclic* cannot be specified at the same time.
3. Set the connection path as needed.
4. Set the COS/Cyclic heard beat timer.
5. Click the **OK** Button.
   An asterisk (*) will be displayed in the C column at the right edge of the Registered Device List. If the connections of a device already allocated with I/O are changed, the previous I/O allocations will be canceled. Make the I/O allocations again.

Note

1. Both COS and Cyclic settings cannot be made at the same time.
2. If *Poll* and *COS* settings or *Poll* and *Cyclic* settings are used in combination, check that the output settings of the both connections are the same.
3. The automatic allocation function is not possible for devices if the user already made connections settings for the devices with the advanced setup.

Unregister and register the devices so that the automatic allocation function will be available for the devices.

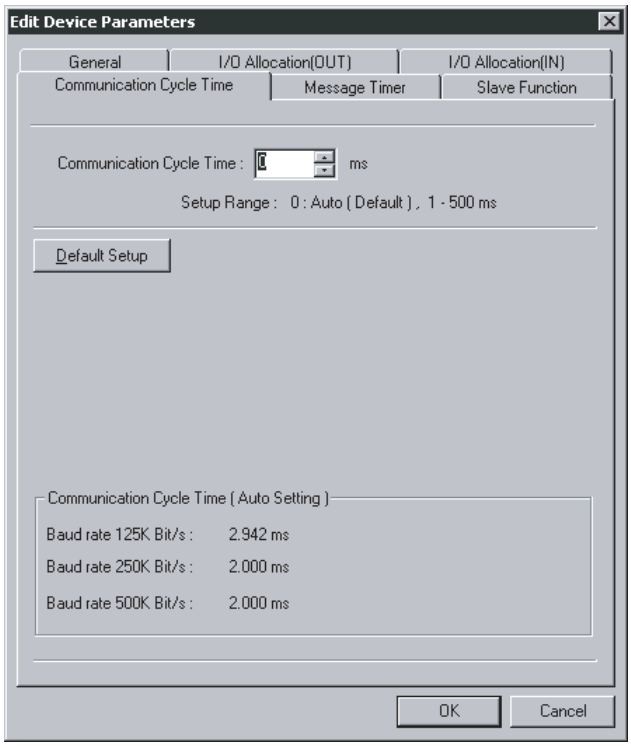
4-9-2 Communication Cycle Time Settings

Device - Parameter - Edit - Communication Cycle Time Tab

Note This procedure is the same for the CS1W-DRM21, CVM1-DRM21-V1, and C200HW-DRM21-V1.

It is possible to set the communication cycle time on the Communication Cycle Time Tab Page. Furthermore, it is possible to check the present communication time calculated from the registered device information.

The following window will be displayed by clicking on the Communication Cycle Time Tab.



Set the communication cycle time between 1 and 500 ms. To set the communication cycle time automatically, click the **Default Setup** Button or set the communication cycle time to 0 ms.

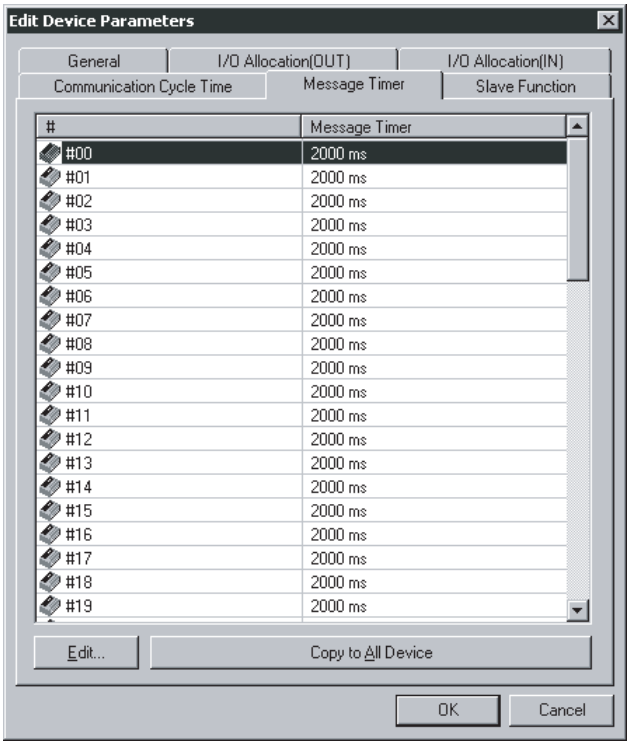
The communication cycle time set will be automatically calculated and displayed according to the registered device information and the baud rate.

Note Communication cycle time refers to the required time of remote I/O communications between the master and a slave. Communication cycle time settings properly made will prevent the fluctuation of the time of remote I/O communications with the slave. Furthermore, by setting the communication cycle time to a larger value, the prolonged processing operation of the slave will not be treated as a communications error. If the actual remote I/O communications time is shorter than the set communication cycle time, the remote I/O communications will keep pace with the communication cycle time. If actual I/O communications take longer than the set communication cycle time, the I/O communications will be continued regardless of the set communication cycle time.

4-9-3 Setting Message Timers

Device - Parameter - Edit - Message Timer Tab

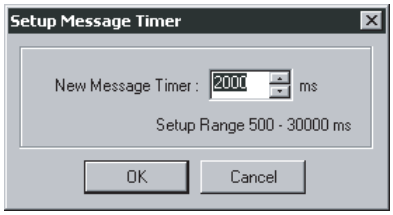
Note This procedure is supported by the CS1W-DRM21 only.



A message timer is by default set to 2 s (2000 ms). They can be set 1-ms increments to between 500 and 30,000 ms.

To change a message timer value, use the following procedure.

1,2,3... 1. Double-click the node address (#) or select the node address and click the **Edit** Button. The following dialog box will be displayed.



2. Set the value and click the **OK** Button.

   Note To set the same value for all the devices, select the node addresses and click the **Copy to All Device** Button.

Note The message timer is used to monitor the time of message communications (explicit message communications time and FINS message communications time). The message timer can be set for each destination device independently. If the response of a destination device is slow, the timer value must be set to a larger value. The response may be slow for multilevel FINS message communications. The next message cannot be sent to the same device until the response is returned. The DeviceNet master monitors the time-out period of the message with this timer. The CPU Unit, however, is responsible for monitoring the response time with the CMND, SEND, and RECV instructions. Therefore, it is meaningless if only the timer value or monitor time is changed

for the CMND, SEND, RECV instructions. Set the response monitor time with the CMND, SEND, and RECV instructions to a value larger than the timer value. Set both of them to larger values but the value of response monitor time must be still longer than the timer value if a time-out error occurs frequently.

4-9-4 Slave Function Settings

Device - Parameter - Edit - Slave Function Tab

Note This procedure is supported for the CS1W-DRM21 only.

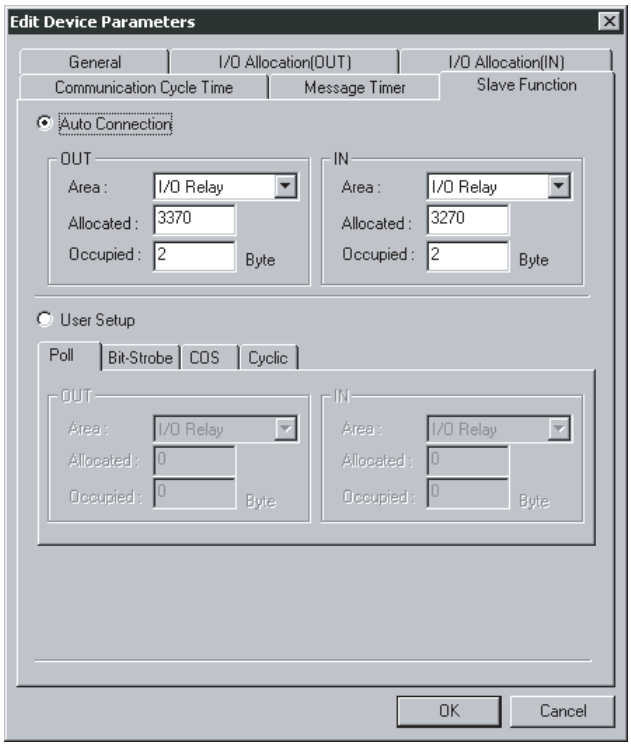
The slave function is enabled through settings made in the Slave Function Tab.

Note To enable the slave function with the CS1W-DRM21, select the device first, and then select *Device – Property*, and select *Enable slave Function* in the CS1W-DRM21 Properties Dialog Box.

To set the slave function, use the following procedure.

1,2,3... 1. Click the **Slave Function** Tab.

The following window will be displayed.



2. Specify the connections.

   Automatic settings are by default set. If the user specifies the connections, click the **User Setup** Button.

3. Set the output and input areas used for remote I/O communications.

   Set each area type for *IN* (the slave to the master) and *OUT* (the master to the slave), start words, and allocated sizes.

   If the user's connections settings are used, make all connections settings.

   Up to two connections can be set.

Note

1. Both *COS* and *Cyclic* settings cannot be made at the same time.
2. If *Poll* and *COS* settings or *Poll* and *Cyclic* settings are used in combination, check that the *OUT* settings of the both connections are the same.

4-9-5 Setting/Canceling Explicit Message Communications

Device - Parameter - Edit - General Tab - Explicit Message Communications Box

Note This procedure is supported for the CVM1-DRM21-V1 and C200HW-DRM21-V1 only.

Specify whether or not to enable explicit message communications (transmissions only) without remote I/O communications. Check the box to enable explicit message communications only.

Note For the CS1W-DRM21 and CJ1W-DRM21, slaves with explicit message communications only do not have to be registered. Explicit message communications is possible regardless of the scan list registration.

4-9-6 Starting Remote I/O Communications

Device - Parameter - Edit - General Tab - Start Remote I/O Communication at Start-Up Box

Note This procedure is supported for the CVM1-DRM21-V1 and C200HW-DRM21-V1 only.

Specify whether or not to enable remote I/O communications automatically. Check the box to start remote I/O communications automatically when the master is started.

Note For the CS1W-DRM21 and CJ1W-DRM21, remote I/O communications upon start-up can be disabled by disabling the master function.
Select ***Device***, then select the **Unit Function** Tab of the Property Window, and remove the check mark from Enable Master Function.

4-10 Creating and Editing I/O Comments

Device - Edit I/O Comment

The Configurator can be used to add comments to I/O data of slaves.

The I/O comments can be checked while making I/O allocations to the master.

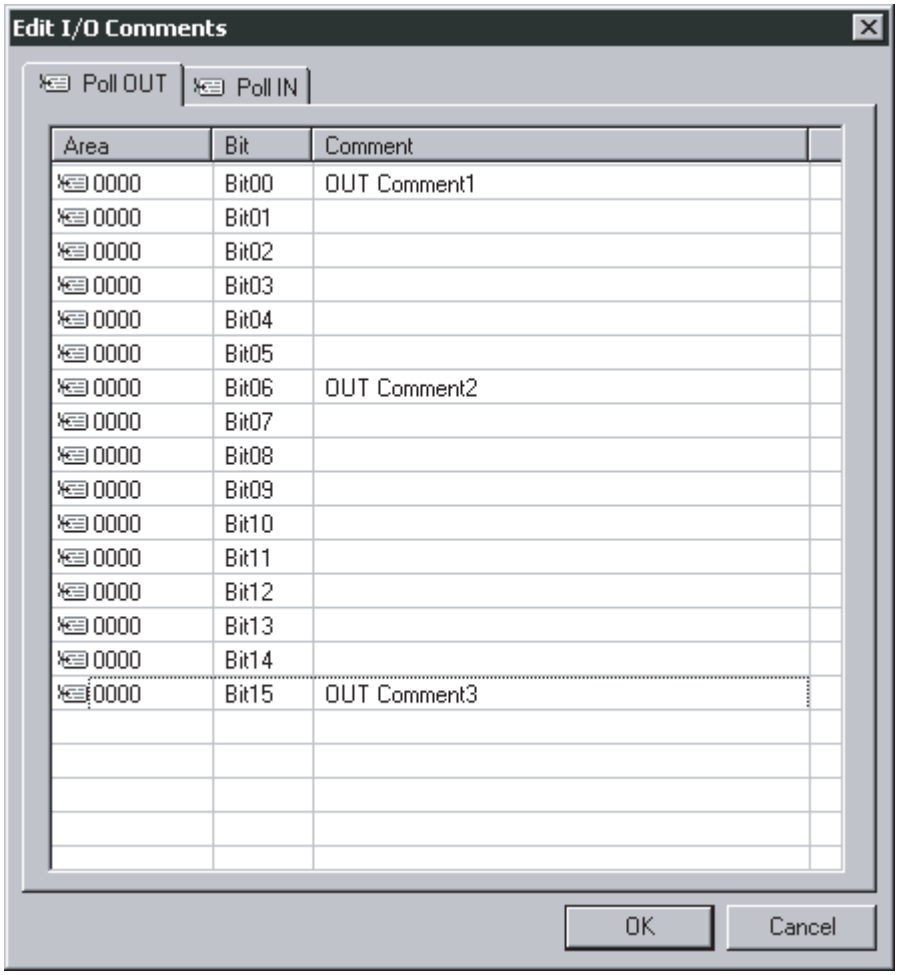
Note No I/O comments can be created or edited for a device if the device is not designed to have I/O data.

To edit I/O comments, use the following procedures.

1,2,3...

1. Select the device.
2. Select ***Device*** and ***Edit I/O Comment*** (or select the slave, click the right mouse button, and select ***Edit I/O Comment)***.

The following window will be displayed.



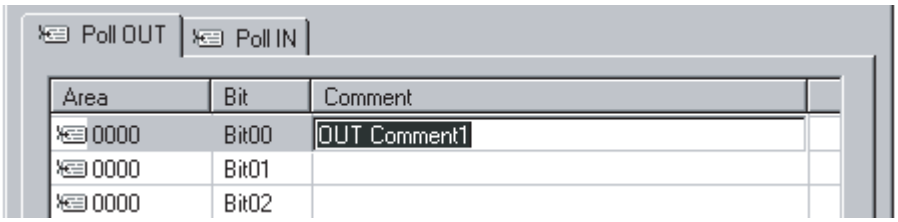
An I/O comment can be created for each connection supported by the device. If areas have been already allocated to the master, they will be displayed.

Note a) If an area is not allocated to a master, the display will show 0000, the default area.

b) Edited I/O comments can be exported in the CSV format by selecting *Export* and *I/O Comment Lis*t. Refer to *6-5 Exporting Data Created in Configurator*. Part of I/O comment data exported in the CSV format can be opened in spreadsheet software and used for CX-Programmer variable tables.

3. Select the bit where the I/O comment should be set and press the **Enter** Key (or click the bit position).

   Data can be input into the comment area as shown below.



4. Input the comment and press the **Enter** Key.

To cancel the input, press the **ESC** Key.

5. Set all comments and click the **OK** Button.

4-11 Displaying Device Properties

Device - Property

This section explains device information on network devices.

Device properties are classified into those common to all devices and those inherent to each device.

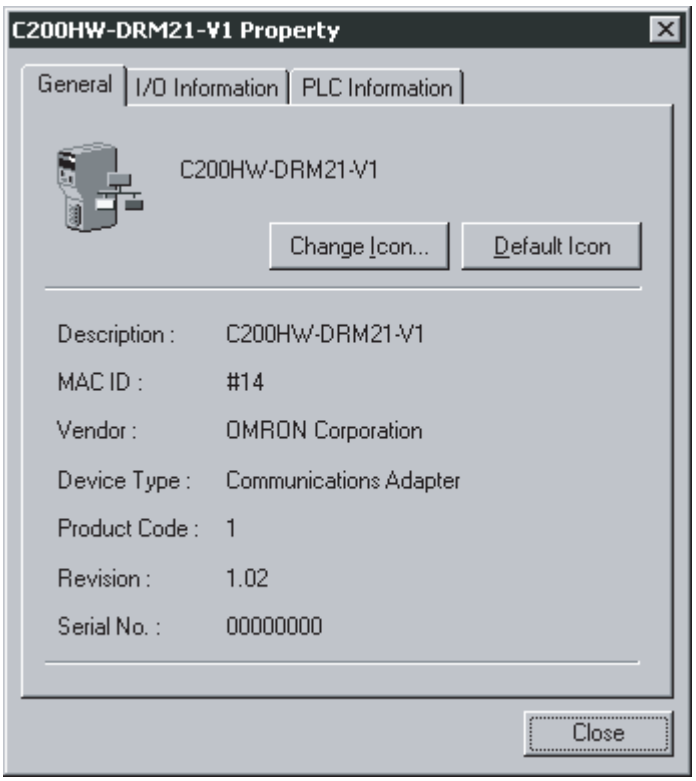
To display the device properties, use the following procedure.

1,2,3...

1. Select the device.
2. Select ***Device*** and ***Property***.
3. The Property Window will be displayed.

4-11-1 Property Window Common to All Devices

The following window will be displayed for device properties.

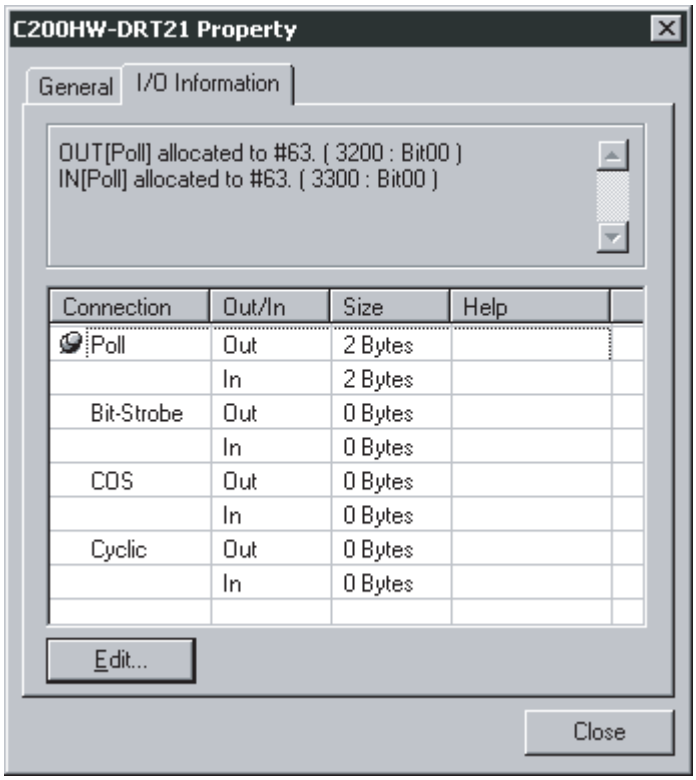


This Window has the name of the vendor of the device and the device type. By clicking the **Change Icon** Button, the icons displayed by the Configurator can be customized.

To change the icon to standard ones, click the **Default Icon** Button.

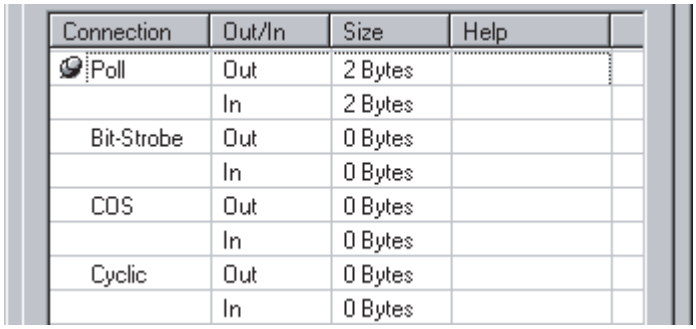
4-11-2 I/O Information Inherent to Each Slave Device

The following I/O Information Tab Page will be displayed.



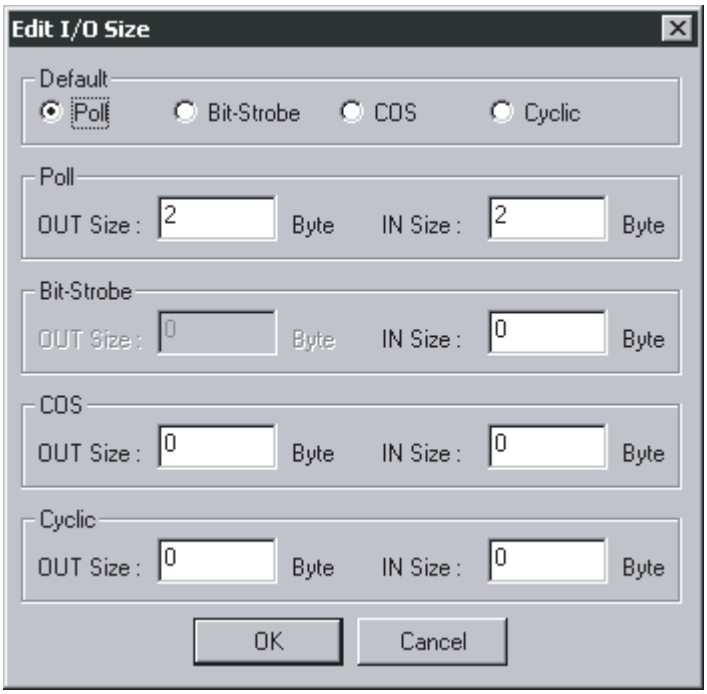
Supported I/O connection information defined by the EDS file will be displayed as slave I/O information properties. If the I/O allocations are made to another master, the I/O allocation information will be displayed together.

The following icon will be displayed next to I/O connection information items registered as default I/O connections in the EDS file.



If there is no EDS file or the slave's I/O size is variable, the I/O size can be changed using the following procedure.

1,2,3... 1. Click the **Edit** Button. The Edit I/O Size Dialog Box will be displayed.



2. Select the default connection typed.

   The size of each connection can be set by selecting *Poll*, *Bit-Strobe*, *COS*, or *Cyclic*.

3. Click the **OK** Button.

Obtaining I/O Size Information from the Master Scan List

When connecting the Configurator to a network that is already operating, for example using OMRON Master Units with fixed allocation, the slave I/O size can be obtained from the master scan list for use in setting.

However, this is possible only with OMRON masters. Also, the slave I/O size cannot be obtained from the slave function of the CSW-DRM21.

Use the following procedure to obtain the I/O size from a master scan list.

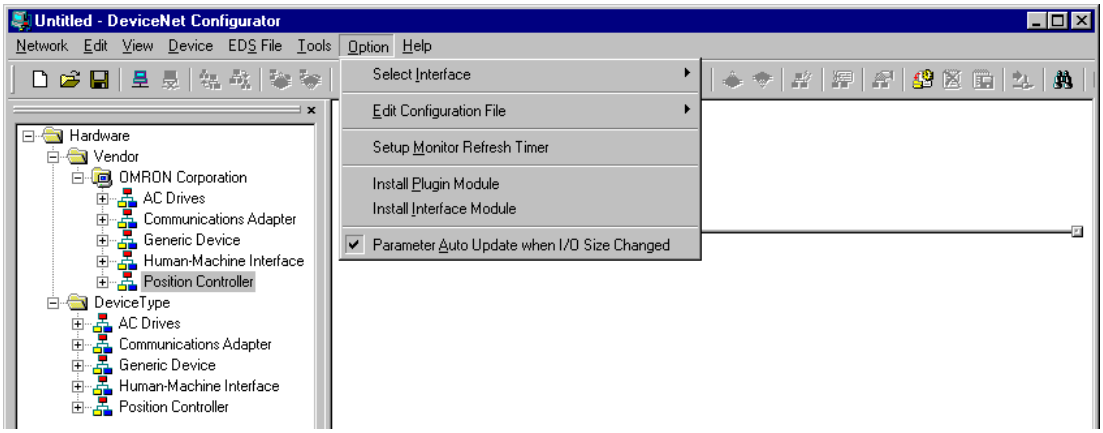
1,2,3... 1. Select the desired slave, then select ***Device*** and ***Property***.
2. Select the **I/O Information** Tab.
3. Click the Get I/O Size from the Scanlist Button.

Parameter Auto Update when I/O Size Changed

The function to automatically update the I/O size registered on the master scan list when the I/O size is changed can be switched on or off.

To automatically update the I/O size registered on the master scan list, select ***Option*** and ***Parameter Auto Update When I/O Size Changed***.

When this function is enabled, the ☑ mark will be displayed in the menu. The default is set to not automatically update.



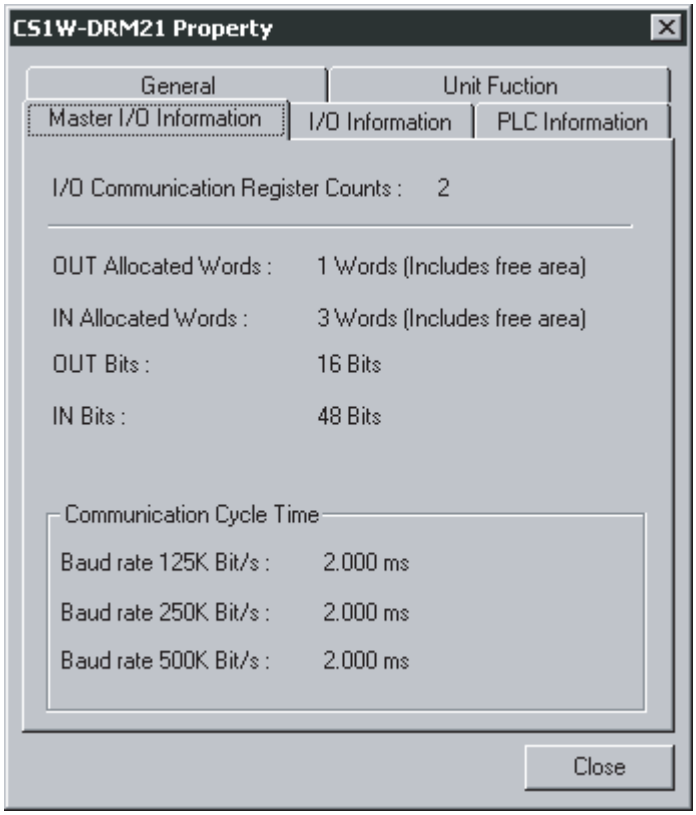
Note If the function to automatically update the I/O size is enabled and there is no EDS file, some operations will cause the I/O size in the master scan list to be updated to zero. For this reason, the function to automatically update the I/O size should normally be disabled.

4-11-3 Information for Master

OMRON's CVM1-DRM21-V1, C200HW-DRM21-V1, and CS1W-DRM21 have an Master I/O Information Tab Page and PLC Information Tab Page.

CS1W-DRM21 DeviceNet Unit

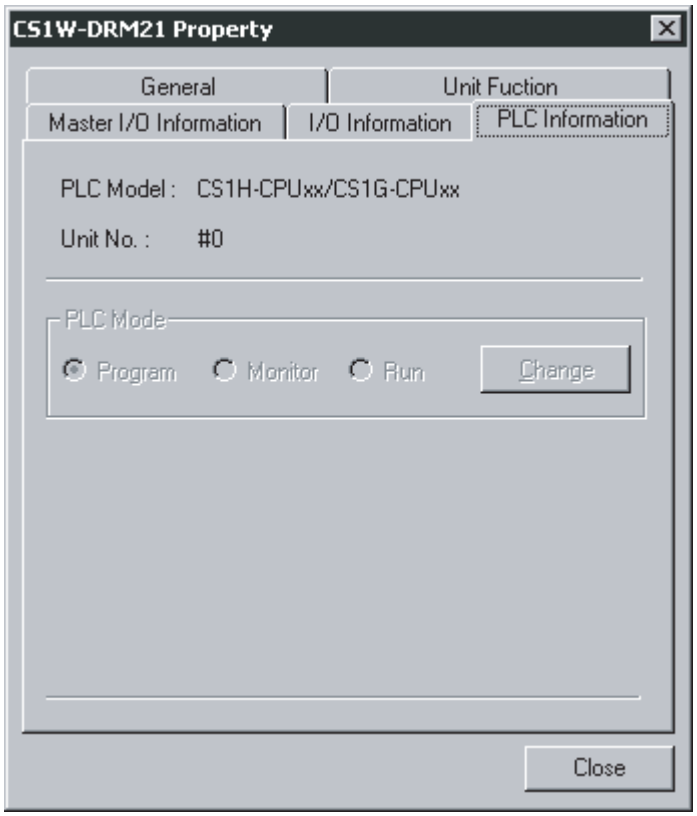
Master I/O Information



The following master I/O information will be displayed.

Item	Description
I/O Communication Register Counts	The number of devices registered as remote I/O communications devices in the scan list.
OUT/IN Allocated Words	The number of allocated words including the unused words from the first memory block set in the scan list.
OUT/IN Bits	The number of actual I/O bits for remote I/O communications devices.
Communication Cycle Time	The communication cycle time based on the device information in the scan list. If the user has set the communication cycle time, the user's set value will be displayed.

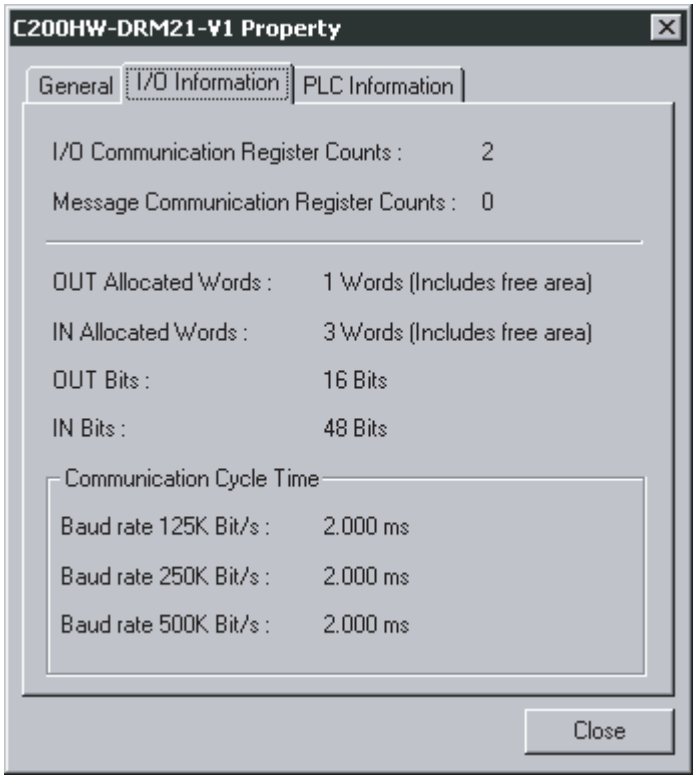
PLC Information



The name of the PLC model in use and the unit number of the master will be displayed as PLC Information. The operating mode of the PLC will be displayed online. To change the PLC mode, click the **Change** Button.

CVM1-DRM21-V1 and C200HW-DRM21-V1

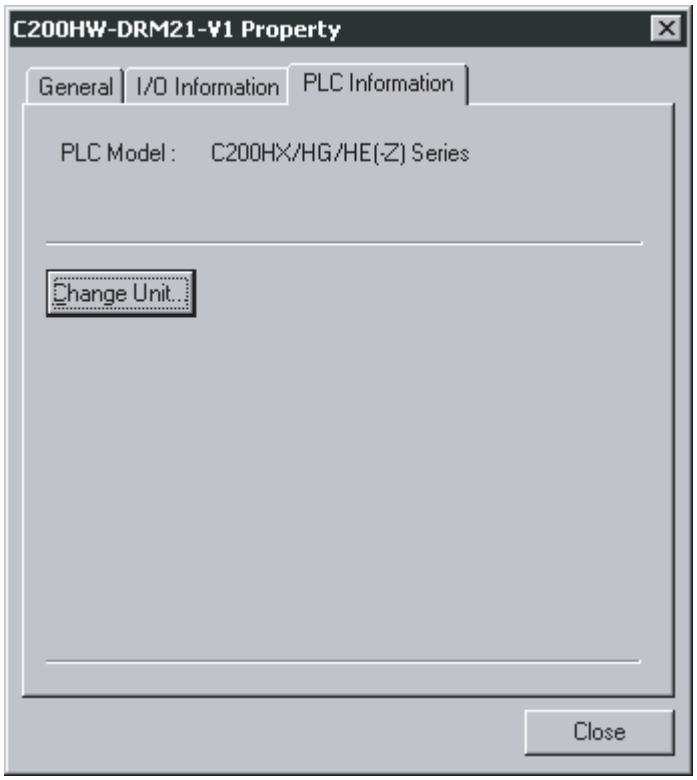
Master I/O Information



The following master I/O information will be displayed.

Item	Description
I/O Communication Register Counts	The number of devices registered as remote I/O communications devices in the scan list.
Message Communication Register Counts	The number of devices registered as message communications devices with the scan list.
OUT/IN Allocated Words	The number of allocated words including the unused words from the first memory block set in the scan list.
OUT/IN Bits	The number of actual I/O bits for remote I/O communications devices.
Communication Cycle Time	The communication cycle time based on the device information in the scan list. If the user has set the communication cycle time, the user's set value will be displayed.

PLC Information



The name of the PLC model in use and the unit number of the master as PLC Information will be displayed. To change the PLC model, click the **Change Unit** Button. If the network configuration is read from the actual network, the PLC model cannot be changed.

SECTION 5
Online Operation

This section explains the online operation of the DeviceNet Configurator, such as data downloading to or uploading from devices and device monitoring.

5-1 Switching between Online and Offline

This section explains how to connect the Configurator to the DeviceNet network.

The Configurator can be connected to the actual DeviceNet network, thus making it possible to exchange data with the devices on the network and monitor the operation of the devices online.

Note Online connections must be implemented together with the selection of the interface. Refer to *3-3-2 Designating the Interface*.

5-1-1 Specifying the Interface

Option - Select Interface

The following procedure is not required if the interface has already been specified. If the interface has not been specified, use the following procedure to select the interface.

The interface specified in the following procedure will be saved. The same interface will be selected the next time the Configurator is started.

1, 2, 3...

1. Select ***Option*** and ***Select Interface***.

   There will be a check mark on the current interface selection.
2. Select the interface from the menu.
   - Check *DeviceNet IF Card* if the dedicated Board or Card is used.
   - Check *SYSMAC CS/CJ IF Port* if a serial connection is used.
   - Check *SYSMAC CS/CJ Ethernet Unit IF* if an Ethernet connection is used.

Note The interface cannot be changed if the Configurator is online. Select ***Network*** and ***Disconnect*** to change the interface offline.

5-1-2 Going Online

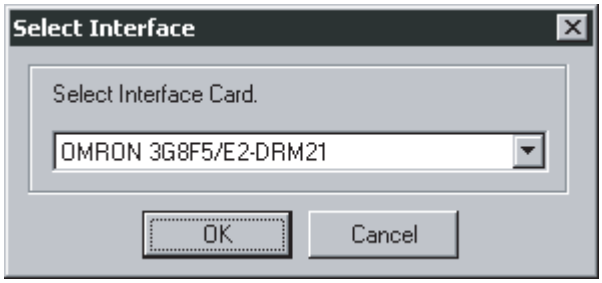
Network - Connect

1, 2, 3...

1. Select ***Network*** and ***Connect***.
   The window corresponding to the interface designated for connection will be displayed.

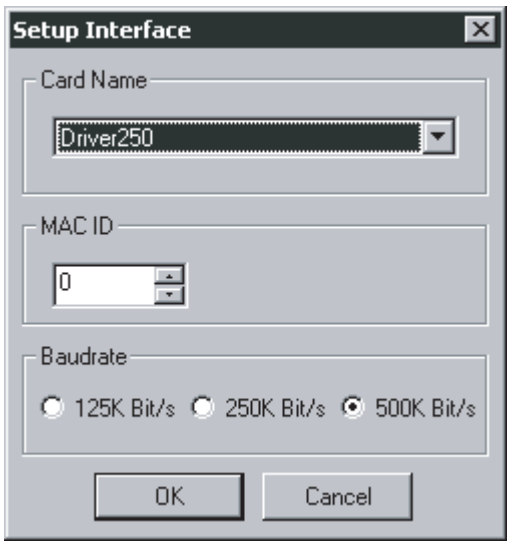
DeviceNet IF Card

2. If *DeviceNet IF Card* is specified, the following DeviceNet window will be displayed.



3. Select the DeviceNet Card and click the **OK** Button.

The following Setup Interface Dialog Box will be displayed.



4. Click the **OK** Button.

   A confirmation window will be displayed. Click the **OK** Button.

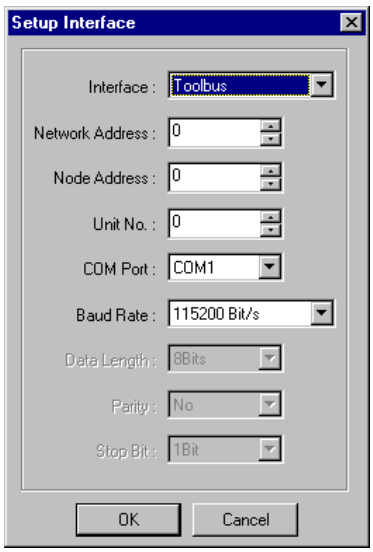
   The DeviceNet network will be connected.

   When the network is connected normally online, the color of the status indicator on the Status Bar will change to blue and *Online* will be displayed.

SYSMAC CS/CJ IF Port

(Continued from step 1 above.)

2. If *SYSMAC CS/CJ IF Port* is specified as the interface, the Setup Interface Dialog Box will be displayed.



   Refer to *Selecting SYSMAC CS/CJ IF Port* in *3-3-2 Designating the Interface* for each setting item.

3. Click the **OK** Button.

   A confirmation window will be displayed. Click the **OK** Button.

   The DeviceNet network will be connected.

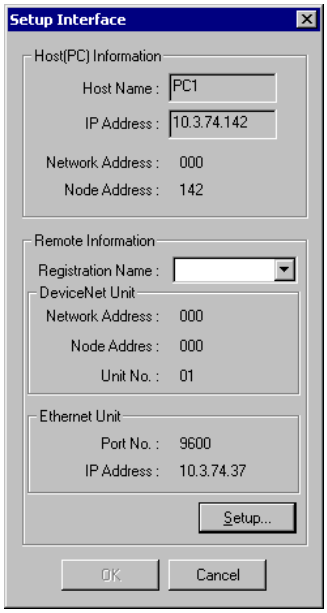
   When the network is connected normally online, the color of the status indicator on the Status Bar will change to blue and *Online* will be displayed.

Refer to the *SYSMAC CS/CJ-series Operation Manual* for each setting item.

SYSMAC CS/CJ Ethernet Unit IF Port

(Continued from step 1 above.)

2. If *SYSMAC CS/CJ Ethernet Unit IF Port* is specified as the interface, the Setup Interface Dialog Box will be displayed.



Refer to *Selecting SYSMAC CS/CJ Ethernet Unit IF* in *3-3-2 Designating the Interface* for each setting item.

3. Click the **OK** Button.

   A confirmation window will be displayed. Click the **OK** Button.

   The DeviceNet network will be connected.

   When the network is connected normally online, the color of the status indicator on the Status Bar will change to blue and *Online* will be displayed.

5-1-3 Going Offline

Network - Disconnect

Use the following procedure to set the Configurator to offline.

Select ***Network*** and ***Disconnect***.

The DeviceNet network will be disconnected.

5-2 Downloading the Network Configuration/Device Parameters to Devices

This section explains how to write the master and slave parameters that were created on the Configurator to the actual network devices. This process is called “downloading.”

The following two methods are used to write parameters to network devices.

- Downloading the network configuration
- Downloading parameters for specific devices

5-2-1 Downloading the Network Configuration

Network - Download The network configuration download function makes it possible to write and reset the device parameters in the order of node addresses, and enable the new settings.

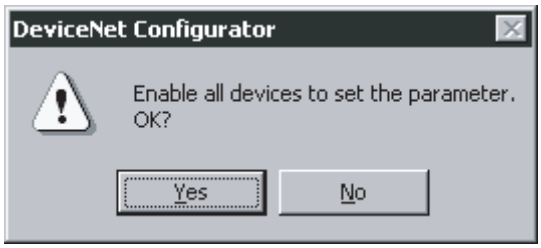
Note When downloading the network configuration, each of the devices is reset. If the Master Unit is reset first, it may cause errors in writing parameters to the subsequent slaves. For that reason, this method (downloading the network configuration) should be used only when the Master Unit has been given the highest address.

To download the network configuration, use the following procedure.

1, 2, 3...

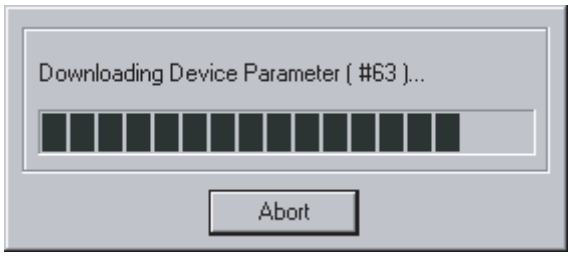
1. Place the Configurator online.
2. Select ***Network*** and ***Download***.

   The following conformation window will be displayed.



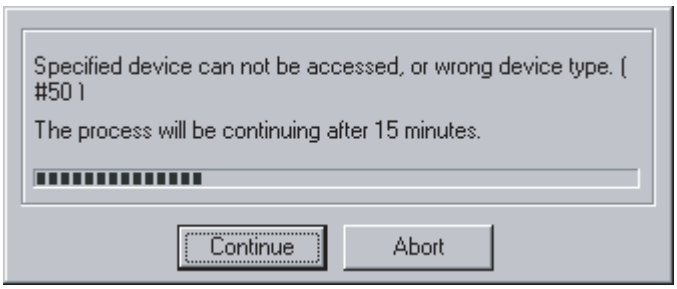
3. Click the **Yes** Button.

   The following progress window will be displayed and the downloading of the network configuration will be started.



Note

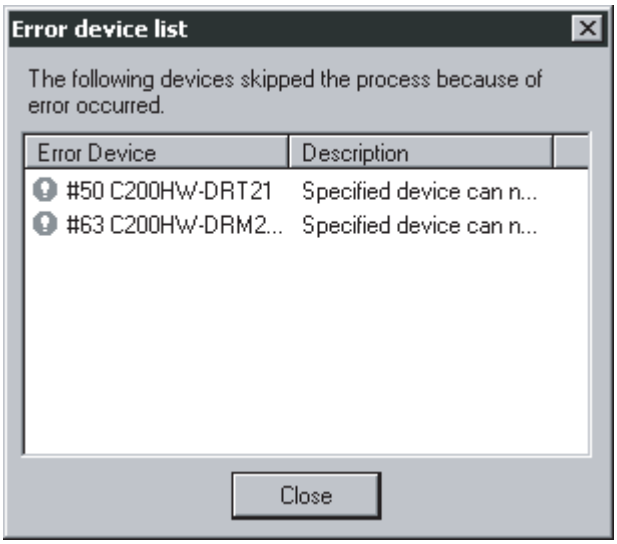
1. The downloading can be canceled by clicking the **Abort** Button.
2. If an error occurs while the network configuration is downloaded, the following confirmation window will be displayed.



   Click the **Continue** Button to continue the process. Click the **Abort** Button to cancel the process.

   The downloading of the network configuration will be automatically continued if the user does not click the **Abort** Button for 15 s after the above window is displayed.

The following window with information on device errors or missing devices will be displayed after the network configuration has been downloaded.



The new settings will be valid when the network configuration is downloaded properly.

Note

1. Because the devices are reset in order, communications errors will temporarily occur in the master and slaves. For this reason, do not download the network configuration while the master-side PLC (CPU Unit) is operating.
2. Parameters cannot be downloaded to the master unless the CPU Unit is in Program Mode. If the message *Device state conflict. Going to change PLC Mode. OK?* is displayed, check the operation mode of the CPU Unit.

5-2-2 Downloading Device Parameters

Device parameters are downloaded through the Network Configuration Window or Edit Device Parameters Window.

Note

1. Downloaded device parameters will be valid only after the devices are reset unless they are the OMRON CVM1-DRM21-V1, C200HW-DRM21-V1, or CS1W-DRM21.
2. The parameters in the Configurator will differ from the actual parameters if the **No** Button is clicked to quit the Edit Device Parameters Window after the parameters have been downloaded.

Downloading Parameters through the Edit Device Parameters Window

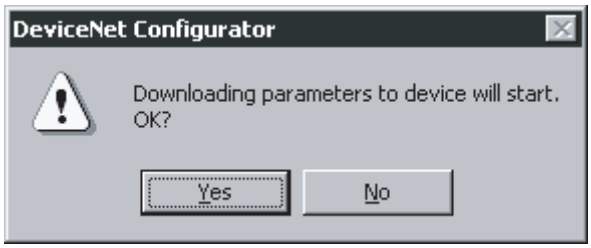
Device - Parameter - Edit - Download

To download the parameters through the Edit Device Parameters Window, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Select ***Device***, ***Parameter***, and ***Edit***.
4. Click the ***Download*** Button.

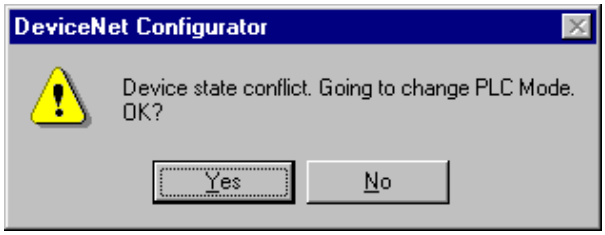
5. The following confirmation window will be displayed.



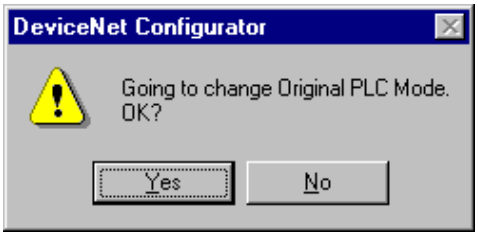
6. Click the **Yes** Button.

   The progress window will be displayed while the parameters are being downloaded.

Note When downloading parameters with the Edit Device Parameters Window, the following dialog box will appear if the operation mode of the CPU Unit is set to anything other than Program Mode.



Click the **Yes** Button, to change the operation mode of the CPU Unit and start downloading.



After downloading, this dialog box makes it possible to return to the original operation mode.

Downloading through the Network Configuration Window

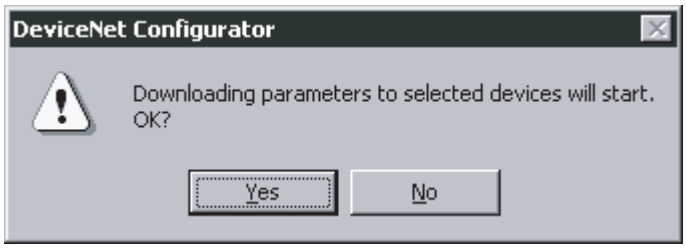
Device - Parameter - Download

To download the parameters through the Network Configuration Window, use the following procedure.

1, 2, 3...

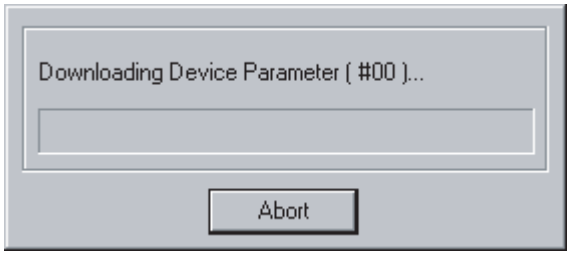
1. Place the Configurator online.
2. Select the device or devices.
3. Select ***Device***, ***Parameter***, and ***Download***.

   The following confirmation window will be displayed.



4. Click the **Yes** Button.

The following progress window will be displayed and the downloading of the parameters will start.



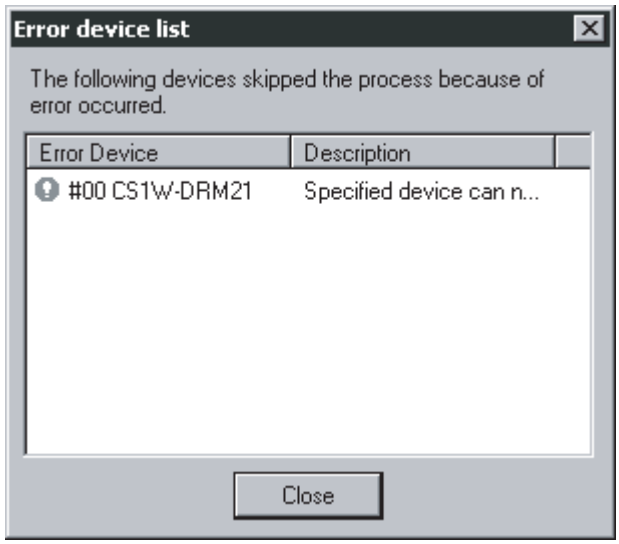
To cancel the downloading, click the **Abort** Button.

The following confirmation window will be displayed if there is an error while the parameters are downloaded.

Click the **Continue** Button to continue the process. Click the **Abort** Button to cancel the process.

The downloading of the network configuration will be automatically continued if the user does not click the **Abort** Button for 15 s after the above window is displayed.

The following window with information on device errors or missing devices will be displayed after the parameters have been downloaded.



Note Parameters cannot be downloaded to the master through the Network Configuration Window unless the CPU Unit is in Program Mode. If the message *Device state conflict. Going to change PLC Mode. OK?* is displayed, check the operation mode of the CPU Unit.

5-2-3 Resetting the Device

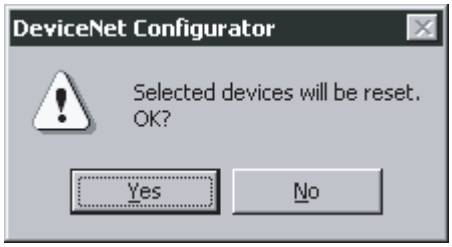
Device - Reset

To enable the new settings, use the following procedure to reset the network device.

1, 2, 3...

1. Place the Configurator online.
2. Select the device in the Network Configuration Window.
3. Select ***Device*** and ***Reset***.

   The following confirmation window will be displayed.



4. Click the **Yes** Button.

   The progress window will be displayed and the devices will be reset.

   The new settings will be valid after the devices have been reset.

Note When the devices are reset, communications errors will temporarily occur. For this reason, do not reset the devices while the master-side PLC (CPU Unit) is operating

5-3 Uploading and Verifying Device Parameters

Uploading device parameters refers to writing the parameters from the actual network devices to the virtual network in the Configurator. Verifying device parameters refers to comparing the parameters in the actual network devices with those in the Configurator.

This section explains how to do both of these operations.

Note When the network configuration is uploaded, the parameters for each device will all be read.

5-3-1 Uploading the Network Configuration

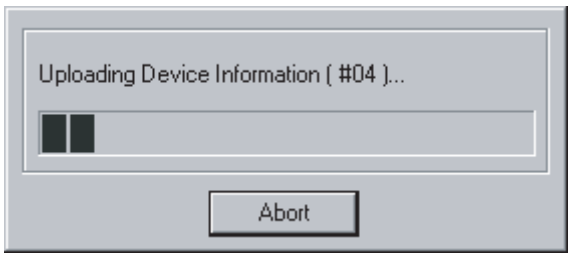
Network - Upload

To read the actual network configuration, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select ***Network*** and ***Upload***.

   The uploading of the network configuration will start and the following progress window will be displayed.



The uploading can be canceled by clicking the **Abort** Button.

3. Uploaded devices will be displayed in sequence in the Network Configuration Window.

5-3-2 Uploading Device Parameters

The following two methods can be used to read parameters from network devices.

- Reading parameters from the selected network devices
- Reading parameters from the Edit Device Parameters Window

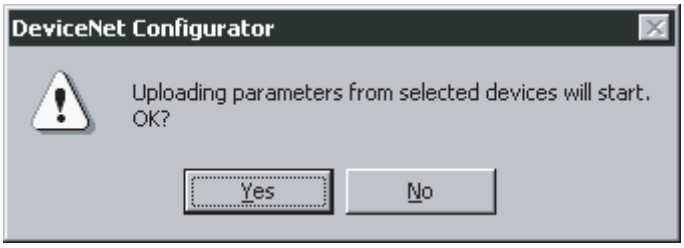
Using Network Configuration Window

Device - Parameter - Upload

To upload the parameters through the Network Configuration Window, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Select ***Device***, ***Parameter***, and ***Upload***.
   The following confirmation window will be displayed.



4. Click the **Yes** Button.
   The progress window will be displayed and the parameters will be uploaded.

Using Parameter Edit Window

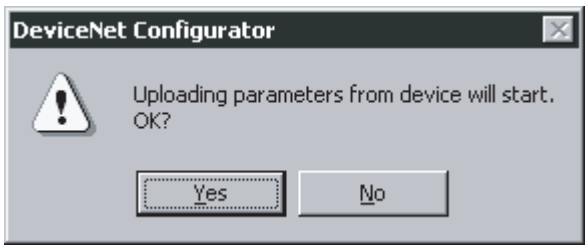
Device - Parameter - Edit - Upload Button

To upload the parameters through the Edit Device Parameters Window, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Select ***Device***, ***Parameter***, and ***Edit***.
4. Click the **Upload** Button.

The following confirmation window will be displayed.



5. Click the **Yes** Button.
   The progress window will be displayed and the parameters will be uploaded.

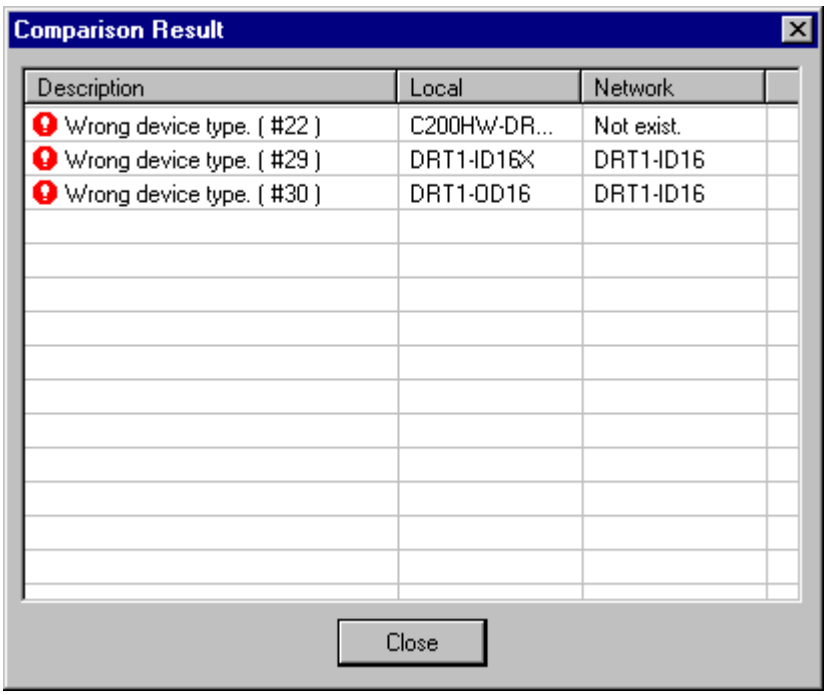
Note The uploaded parameters will be discarded if the **No** Button is clicked to quit the Edit Device Parameters Window after the parameters have been uploaded.

5-3-3 Verifying the Network Configuration

Use the following procedure to compare the actual network configuration with the network configuration created on the Configurator.

1, 2, 3...

1. Place the Configurator online
2. Select ***Network*** and ***Compare***.
   The progress window will be displayed and the comparison will begin.
3. If there are any comparison errors, the following window with the details of the errors will be displayed.



Note This function compares only the network configurations. It does not compare the parameters of each device.

5-3-4 Verifying Device Parameters

The following two methods can be used to compare the parameters of network devices for verification with corresponding parameters in the Configurator.

- Comparing the parameters of devices selected from the Network Configuration Window
- Comparing the parameters through the Edit Device Parameters Window

Using the Network Configuration Window

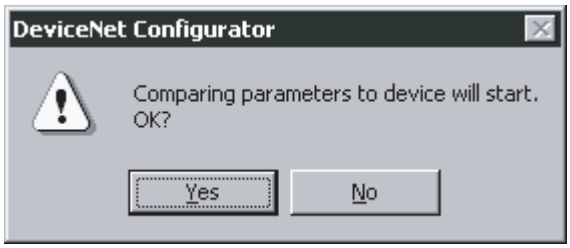
Device - Parameter - Compare

To compare the parameters through the Network Configuration Window, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Select ***Device***, ***Parameter***, and ***Compare***.

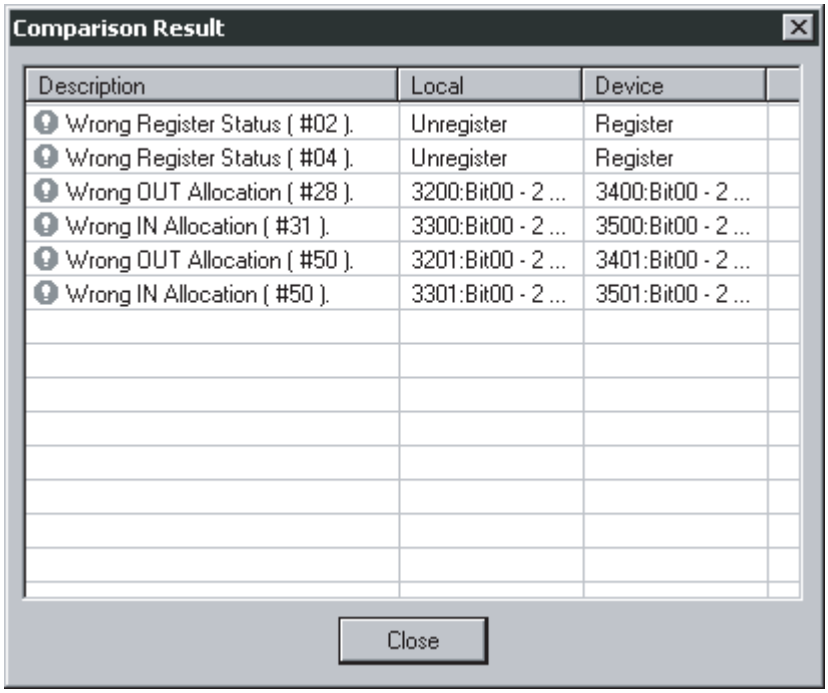
The following confirmation window will be displayed.



4. Click the **Yes** Button.

   The progress window will be displayed and the parameters will be compared for verification.

   If there are any comparison errors, the following window with the details of the errors will be displayed.



Using the Edit Device Parameters Window

Device - Parameter - Edit-Compare Button

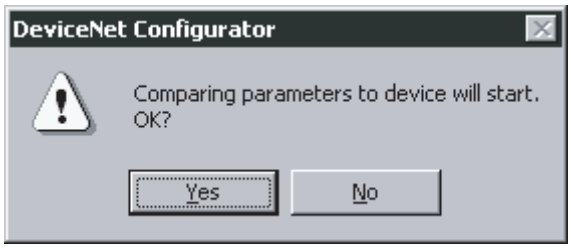
To compare the parameters through the Edit Device Parameters Window, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Edit ***Device***, ***Parameter***, and ***Edit***.
4. Click the **Compare** Button.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

5. The following confirmation window will be displayed.



6. Click the **Yes** Button.

   The progress window will be displayed and the comparison results will be displayed.

5-4 Monitoring Devices

The following description explains how to use monitor the device or communications.

Note The device to be monitored through the Network Configuration Window must exist on the actual network. Before monitoring the status of the monitor, upload the network configuration.

5-4-1 Setting Monitor Refresh Timer

Option - Setup Monitor Refresh Timer

Set the interval to refresh the device monitor display. This setting will be applied to the monitoring of any network device.

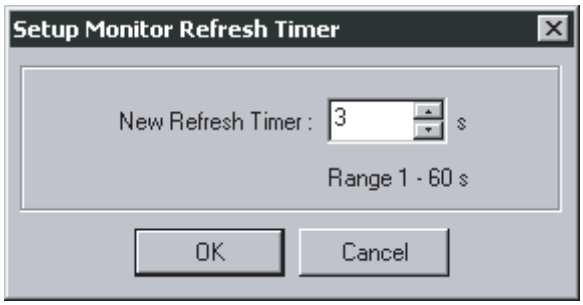
Note If the refresh timer is set to too small a value, the DeviceNet network will be overloaded and the Configurator may experience timeout error (device access error).

To set the monitor refresh timer, use the following procedure.

1, 2, 3...

1. Select ***Option*** and ***Setup Monitor Refresh Timer***.

   The following window will be displayed.



2. Select the new timer value and click the **OK** Button.

   The set value will be enabled for the next device monitor operation.

5-4-2 Monitoring Devices

Device - Monitor

To monitor the device, use the following procedure.

1, 2, 3...

1. Place the Configurator online.
2. Select the device.
3. Select ***Device*** and ***Monitor***.

A monitor window for the device will be displayed.

Note a) A Slave can be monitored only if the slave has parameters that can be monitored in the EDS file.

b) Monitor cannot be selected if the device selected has no monitoring function.

4. To quit the monitor function, click the **Close** Button.

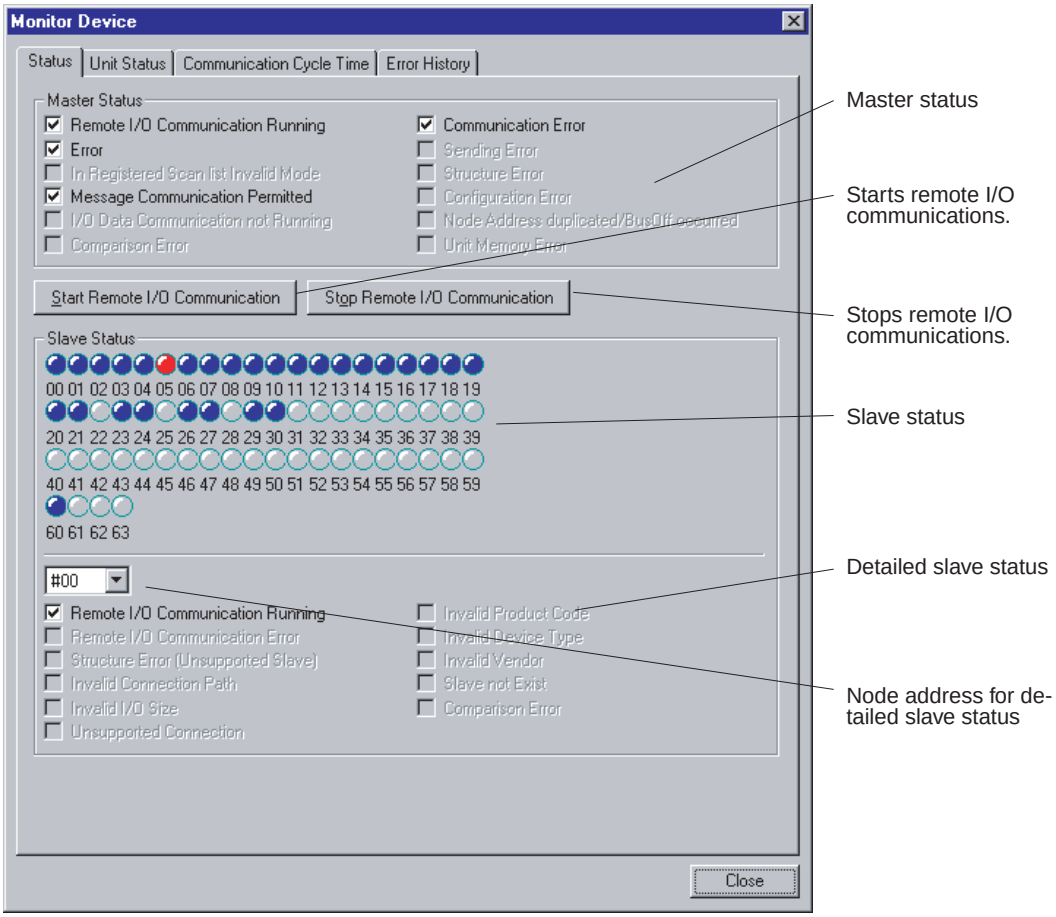
CS1W-DRM21 DeviceNet Unit

The monitor window for the CS1W-DRM21 makes it possible to monitor the following items.

Tab	Monitor item
Status	Status of the master and slaves
Unit Status	Status of the functions of the Unit
Communication Cycle Time	Communication cycle time
Error History	Error history

Status Tab

The Status Tab Page displays the status of the master and slaves in remote I/O communications.



Remote I/O communications between the master and slaves can be started or stopped by clicking the **Start Remote I/O Communication** or **Stop Remote I/O Communication** Button.

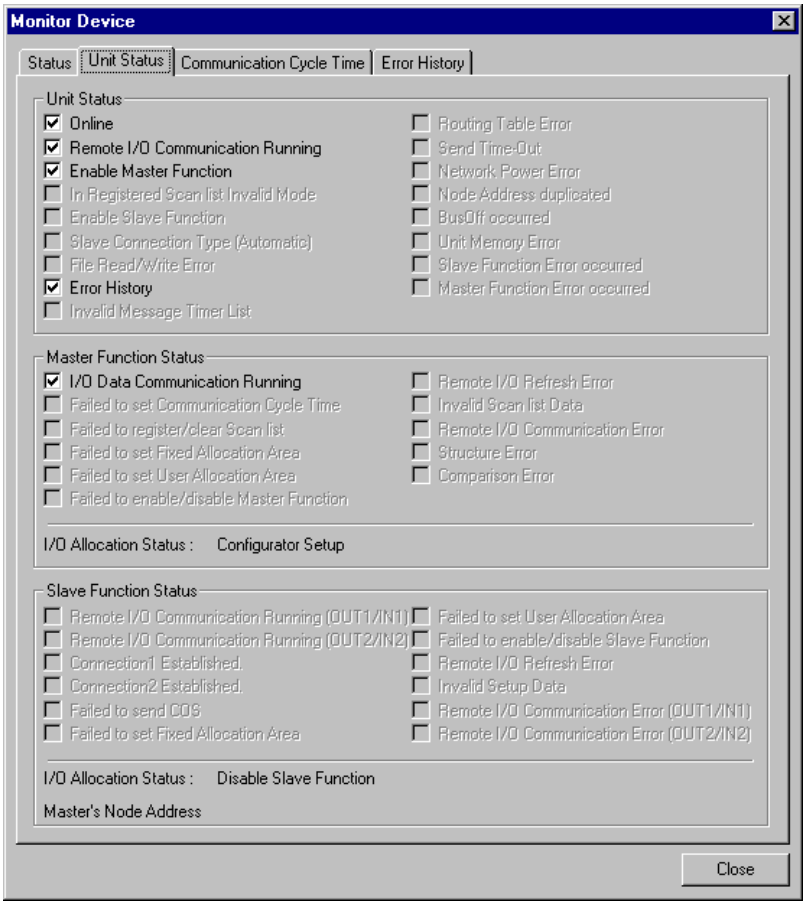
The slave status indicators change according to the status of the slaves as shown below.

Indicator	Status
Gray	Device not registered
Green	I/O communications stopped
Blue	In normal communications
Red	Communications error

To monitor the detailed status of another slave device, select the corresponding node address.

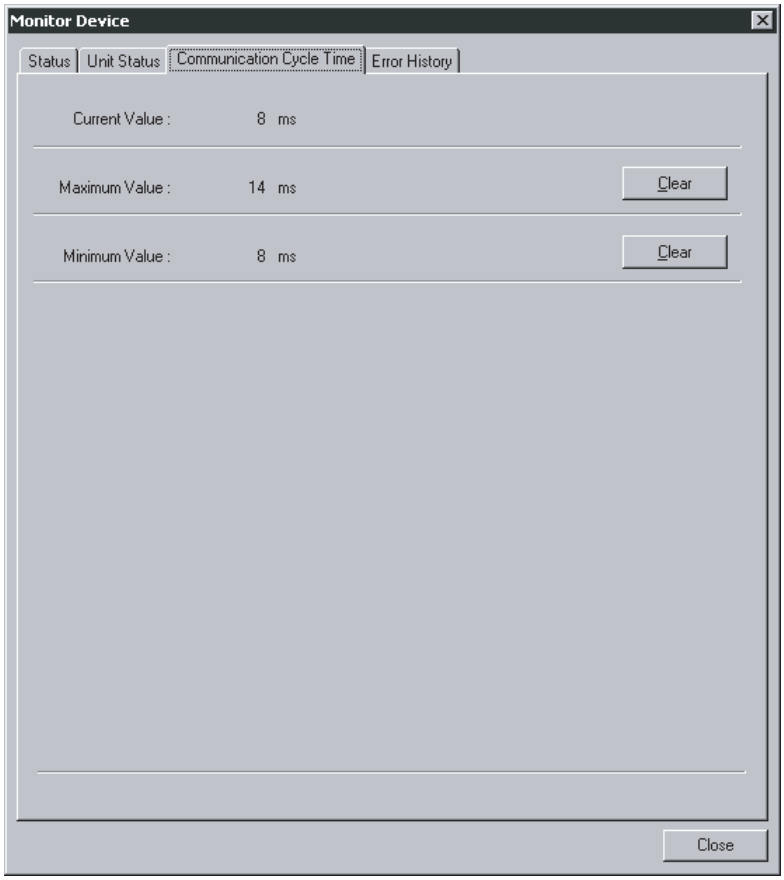
Unit Status Tab

The Unit Status Tab Page displays the status of the Unit, master, and slave functions.



Communication Cycle Time Tab

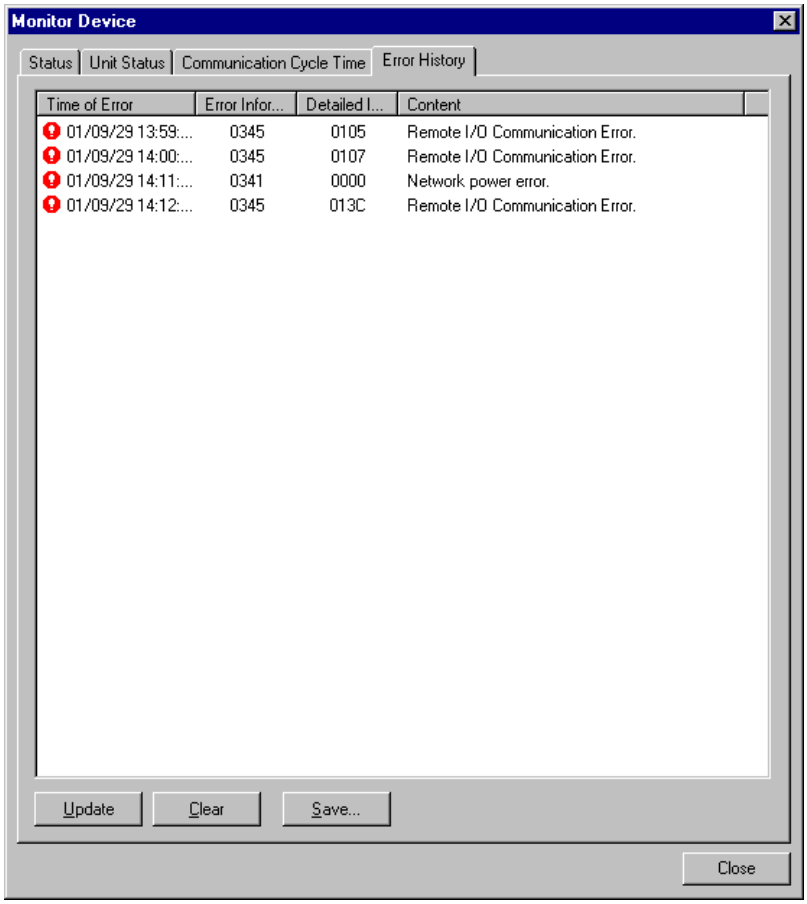
The Communication Cycle Time Tab Page displays the present, maximum, and minimum values of communication cycle time.



The maximum or minimum value can be cleared by clicking the **Clear** Button.

Error History Tab

The Error History Tab Page displays the error history recorded in the master.



The following error history items will be displayed.

Item	Description
Time of Error	The time the error occurred.
Error Information	Error code
Detailed Information	Detailed error information
Content	Contents of error

To refresh the display, click the **Update** Button.

To clear the error history from the master, click the **Clear** Button.

To save the file in CSV file format, click the **Save** Button.

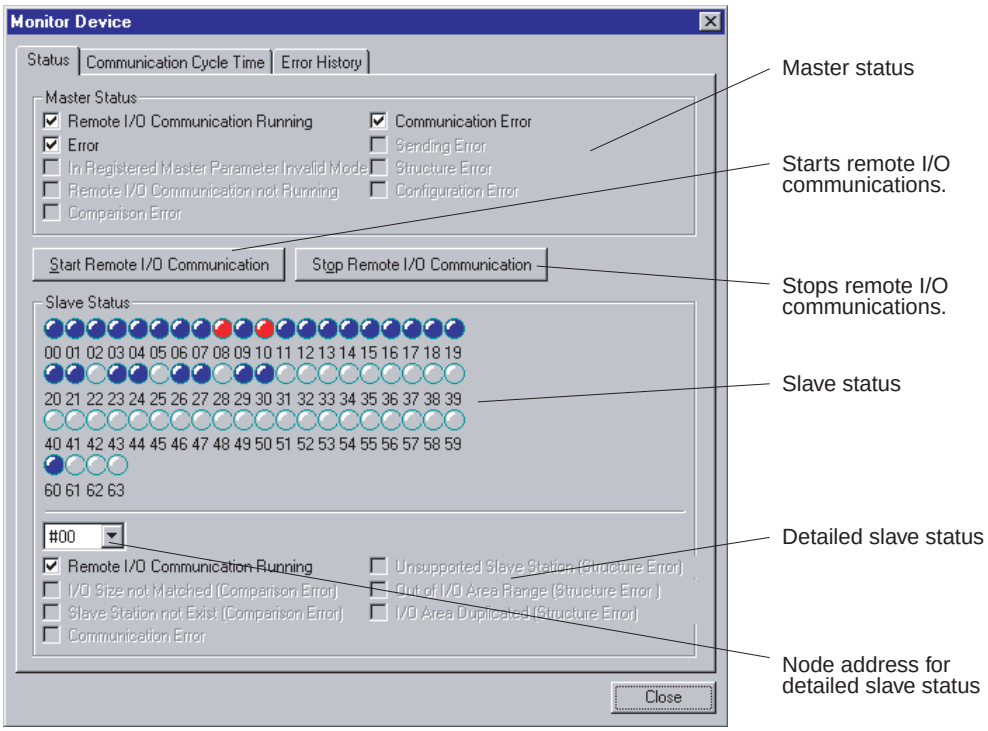
CVM1-DRM21-V1 or C200HW-DRM21-V1

The monitor window of the CVM1-DRM21-V1 or C200HW-DRM21-V1 makes it possible to monitor the following items.

Tab	Monitor item
Status	Status of the master and slaves
Communication Cycle Time	Communication cycle time
Error history	Error history

Status Tab

The Status Tab Page displays the status of the master and slaves in remote I/O communications.



Remote I/O communications between the master and slaves can be started or stopped by clicking the **Start Remote I/O Communication** or **Stop Remote I/O Communication** Button.

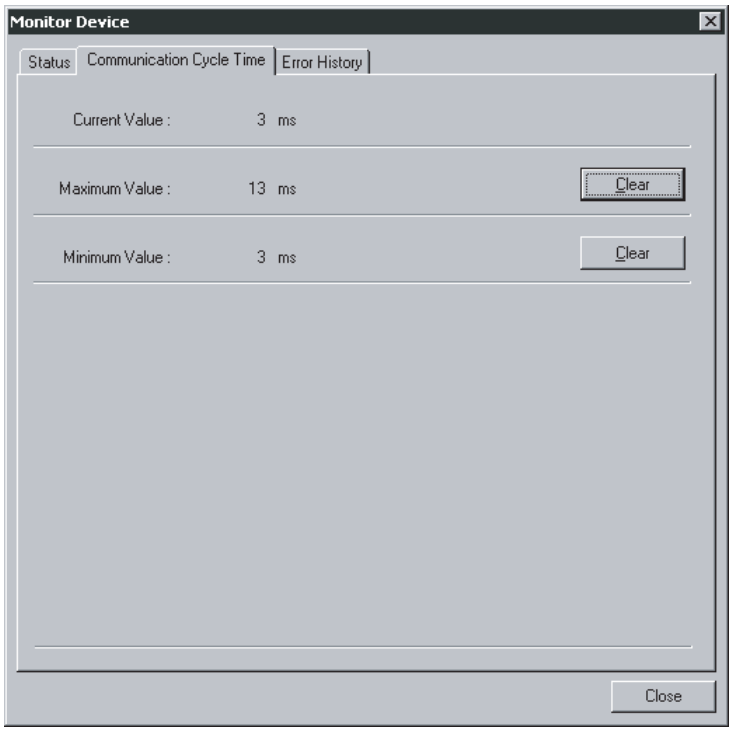
The slave status indicators change according to the status of the slave as shown below.

Indicator	Status
Gray	Device not registered
Blue	In normal communications
Red	Communications error

To monitor the detailed status of another slave device, select the corresponding node address.

Communication Cycle Time Tab

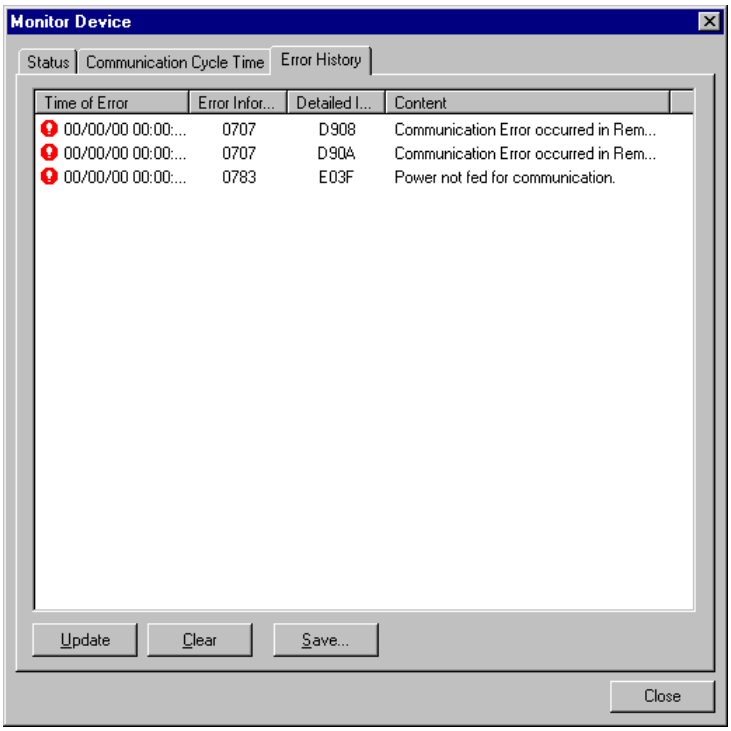
The Communication Cycle Time Tab Page displays the present, maximum, and minimum values of communication cycle time.



The maximum or minimum value can be cleared by clicking the **Clear** Button.

Error History Tab

The Error History Tab Page displays the error history recorded in the master.



The following error history items will be displayed.

Item	Description
Time of Error	The time the error occurred.
Error Information	Error code
Detailed Information	Detailed error information
Content	Contents of error

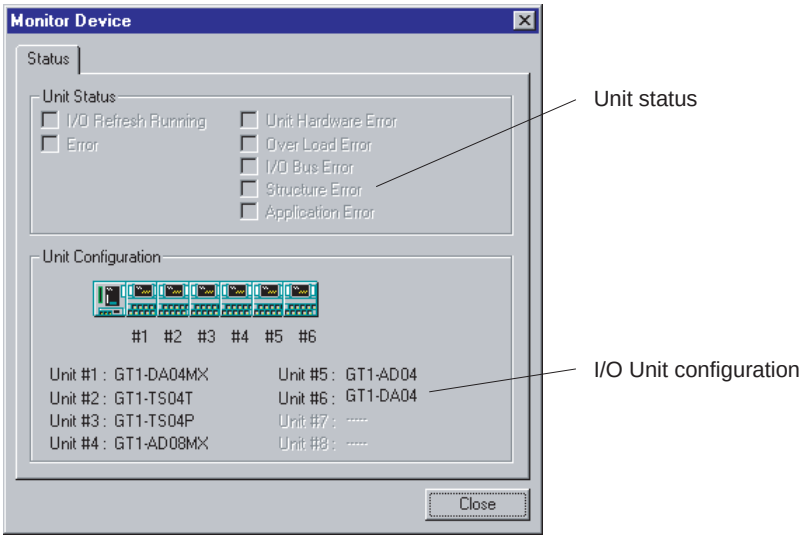
To refresh the display, click the **Update** Button.

To clear the error history from the master, click the **Clear** Button.

To save the file in CSV file format, click the **Save** Button.

MULTIPLE I/O TERMINAL

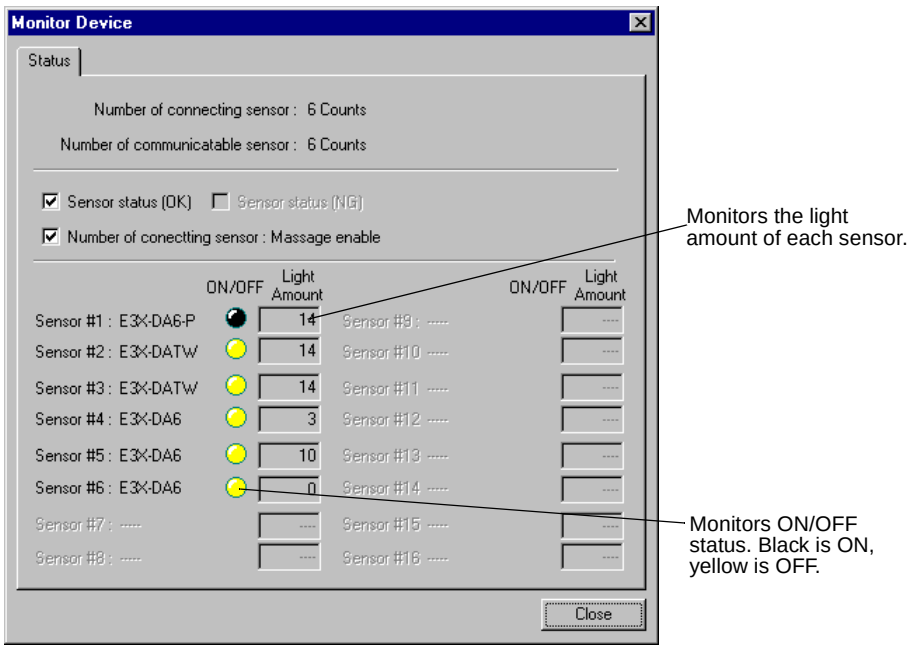
The monitor window of the DRT1-COM makes it possible to monitor the status and configuration.



The configuration indicates the connected I/O Units. I/O Units with errors will be indicated in red.

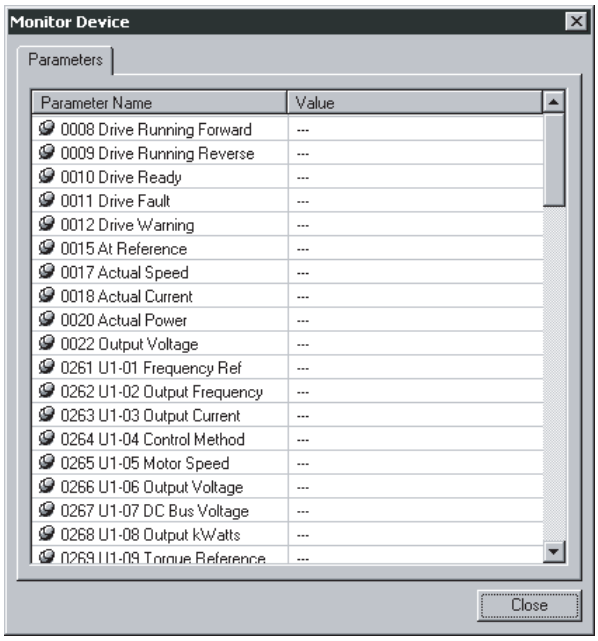
Fiber Amplifier Communications Unit

With the E3X-DRT21 Fiber Amplifier Communications Unit, the following window makes it possible to monitor the status of connected sensors.



Other Slaves

Devices can be monitored if the parameters of the devices are specified in EDS files to allow monitoring.



AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

SECTION 6
Manipulating Files

This section provides information on manipulating files, including saving and reading procedures.

6-1 Saving and Reading Files

This section explains the network configuration of the Configurator and how to save or read device parameter files.

Note By saving the network configuration or device parameters in files, the device parameters can be read and set to new devices that will replace faulty devices, to make it easier to restore the network configuration.

The following files can be saved or read.

Files	Description	Extension
Network configuration files	A parameter file for all devices (master and slaves) on a single virtual network in the Network Configuration Window	.npf
Device parameter files	Details of the parameters for each device (master or slave)	.dvf

6-1-1 Saving Network Configuration Files

***Network - Save* (or *Save As*)**

To save the Network Configuration in the Configurator, use the following procedure.

1, 2, 3...

1. Select Network.
2. Select ***Save*** (or ***Save As***).

   The first time *Save* is selected, a dialog box will be displayed to specify the file name. If the file has been saved before, the file will be saved immediately, overwriting the previously saved file.

   If *Save as* is selected, a dialog box will be displayed to specify the file name.
3. Input the file name and click the **OK** Button to save the network configuration.

   Note When the network configuration is saved, the parameters of the registered devices on the network will be saved simultaneously.

6-1-2 Reading Network Configuration Files

Network - Open

To read the network configuration file, use the following procedure.

1, 2, 3...

1. Select Network.
2. Select ***Open***.

   A window to specify the network configuration file will be displayed.
3. Input the file name and click the **Open** Button.

   If the displayed network configuration file has not been saved yet, a confirmation window will be displayed; click the **Yes** Button.

6-1-3 Saving Device Parameter Files

Device - Parameter - Save

To save the parameters of the device, use the following procedure.

1, 2, 3...

1. Select the device.
2. Select ***Device***, ***Parameter***, and ***Save***.

   A window to specify the name of the folder in which to save the parameters and the name of the parameter file will be displayed.
3. Input the folder and file names and click the **Save** Button. The parameters will be saved in the file.

6-1-4 Reading Device Parameter Files

Device - Parameter - Open

To load the parameters of the device, use the following procedure.

1, 2, 3...

1. Select the device.
2. Select ***Device***, ***Parameter***, and ***Open***.

   A window to specify the file name of the device parameters to be read will be displayed.
3. Input the file name and click the **Open** Button.

   If the device parameters have been modified, a confirmation window will be displayed. Click the **Yes** Button.

6-2 EDS File Management

This section explains the EDS file management function of the Configurator.

6-2-1 Installing EDS Files

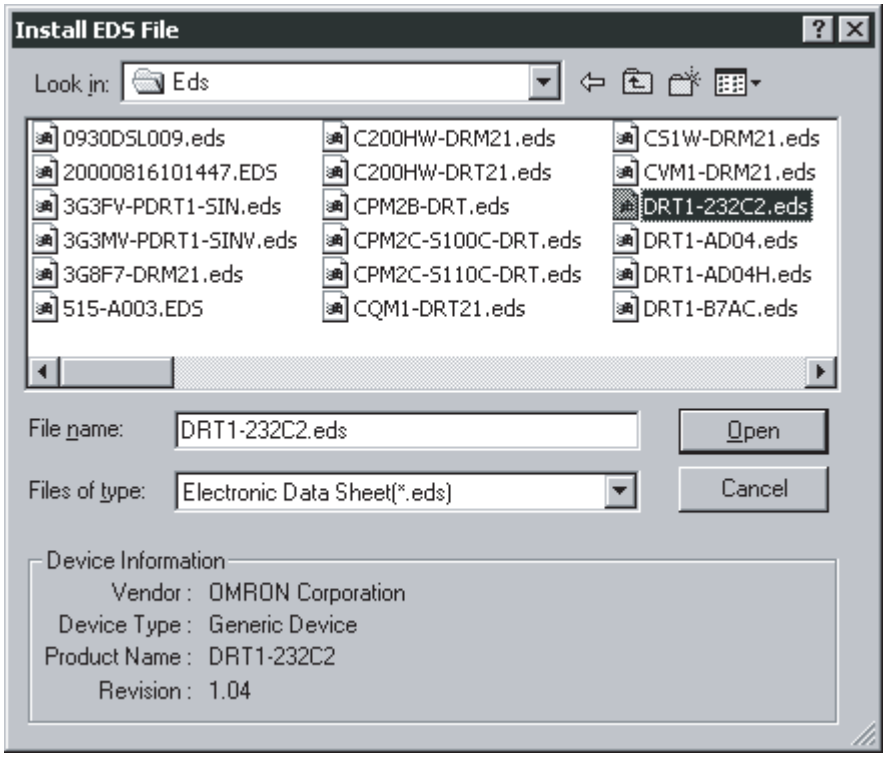
EDS File - Install

The Configurator will support new devices if proper EDS files are installed. To install the EDS file, use the following procedure.

1, 2, 3...

1. Select ***EDS File*** and ***Install***.

   The following window will be displayed.

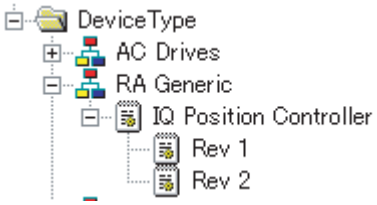


   The device information will be displayed on the bottom of the window when the EDS file is selected.
2. Select the EDS file to be installed and click the **Open** Button.

   The EDS file will be added to the Hardware List.

   If the EDS file already exists, the new EDS file will overwrite the previous one.

If the EDS files are different to each other in version, the new EDS file will be added to the Hardware List as shown below.



6-2-2 Creating EDS Files

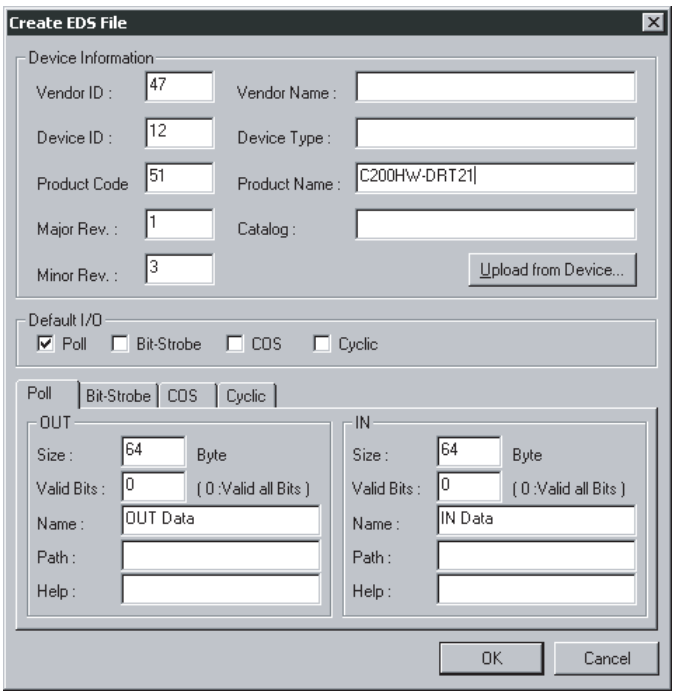
EDS File - Create

The EDS files are required by the Configurator to create a network configuration. To create a EDS file, use the following procedure.

1, 2, 3...

1. Select ***EDS File*** and ***Create***.

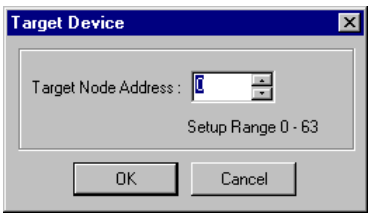
   The following window will be displayed.



2. Set the device information and I/O information.

   The device information can be obtained from the device on the network if the network is online.

3. To read the information, click the **Upload from Device** Button. The following window will be displayed.



4. Set the node address of the device and click the **OK** Button.

   For the I/O connections and I/O size of the device, refer to the operation manual of the device.

5. Click the **OK** Button.

The device will be added to the Hardware List.

Note Device parameters cannot be set with the EDS file creation function of the Configurator. Obtain a proper EDS file from the manufacturer of the device to make device parameter settings for the device.

6-2-3 Deleting EDS Files

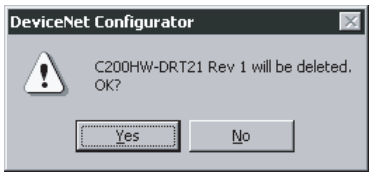
EDS File - Delete

To delete the EDS file, use the following procedure.

1, 2, 3...

1. Select the device from the Hardware List.
2. Select ***EDS File*** and ***Delete***.

   The following confirmation window will be displayed.



3. Click the **Yes** Button.

   The device will be deleted from the Hardware List together with the EDS file.

6-2-4 Saving EDS Files

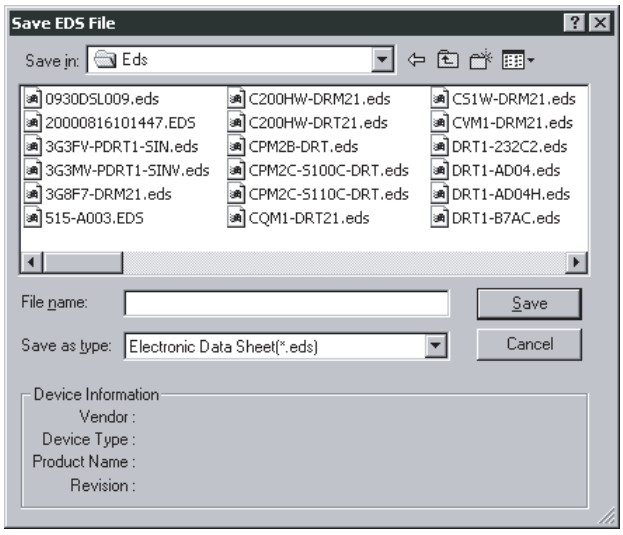
EDS File - Save

To save the EDS file, use the following procedure.

1, 2, 3...

1. Select the device from the Hardware List.
2. Select ***EDS file*** and ***Save***.

   The following window will be displayed to specify the name of the folder where the EDS file will be saved and the name of the EDS file.



3. Input the folder and file names and click the **Save** Button The EDS file will be saved.

6-2-5 Searching EDS Files

EDS File - Search

To search the device (EDS file) displayed in the Hardware List, use the following procedure.

1, 2, 3...

1. Select the EDS File and Search.
   The following window will be displayed.

2. Input the character string and click the **Find Next** Button
   The cursor will move to the position of the corresponding device closest to the present cursor.
3. To quit the search operation, click the **Cancel** Button

Note a) The device will be found if it is located below the present cursor position.

b) Select *Hardware* in the Hardware List before using the above procedure to search all the devices.

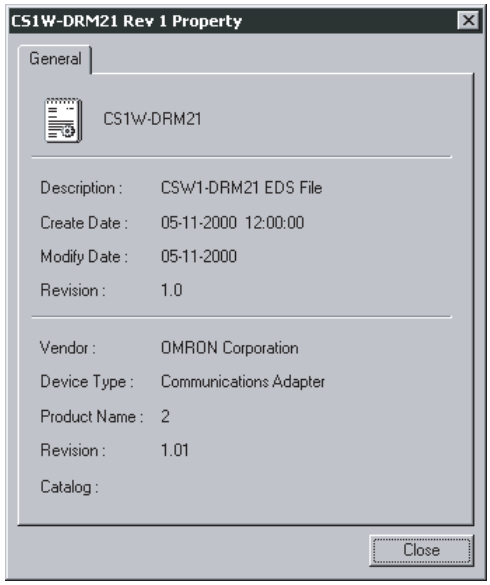
6-2-6 Displaying EDS File Properties

EDS File - Property

To display the properties of the EDS file, use the following procedure.

1, 2, 3...

1. Select the hardware (device) from the Hardware List.
2. Select ***EDS File*** and ***Property***.
   The following window will be displayed.



The time and date of the creation of the EDS file will be displayed along with device information on the file.

6-3 Printing

Network - Print

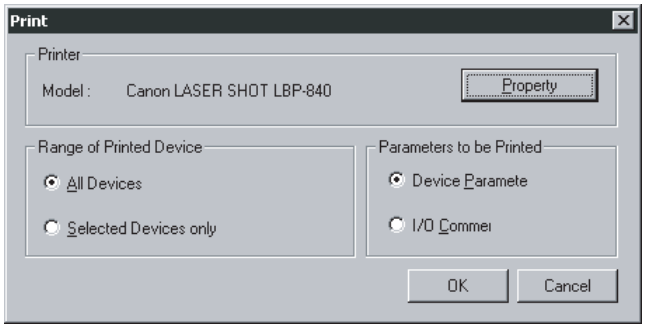
The following description explains how to print the device parameters of the network configuration or I/O comment data presently displayed.

To print them, use the following procedures.

1, 2, 3...

1. To print a partial list of device parameters, select the desired devices.
2. Select ***Network*** and ***Print***.

   The following window will be displayed.



3. Select the devices from the following ones.

   All devices: The device parameter or I/O comment data of all the devices of the network configuration will be printed.

   Selected devices: Only the device parameter or I/O comment data of the selected devices will be printed.

   Both items cannot be selected.
4. Select the printing items from the following ones.

   Device parameters: The device parameter data will be printed.

   I/O comment: The I/O comment data of the devices will be printed.

   Both items cannot be selected.
5. If necessary, click the **Property** Button to change the printer settings. The printer settings depend on the printer being used.
6. Click the **OK** Button to print the parameters or I/O comment data.

   When the I/O comment data is selected, the data on the following devices will be printed.

Device type	I/O comment data
Master device	Master I/O comment data, if it exists or the I/O comment data of the devices registered in the scan list will be printed. If the registered slave devices support a number of connections, the I/O comment data on the connection used by the master will be printed.
Slave devices	Slave I/O comment data. If the Slave devices support a number of connections, the I/O comment data on all devices including those not registered with the master will be printed.

6-4 Using General-purpose Tools to Set Devices

This section explains how to set the device parameters with no corresponding EDS files or set the node addresses or baud rates through the network.

6-4-1 Setting Device Parameters with Class Instances

Tools - Setup Parameters

Device parameters for devices that have no corresponding EDS files can be set by specifying the following items.

- Service code
- Class (object class), instance (class instance) and attribute (instance attribute)

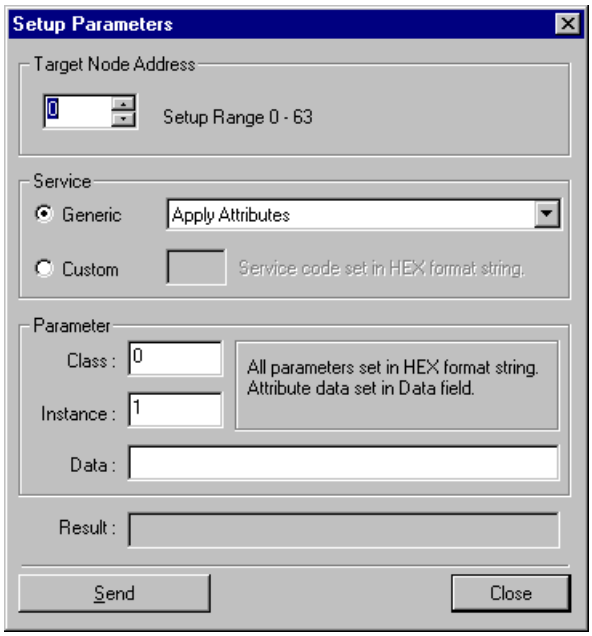
Before setting the device parameters, it is also necessary to obtain the data setting information on attributes other than the above from the manufacturer of the device.

Unless all the information is known, the device parameters cannot be set.

Use the following procedure to set the device parameters.

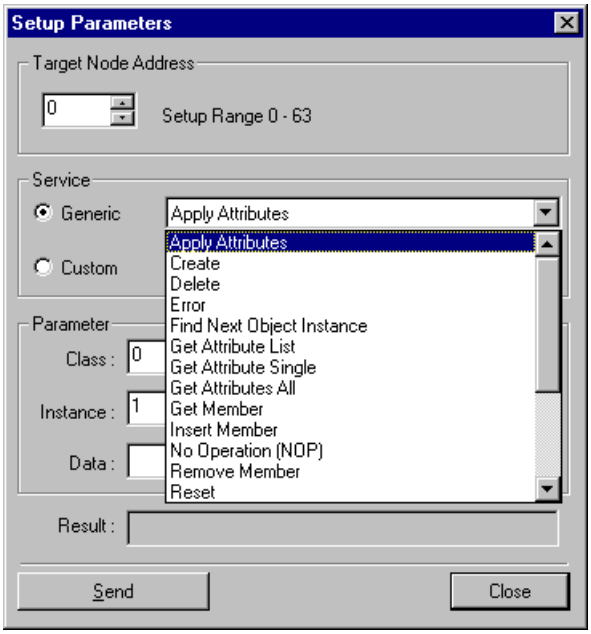
1, 2, 3...

1. Place the Configurator online.
2. Select ***Tools*** and ***Setup Parameters***.
   The following window will be displayed.

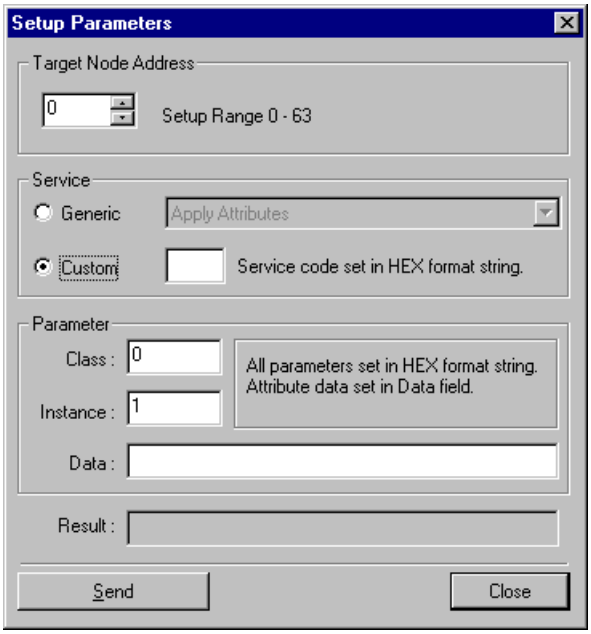


3. Set the *Target Node Address* to the node address of the device.
4. Designate the service.
   There are two ways to designate the service code, using the generic service code defined by DeviceNet or designating it directly. To use the generic service code defined by DeviceNet, check the **Generic** option, then select the desired service from the drop-down list. To designate the service code directly, check the **Custom** option, then input the service code in a HEX format string.

Designating the Generic Service Code Defined by DeviceNet



Designating the Service Code Directly



5. Designate the class and instance parameters for reading and writing data.
6. Input the data corresponding to the designated service.
7. After all of the items have been input, click the **Send** Button. The device response will be displayed in the *Result* area.
8. Click the **Close** Button to quit device parameter setting. This completes the device parameter setting.

1, 2, 3... 1. Parameter reading example

a) Check the **Generic** option in *Service*, then select *Get Attribute Single* from the drop-down list.

b) Designate the class and instance of the parameter to be read.

c) Input *Data Area* for the *Attribute* of the parameter to be read.

d) Click the **Send** Button. The value that was read will be displayed in the *Result* area.

2. Parameter setting example

a) Check the **Generic** option in *Service*, then select *Set Attribute Single* from the drop-down list.

b) Designate the class and instance of the parameter to be set.

c) Input *Data Area* for the *Attribute* of the parameter to be set.

d) Input the attribute followed by the value to be set for the parameter in the Data area.

e) Click the **Send** Button.

6-4-2 Setting Node Addresses and Baud Rates through the Network

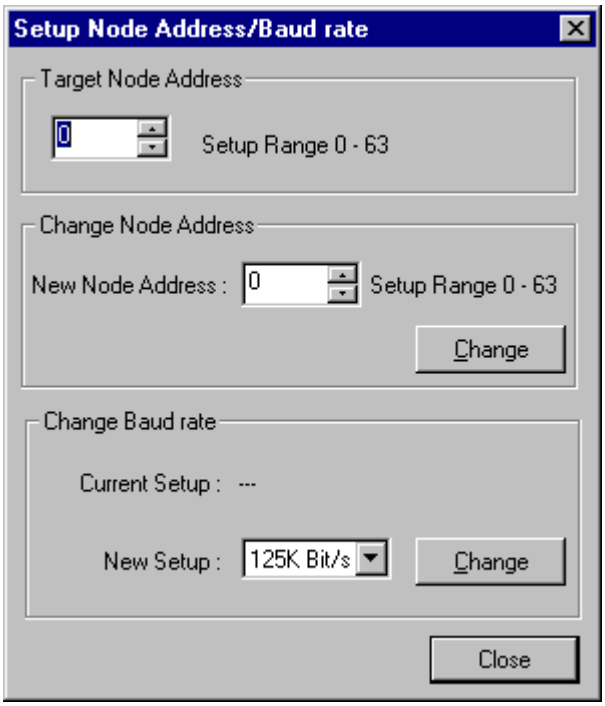
Tools - Setup Node Address/Baud Rate

To set the node address and baud rate for the device through the network, use the following procedure.

1, 2, 3...

1. Set the DeviceNet network so that only the objective device and the Configurator are in operation on the network. Refer to the operation manual of the device for the factory-set node address and baud rate of the device. Connect the Configurator to the network at the same baud date.
2. Place the Configurator online.
3. Select ***Tools*** and ***Setup Node Address/Baud Rate***.

   The following window will be displayed.



4. Set the *Target Node Address* to the present node address of the objective device.
5. To change the node address, set the *New Node Address* to the new node address and click the **Change** Button.

   The node address will be changed.

6. To change the baud rate, set the *New Setup* to the new baud rate and click the **Change** Button.

   The baud rate will be changed.

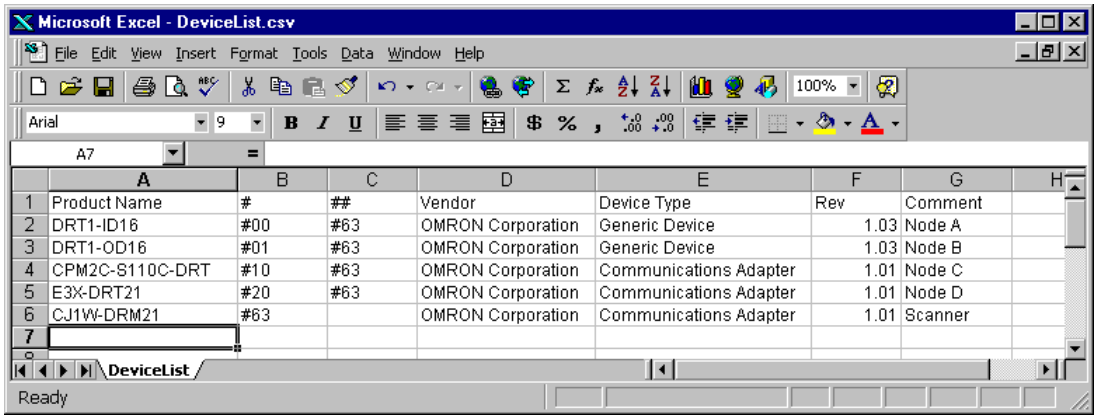
   Note The node address and baud rate can be set to the device through the network only if the device is compatible with this function.

6-5 Exporting Data Created in Configurator

This section explains exporting data created in the Configurator in files for other software applications.

6-5-1 Exporting the Network Configuration List

Network - Export Use this command to export the content of the Detailed Display in CSV format.



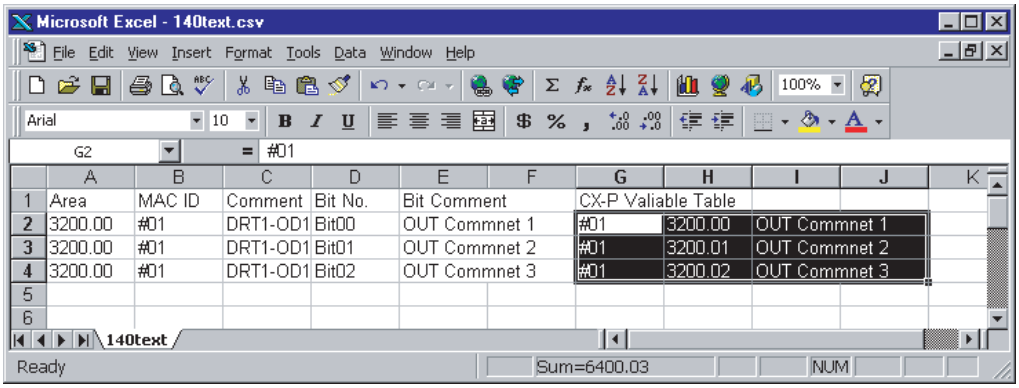
	A	B	C	D	E	F	G	H
1	Product Name	#	##	Vendor	Device Type	Rev	Comment	
2	DRT1-ID16	#00	#63	OMRON Corporation	Generic Device	1.03	Node A	
3	DRT1-OD16	#01	#63	OMRON Corporation	Generic Device	1.03	Node B	
4	CPM2C-S110C-DRT	#10	#63	OMRON Corporation	Communications Adapter	1.01	Node C	
5	E3X-DRT21	#20	#63	OMRON Corporation	Communications Adapter	1.01	Node D	
6	CJ1W-DRM21	#63		OMRON Corporation	Communications Adapter	1.01	Scanner	
7								

6-5-2 Exporting I/O Comments

Device - Export - I/O Comment List

It is possible to export device I/O comment data in CSV format.

The following window is an example of CSV-formatted I/O comment files read in Excel.



	A	B	C	D	E	F	G	H	I	J	K
1	Area	MAC ID	Comment	Bit No.	Bit Comment		CX-P Valiable Table				
2	3200.00	#01	DRT1-OD1	Bit00	OUT Commnet 1		#01	3200.00	OUT Commnet 1		
3	3200.00	#01	DRT1-OD1	Bit01	OUT Commnet 2		#01	3200.01	OUT Commnet 2		
4	3200.00	#01	DRT1-OD1	Bit02	OUT Commnet 3		#01	3200.02	OUT Commnet 3		
5											
6											

Use the following procedure to export the I/O comment data.

1, 2, 3...

1. Select the device.
2. Select ***Export*** and ***I/O Comment List***.

3. If valid I/O comments exist, a window will be displayed to specify the name of the folder where the I/O comment data is to be exported and the name of the file.
4. Input the folder and file names and click the **Save** Button.

   The I/O comment data will be exported.

   The following types of I/O comment data will be exported according to the device selected.

Device	I/O comment data
Master device	Master I/O comment data, if it exists, or the I/O comment data of the devices registered in the scan list. If the registered slaves support a number of connections, the I/O comment data on the connection used by the master will be exported.
Slave devices	Slave I/O comment data. If a slave supports a number of connections, the I/O comment data on all devices including those not registered with the master will be exported.

Note Part of I/O comment data exported in the CSV format can be opened in spreadsheet software and used for CX-Programmer variable tables.

6-5-3 Exporting Device Parameters

***Device - Export* - (Export type)**

Device parameters of OMRON's CVM1-DRM21-V1, C200HW-DRM21-V1, and CS1W-DRM21 can be exported in the DRM_UNIT file format for open network controllers or the NX-Server file format for the DeviceNet.

Use the following procedure to export the device parameters of the Master

1, 2, 3...

1. Select the device.
2. Select ***Export***.
3. Select the export type.

   The following three export types are supported.

Export type	Description
NX-Server DDE file	Scan list information is output in the NX-Server DDE Edition file format.
NX-Server ONC file	Scan list information is output in the NX-Server ONC Edition file format.
ONC Master file	Scan list information is output in the ONC Master parameter file format.

   If valid devices are registered with the scan list, a window will be displayed to specify the name of the folder, where the device parameters are exported, and the name of the file.

4. Enter the folder and file names and click the **Save** Button

   The device parameters will be exported.

   To use the exported file, refer to the operation manual on the software or hardware of the device.

6-6 Importing Files Created in Version 1 of the Configurator

This section explains the import function to read network configuration files and device parameter files created in version 1 of the Configurator (Ver. 1.□□).

6-6-1 Importing Network Configuration Files

Network - Import

To read the network configuration file (.ntf) created in version 1.□□ of the Configurator, use the following procedure.

1, 2, 3...

1. Select ***Network*** and ***Import***.

   A window to specify the name of the network configuration file to be imported will be displayed.

2. Input the file name and click the **OK** Button.

   When the displayed network configuration file has not been saved yet, a confirmation window will be displayed; click the **Yes** Button.

6-6-2 Importing Device Parameter Files

Device - Import

Use the following procedure to read the master parameter file (.dsf) or slave parameter file (.dpf) created in version 1 of the Configurator.

1, 2, 3...

1. Select the device.
2. Select ***Device*** and ***Import***.

   A window to specify the name of the device parameter file to be imported will be displayed.

3. Input the file name and click the **Open** Button.

   The device parameters will be imported.

6-7 Optional Functions

The optional functions make it possible to set Expansion Modules in the Configurator for new devices, add DeviceNet device vendors, and add new device types.

6-7-1 Installing Expansion Modules

Option - Install Plugin Module

To install the expansion module, use the following procedure.

1, 2, 3...

1. Select ***Option*** and ***Install Plugin Module***.

   A window to specify the name of expansion module set file will be displayed.

2. Input the file name and click the **Open** Button.

   The Expansion Module will be added to the Configurator.

6-7-2 Adding Vendors and Device Types

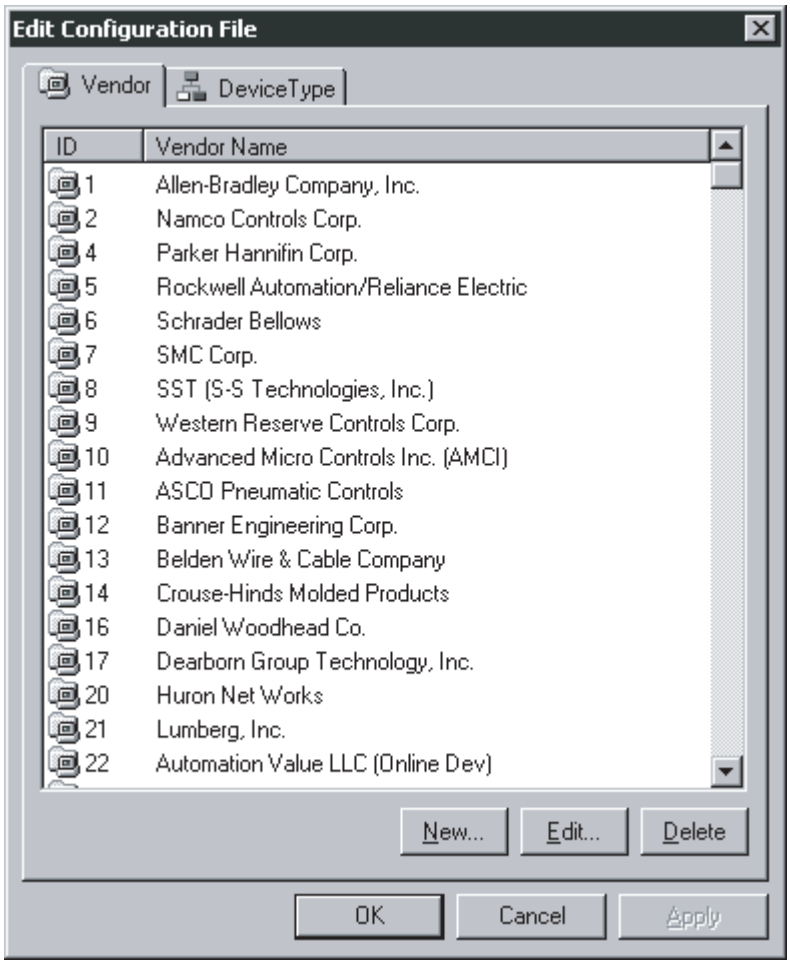
Option - Edit Configuration File

Use the following procedure to add a new device vendor or device type.

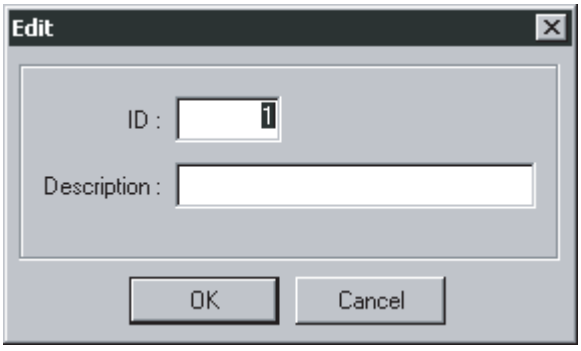
1, 2, 3...

1. Select ***Option*** and ***Edit Configuration File***.
2. Select ***Vendor ID/Device Type List***.

The following window will be displayed.



3. To add or modify the vendor information, click on the **Vendor** Tab.
   To add new vendor information, use the following procedure.
   a) Click the **New** Button.
      The following window will be displayed.

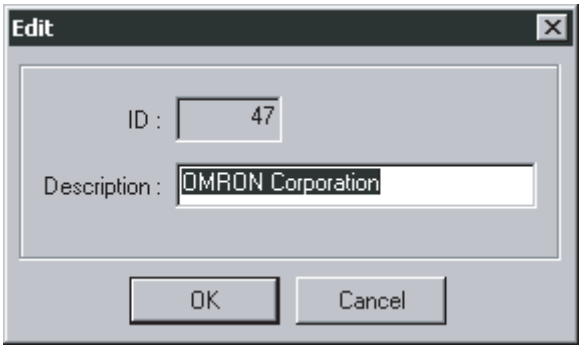


   b) Input the new vendor ID and vendor name and click the **OK** Button.
      The new vendor will be added to the list.

   To edit existing vendor information, use the following procedure.
   a) Select the vendor.
   b) Click the **Edit** Button.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

The following window will be displayed.



c) Input the new vendor name and click the **OK** Button.

4. To add or change the device type, click on the **Device Type** Tab.

   The method of adding or changing the device type is the same as that of adding or changing vendor information.

5. When all the settings are completed, click the **OK** Button.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix A
Error Messages

The following table lists the error messages that might be displayed during operation.

Error message	Meaning
“Printing can not be started.”	The printing process could not be started. Check the printer and start printing again.
“Instance not specified.”	The specified instance data is incorrect. Set correct data.
“Interface can not be opened.”	The specified interface could not be opened. If the interface is being used by another application, the user should quit the application and open the interface again.
“Interface can not be go on-line.”	The interface could not be placed online.
“Specified Interface can not be gone to On–line.”	The interface could not be placed online. Check the settings and set the interface to online again.
“Interface can not be closed.”	The interface could not be closed.
“Object can not be created.”	The internal object could not be created.
“Can not execute due to on-line.”	Operate offline.
“Wrong Start Words.”	The start word is incorrect. Set the start word within the permissible range.
“2 bytes or more can not be allocated to odd address.”	Two bytes or more cannot be allocated to odd addresses. Set to even addresses.
“Class not specified.”	The specified class data is set incorrectly. Set the data correctly.
“Connection type not specified.”	Valid connections are not set. Set the connections correctly.
“Wrong Connection Path.”	The connection path length is incorrect. Set the connection path length correctly.
“Connection can not be opened.”	The connection could not be opened.
“Connection can not be closed.”	The connection could not be closed.
“Not support operation.”	The operation is not supported by the specified device.
“Invalid File Type.”	The specified file cannot be accessed. Set the correct file.
“This device can not register.”	This device cannot be registered.
“Sending command failed.”	The command could not be transmitted. Transmit the command again.
“No more character strings specified found.”	No more corresponding character strings exist.
“Not able to add any more device to the list.”	No more devices can be added.
“Server can not be started.”	The server function could not be started.
“Exceeds the number of connection s permitted.”	The number of connections cannot be supported. Limit the maximum number of connections to two.
“Part or all of specified area Allocated to other device.”	Part or all of the specified area has already been allocated to another device. Either allocate a different area or change the other device’s I/O allocation.
“Part or all of specified area Allocated to other block.”	All or part of the specified memory block area is already allocated to another memory block area. Either specify a different area or change the settings of the other memory block area.
“All or part of assigned area are conflicting with I/O data already allocated for other device.\nOr, it will exceed the permitted channel size.”	All or part of the specified area is allocated to another I/O area or in excess of the permissible number of words. Either specify a different area or change the settings of the other I/O area.
“Specified file can not use this Device.”	The specified parameter file was created for a different model. Set the correct file.
“Specified unit can not be accessed.”	The specified CPU Bus Unit could not be accessed. Check the unit number and access the specified CPU Bus Unit again.
“Specified unit not CS1W-DRM21.”	The specified CPU Bus Unit is not the CS1W-DRM21. Set the unit number for the CS1W-DRM21.

Error message	Meaning
“Specified ID already used.”	The specified node address has already been used by another device. Set another node address.
“Specified MAC ID already used with other device.”	The specified node address has already been used by another device. Set another node address.
“Specified interface already opened.”	The specified interface has already been opened by another application. Quit the application and set the interface again.
“Newly Plugin module is not able to be configured because is currently being used.”	The specified Expansion Module cannot be refreshed because the device presently displayed is in use. Restart the Configurator and set the Expansion Module again.
“Can not register to own device.”	The master device cannot be registered with itself.
“Receive thread can not be created.”	The internal reception thread could not be created.
“No usable interface.”	A usable interface has not been set. Register the interface.
“Usable printer has not been set.”	A usable printer has not been set. Register the printer.
“Status can not be got.”	The interface status could not be obtained.
“Already set.”	The specified data has already been set.
“Already register.”	The specified device has already been registered.
“Slave’s total channel size over.”	The size per slave is in excess of the maximum IN/OUT size that can be registered in the scan list. Set the IN/OUT size correctly.
“Slave’s total channel size over.”	The number of words per slave is in excess of the maximum number of permissible words that can be registered with the scan list. Set the number of words within the permissible range.
“Out of setup memory block.”	The number of bytes occupied from the start word is in excess of the memory block. Set the number of bytes occupied within the permissible range.
“Wrong Setup file.”	The setup file is incorrect. Set the correct file.
“Setup file can not be copied.”	The setup file could not be copied. Check the empty space of the disk and copy the file again.
“Setup possible parameters not exist.”	The specified device has no parameters that can be set.
“Out of Setup Range.”	The specified area is in excess of the possible setting range. Set the number of occupied words within the permissible range.
“Invalid parameter.”	The set value is incorrect. Set the correct value.
“Wrong Occupied Bytes.”	The number of allocated bytes is incorrect. Set the size correctly.
“Wrong Channel Counts.”	The number of specified words is incorrect. Set the number of words within the permissible range.
“Register Slave to be tested not exist.”	No slaves to be tested exist. Set the slaves correctly.
“Specified Device ID being used by Configurator.”	The node address coincides with that of the Configurator. Set a different node address.
“Device not selected.”	The target device has not been selected. Select the target device.
“Specified device can not be accessed, or wrong device type.”	Either the specified device does not exist or the device in the Configurator is a different type to the actual network device. Check and set the device again.
“Device can not be accessed.”	The specified device could not be accessed. Check and set the device again.
“Invalid device type.”	The device in the Configurator does not coincide with the actual network device. Check and set the device.
“Default I/O not specified.”	The default connections have not been specified. Set the default connections.
“Found registered device which is not yet assigned to allocate to memory.”	I/O allocations to all registered devices have not been completed. Complete I/O allocations.
“Out of register possible I/O size.”	The I/O size is in excess of the permissible I/O size that can be registered. Set the I/O size correctly.
“I/O data size mismatch detected in the registered device. I/O size in the Scan list will be used.”	The I/O size of the actual slave is different from the I/O size registered in the parameters. Set the correct I/O size for the slave. If no EDS file is installed (in which case the I/O size will be zero), install the EDS file.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Error message	Meaning
“Filename not specified.”	The file name has not been specified. Set the file name.
“Save folder not specified.”	The save folder has not been specified. Set the folder.
“Invalid EDS File.”	The EDS file is not valid. Set the correct EDS file.
“Not enough memory.”	The command cannot be executed because of insufficient memory. Quit the other application and execute the command again.
“Unit mode can not be changed.”	The mode could not be changed. Check the device and execute again.
“Valid I/O Comment not exist.”	The specified command cannot be executed because no valid I/O comment exists.
“Failed to find valid I/O data.”	Valid I/O data does not exist. Set the I/O size correctly.
“No valid connection exists, or exceeding the number of connections permitted.”	No valid connection exists or the specified number of connections is excessive. Set the connections correctly or limit the number of connections to two.
“No valid data.”	There is no valid data. Check the parameters.
“Valid Device not exist.”	There is no valid data in the scan list. Register the device.
“Valid Slave not exist.”	There is no valid slave.
“Wrong Valid Bits.”	There is no valid bit. Set the correct bit.
“Wrong Unit Configuration.”	The Configurator and network device are different to each other in unit configuration. Check and amend the difference.
“Wrong Unit Type.”	The type of the master specified in the file is wrong. Specify the correct file.
“Specified Parameter read only.”	The data is read-only. Check the parameter.
“Receiving response failed.”	The response could not be received. Try again.
“No valid memory area for allocation found.”	The memory block has no possible allocation area. Check the size of the memory block.
“Out of allocate possible maximum number of words.”	The number of words is in excess of the possible number of words that can be allocated to the master. Set the number of words within the possible range.
“Wrong Allocated Words.”	The number of words is incorrect. Set the number of words within the possible range.
“Bit–Strobe has no valid I/O data.”	There is no valid I/O data for bit-strobe connections. Set the size correctly.
“Wrong Bit–Strobe’s IN data size.”	The bit-strobe connection I/O size is incorrect. Set the size within eight bytes.
“Wrong Bit–Strobe Connection I/O Size.”	The bit-strobe connection I/O size is incorrect. Set the size within eight bytes.
“Bus Off occurred.”	A bus-off error occurred in the network. Make an online connection again.
“COS has no valid I/O data.”	There is no valid I/O data for COS connections. Set the size correctly.
“COS and Cyclic can not be set simultaneously.”	Both COS and cyclic connections cannot be set together.
“Cyclic has no valid I/O data.”	There is no valid I/O data for cyclic connections. Set the size correctly.
“Wrong I/O Size.”	The I/O size is incorrect. Set the I/O size correctly.
“This device does not have I/O data.”	The device cannot be registered with the scan list because the device has no data.
“Input IN/OUT Size in even–numbered bytes.”	The number of IN/OUT bytes is not an even number. Set an even number.
“Wrong PLC Type.”	The mounted PC is wrong. Set the correct PC.
“Mismatch detected between POLL OUT data and COS/Cyclic OUT data.”	The poll and COC/cyclic connections are different to each other in OUT size. Set the same OUT size.
“Poll has no valid I/O data.”	There is no valid I/O data for poll connections. Set the size correctly.
“Set in HEX format string.”	Input a hexadecimal string.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix B
Troubleshooting

Problem	Remedy
The DeviceNet Configurator will not go online when the PCMCIA Card is used.	The following causes are probable. Take the necessary countermeasures as provided below. 1. The PCMCIA card may not be recognized correctly. Select ***Control Panel, System***, and ***Device Manager***, and check that 5136-DN-PCM(n), where n is the PCMCIA slot number, is in the SST devices. Select ***Property*** and ***Resource*** and check that the resource settings are made properly in an unallocated area. If the PCMCIA Card is not recognized correctly, dismount and mount the Card again. If the Card is still not recognized, install the PCMCIA Card again. 2. The above resource set value and Card driver set value may be different to each other. Set the correct value in the 3G8xx-DRM21 Configuration Software.
Not all devices are displayed when the network is uploaded.	The following causes are probable. Take the necessary countermeasures as provided below. 1. The master may have a configuration error or comparison error. If the master has a configuration error or comparison error, data cannot be read from the slave correctly. Turn OFF the master, create and write parameters to the Master, and execute ***List Devices***. 2. The network may be unstable. Proper communications will not be available if the network is unstable due to noise, line disconnection, improper contact loose connectors, or loose connector screws. As a result, all the devices may not be displayed. Check the above items. 3. The network load may be too high. The network load will be excessively high in the following cases. As a result, the Configurator may have a timeout error and all the devices may not be displayed. • More than one master is connected to the network. • High-density slaves are connected to the network.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix C

Error History Information

The following table shows error information recorded in the DeviceNet Master Unit or DeviceNet Unit and messages that are displayed by selecting ***Device Monitor*** and ***Error History Display*** in the DeviceNet Configurator.

CVM1-DRM21-V1 and C200HW-DRM21-V1

Error code (Hex)	Error details		Error		Meaning	7-segment display on Unit
	Upper 2 digits	Lower 2 digits				
0002	Code from 7-segment display on Unit	Error node address	PC interface error		Error occurred in PC interface.	F6
0006			Initialization error with PC		Error occurred in initialization with PC.	F5
000B			Routing table error		Error in routing table data.	E5
0101	Destination node address	Frame discriminator (automatically set by system when FINS command is set)	Send response message destroyed	Not in network	The local node is not in network; attempted to send response message, but message was destroyed.	---
0103				Local node not participating	Send error occurred; attempted to send response message, but message was destroyed.	---
0109				Remote node busy	Remote mode was busy; attempted to send response message, but message was destroyed.	---
0112				Illegal header	An illegal header was detected; attempted to send response message, but message was destroyed.	---
0117	Source node address		Receive response message destroyed	Reception buffer full	The internal reception buffer in the local node was full; attempted to receive response message, but message was destroyed.	---
0118				Illegal message	An illegal message was received and destroyed.	---
0119	Destination node address		Send response message destroyed	Local node busy	Local node was busy; attempted to send response message, but message was destroyed.	---

Error code (Hex)	Error details		Error	Meaning	7-segment display on Unit
	Upper 2 digits	Lower 2 digits			
0701	Code from 7-segment display on Unit	Error node address	Configuration error	A configuration data error occurred.	E8
0702			I/O area overlap	Words in the Slave I/O areas are overlapping.	d0
0703			I/O area range exceeded	An I/O area is outside the valid areas.	d1
0704			Unsupported Slave	An unsupported Slave is connected.	d2
0705			Verification error: Slave missing	A Slave registered in the scan list is not connected to the network.	d5
0706			Verification error: Slave I/O size differs	The I/O capacity of a Slave does not agree with the information in the scan list.	d5
0707			Communications error	An error occurred in remote I/O communications.	d9
0708			Scan list operation failed	It was not possible to perform a scan list operation.	C0 to C5
0709			PC mounting error	A PC mounting error has occurred.	E4
0781			Node address duplication	The same node address is allocated to two nodes.	F0
0782			Bus Off detected	A Bus Off status was detected.	F1
0783			No communications power supply	The communications power is not being supplied.	E0
0784			Send timeout	A send timeout occurred.	E2

CS1W-DRM21

Error code (Hex)	Error	Error data		EEPROM
		Upper 2 digits	Lower 2 digits	
0001	CPU Unit WDT Error	00 Hex	00 Hex	Yes
0002	CPU Unit service monitor error (No service from the CPU Unit for a specified time.)	Monitor time (ms)		Yes
0006	Other CPU Unit error	Bit 14: Unit number duplicated. Bit 11: The Unit is not listed in the registered I/O tables. The other bits are reserved by the system.		Yes
000F	CPU Unit initial processing error	00 Hex	00 Hex	Yes
0011	Event timeout	MRC	SRC	Yes
0012	CPU Unit memory error	01 Hex: Read error 02 Hex: Write error	03 Hex: Routing table 04 Hex: CPU Bus Unit Parameter Area 05 Hex: CIO/DM words allocated to CPU Bus Unit	Yes

Error code (Hex)	Error	Error data		EEPROM
		Upper 2 digits	Lower 2 digits	
0101	No transmission is possible because the Master node is not in the network.	FINS message communications Command Bit 15: OFF Bit 14 to 8: SNA Bit 7 to 0: SA1 Response Bit 15: ON Bit 14 to 8: DNA Bit 7 to 0: DA1		No
0105	No transmission is possible because the node address setting is wrong.			No
0106	No transmission is possible because the node address is duplicated.			No
0107	No transmission is possible because the destination node is not in the network.			No
0108	No transmission is possible because there is no Unit corresponding to the unit number.	Explicit message transmission Command Bit 15: OFF Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address Response Bit 15: ON Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address		No
0109	No transmission is possible because the destination node is busy.			No
010B	No transmission is possible because the CPU Unit has an error			No
010D	No transmission is possible because the destination address is not registered in the routing table.			No
010E	No transmission is possible because the routing tables are not registered.	FINS message communications Command Bit 15: OFF Bit 14 to 8: SNA Bit 7 to 0: SA1 Response Bit 15: ON Bit 14 to 8: DNA Bit 7 to 0: DA1		No
010F	No transmission was possible because the routing tables are wrong.			No
0110	No transmission was possible because the number of relay times is excessive.			No
0111	No transmission is possible because the command is in excess of the maximum permissible command length.			No
0112	No transmission is possible because the header is wrong.	Explicit message transmission Command Bit 15: OFF Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address Response Bit 15: ON Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address		No
0117	The packet was discarded because the internal reception buffer was full.			No
0118	The packet was illegal and discarded.			No
0120	An unexpected routing error.	FINS message communication Command Bit 15: OFF Bit 14 to 8: SNA Bit 7 to 0: SA1 Response Bit 15: ON Bit 14 to 8: DNA Bit 7 to 0: DA1		No
0123	The packet was discarded because the internal transmission buffer was full.			No
0124	Routing failed because the frame length was in excess of the maximum permissible length.	Explicit message communication Command Bit 15: OFF Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address Response Bit 15: ON Bit 14 to 8: 0 Bit 7: ON Bit 6 to 0: Master node address		No
0125	The packet was discarded due to a response time-out error.			No

Error code (Hex)	Error	Error data		EEPROM
		Upper 2 digits	Lower 2 digits	
021A	Set table logic error	00 Hex	0A Hex: Master scan list 0B Hex: Slave scan list 0C Hex: Message timer list	Yes
0211	Node address overlap	00 Hex	Master node address	No
0300	The packet was discarded because a parameter error occurred.	The same as the error code, such as 0101 Hex, used for discarding FINS/explicit packet discarding.		No
0340	Bus OFF error	00 Hex	00 Hex	No
0341	Network power supply error	00 Hex	00 Hex	No
0342	Transmission timeout	00 Hex	00 Hex	No
0343	Configuration error	01 Hex: I/O area overlap 02 Hex: I/O area range over 03 Hex: Unsupported slave	Slave node address	No
0344	Comparison error	01 Hex: No Slave 02 Hex: Illegal vendor 03 Hex: Illegal device type 04 Hex: Illegal product code 05 Hex: Unsupported connection 06 Hex: I/O size non-conformance 07 Hex: Illegal connection pass	Slave node address	No
0345	Remote I/O communications error	01 Hex: Master function 02 Hex: Slave function	Master function: Slave node address Slave function: Master node address	No
0346	A remote I/O communications error occurred and the remote I/O communications stopped.	01 Hex: Remote I/O communications error 02 Hex: Network power supply error 03 Hex: Transmission timeout error	Remote I/O communications error: Slave node address Power supply error: Master node address Transmission timeout error: Master node address	No
0347	I/O refresh error	01 Hex: Master function 02 Hex: Slave function	00 Hex	No
0348	The message was discarded in order to receive a new request.	The same as the error code, such as 0101 Hex, used for discarding FINS/explicit packet discarding.		No

Error code (Hex)	Error	Error data		EEPROM
		Upper 2 digits	Lower 2 digits	
0601	CPU bus Unit error	Indefinite value		Yes
0602	CPU bus Unit memory error	01 Hex: Read error 02 Hex: Write error	06 Hex: Error history 09 Hex: Identity data 0A Hex: Master scan list (including Master function enable information) 0B Hex: Slave scan list (including Slave function enable information) 0C Hex: Message timer list 0D Hex: Communication cycle time set value	Yes (see note)

Note If a memory error occurs for the error history area in the EEPROM, the error history will not be recorded in the EEPROM.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix D
Unit Replacement

By saving device parameter files in the DeviceNet Configurator, the saved parameters can be written to new master and slave devices that may replace present ones in case of device failures. This will save time required for setting up the new devices.

Backup Device Parameters

While the DeviceNet network is in normal operation, use the following procedure to upload online and back up the device parameters of the network devices.

- Connect the DeviceNet Configurator (Ver 2.□) to the DeviceNet network.
- Place the DeviceNet Configurator online, select the device, and then select ***Device, Parameter***, and ***Upload***.
- Click the **Yes** Button. The parameters will be uploaded.
- Select the device and then select ***Device, Parameter,*** and ***Save*** to save the device parameters as a file (.dvf).

Writing Device Parameters to New Units

After a device is replaced, use the following procedure to read the device parameters in the file and write the parameters to the new device online.

- Connect the DeviceNet Configurator to the DeviceNet network.
- Select ***Device, Parameter, Open***, to read the device parameters saved in the file.
- Select the device and then select ***Device, Parameter,*** and ***Download***.
- Click the **Yes** Button. The parameters will be downloaded.

Note The device parameters of the CS1W-DRM21 DeviceNet Unit can be backed up in the following methods as well.

Method 1: Writing a Device Parameter File Uploaded by the Configurator to the DeviceNet Unit through a Memory Card
The uploaded device parameter file (.dvf) can be saved as DNnnBKUP.dvf (nn: Unit number in 2 digits in hexadecimal) through the HMC-AP001 Memory Card Adapter in the Memory Card. Then the device parameters can be saved in the DeviceNet Unit by turning ON the Unit Setup File Restore Bit (bit 14 of word n) after the Memory Card is mounted to the CPU.

Method 2: Writing a Device Parameter File Backed Up in a Memory Card to the DeviceNet Unit without Using the Configurator

- Turn ON the Unit Setup File Backup Bit (bit 15 of word n) to save the setup data in the DeviceNet Unit as a Unit setup file in the Memory Card.
- Turn ON the Unit Setup File Restore Bit (bit 14 of word n) to write the Unit setup data file in the Memory Card to the DeviceNet Unit.

Note The data in the Unit setup files is compatible with the device parameter file prepared by the Configurator.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix E

Replacing the C200HW-DRM21 on a CS-series CPU Rack with the CS1W-DRM21

With the following procedure, the CS1W-DRM DeviceNet Unit can be used to replace the C200HW-DRM21 DeviceNet Master Unit mounted to a CS-series PC in which the scan list is enabled. The device parameters of the C200HW-DRM21 will be transferred to the CS1W-DRM21.

Note The present I/O allocation information of the C200HW-DRM21 is read regardless of whether it is fixed or used-allocated and written to the CS1W-DRM1. Therefore, no address changes in the ladder program are necessary. The addresses in the status area, however, must be changed in the ladder program according to the CS1W-DRM21 status area. Furthermore, the message communications functions require ladder program changes. Refer to information on differences with the C200HW-DRM21 in the *CS1W-DRM21 DeviceNet Unit Operation Manual*.

- Place the present system online without changing the configuration (i.e., without removing the C200HW-DRM21), and then upload the network configuration by selecting ***Network*** and ***Upload*** (or import the network configuration file (.ntf) from version 1 of the Configurator by selecting ***Network*** and ***Import***).
- Save the device parameters of the C200HW-DRM21 in a device parameter file (.dvf).
- Delete the C200HW-DRM21 from the Network Configuration Window (i.e., the virtual network) in the Configurator.
- Add the CS1W-DRM21 to the Network Configuration Window.
- Set the node address CS1W-DRM21 to the previous node address of the C200HW-DRM21.
- Select the CS1W-DRM21 in the Network Configuration Window, and import the device parameter file (.dvf) for the C200HW-DRM21 by selecting ***Device, Parameter,*** and ***Import***. The CS1W-DRM21's Master function will be enabled automatically.
- Turn OFF the Programmable Controller and replace the C200HW-DRM21 with the CS1W-DRM21.
- Turn ON the Programmable Controller.
- Place version 2 of the Configurator online.
- Select the CS1W-DRM21 in the Network Configuration Window and set the device parameters to the CS1W-DRM21 by selecting ***Device, Parameter,*** and ***Download***.

The above procedure will transfer the device parameters of the C200HW-DRM21 to the CS1W-DRM21.

The IR, HR, and DM areas allocated by version 1 of the Configurator will be allocated to the same addresses in the CS1. Link Area words LR 00 through LR 63 will be, however, changed to CIO 1000 through CIO 1063.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix F

Replacing the C200HW-DRT21 with the CS1W-DRM21's Slave Functions

With the following procedure, the CS1W-DRM21 with slave functions can be used to replace the C200HW-DRT21 C200H I/O Link Unit mounted to the CS-series PC in a system using the read/write areas for Special I/O Units or read/write areas set with Configurator version 1.11 or later. The device parameters of the C200HW-DRT21 will be transferred to the CS1W-DRM21 as a slave device.

- Place the present system online without changing the configuration (i.e., without removing the C200HW-DRT21), and then upload the network configuration by selecting ***Network*** and ***Upload*** (or import the network configuration file (.ntf) from version 1 of the Configurator by selecting ***Network*** and ***Import***).
- Save the device parameters of the C200HW-DRT21 in a device parameter file (.dvf).
- Delete the C200HW-DRT21 from the Network Configuration Window (i.e., the virtual network) in the Configurator.
- Add the CS1W-DRM21 to the Network Configuration Window.
- Set the node address CS1W-DRM21 to the previous node address of the C200HW-DRT21.
- Select the CS1W-DRM21 in the Network Configuration Window, and import the device parameter file (.dvf) for the C200HW-DRT21 by selecting ***Device, Parameter,*** and ***Import***. The CS1W-DRM21's slave function will be enabled automatically.

Note Select ***Property*** and ***Unit Function*** to disable the Master function of the CS1W-DRM21.

- Turn OFF the Programmable Controller and replace the C200HW-DRT21 with the CS1W-DRM21.
- Turn ON the Programmable Controller.
- Place version 2 of the Configurator online.
- Select the CS1W-DRM21 in the Network Configuration Window and set the device parameters to the CS1W-DRM21 by selecting ***Device, Parameter***, and ***Download***.

The above procedure will transfer the device parameters of the C200HW-DRT21 to the CS1W-DRM21 for the slave functions of the CS1W-DRM21.

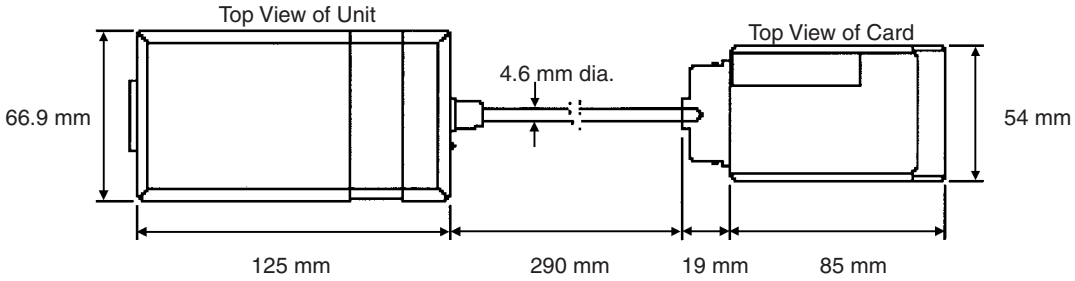
The IR, HR, and DM areas allocated as the Read/Write areas by version 1 of the Configurator will be allocated to the same addresses in the CS-series CPU Unit. Link Area words LR 00 through LR 63 will be, however, changed to CIO 1000 through CIO 1063 and AR 0 through AR 27 will be allocated to H100 through H127.

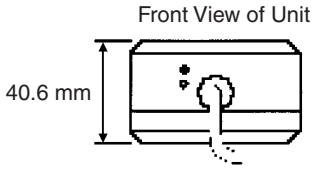
Note If the TIM/CNT area is specified as a Read/Write Area for the C200HW-DRT21, importing will not be possible.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Appendix G

Dimensions of PCMCIA Card and Unit





AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

Index

N

O

P

R

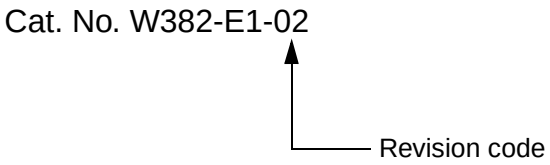
S

T-U

V

Revision History

A manual revision code appears as a suffix to the catalog number on the front cover of the manual.



The following table outlines the changes made to the manual during each revision. Page numbers refer to the previous version.

Revision code	Date	Revised content
01	September 2000	Original production
02	November 2001	Revised to reflect Configurator version upgrade as outlined in the new section 1-1-5.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles
Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr

OMRON CORPORATION
FA Systems Division H.Q.
66 Matsumoto
Mishima-city, Shizuoka 411-8511
Japan
Tel: (81)559-77-9181/Fax: (81)559-77-9045

Regional Headquarters

OMRON EUROPE B.V.
Wegalaan 67-69, NL-2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC
1 East Commerce Drive, Schaumburg, IL 60173
U.S.A.
Tel: (1)847-843-7900/Fax: (1)847-843-8568

OMRON ASIA PACIFIC PTE. LTD.
83 Clemenceau Avenue,
#11-01, UE Square,
Singapore 239920
Tel: (65)835-3011/Fax: (65)835-2711

OMRON

Authorized Distributor:

Cat. No. W382-E1-02 Note: Specifications subject to change without notice. 0675130-4B Printed in Japan

Cat. No. W382-E1-02 DeviceNet Configurator Ver. 2.□ OPERATION MANUAL OMRON