F&eIT Series

# I/O Assist Server SVR-IOA(FIT)GY SVR-IOA2(FIT)GY User's Manual

CONTEC CO.,LTD.

# **Check Your Package**

Thank you for purchasing the CONTEC product.

The product consists of the items listed below.

Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List

- System unit (One of the following)...1 [SVR-IOA(FIT)GY, or SVR-IOA2(FIT)GY]
- First Step Guide ...1
- CD-ROM [F&eIT Series Setup Disk] \*1 ...1
- Power connector...1

\*1 The CD-ROM contains various software and User's Manual (this manual)









System Unit

First step guide

Power connector [F&eIT Series Setup Disk]

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# 1. Before Using the Product

This chapter provides information you should know before using the product.

# About the Unit

Congratulations on your recent purchase of the I/O Assist Server Unit.

The SVR-IOAx(FIT)GY \*1(the "Assist Server") is a management unit controller that automatically collects data from I/O controller units, which are F&eIT series products, and can load data onto I/O controller units.

The Assist Server is configured so that it can be connected to a host controller through a 10BASE-T/100BASE-TX I/F.

A single Assist Server can collect and load data from and onto a maximum of eight I/O controller units.

Please read this manual carefully to create application programs and configure the system, such as setting the switches and connecting it to external devices.

\*1 The Assist Server is available in different product models. "x" in each model number represents a blank or one numeric character. (This is applicable to the rest of this document.)

## Features

- The management function can substantially reduce the network overhead between host controllers.
- The system includes a function that allows you to monitor the collected data by connecting to the browser running on the host controller.
- Similar to other F&eIT series products, the system is equipped with a 35mm DIN rail attachment mechanism as a standard item.

## Functions

- Reduces the circuit load by concentrating data from the I/O controller units.
   Because the Assist Server collects data from the I/O control units, the higher hosts can get data from multiple modules by accessing the Assist Server once, without having to access the individual modules. (The I/O controller units identified by Unit ID switches ID 0 to 7 on the I/O controller units are subject to this control.)
- Auto-detection of I/O controller units
   When started, the Assist Server searches for the I/O controller units (belonging to the same group) to be monitored, and obtains any necessary module information.
   Because it repeats the process of finding I/O controller units at regular intervals, the Assist Server can flexibly respond to any changes in the boot-up process or partial restarting of the system.
- Monitoring function
   You can get connected to the Assist Server from your browser to monitor and view the I/O data on
   the I/O controller units.
   On the monitoring screen, you can modify its layout or display channels from your browser. In
   this manner, you can quickly create a screen that matches the required layout.
- Device module settings You can view and modify I/O module settings on a specific I/O controller unit.

## System Configuration Image

Multiple I/O controller units (a maximum of eight units) and the Assist Server can be installed on the same network. When connected to the Assist Server, the host controller can read and write signals from and to the devices that are connected to the subordinate I/O controller units.



Explanation of names

- I/O Assist Server Unit:

This refers to the product SVR-IOAx(FIT)GY.

The I/O Assist Server Unit can collect data from the I/O controller units that belong to the same group as the Group ID that is identified by the Group ID switches on the individual devices, and load data onto the I/O controller units, in a function called the management function. Group IDs can be set in a range of 0 to 7. When connected to I/O controller units from a local or office terminal using a Web browser, the I/O Assist Server Unit can monitor the conditions of the devices that are connected to the I/O controller unit.

- I/O Controller Unit:

This is a general term that refers to the CPU-CAxx(FIT)GY (made by CONTEC) to which various device modules are attached. The devices contain Group ID and Unit ID switches, which must be set so that they are all unique within the network. The I/O Controller Unit transmits the data collected from the devices to the Assist Server that has a specified Group ID setting. A Group ID can be set in a 0 - 8 range. A Unit ID can be set in a 0 - 7 range. Setting the Group ID to 8 disables the I/O Controller Unit from sending data to the Assist Server. The following device modules are available: Digital I/O module, input analog/digital converter module, output digital/analog converter module, input counter module.

Further details may be found on the specific device module manuals.

- HUB:

This is a line concentration unit that allows you to build a LAN using twisted-pair cables. The F&eIT series includes an 8-port switching HUB unit (SH-8008(FIT)GY) with a built-in DIN rail attachment mechanism.

# **Customer Support**

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

## Web Site

Japanese	http://www.contec.co.jp/
English	http://www.contec.com/
Chinese	http://www.contec.com.cn/

Latest product information

CONTEC provides up-to-date information on products.

CONTEC also provides product manuals and various technical documents in the PDF.

Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

# **Limited One-Year Warranty**

CONTEC products are warranted by CONTEC Co., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.

Repair will be free of charge only when this product is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.

This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original products. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

# How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization number (RMA) from the CONTEC group office where you purchased before returning any product.

\* No product will be accepted by CONTEC group without the RMA number.

# Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.

# **Safety Precautions**

Understand the following definitions and precautions to use the product safely.

## **Safety Information**

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

<u>∱</u> DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
▲ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
A CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

## **Handling Precautions**

## A CAUTION

- Do not modify the unit. CONTEC will bear no responsibility for any problems, etc., resulting from modifying this unit.
- Do not use or store the equipment in a hot or cold place, or in a place that is subject to severe temperature changes.

(Operating temperature range: 0 - 50°C)

- Do not use or store the equipment in a place subject to direct sunlight or near a heating device, such as a stove.
- Do not use or store the equipment in a dusty or humid place. (Operating humidity range: 10 - 90% RH, no condensation)
- As this product contains precision electronic components, do not use or store in environments subject to shock or vibration.
- Do not use or store the product near equipment generating a strong magnetic field or radio waves.
- If you notice any strange odor or overheating, please unplug the power cable immediately.
- In the event of an abnormal condition or malfunction, please consult the dealer from whom the equipment was purchased.
- To avoid electric shock, please do not touch the system with a wet hand.
- Do not open the unit casing. CONTEC will disclaim any responsibility for equipment whose casing has been opened.
- To prevent damage, please do not subject the unit to impact or bend it.
- To prevent contact malfunction, please do not touch the metallic pins on the external unit connector.
- The unit contains switches that need to be properly set. Before using the unit, please check its switch settings.
- To avoid malfunction, please do not change the unit switch settings in an unauthorized manner.

#### FCC PART 15 Class A Notice

#### NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.

#### WARNING TO USER

Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.

### Environment

Use this product in the following environment. If used in an unauthorized environment, the unit may overheat, malfunction, or cause a failure.

Operating temperature

0 - 50°C

Humidity

10 - 90%RH (No condensation)

Corrosive gases

None

Floating dust particles

Not to be excessive

## Inspection

Inspect the product periodically as follows to use it safely.

- Check that the ventilation slit has no obstruction and has no dust or foreign matter adhering.



## Storage

When storing this product, keep it in its original packing form.

- (1) Put the unit in the storage bag.
- (2) Wrap it in the packing material, then put it in the box.
- (3) Store the package at room temperature at a place free from direct sunlight, moisture, shock, vibration, magnetism, and static electricity.

## Disposal

When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.

# 2. Nomenclature of Unit Components and Their Settings

# **Nomenclature of Unit Components**

Figure 2.1, 2.2 shows the nomenclature of unit components. In the figure, the switch settings indicate the factory settings.



Figure 2.1. Nomenclature of Unit Components [SVR-IOA(FIT)GY]



Figure 2.2. Nomenclature of Unit Components [SVR-IOA2(FIT)GY]

#### Nomenclature and Functions [Common]

Table 2.1. Name	s and	Functions
-----------------	-------	-----------

Name	Function Setting & Indicator			
Status LED	RUN	Refer to Table 2.2. Operating Modes and Status		
	STATUS	Indicators		
LAN LED	LINK OFF: Not connected			
		ON: Connected to the LAN		
	ACT	OFF: No communication		
		Flashing: Sending / receiving data		
Group ID	Group ID setup : 0 - F	Group ID settings: 0 - 7		
	switch	8 - D: Not used		
		E: Version upgrade and system repair mode		
		F: Default initialization mode		
RESET SW	Manual reset			
ERROR OUT *1	External output contacts, such as Power OFF, Link disconnection and Memory			
	check error for abnormal conditions			
UTP port	10BASE-T / 100BASE-TX LAN connect			

\*1 Provided only for the SVR-IOA(FIT)GY.

Operating Modes and Status Indicators [Common]

#### Table 2.2. Operating Modes and Status Indicators

	Starting	Condition	Status indicator		
Operating mode	an operation	of Group ID	RUN	STATUS	Condition
Normal	Power ON:	Settings	ON	OFF	Normal operation
operation mode	Reset switch ON: Remote-reset:	other than 0 - 7	Continuou fla	s, alternating shing	Resetting
			OFF	Continuous flashing	Abnormal conditions (e.g., memory check error)
			ON	ON	Abnormal conditions (e.g., start error)
Initialization mode	Power ON: Reset switch ON:	F switch settings	Continuous flashing	Continuous flashing	Initializing
(factory settings)	Remote-reset: (does not automatically return to normal operating mode)		ON	ON	Initialization complete (To return to the normal operation mode, change the Group ID and turn the power on, otherwise press the reset switch.)
			OFF	Continuous flashing	Error during initialization
			ON	ON	Abnormal conditions (e.g., start error)
Repair & version	Power ON: Reset switch ON:	E switch settings	Continuous flashing	OFF	Starting
upgrade mode	Remote-reset: (does not automatically		Continuous flashing	Continuous flashing	Writing to firmware
	return to normal operating mode)		OFF	Continuous flashing	Write error
			ON	ON	Abnormal conditions (e.g., start error)

#### Connectors [Common]

Name	Specifications / Function			
UTP port	Network connection port.			
	Connected at a 10 /100Mbps rate, auto-recognized, and in full-duplex / half-duplex			
ERROR-OUT *1	Output specs: Open collector output by photo coupler insulation			
	Output ratings: 30VDC (Max.), 10mA (Min)			
	Response time: 100 sec (Max.)			
Power input	5VDC±5%			
connector	2-piece detachable power input connector, FG pin			
	Dedicated screw-type plug that can be operated from the side			
	(MC 1.5/3-ST-3.5 Phoenix Contact Compliant cable: AWG28 - 16)			

Table 2.3. Connectors

\*1 Provided only for the SVR-IOA(FIT)GY.

#### Error Output [SVR-IOA(FIT)GY only]

#### Table 2.4. Error Output

Function		Error detection	
The detection circuit is normally made; when an error is detected, the circuit is broken.	Output specs:	Open collector output by photo-coupler insulation	Power supply off, LINK disconnect,
	Output ratings:	30VDC (Max.), 10mA (Min.)	Memory check error,
	Response time:	100µsec (Max.)	and other system errors

#### Reference Equivalent Circuit [Only SVR-IOA(FIT)GY]



#### Figure 2.3. Reference Equivalent Circuit

#### Table 2.5. Error Output Pin Assignments

Item	Model		
Connector used	S2B-EH (made by J.S.T. Mfg Co., Ltd.)	pin 1	0
Housing	EHR-2 (made by J.S.T. Mfg Co.,Ltd.)		
Contact	SEH-001T-P0.6 (made by J.S.T. Mfg	pin 2	
	Co.,Ltd.)		

UTP Port Pin Assignments [Common]

Table 2.6.	UTP Port	Pin Assignments
------------	----------	-----------------

Pin No.	Signal
1	TD+
2	TD-
3	RD+
4	Not used
5	Not used
6	RD-
7	Not used
8	Not used



# Setting a Group ID

By setting a Group ID, it is possible to manage the I/O controller unit is belonging to the same group. A Group ID can be set in a range of 0 - F.

## **Setup Method**

A Group ID can be set by turning the rotary switch on the unit face.

To set a Group ID, turn the switch knob.



#### Figure 2.4. Setting a Group ID Switch

- 0 7 : I/O Controller management mode
- 8 D : Not used
- E : System repair and firmware upgrade mode

F : Initialization mode \*1

#### ▲ CAUTION -

Group ID settings "8 - D", "E", and "F" cannot be used as Group IDs.

\*1 About Initialization mode

Restore the setting of this product to its factory settings. Set the Group ID to "F" and turn the power on. RUN and STATUS LEDs will start to flash. Once these LEDs stop flashing and grow solid, all settings (IP address etc.) will be initialized and return to its factory settings after next boot.

# 3. Installation and Connection

# **Installing Method**

## Mounting on a DIN Rail

#### Mounting procedure

(1) Pushing the fixing hook with a flat-blade screwdriver renders it into a lock-enabled condition.



#### Figure 3.1. Mounting on a DIN Rail < 1/3 >

(2) Hook the unit from the upper part of the DIN rail, and press the lower part of the unit onto the DIN rail.





Figure 3.1. Mounting on a DIN Rail < 2/3 >

(3) The fixing hook is automatically locked, and the module can be mounted in one-touch.



Figure 3.1. Mounting on a DIN Rail < 3/3 >

Removal procedure

(1) Lower the fixing hook for the unit to unlock it.









(2) With the fixing hook unlocked, pull the lower part of the unit toward you.





Figure 3.2. Removing the Module from the DIN Rail < 2/3 >

(3) By lifting the unit, you can easily remove it from the DIN rail.





Side view

Figure 3.2. Removing the Module from the DIN Rail < 3/3 >

# **Connection Method**

## Supplying the Power to the Unit

The DC-DC power supply (POW-DDxx) and the controller module can be cable-connected using the detachable connector that is provided on the unit face (compatible cables: AWG 28 - 16). Third-party DC output power supply units can also be connected in the same way.

## A CAUTION -

- Because the DC-DC power supply generates heat, a minimum spacing of 2.0cm should be provided between the unit and any adjoining units, and care should be taken so that the ventilation holes are not covered.
- Input power requirements of the SVR-IOA(FIT)GY: 5.0VDC ±5%, 0.5A (Max.)
   Input power requirements of the SVR-IOA2(FIT)GY: 5.0VDC ±5%, 0.7A (Max.)



Figure 3.3. Connecting the Unit to the DC-DC Power Supply

## Connecting the Unit to the SH-8008(FIT)GY

- These units are connected by means of an Ethernet interface.
- In situations where many lower-level groups are used, a hub should be provided between those groups and the unit.

(CONTEC recommends the use of the switching HUB unit [SH-8008(FIT)GY] in the F&eIT series of products.)

Network cable

Cables complying with the following specifications should be used:

Category 3, 4, 5 UTP cable (for 10BASE-T)

Category 5 UTP cable (for 100BASE-TX)



Figure 3.4. Connecting the Network Cable

## 4. Setup

# **Setup Procedures**

The Assist Server and the I/O controller units must be assigned unique IP addresses.

The section below explains the "**Quick Setup**", in which the default IP addresses are used "as is", and the "**Custom Setup**", in which utility software is used.

## **Quick Setup**

In the default settings, the I/O controller unit and the I/O assist server unit are assigned IP addresses using Ethernet addresses so that default IP addresses are always unique. The item indicated as "M/A" on the label affixed on the side of the respective unit represents the unit's Ethernet address (MAC address).

An IP address is generated by using the last three digits of an Ethernet address.

Example: M/A: "00.80.4C.<u>AA.BB.CC</u>" The code "00.80.4C" is common to all units. The unit's IP address will be "10.<u>170.187.204"</u>. The subnet mask is assigned as "255.0.0.0.

 Check the Group ID for the Assist Server and the Group ID and the Unit ID of the I/O Controller Unit.

Make sure that the I/O Controller Unit has a Device ID that is unique for the device module.

- (2) Connect the power and network cables to the I/O Controller Unit.
- (3) Connect the power and network cables to the Assist Server.
- (4) When the I/O Controller Unit and the Assist Server are started, the Assist Server finds the I/O Controller Unit in the same Group ID, and automatically collects input data.
- (5) By connecting to the Assist Server from the browser running on the host controller, you can view the input data.

Set the IP address and the network mask so that the host controller belongs to the same network as the Assist Server.

Example: If no devices other than F&eIT series devices are connected, the IP address "10.1.1.1" and the netmask "255.0.0.0" can be assigned to the host controller.

(6) For procedures on how to view input data using a browser, see the section entitled "Verifying the Operation".

## **Custom Setup**

When installing a F&eIT series module on an existing network, you need to assign an IP address so that it will not conflict with the IP addresses of other network devices.

An IP address can be assigned by using the utility software that is included in the product.

Installing the utility software

(1) Checking the operating environment for the utility software

OS Windows Vista, XP, 2000, NT 4.0 Service Pack 3 or later, Me, 98. Hardware A personal computer with any of the above operating systems running and that can be connected to a TCP/IP network.

(2) Preparation before installation

Shut down all the extraneous applications running on the computer on which to install the files for the Module. If a screensaver or virus detection software is up and running, make it inactive temporarily.

(3) Installation

Insert the disc bundled with the Module into the CD-ROM drive.

A menu will be ran and displayed automatically. Follow the on-screen instructions to install the "Development environment" or "Runtime environment" of [API-CAP(W32)].

#### [Runtime environment]

Install the F&eIT Setting Utility and the library for using programs such as API functions, F&eIT common functions, and F&eIT DDE Server on the PC.

#### [Development environment]

Install the F&eIT Setting Utility and the library, help files, and sample programs for creating control programs for F&eIT devices on the PC.

The "development environment" installed contains the "runtime environment."

Follow the on-screen instructions to carry out the installation.

When the installation has been completed normally, some programs are registered.

(4) Starting an application and checking some notes

The entry "CONTEC API-CAP(W32)" is added to the Programs list on the Start menu. Following items are registered in the list.

[When the runtime environment has been installed]

F&eIT Setting Utility	:	This program sets up and diagnoses the I/O Assist Server, I/O
		Controller, and device module.
FIT_PCSERVER	:	This program stays resident to collect data from the I/O
		controller unit.
FIT_SVR (DDE SERVER)	:	This program is DDE SERVER supporting the I/O Assist Server
		and I/O controller unit.
FIT_SVR_R (F&eIT GENE	RIC I	DDE SERVER) :
		This program is DDE SERVER that can access devices which
		support the F&eIT protocol using their IP address and virtual
		address.

#### [When the development environment has been installed]

The following items are added to those registered [when the runtime environment has been installed].

Pt folder	:	This folder contains the entries of the program for diagnosing a temperature measurement device and of the sample program for accessing the temperature measurement device using an API.
Aio folder	:	This folder contains the entries of the program for diagnosing an analog device and of the sample program for accessing the
		analog device using the API.
Cnt folder	:	This folder contains the entries of the program for diagnosing a
		counter device and of the sample program for accessing the
		counter device using an API.
Dio folder	:	This folder contains the entries of the program for diagnosing a
		digital device and of the sample program for accessing the
		digital device using the API.
API-CAP(W32) HELP	:	Help file for API function library [API-CAP(W32)]
F&eIT Common Functions I	HELP	: Help file for F&eIT common functions and Remote I/O
		functions.

Setting up a unit

(1) Determine the desired Group ID.

The Group ID on the front panel can be selected from any number in the 0 to 7 range.

Use the same Group ID as the I/O Controller Unit from which data is to be collected.

(2) Connect the power and network cables to the Assist Server.



Figure 4.1. Front Panel

#### Setting an IP address for the Assist Server

Open the Start menu, choose "CONTEC API-CAP(W32)," then start the "F&eIT Setup Utility." Specify the IP address and net mask in the setup dialog box.

For details on how to use the setup utility, consult the help file.

Completing the settings

When you have finished setting up the Assist Server, restart it for the settings to take effect.

# **Utility Software Operating Procedures**

The F&eIT Setting utility can be used to make network settings such as IP addresses, specify device names, and diagnose or set up device modules.

For details on how to use the utility, consult the help file.

File(E)         Edit(E)         View(Y)         Check(C)         Heip(H)           Image: Construction of the state	G:\WINNT\APICAP.DAT - F&eIT U	tility								٦×
Image: Constraint of the state of	$File(\underline{F})  Edit(\underline{E})  View(\underline{V})  Check(\underline{C})  Heri$	elp( <u>H</u> )								
Device         Module TYPE         Module Name         Device Name         Status         Error Status         Input Channel         Output Channel           Image: Status         Strescon(FIT)SY[0*]         0		<b>K</b>		<u> </u>						
□       □       0	E-B root	Devic	Module TYPE	Module Name	Device Name	Status	Error Status	Input Channel	Output Channe	1
□-□       CPU-CAIQ(FT)SY(MOI)       2       0300       CMT2+2(FT)SY CNT080002       1       0       2       0         □       AD112-8(FT)SY(10)       3       0100       DIO-98(FT)SY DIO080003       3       0       8       8         □       CNT24-2(FT)SY(2)       6       0201       DA112-4(FT)SY AI0080006       1       0       0       4         □       DIO-88(FTT)SY(5)       DIO080006       1       0       0       4         □       DIO-88(FTT)SY(5)       DIO080006       1       0       0       4         □       DIO-88(FTT)SY(5)       DIO080006       1       0       0       4	🖻 🛅 SVR-IOA(FIT)GY[0*]	0	0200	ADI12-8(FIT)GY	AIO080000	1	0	8	0	
ADI2-8(FIT)GY[0] 3 0100 DIO-8/8(FIT)GY DIO080003 3 0 8 8     O(0) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	È- 📃 CPU-CA10(FIT)GY[00]	2	0300	CNT24-2(FIT)GY	CNT080002	1	0	2	0	
CNT24-2(FIT)GY[2] 6 0201 DAI12-4(FIT)GY AIO080006 1 0 0 4 DIO-8/8(FIT)GY[3] DAI12-4(FIT)GY[6]	ADI12-8(FIT)GY[0]	3	0100	DIO-8/8(FIT)GY	DIO080003	3	0	8	8	
	□ CN12+2(F1T)S([2] □ DIO-8/8(F1T)S([3] □ DA112-4(F1T)S([6]	6	0201	DAI12-4(FIT)GY	A10080006	1	0	0	4	

Figure 4.2. Main Menu

# Verifying the Operation

The Assist Server continually collects the latest data on the devices that are connected to the I/O controller units in the same group. The following method can be employed to check and view the collected data:

- Connecting from the host computer to the Assist Server using a browser to view the data status.
- Connecting from the host computer to the Assist Server using a browser to create and view a monitoring screen.
- Creating a program to check and update the virtual memory on the Assist Server from the host computer.

## Checking the Status from the Browser [SVR-IOA(FIT)GY]

You can connect to the Assist Server from a host computer by using a browser to view the data status.

Operating procedures

(1) Start the browser. In the browser's address field, enter the IP address that was set on the Assist Server.

Example: For an IP address 172.17.8.155, enter the following: "http://172.17.8.155/".

(2) The following screen comes up:

💁 Web Data Monitoring - Microsoft Internet Explorer		_ 🗆 🗵
File Edit View Favorites Tools Help		10
+ Back + → + ② ③ ④ ④ ③Search ⊕ Favorites @Meda ④ ◎ - @		
Address 🕘 http://172.17.8.155/	(P 60	Links **
Web Data Monitoring		*
Please Enter Password		
If the state where operation is not performed exceeds 30 minutes, it logs out for keep security.		
Password: Send		
		*
👌 Done 👘 👘 Intern	et	li

#### Figure 4.3. Entering a Password

Enter the password, and click on [Send]. Initially, no password is set in the system, so it is only necessary to click on [Send].

Web Data Monitoring - Microsoft Internet Engliseer	
File Edit View Pavorites Tools Help	52
artast O O O O Search @Parates @Pada O O- I	
Address 🔊 http://172.17.8.155/cgi-lan/bass_ct%	💌 🖓 Go Links 🏁
The password which you inputted is right. Ga New Screen ->	-
N Dates	All said stands

#### Figure 4.4. Transmission

When the above screen is displayed, click on [Go to Monitoring Menu].

If the password is entered incorrectly, control returns to the password entry screen. Check your password, enter the correct password, and continue with the remainder of the operations. (3) The following screen comes up:



#### Figure 4.5. Web Data Monitoring

- Digital Data Monitoring (DI-16, DIO-8/8, etc.)

Select the desired Unit ID, Device ID, and CH (channel) to view the input data. The raw input data is displayed in either decimal or hexadecimal representation.

- Analog Data Monitoring (ADI12-8, etc.)

Select the desired Unit ID, Device ID, and CH (channel) to view the input data. The conversion data or input digital data in decimal / hexadecimal representation is displayed.

- Environmental settings (Web Server-related)

The display of input data can be switched between decimal and hexadecimal. You can also change the password for logging on to the Web.

- Environmental settings (Monitoring Applet)

For bringing up an applet, you can specify a screen size and display refreshing intervals. A maximum of 10 monitoring screens that are created by an applet can be stored; for each screen, a specific screen size can be defined.

- Data Output test

You can specify a Unit ID, a Device ID, and a CH (channel) to direct any keyboard input to module output.

This feature can be used to test values upon completion of hardware installation and cable connection tasks to check the operation of the system.

- Starting a monitoring applet

This feature starts a monitoring screen based on a Java applet.

Display channels on the monitoring screen and the layout of the screen can be changed in any way to suit your preferences.

A maximum of 10 user-created monitoring screens can be saved.

Web Data Monitoring screen



#### Figure 4.6. Web Data Monitoring Screen

- Digital Data Monitoring (DI-16, DIO-8/8, etc.)

Clicking on [Digital Data Monitoring (DI-16, DIO-8/8, etc.)] brings up the following screen:

🛃 Data Monitoring(Digita	l) - Microsoft Internet Explor	er		
File Edit View Favorit	es Tools Help			192 193
4-Back • 🔿 • 🎱 🔮	☆ @Search   Favorites	: @Meda 🎯 🗳 🌆		
Address a) http://172.17.8	155/mon_dset_e.htm			▼ 🖓 Go Links »
Data Monitor Data Refresh TIME Data Display Mode:	'ing(Digital) Sel : 30(sec) Hex	ect Device		
No	Unit-ID	Device-ID	СН	
1	4	2	0	
2	4	2	0	
3	7	4	0	
4				
5				
6				
7				
8				
9				
10				
Settings Return Menu				
a) Done				Local intranet

#### Figure 4.7. Selecting a Data Monitoring (Digital) Module

Enter the Unit ID, Device ID, and CH (channel) to be displayed, and click on [Settings].

The following confirmation screen comes up.



#### Figure 4.8. Monitoring Confirmation Screen

To start the monitoring process, click on [Start Monitoring].

Data Monitoring(Dig	aital) - Microsoft Intern	et Explorer					-0>
e Lak yew rev	onces loois meip		1 /2				10 K
Back • 🕥	년 슈핑 @gSearch 🖻	JFavorites SyMedia 🌀 🛛	<u>a</u> , <b>a</b>			-	lar e
fress 🔁 http://172.1	7.8.155/mon_ddsp_e.htm					• (P'Go	Links '
Oata Monto	oring(Digital)	)					
ata Refresh Tim ata Display Moo	ie: 30(sec) de: Hex						_
No	Unit-ID	Device-ID	СН	Board	Data	-	
1	4	2	0	DI-16	D1		
2	4	2	0	DI-16	D 3		
3	7	4	0	DI-8	D 2		
4							
5							
6							
7							
8							
9							

#### Figure 4.9. Data Monitoring (Digital)

The input data on the selected channels is displayed.

This screen is refreshed at fixed intervals to display the current input values.

- Analog Data Monitoring (ADI12-8, etc.)

Clicking on [Analog Data Monitoring (ADI12-8, etc.)] brings up the following screen:

Data Monitoring(Alalog File Edit View Favorit	)) - Microsoft Internet Explor es Tools Help	er		
4=Back - → - 🕥 🔹	☆ @Search   Favorites	: @Meda 🎯 🖏- 👍		
Address (a) http://172.17.8	.155/mon_aset_e.htm			▼ @Go Links ≫
Data Monitor Data Refresh Time: Data Display Mode: Data conversion: en	ing(Analog) Sel 30(sec) Hex able	ect Device		·
No	Unit-ID	Device-ID	СН	_
1	4	3	0	
2	4	3	1	
3	4	3	2	
4	4	3	3	
5				
6				
7				
8				
9				
10				
Settings Return Menu				
				*
Done 🗧				Local intranet

#### Figure 4.10. Data Monitoring (Analog)

Enter the Unit ID, Device ID, and CH (channel) to be displayed, and click on [Settings].

The following confirmation screen comes up.



#### Figure 4.11. Monitoring Confirmation Screen

To start the monitoring process, click on [Start Monitoring].

Edit Verw Favorites Tools Help and a site of the Other California California California							
bttp://t	22.17.8.155/mon_ads	o e.htm	meas Gr	-0. <b>m</b>			100
a Mor Refresh Display I Converti	litoring(An Time: 30(sec) Mode : Hex on : enable	ıalog)					
No	Unit-ID	Device-ID	СН	Board	Startup	Data(V)	
1	4	3	0	ADI16-4	0	-0.00	
2	4	3	1	ADI16-4	0	-0.02	
3	4	3	2	ADI16-4	0	-0.04	
4	4	3	3	ADI16-4	0	0.05	
5							
6							
7							
8							
9							
10							
n Param	eter Setting						

#### Figure 4.12. Data Monitoring (Analog)

The input data on the selected channels is displayed.

The data is refreshed at fixed intervals to display the current input values.

If the data conversion option is on, the input digital values are converted from the input range specified on the module into analog values, and the results are displayed.

If the data conversion option is off, the input digital values are displayed "as is".

- Environmental settings (Web Server-related)

Clicking on [Environmental settings (Web Server-related)] brings up the following screen:

Web Data Monitoring(Environment) - Microsoft Internet Explorer	
File Edit View Favorites Tools Help	19
्र⇔Back • ⇒ - ۞ ि ॣी ۞ Search @ Favorites ۞History ि- @	
Address http://172.17.8.155/mon_wbcfg_e.htm	▼ 🖓 Go Links
Environment for Web Server	2
Serven refreshing interval <sup>30</sup> See (10 -> 60See)	
Data Display Method @ Hex C Dec	
Analog Data convertion display 🙃 enable 🛛 disable	
Settings	
Old Password	
New Password	
Confirmation	
Settings	
Return Menu	
Done	Cocal intranet

#### Figure 4.13. Web Server Environmental Settings

Screen refreshing interval	: Specify screen-refreshing intervals when input data is to be displayed on [Digital Data Monitoring (DI-16, DIO-8/8, etc.)] or [Analog Data Monitoring (ADI12-8, etc.)].
Data Display Method	: Specify decimal/hexadecimal switching when input data is to be displayed on [Digital Data Monitoring (DI-16, DIO-8/8, etc.)] or [Analog Data Monitoring (ADI12-8, etc.)].
Analog Data conversion di	splay : When input data is to be displayed on [Analog Data Monitoring (ADI12-8, etc.)], specify whether the input digital values are to be converted from their input range into analog values for display in analog values, or they are to be displayed in the digital form.
Upon completion of the set	tings, click on [Settings].
Old Password :	This option allows you to change the password that must be entered when connecting to the Web. To change a password, enter your current password in the [Old Password]

 New Password
 : The new password in the [New Password] field.

 Confirmation
 : In the [Confirmation] field, re-enter the password that was typed in the [New password] field.

When finished with the input process, click on [Settings].

field.

- Environmental settings (Monitoring Applet)

Clicking on [Environmental settings (Monitoring Applet)] brings up the following screen:

🚰 Web Data Monitoring - Microsoft Internet Explorer	<u>_</u> _×
File Edit Wew Favorites Tools Help	1992 1992
4=Back + → - 🔘 🖉 🚰 📿 Search 👝 Favorites @Media 🍏 🖳 + 🍎	
Address a http://172.17.8.155/apit_pas_e.htm	▼ @Go Links **
Web Data Monitoring(Entering Password)	X
Pleas Enter Password Password: Sond	
Return Menu	-
E Done	Local intranet

#### Figure 4.14. Entering an Applet Password

Enter the password, and click on [Send].

Initially, no password is set in the system, so it is only necessary to click on [Send].

🛃 Web Data Monitoring - Microsoft Internet Explorer		-OX
File Edit View Fevorites Tools Help		100
J+Back • ⇒ - 🕼 🗗 🖓 🕲 Search 👜 Favorites 🛞 Media 🏈 🗳 • 🍙		
Address 🕘 http://172.17.8.155/cgi-bin/apas_chk	≖ ∂ංශ	Links »
The password which you inputted is right.		×
Go Next Screen ->		
		- 1
Done	Local intranet	

#### Figure 4.15. Entering an Applet Password

When the above screen is displayed, click on [Go Next Screen].

If the password is entered incorrectly, control returns to the password entry screen.

Check your password, enter the correct password, and continue with the remainder of the operations.
The following screen comes up:

🚈 Web Data Monitoring(Applet Menu) - Microsoft Internet Explorer		_ 🗆 🗙
File Edit View Favorites Tools Help		1
⇔Back • → - ③ ② ④ ④ ②Search ⊜Favorites @Media ③ ⊙• ⊕		
Address 🝓 http://172.17.8.155/apt_jdx_e.htm	▼ @G0	Links "
Monitoring Applet Menu		×
Settings the Applet environmental-setting password Monitoring Applet environmental settings		
Return Main Menu		

Figure 4.16. Monitoring Menu

- Settings the Applet environmental-setting password

Clicking on [Settings the Applet environmental-setting password] brings up the following screen:

🛃 Web Data Monitoring(Applet environment) - Microsoft Internet Explorer	
File Edit View Favorites Tools Help	1900 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 -
4+Back • → - ③ ③ ④ ④ ③Search @Favorites @Media ④ હ_• ④	
Address a http://172.17.8.155/ap_pascfg_e.htm	▼ @Go Links ×
Changing Applet passwords	
Old Password	
New Password	
Confirmation	
Settings	
Return MENU	
Done Cone	Local intranet

Figure 4.17. Changing Applet Passwords

Old Password :		Change the password that is entered for specifying Applet environmental settings. Enter your current password in the [Old Password] field.
New Password	:	Enter the new password.
Confirmation	:	Re-enter the password that was typed in the [Confirmation] field.
When finished with the in	npu	t, click on [Settings].

- Monitoring Applet environmental settings

Clicking on [Monitoring Applet environmental settings] brings up the following screen:

tting a Moni	toring App	let		
it mode: © ON © O	FF			
PAGE No.	Se	reen size	Refresh interval(sec)	-
1	640	x 480	1	
2	640	x 480	1	
3	640	x 480	1	-
4	640	x 480	1	1
5	640	x 480	1	1
6	640	x 480	1	-
7	640	x 480	1	1
8	640	x 480	1	
9	640	x 480	1	-
	640	x 480	1	1

#### Figure 4.18. Setting a Monitoring Applet

Edit mode : When changing the monitoring screen, set the [Edit mode] on. When the [Edit mode] is on, the monitoring screen will display a Load/Save/Clear/Grid on/off/Component Selection menu.

A maximum of 10 monitoring screens can be created and saved.

This option allows you to specify the display size and the refreshing interval for each screen.

Screen size	: Specify the X size (width) x Y size (height) in pixels.
Refresh interval	<ul> <li>This refers to the interval in which the monitoring screen obtains the latest data from the Assist Server.</li> <li>In the case of monitoring conducted using a relatively slow communication</li> </ul>
	circuit (e.g., a modem), the refreshing interval can be increased in order to reduce the network overhead.

- Data output test

Clicking on [Data output test] brings up the following screen:

🚈 Web Data Monitoring(Data	Output) - Microsoft Internet E	kplorer				- 🗆 ×
File Edit View Favorites	Tools Help					12
\$=Back • ⇒ - 🔕 🛃 🖄	🔅 Search 🗟 Favorites 🎯	Meda 🎯 🔂 - 🖽				
Address 🔁 http://172.17.8.155	/mdata_out_e.htm				▼ @60	Links **
Web Data Mon	itoring(Data Out	put)				*
Digital Out						
Unit-ID	Device-ID		CH	Data		
7	1		0	FF		
Pleas Input value at Her Analog Out	x Code for output					
Unit-ID	Device-ID	Сн	Da	ita	_	
4	7	0	1.00			
Deta Output Please input output valu <u>Return Menu</u>	e (below decimal point 2 fi	gure).				
						-
2) Done					Local intranet	

#### Figure 4.19. Web Data Monitoring (Data Output)

 Digital Out
 : Specify a Unit ID, a Device ID, and a CH (channel), enter data, and click on [Data Output]. This causes the system to output the values entered in [Data] to the specified channel.

 Analog Out
 : Specify a Unit ID, a Device ID, and a CH (channel), and click on [Data

Output]. This causes the system to output the values entered in [Data] to the specified channel.

Enter output data in voltages (a value to the second decimal place).

- Starting the monitoring applet

Clicking on [Starting the monitoring applet] brings up the following screen:

sck • → • ② ② ③ ③ ss @ http://172.17.8.155 ata Monitorin	@Search ⊒Favorites @Media ♂ ⊵ logskord_e.htm g(Start Annlet)	j•	▼ (∂60 UN
rameter Information	g(start Applet)		
it mode:ON			-1
Page No.	Screen size	Refresh interval(sec)	
1	640 x 480	1	
2	640 x 480	1	
3	640 x 480	1	
4	640 x 480	1	
5	640 x 480	1	1
6	640 x 480	1	
7	640 x 480	1	1
8	640 x 480	1	1
9	640 x 480	1	
10	640 x 480	1	-
ase Select Display P	age for Applet AGE 3   PAGE 4   PAGE 5   PAGE 6	PAGE 7 PAGE 8 PAGE 9	PAGE 10

Figure 4.20. Data Monitoring (Start Applet)

The screen shows the current page size and the refreshing interval.

Clicking on a [Page 1] ... [Page 10] button on the bottom row of the screen displays the monitoring screen for the specified page.

A description of how to operate the monitoring screen may be found in the next Chapter.

# Checking the Status from the Browser [SVR-IOA2(FIT)GY]

You can connect to the Assist Server from a host computer by using a browser to view the data status.

Operating procedures

 Start the browser. In the browser's address field, enter the IP address that was set on the Assist Server.

Example: For an IP address 192.168.132.200, enter the following: "http://192.168.132.200/".

(2) The following screen comes up:



### Figure 4.21. Entering a Password

Enter the password, and click on [Login].

There are two types of passwords: [administrator password] and [monitoring password]. The password entered here determines the operations allowed from then on.

Administrator password Enables all the functions on the pages that follow.

Monitoring password Enables only the monitoring functions.

Initially, no password is set in the system, so it is only necessary to click on [Send]. (Logged on as an administrator.)

SVR-IDA2(FTT) Han Henu - Hicrosoft Internet Explorer	aloi al
File Edit View Pavorites Tools Help	52
4-tas	
Address 1 http://172.17.8.195/cg-ber/personal	• 2 <sup>2</sup> Go Litis **
Parmword is accepted. The present logis mode: Administrator Mode 2002Main Menu	-
	1
Done	Citcal Intranet

### Figure 4.22. Log-in

If the above message appears, your browser will change to the next page in a few seconds. Clicking on [Main Menu] has the same effect.

If the password is entered incorrectly, control returns to the password entry screen.

Check your password, enter the correct password, and continue with the remainder of the operations.

(3) The following screen comes up:

Menu - Microsoft Internet Supprer							
File Edit View Favorites	Tools Help					19	
4-Back • → • 🙆 🔄 🖉	3 @Search G	Favorites (2)1	6eda 🎯 🖳 -	<b>a</b>			
Address () http://172.17.8.19	i0/en/index_fr.htm				- 6	Go Links <sup>39</sup>	
Monitoring	© co	NTEC			<b>F</b> &e	IT	
Information for control Unit	SVR-IO	A2(FIT)	Configur	ation Me	nu v	er	
Screen Control & Monitoring	ren Control & Device Information						
Simple monitoring for digital data	UnitID	DeviceID	Device	Status	IPAddress		
(DI-16,DIO-8/8	4	2	DI-16	0	172.17.8.153		
etc.)	4	3	ADII6-4	x	172.17.8.153		
Simple monitoring	7	4	DI-8	0	172.17.8.151		
analog data	7	5	DO-8	0	172.17.8.151		
Setting for screen							
Setting for screen Control & Monitoring							
Set parameter for simple monitoring							
Digital Data Output Test							
<u>Analog Data</u> Output Test							
Setting password for administrator							
Setting password for monitoring							
8					🚉 Local intra	vet //.	

Figure 4.23. SVR-IOA2(FIT)GY Configuration Menu

Monitoring (Displayed in the administrator mode and in monitoring mode)

- Information for control Unit

Provides information on the units from which the Assist Server collects data with the same Group ID.

Lists the Unit IDs, Device IDs, Device names, Status, and IP Addresses of individual units.

- Screen Control & Monitoring

This feature starts a monitoring screen based on a Java applet.

Display channels on the monitoring screen and the layout of the screen can be changed in any way to suit your preferences.

A maximum of 10 user-created monitoring screens can be saved.

- \* You can change the screen only when you have logged in as an administrator.
- Simple monitoring for digital data (DI-16, DIO-8/8, etc.)

Select the desired Unit ID, Device ID, and CH (channel) to view the input data. The raw input data is displayed in either decimal or hexadecimal representation.

- Simple monitoring analog data (ADI12-8, etc.)

Select the desired Unit ID, Device ID, and CH (channel) to view the input data. Converted data or decimal/hexadecimal input digital data is displayed.

Paramater setting (The following items appear only in the administrator mode.)

- Setting for screen Control & Monitoring

For bringing up an applet, you can specify a screen size and display refreshing intervals. A maximum of 10 monitoring screens that are created by an applet can be stored; for each screen, a specific screen size can be defined.

- Set parameter for simple monitoring

The display of input data can be switched between decimal and hexadecimal.

- Digital Data Output Test

The value input at the keyboard can be output to the DO device identified with the Unit ID, Device ID, and CH (channel) specified.

This feature can be used to test values upon completion of hardware installation and cable connection tasks to check the operation of the system.

Analog Data Output Test

The value input at the keyboard can be output to the DA device identified with the Unit ID, Device ID, and CH (channel) specified.

This feature can be used to test values upon completion of hardware installation and cable connection tasks to check the operation of the system.

- Setting password for administrator

You can change the administrator password to be input at login. Logging in with the password set here enables all the functions available by setting from within the browser.

- Setting password for monitoring

You can change the monitoring password to be input at login. Logging in with the password set here enables only data monitoring. SVR-IOA2(FIT)GY Configuration Menu Screen

Menu - Microsoft Internet	toplorer				<u>_0×</u>		
File Edit View Favorites Tools Help							
4+Back + ⇒ - ② ③ ④ ④ Search ⊕ Favorites @Meda ④ ⊡+ @							
Address Address Address Address	0/en/index_fr.htm				▼ 🖓 Go Links ≫		
Monitoring Information for	© CONTEC F&elT						
control Unit	5110		connga	auton Mic	in the		
Screen Control & Monitoring	Device Information						
for digital data	UnitID	DeviceID	Device	Status	IPAddress		
(DI-16,DIO-8/8	4	2	DI-16	0	172.17.8.153		
etc.)	4	3	ADI16-4	x	172.17.8.153		
Simple monitoring	7	4	DI-8	0	172.17.8.151		
analog data	7	5	DO-8	0	172.17.8.151		
Parameter setting Control & Monitoring Set parameter for simple monitoring District Data Output Test Analog Data Output Test Setting password for administrator Setting password for monitoring							
8					Local intranet		

Figure 4.24. SVR-IOA2(FIT)GY Configuration Menu Screen

Selecting a menu item in the left frame displays the corresponding processing page in the lower right frame.

- Information for control Unit

When clicking on [Information for control Unit], the following screen comes up:

File Edit View Favorites Tools Help									
4+Back + → - Ø S Δ ØjSearch ⊕Favortes @Heda 3 S- @									
Address (a) http://172.17.8.190	0/en/index_fr.htm				▼ (PGo Links <sup>30</sup>				
Monitoring	onitoring © CONTEC FacIT								
Information for control Unit	SVR-IOA2(FIT) Configuration Menu Ver								
Screen Control & Monitoring	Device Information								
for digital data	UnitID	DeviceID	Device	Status	IPAddress				
(DI-16,DIO-8/8	4	2	DI-16	0	172.17.8.153				
etc.)	4	3	ADII6-4	x	172.17.8.153				
Simple monitoring	7	4	DI-8	0	172.17.8.151				
analog data	7	5	DO-8	0	172.17.8.151				
Parameter setting Setting for screen Control for screen Montoring Set parameter for simple monitoring Digital Data Output Test Analog Data Output Test Setting parsword for administrator Setting parsword for monotoring									
ē)					🔄 🕅 Local intranet				

Figure 4.25. Information for control Unit

The table provides information on the units that the current Assist Server can reads and writes data to/from.

- Screen Control & Monitoring

When clicking on [Screen Control& Monitoring], the following screen comes up:

Menu - Microsoft Interne	t Explorer								
File Edit View Favorites	Tools Help			100					
4+Back + ++ - 🔘 😒 🤇	🖞 🎯 Search 🔂 Favorit	65 @Meda 🎯 🔄- 🍠							
Address () http://172.17.8.1	S0/en/index_fr.htm			∙ ্∂Go Links ≫					
Monitoring	© CONTEC FaelT								
Information for control Unit	SVR-IOA2(FIT) Configuration Menu Ver								
Screen Control & Monitoring	Data Contro	l & Monitoring							
Simple monitoring									
for digital data (DL-16 DIO-8/2	Edit Mode: ON								
etc.)	Page	Screen Size	Refresh Time(sec)						
	1	640 x 480	1						
Simple monitoring	2	640 x 480	1						
(ADI12-8 etc.)	3	640 x 480	1						
	4	640 x 480	1						
	5	640 x 480	1						
Parameter	6	640 x 480	1						
secung	7	640 x 480	1						
Setting for screen	8	640 x 480	1						
Control &	9	640 x 480	1						
recontoring	10	640 x 480	1						
Set parameter for simple monitoring									
Digital Data Output Test	Please Select Disp	lay Page	1909   09097   0908   09						
Analog Data Output Test	haller haller	kalles   kelles   kelles   k	vođeo kođes kođeo ko	age pagero					
Setting password for administrator									
Setting password for monitoring									
Done				Local intranet					

Figure 4.26. Screen Control & Monitoring

The screen shows the current page size and the refreshing interval.

Clicking on a [Page 1] ... [Page 10] button on the bottom row of the screen displays the monitoring screen for the specified page.

A description of how to operate the monitoring screen may be found in the next Chapter.

- Simple monitoring for digital data (DI-16, DIO-8/8, etc.)

When clicking on [Simple monitoring for digital data (DI-16, DIO-8/8, etc.)], the following screen comes up:

Menu - Microsoft Interne	t Explorer				
File Edit View Favorites	Tools Help				1
4+8ack - → - ② 3 2	Search 🕞 Fav	orkes (gHeda (g	N- 3		- 0e. 100. W
Address 1 http://172.17.0.15	Olevhugex Tu yan				• (r co bris ~
Monitoring	© CON	TEC			F <sub>&amp;</sub> eIT
Information for control Unit	SVR-IOA	2(FIT) Conf	iguration Mer	ıu	Ver
Screen Control & Monitoring	Select Dev	ice for simp	le Monitoring	digital Dat	a
Simple monitoring for digital data (DI-16,DIO-8/8 etc.)	Data Refresh T Data Display M	ïme: 30(sec) Iode: Hex			
Simple monitoring analog data					-1
(ADI12-8 etc.)	No.	UnitID	DeviceID	Сн	-
	1	14	2	0	_
Parameter	2	4	2	1	_
setting	3	7	4	0	_
Setting for screen	4				_
Control &	5				
PROFESSION	6				
Set parameter for	7				
simple monitoring	8				-
Digital Data	9				-
Output Test	10				-
Analog Data	1				_
Output Test	Settings				
Setting password for administrator					
Setting password for monitoring					
Done Done					Local intranet

Figure 4.27. Select Device for simple Monitoring digital Data

Enter the Unit ID, Device ID, and CH (channel) to be displayed, and click on [Setting].

The following confirmation screen comes up.



## Figure 4.28. Monitoring Confirmation Screen

To start the monitoring process, click on [Start Monitoring].

Menu - Microsoft Internet	t Explorer						_ 0 ×
File Edit View Favorites	Tools Hel	р					1
4+Back • ⇒ • ③ ⊴ 2	3 QSeard	h 📑 Favorib	es (GMedia (G	) B- 3			
Address 2 http://172.17.8.15	Ki/en/index_fr	.htm				1	@Go Links **
Monitoring	⊚c	ONT	EC			Fac	IT
Information for control Unit	SVR-	IOA2(	FIT) Con	figurati	ion Menu		Ver
Screen Control & Monitoring	simple	e monit	oring Digi	tal			
Simple monitoring for digital data (DI-16,DIO-8/8 etc.)	Data R Data Di	efresh Tim splay Mod	e: 30(sec) e: Hex				
Simple monitoring	No.	UnitID	DeviceID	CH	Device	Data	1
analog data	1	4	2	0	DI-16	D1	
(ADI12-8 etc.)	2	4	2	1	DI-16	D3	
	3	7	4	0	DI-8	D2	
Parameter	4						
setting	5						
Setting for screen	6						
Control &	7						
Monitoring	8						
Set parameter for	9						
simple monitoring	10						
<u>Digital Data</u> <u>Output Test</u>							
<u>Analog Data</u> <u>Output Test</u>							
Setting password for administrator							
Setting password for monitoring							
(A)						Control int	rareat A

Figure 4.29. Simple monitoring Digital

The input data on the selected channels is displayed.

This screen is refreshed at fixed intervals to display the current input values.

- Simple monitoring analog data (ADI12-8, etc.)

When clicking on [Simple monitoring analog data (ADI12-8, etc.)], the following screen comes up:

Menu - Microsoft Interne	t Explorer				10×
File Edit View Favorites	Tools Help				- <b>1</b>
4=Dack 🔘 🛃 🤅	음 🕄 Search 🕞 Far	ronkes @Hedia 🌀	B- 3		
Address 1 http://172.17.8.1	50/en/index_fr.htm				→ 2°60 Unis **
Monitoring	© CON	TEC			F <sub>&amp;</sub> eIT
Information for control Unit	SVR-IOA	2(FIT) Conf	iguration Mer	ıu	Ver
Screen Control & Monitoring	Select Dev	ice for simp	le Monitoring	analog Dat	a
Simple monitoring for digital data (DI-16,DIO-8/8 etc.)	Data Refresh I Data Display M Data conversion	'ime: 30(ser) Iode: Hex n: Disable	-	-	
Simple monitoring analog data (ADU12-8 etc.)					
1140410-0 000.1	No.	UnitID	DeviceID	CH	
Parameter	1	4	3	0	
setting	2	4	3	1	
Contrast Constraints	3	4	3	2	
Control &	4	4	3	3	
Monitoring	5				
Set parameter for	6				-
simple monitoring	7				-
Digital Data	8				-
Output Test	-			<u> </u>	-
Analog Data Output Test	10				
Setting password for administrator	Setting				
Setting password for monitoring					
<b>6</b>					Local intranet //

Figure 4.30. Select Device for simple Monitoring analog Data.

Enter the Unit ID, Device ID, and CH (channel) to be displayed, and click on [Settings].

The following confirmation screen comes up.

	A Real prove Des & local	100
terro.	CONTEC INTERNATIOConfiguration Manuel	F. [T
	Perjantation of the device for Montoning was been not been as the forement to be	completed
517. j		
-		
-		

## Figure 4.31. Monitoring Confirmation Screen

To start the monitoring process, click on [Start Monitoring].

Menu - Microsoft Intern	et Explorer							
ile Edit View Favorite	ts Tools Hel			1.00				_
⊨ Back • → • 🎯 😭	යි ( Qiseard	Favorite	s (grieda (g	1 12- 3				
ddress 👔 http://172.17.8.	150/en/index_fr	htm						r²Go Lini
Monitoring	©C	ONTE	EC				F&e	IT
Information for control Unit	SVR-	IOA2(I	TIT) Conf	igurat	ion Men	u	١	/er
<u>Screen Control &amp;</u> <u>Monitoring</u> <u>Simple monitoring</u> <u>for digital data</u> (DI-16,DIO-8/8	simpl Data Re Data Di	e monit fresh Time splay Mode	oring ana :: 30(sec) :: Hex	ilog da	ata			
etc.)	Data co	oversion:	Enable					
Simple monitoring	No.	UnitID	DeviceID	CH	Device	Status	Data	
analog data	1	4	3	0	ADI16-4	0	0.00	
(ADI12-8 etc.)	2	4	3	1	ADI16-4	0	-0.01	
	3	4	3	2	ADI16-4	0	-0.04	
arameter	4	4	3	4	ADI16-4	0	-10.00	
etting	5							
Setting for screen	6		ii					
Control &	7							
Monitoring	8		i i i		- <u> </u>			
Set parameter for	9		ii					
simple monitoring	10		i i i					
Output Test								
	1							
Analog Data Output Test								
Compose a Com	1							
Setting password								
tor administrator								
Setting password								
for monitoring								

Figure 4.32. Simple monitoring analog data

The input data on the selected channels is displayed.

This screen is refreshed at fixed intervals to display the current input values. "O" in the Status column indicates that the corresponding device is operating.

If the data conversion option is on, the input digital values are converted from the input range specified on the module into analog values, and the results are displayed.

If the data conversion option is off, the input digital values are displayed "as is".

- Setting for screen Control & Monitoring (administrator mode only)

When clicking on [Setting for screen Control & Monitoring], the following screen comes up:

Menu - Microsoft Interne	t Explorer			LIDIX
File Edit View Favorites	Tools Help			10
4+Back + +> - 🔘 🛃 🤆	🖉 🍳 Search 🖾 Favor	tes @Meda 🧭 💁 🍠		
Address a http://172.17.8.1	50/en/index_fr.htm			▪ (PGo Links ≫
Monitoring	© CONT	EC		FselT
Information for control Unit	SVR-IOA2	(FIT) Configuratio	on Menu	Ver
Screen Control & Monitoring	Screen Con	trol & Monitoring	1	
Simple monitoring for digital data (DI-16,DIO-8/8		-		
etc.)	Page	Screen Size	Refresh Time(sec)	
Simple monitoring	1	640 x 480	1	
analog data	2	640 x 480	1	
(ADI12-8 etc.)	3	640 x 480	1	
	4	640 x 480	1	
Parameter	5	640 x 480	1	
, the second sec	6	640 x 480	1	
Setting for screen Control &	7	640 x 480	1	
Monitoring	8	640 - 480	1	
Sat compater for	0	E40 - 480	1	
simple monitoring	10	640 g 480	1	
Divisit Data	10	1040 X 1400	P	
Output Test	Setting			
Analog Data Output Test				
Setting password for administrator				
Setting password for monitoring				
2				Local intranet

Figure 4.33. Setting for screen Control & Monitoring

A maximum of 10 monitoring screens can be created and saved.

This option allows you to specify the display size and the refreshing interval for each screen.

Screen size : Specify the X size (width) x Y size (height) in pixels.

Refresh interval

: This refers to the interval in which the monitoring screen obtains the latest data from the Assist Server.

In the case of monitoring conducted using a relatively slow communication circuit (e.g., a modem), the refreshing interval can be increased in order to reduce the network overhead.

- Set parameter for simple monitoring (administrator mode only)

When clicking on [Set parameter for simple monitoring], the following screen comes up:



Figure 4.34. Set parameter for simple monitoring

Data Refresh Time	<ul> <li>Specify screen-refreshing intervals when input data is to be displayed on [Simple monitoring for digital data (DI-16, DIO-8/8, etc.)] or [Simple monitoring analog data (ADI12-8, etc.)]</li> </ul>
Data Display Mode	<ul> <li>Specify decimal/hexadecimal switching when input data is to be displayed on [Simple monitoring for digital data (DI-16, DIO-8/8, etc.)] or [Simple monitoring analog data (DAI12-4, etc.)].</li> </ul>
Analog Data conversion	: When input data is to be displayed on [Simple monitoring analog data (DAI12-4, etc.)], specify whether the input digital values are to be converted from their input range into analog values for display in analog values, or they are to be displayed in the digital form.

Upon completion of the settings, click on [Setting].

- Digital Data Output Test

When clicking on [Digital Data Output Test], the following screen comes up:

Menu - Microsoft Internet	Explorer	
File Edit View Favorites	Tools Help	<b>1</b>
4-Dack> - 🕥 🛃 💪	🖞 🕃 Search 👔 Favorites 🛞 Media 🎯 🖏 - 🎯	
Address 👸 http://172.17.8.19	0/en/index_fr.htm	▼ @Go Unis »
Monitoring Information for control Unit	© CONTEC SVR-IOA2(FIT) Configuration Menu	F&elT Ver
Screen Control & Monitoring	Digital Data Output Test	
Simple monitoring for digital data (DI-16,DIO-8/8 etc.)	UnitID DeviceID CH Data	
Simple monitoring analog data (ADI12-8 etc.)	owbox	
Parameter setting	Pleas Input value at Hex Code for output	
Setting for screen Control & Monitoring		
Set parameter for simple monitoring		
Digital Data Output Test		
Analog Data Output Test		
Setting password for administrator		
Setting password for monitoring		
0		🚉 Local intranet 🛛 🦽

### Figure 4.35. Digital Data Output Test (for Digital Module)

Digital Data Output Test : Specify a Unit ID, a Device ID, and a CH (channel), enter data, and click on [output]. This causes the system to output the values entered in [Data] to the specified channel. This option can be used to direct output to the DIO-8/8(FIT)GY and DO-16(FIT)GY, etc. - Analog Data Output Test

When clicking on [Analog Data Output Test], the following screen comes up:

Menu - Microsoft Interne	t Explorer				
File Edit View Favorites	Tools Help				18
4= Dack - → - 🔘 🛃 🤅	음 🕄 Search 🕞 Fan	orites @Hedia 🎯	B-∰		
Address 1 http://172.17.8.1	50/en/index_fr.htm				▼ @Go Links **
Monitoring	© CON	TEC			FeelT
Information for control Unit	SVR-IOA	2(FIT) Confi	guration M	enu	Ver
Screen Control & Monitoring	Analog Da	ta Output Te	est		
Simple monitoring					
for digital data					
etc.)	UnitID	DeviceID	CH	Data	
Simple monitoring analog data					
(ADI12-8 etc.)	output				
Parameter setting	Please input out	put value (below de	cimal point 2 figu	re).	
Setting for screen Control & Monitoring					
Set parameter for simple monitoring					
Digital Data Output Test					
Analog Data Output Test					
Setting password for administrator					
Setting password for monitoring					
2					tocal intranet 🥂

#### Figure 4.36. Analog Data Output Test

Analog Data output test: Specify a Unit ID, a Device ID, and a CH (channel), enter data, and<br/>click on [output]. This causes the system to output the values<br/>entered in [Data] to the specified channel.<br/>This option can be used to direct output to the DAI12-4(FIT)GY, etc.<br/>Enter output data in voltages (a value to the second decimal place).

- 4. Setup
- Setting password for administrator

When clicking on [Setting password for administrator], the following screen comes up:

Menu - Microsoft Interne	t Explorer	
File Edit View Favorites	Tools Help	- <b>1</b> 12
4+Back + + + 🔘 😒 🖉	3 Qisearch 🖃 Favorites @Media 🧭 🔄- 🎯	
Address Address Address Address	0.jen/index_fr.htm	→ P <sup>2</sup> Go Links <sup>™</sup>
Monitoring Information for control Unit	© CONTEC SVR-IOA2(FIT) Configuration Menu	F&elT Ver
Screen Control & Monitoring	Setting password for administrator	
Simple monitoring for digital data (DI-16,DIO-8/8 etc.)	Old Passwurd	
Simple monitoring analog data (ADI12-8 etc.)	New Password	
Parameter setting	Setting	
Setting for screen Control & Monitoring		
Set parameter for simple monitoring		
Digital Data Output Test		
Analog Data Output Test		
Setting password for administrator		
Setting password for monitoring		
2		Local intranet

Figure 4.37. Setting password for administrator

Old Password	<ul> <li>This page allows you to change the password to be input to log in as an administrator.</li> <li>Enter your current password in the [Old Password] field.</li> </ul>
New Password	: Enter the new password.
Confirmation	: Re-enter the password that was typed in the [New Password] field.

When finished with the input, click on [Setting].

- Setting password for monitoring

When clicking on [Setting password for monitoring], the following screen comes up:

Menu - Microsoft Interne	t Diplorer	
File Edit View Pavorites	Tools Help	10 A
4+Back + ⇒ - 🔘 🛃 🤮	🖞 🖏 Search 🔛 Favorites 🕲 Media 🎯 🖏 - 🎿	
Address Ntg://172.17.8.15	0/en/index_fr.htm T	
Monitoring	© CONTEC	F <sub>&amp;</sub> eIT
control Unit	SVR-IOA2(FIT) Configuration Menu	Ver
Screen Control & Monitoring	Setting password for monitoring	
Simple monitoring		
(DI-16,DIO-8/8 etc.)	Old Password	
Simple monitoring	New Password	
analog data (ADI12-8 etc.)	Confirmation	
Parameter setting	Setting	
Setting for screen Control & Monitoring		
Set parameter for simple monitoring		
Digital Data Output Test		
Analog Data Output Test		
Setting password for administrator		
Setting password for monitoring		
2		🚉 Local intranet 🦽

Figure 4.38. Setting password for monitoring

Old Password :	This page allows you to change the password to be input to log in as a monitoring mode.
	Enter your current password in the [Old Password] field.
New Password :	Enter the new password.
Confirmation :	Re-enter the password that was typed in the [New Password] field.

When finished with the input, click on [Setting].

# Creating and Viewing a Monitoring Screen [Common]

By connecting to the Assist Server from the host computer using a browser, you can create and view a monitoring screen. (You can create it only in the administrator mode.)

#### Operating procedures

(1) Clicking on page number button of Control & Monitoring screen brings up the following screen:

(As Java VM is not installed depending on the version of the OS in use, the following screen may not appear. If this is the case, install Java VM downloaded from http://java.com/ja/.)

SVR-IOA2(FIT) Main Menu	- Microsoft Internet Explore			- 🗆 ×
File Edit View Favorites	Tools Help			-
← Back - → - 🙆 🙆 🙆	Search 🝙 Favorites 🤅	🕅 Media 🎯 🖪 - 🎒		
Address 🙆 http://172.17.8.15	)/cgi-bin/aplload			Links »
1	C	Cristen	Class	<u></u>
Load	Save	dild on	Liear	
Fg cold	r: Black 💌 Item: Nor	ne 🔽 Operation: Opera	ition 💌	
				-
Cone Done			🛛 🕅 🚟 Local intranet	11.

### Figure 4.39. Menu

Menu bar functions:

Load	:	Loads and displays a previously saved page.
Save	:	Saves the monitoring screen that has been created.
Grid on/off	:	Displays and undisplays the grid.
Clear	:	Clears the current monitoring screen.
Fg Color	:	Selects the color in which the screen is to be drawn.
Item	:	Selects the component to be laid out.
Operation	:	Selects the specific operation to be performed.

Load: Loads and displays a previously saved page.



#### Figure 4.40. File Load

Save: Saves the monitoring screen that has been created.





Grid on/off: Turning the grid on changes the view as follows. Clicking on [Grid-off] removes the grid.



#### Figure 4.42. Grid Display

Clear: Clears the current monitoring screen.





Fg Color: Selects the color in which the screen is to be drawn.

	Black A White Gray Red Pink Orange Yellow Macenta
Fg color:	Black Titem: None T Operation: Operation

## Figure 4.44. Fg Color

Item: Selects the component to be laid out.

	Meter Graph
	TChart Eilleau
	Slitek
Fø color: 🛛 Black 💽 Item:	None   Operation: Operation

## Figure 4.45. Item

Operation: Selects the specific operation to be performed.

None Operation Property	Fg color:	Black	💽 Item:	None	<ul> <li>Operation:</li> </ul>	Operation 🖵
						None Operation Property

Figure 4.46. Operation

Basic operations

(1) Laying out a component

In [Item], select the desired component, and click on it on the screen in order to lay it out.

Example: Laying out a [Meter]

Fg color: Black 💽 Item:	None Text Graph TChart FillBox Slider Switch ▼ None ↓	Operation:	Operation 💽
Figure 4.47. Item			
	$\downarrow$		
Fa color: Rlack _ I Item:	Meter -	Operation:	None -1

## Figure 4.48. Item Meter

Single-clicking on the screen displays the meter.

Figure 4.49. Meter

- 4. Setup
- (2) In [Operation], select [Property], and click on the component to open the [Property] box.

				None Operation Property Move	
Fg color:	Black	💽 Item:	Meter 💽 Operation:	None 🗸	

## Figure 4.50. Operation

			*		
Fg color:	Black 💌	Item:	None 🚽	Operation:	Property 🗸

Figure 4.51. Operation Property

Load	Save		Clear
		Meter Propert Input/Output Unit ID Device ID Channel Width Height Min Max Rag Scale FontSize Fg color Bg fill Bg color OK Warning: Applet	v     ×       input value     ×       0     ×       0     ×       150     ×       150     ×       100     ×       0     ×       100     ×       100     ×       100     ×       1100     ×       1100     ×       1100     ×       1100     ×       1100     ×       1100     ×       112     ×       000000     ×       112     ×       000000     ×       12     ×       000000     ×       12     ×       000000     ×       12     ×       000000     ×       12     ×       000000     ×       12     ×       000000     ×       APPLY     ×       CANCEL     ×       Window     ×
Fg color: Blac	k 💌 Item: None 💌 Operation:	Property 💽	

## Figure 4.52. Property

Each component to be laid out is associated with its own Unit ID, Device ID, and Channel parameters for display purposes.

(3) You can also move a component by selecting [Move] in [Operation].

	None Operation Property Move Delete					
Fg color: Black 💽 Item: None 💽 Operation:	Property -					
Figure 4.53. Operation						
$\checkmark$						

None

### Figure 4.54. Operation Move

📕 Item:

Black

Fg color:



Move

Operation:

## Figure 4.55. Move

By left-clicking the mouse on the component and dragging the mouse, you can move the components. Releasing the mouse fixes the component at the current mouse position. (4) You can delete a component by selecting [Delete] in [Operation].

					None Operation Property Move Delete	
Fg color:	Black	💽 Item:	None	💽 Operation	: Move 📮	
Figure 4.5	56. Op	eration				
Figure 4.5	56. Op	eration	$\downarrow$			

## Figure 4.57. Operation Delete

Left-clicking on the component deletes it.

(5) A monitoring screen can be created by laying out the various components according to the procedures described above.

Once a monitoring screen is created, you can display a dialog by selecting [Save] on the menu in order to save it on a desired page. You can bring up a previously saved page by selecting [Load] on the menu to display a dialog and select the desired page.

Types of available components and their overview

Components that can be selected from [Item] on the Menu bar are described below.

Parameters that are common to the various components are also explained below.

Parameters that are specific to a given components are explained in the section dealing with that component.

Input/Output : In terms of Input/Output, select [Output value] for displaying values from an output-capable module. The default is [Input value], which indicates an input value. Unit ID, Device ID, Channel : Select the I/O module to be monitored. \_ Width : Specify the width of the component. Height : Specify the height of the component. Min : Specify the minimum value to be displayed. \_ Max : Specify the maximum value to be displayed. Scale(not Set) : Checking this item suppresses the Min/Max range scaling. \_ FontSize : Specify the font size to be used in the component. Fg color : Specify the display color to be used. This parameter is specified in hexadecimal, where a group of two digits, from left to right, indicates an RGB color, as follows: 000000: black; FFFFFF: white; FF0000: red; 00FF00: green; 0000FF: blue. Bg fill(not Fill) : The component is not to be filled with the background color. Bg color : Specify a background color in hexadecimal, using the same conventions as in Fg color.

(1) Text : This is a component on which fixed text is displayed.

External view of the component Properties dialog box

	Text Property	
Text Area	Input/Output	input value
	Unit ID	0
	Device ID	0
	Channel	0
	Text	Text Area
	Font Size	12
	Fg color	000000
		APPLY
	OK	CANCEL
	Warning: Applet \	Window

## Figure 4.58. Text

Displays the fixed character string that is assigned to the [Text] field.

The Font Size can be changed.

By specifying a Unit ID, a Device ID, a Channel, and [%d] in [Text], you can display the input values in decimal.

Similarly, by specifying a Unit ID, a Device ID, a Channel, and [%x] in [Text], you can display the input values in hexadecimal.

X

• • •

(2) Meter : Displays the [meter] data type.

External view of the component Properties dialog box



## Figure 4.59. Meter

Rag : Specify an arc angle for a meter display in a range from 90 to 360.

### (3) Graph : Graph display

External view of the component



Graph Property 🛛 🗵		
Width	100	
Height	100	
Min	0	
Мах	100	
Scale	🗖 not Set	
FontSize	12	
Fg color	000000	
Bg fill	🗖 not Fill	
Bg color	FOFOFO	
Line1	Line2	
Line3	Line4	
Line5	Line6	
Line7	Line8	
	APPLY	
OK	CANCEL	
Warning: Ap	plet Window	

Properties dialog box

Line:1 info	×
Graph Draw	🔽 enable
Input/Output	input value 💌
Unit ID	0 🔹
Device ID	0 🔹
Channel	0 🔹
Line Color	000000
OK	CANCEL
Warning: Applet	t Window

### Figure 4.60. Graph

Indicates changes in I/O values in a polygon graph format.

An input channel can be specifying by clicking on the [Line] button and specifying a value in units of "Lines".

A maximum of eight channels can be displayed simultaneously.

The horizontal axis represents up to 100 count values for the scanning interval.

(4) Tchart : Timing chart display

External view of the component Properties dialog box

	<i></i>	
	₩	
$\int \int \int $	NW/	
$\overline{\mathcal{M}}$	Ŵ	
AANNA AV	MAAAA	
MMM	ጥለ	
-90 -80 -7	70 -60 -4	50 - 40 - 30 - 20 - 10 0

Timing Chart Pr 🔀		
Width	100	
Height	100	
Scale	🗖 not Set	
FontSize	12	
Fg color	000000	
Bg fill	🔲 not Fill	
Bg color	FOFOFO	
Line1	Line2	
Line3	Line4	
Line5	Line6	
Line7	Line8	
	APPLY	
OK	CANCEL	
Warning: Applet Window		

Line:1 info	×	
Timing Chart Draw	🔽 enable	
Input/Output	input value 💽	
Unit ID	0 🔹	
Device ID	0 🔹	
Channel	0 🔹	
Bit	0 🔹	
Line Color	000000	
OK	CANCEL	
Warning: Applet Window		

#### Figure 4.61. Tchar

Displays changes in I/O bit on/off patterns in a polygon graph format.

An input channel can be specifying by clicking on the [Line] button and specifying a value in units of "Lines".

A maximum of eight channels can be displayed simultaneously.

The horizontal axis represents up to 100 count values for the scanning interval.

(5) FillBox : Fill box display

External view of the component Properties dialog box



FillBox Property	×	
Input/Output	input value 💽	
Unit ID	0 🔹	
Device ID	0 🔹	
Channel	0 .	
Vertical/Horizontal	Vertical 💽	
Width	70	
Height	100	
Min	0	
Max	100	
Scale	🗖 not Set	
FontSize	12	
Fg color	000000	
Bg fill	🗖 not Fill	
Bg color	00FF00	
	APPLY	
OK	CANCEL	
Warning: Applet Window		

## Figure 4.62. FillBox

- Vertical/Horizontal

: Switches the display orientation between horizontal and vertical orientations.

The default is [Vertical].

(6) Slider : Slider switch

External view of the component Properties dialog box



Slider Property	×	
Input/Output	output value	
Unit ID	0 -	
Device ID	0 -	
Channel	0 -	
Vertical/Horizontal	Vertical 🔹	
Width	70	
Height	100	
Min	0	
Max	100	
Scale	🗖 not Set	
FontSize	12	
Fg color	000000	
Bg fill	🗖 not Fill	
Bg color	00FF00	
	APPLY	
OK	CANCEL	
Warning: Applet Window		

## Figure 4.63. Slider

- Vertical/Horizontal : Switches the display orientation between horizontal and vertical orientations.

The default is [Vertical].

(7) Switch : Switch display

External view of the component

Properties dialog box



Switch Property 🛛 🔀		
Input/Output	input value 💽	
Unit ID	0 🔹	
Device ID	0 🔹	
Channel	0 💽	
Bit	0 🔹	
Width	70	
Height	70	
FontSize	12	
Fg color	000000	
Bg color	FF0000	
	APPLY	
OK	CANCEL	
Warning: Applet Window		

## Figure 4.64. Switch

This switch displays I/O bits.

In terms of Input/Output, selecting [Input value] displays round buttons, which indicate input values. Selecting [Output value] displays square switches, which indicate output values.

(8) Seg7 : Segment-7 display

External view of the component



Properties dialog box

Seg7 Property	×
Input/Output	input value 🖃
Unit ID	0 🔹
Device ID	0 🗸
Channel	0 🔹
Width	70
Height	70
Min	0
Max	255
Range	3
Fg color	000000
Bg fill	🗖 not Fill
Bg color	FOFOFO
	APPLY
OK	CANCEL
Warning: Applet Window	

## Figure 4.65. Seg7

- Range : Specify the number of digit positions to be made available for display purposes.

## (9) Volume : Volume display

External view of the component



Properties dialog box

Volume Property 🛛 🗙		
Input/Output	output value 💌	
Unit ID	0 💽	
Device ID	0 💽	
Channel	0 💽	
Width	100	
Height	100	
Min	0	
Max	100	
Rag	270	
Scale	🔲 not Set	
FontSize	12	
Fg color	000000	
Bg fill	🗖 not Fill	
Bg color	00FF00	
	APPLY	
OK	CANCEL	
Warning: Applet Window		

### Figure 4.66. Volume

- Rag : Specify a meter display arc angle in a range from 90 360.
  - In terms of Input/Output, selecting [Output value] causes a meter to be displayed.

(10) Status : Unit device status display

External view of the component

DevID	Device Type	Set	Run	Err
0	DIO-8/8	0	0	0
1	DI-16	$\Box$	0	Ō
2	DO-16	I Ö	Ô	Ō
3	ADI12-8	$\overline{\mathbf{O}}$	$\circ$	Ō
4	DAI12-4	$\left[ \circ \right]$	0	0
5	CNT24-2	0	0	0

Properties dialog box

Status Property 🛛 🔀				
Unit ID	0 -			
Disp Device				
Device ID:0	🔽 Device ID:4			
🔽 Device ID:1	🔽 Device ID:5			
Device ID:2	Device ID:6			
Device ID:3	🔽 Device ID:7			
FontSize	12			
Fg color	000000			
Bg fill	🔲 not Fill			
Bg color	FOFOFO			
	APPLY			
OK	CANCEL			
Warning: Applet Window				

### Figure 4.67. Status

When the monitoring screen is running under the [Operation] mode, clicking on the [Device Type] field brings up a setup dialog for each device.

- Unit ID : Specify the Unit ID about which the module installation status is to be displayed.
- DispDevice : Assign the desired Device ID from Device IDs 0 7.

### (11) Page Text : Unit device status display

Text Area

External view of the component Properties dialog box

Page Text Property 🛛 🔀			
Jump page	Page:10		
Text	Page Text Are		
Font Size	12		
Fg color	000000		
	APPLY		
OK	CANCEL		
Warning: Applet Window			

### Figure 4.68. Page Text

- Jump page : Select the page to which to jump when you click on [OK] or [APPLY].
- Text : Enter the text to be displayed.

## Creation screen image



Figure 4.69. Creation Screen

Monitoring-screen operation

On the monitoring screen, the following components can provide directives to devices:

- Slider
- Switch
- Seg7
- Volume
- Satus

Triangle slider

## (1) Slider

By left-clicking on the triangle bar and sliding it, you can change the output from the slider.



(2) Switch

Displays the status of the bit that was set. Left-clicking on an ON bit turns it off. Left-clicking on an OFF bit turns it on.

## (3) Seg7

Left-clicking on this component brings up a dialog box that enables you to set an output value from the keyboard.

(4) Volume

By left-clicking on the memory content of the value to be output, you can change the output value.



igure 4.72. Seg7

Figure 4.73. Volume



300

150




### (5) Status

Left-clicking on [Run] for a given Device ID brings up a [Start/Stop] dialog box. Left-clicking on [Device Type] for a g

iven Device ID bring	gs up	a basic setup dial	og bo	ox.	
	ID	Device Type	Set	Run	Eri
	Ō	DIO-8/8 >>	0	0	0
	1	DI-16 >>	0	0	0
	<u> </u>	DO 16		$\sim$	0

CNT24-

Figure	4.74.	Basic Se	tun Dialog
riguit		Dasic Be	tup Dialog

UnitID:0 DeviceID:3	AD 🔀
Range	From -10v To +10v 💌
ОК	From -10v To +10v From -5v To +5v
Warning: Applet Windov	From 0v To +10v
	From 0v To +5v

### Figure 4.75. ADI12-8(FIT)GY

UnitID:0 DeviceID:4	DA 🛛 🔀
Range	From OmA To 20mA 💌
OK Warning: Applet Window	From -10v To +10v From -5v To +5v From 0v To +10v
	From Ov To +5v From OmA To 20mA

### Figure 4.76. DAI12-4(FIT)GY

UnitID:4 DeviceID:3 A	D	x
Range	From -10v To +10v	-
OK	From -10v To +10v	
Warning: Applet Window		

### Figure 4.77. ADI16-4(FIT)GY

UnitID:4 DeviceID:7 D	A	×
Range	From -10v To +10v	-
OK	From -10v To +10v From 0mA To 20mA	
Warning: Applet Window		

### Figure 4.78. DAI16-4(FIT)GY

© CONTEC

# An output signal range must be set.

The following module ranges can be used: -10 -+10V. 0 - 20mA. Please refer to the Module Manual for further details.

An output signal range must be set. The following module ranges can be used: -10 -+10V, -5 - +5V, 0 - +10V, 0 - +5V, and 0 -20mA. Please refer to the Module Manual

An input signal range must be set.

The following module ranges can be used: -10 -+10V, -5 - +5V, 0 - +10V, and 0 - +5V. Please refer to the Module Manual for further

for further details.

### 3) ADI16-4(FIT)GY

1) ADI12-8(FIT)GY

2) DAI12-4(FIT)GY

details

An input signal range must be set. The following module ranges can be used: -10 -+10V. 0 - 20mA. Please refer to the Module Manual for further details.

4) DAI16-4(FIT)GY

### 5) CNT24-2(FIT)GY

This brings up the type of dialog shown on the right. CH0 and CH1 are used to set the desired channel for counting input signals.

The generic output provides output-related settings. Please refer to the Module Manual for further details.

UnitID:0 DeviceID:5 CNT 🔀	
CHO	Property
CH1	Property
General output	Property
OK	CANCEL
Warning: Applet Window	

Figure 4.79. CNT24-2(FIT)GY

Property CH:0	×
Channel reset	
When the device is started, the channel status	reset 💌
Counter initialization	
When the device is started, the counter	initialize 💽
Initial counter value	100
Digital filter settings	enable settings
Digital filter settings value	5000
Function	gate counter
Multiplication	4x 🔹
Counting direction	CW/phase A up 💽
Z-phase settings	
Clear settings	always enabled
Clear signal input logic	negative logic 🔹
Clear signal synchronous setting	synchronous clear
ОК	CANCEL
Warning: Applet Window	

### Figure 4.80. Property CH0

OUT Property	×
One Shot Pulse	yes 💽
One Shot Pulse Span	1000
OK	CANCEL
Warning: Applet Windo	N

Figure 4.81. OUT Property

Property

Interval

ПK

### 6) DI-16(FIT)GY, DIO-8/8(FIT)GY, DI-8(FIT)GY, DIO-8D(FIT)GY

This brings up the type of dialog shown on the right.

The dialog box is used to set the Hardware Filter, Software Filter, and Mode Change.

Please refer to the Module Manual for further details.

UnitID:0 Dev	iceID:3 DI 🗙
Hardware	filter
	Property
Software	filter
CHO	Property
CH1	Property
Device	Mode
Mode Change	e output mode
OK	CANCEL
Warning: Appl	et Window

### Figure 4.82. DIO-8D(FIT)GY

INCO 10 IN01 10 IN02 0 O IN03 IN04 0 IN05 IN06 0 IN07 0 ОK CANCEL Warning: Applet Window

Count

Property CH:0

Digital Filter

Figure 4.84. Software Digital Filter

×



Figure 4.83. Hardware Digital Filter

# 5. Accessing the Devices

This chapter provides information on using API functions [API-CAP(W32)] and DDE Server [FIT\_SVR(W32)] to create access applications.

# Access using API- CAP(W32)

API-CAP(W32) is a library of functions positioned above F&eIT common functions and RemoteIO functions.

The API-CAP(W32) library is a DLL which provides function interfaces customized for individual categories of devices to be used in connection with the I/O controller unit, such as digital, analog, counter, and temperature measurement devices. The library itself is created based on F&eIT common functions. You can easily control devices connected to the I/O controller unit only by calling specific API-CAP(W32) library functions provided for different categories without paying attention to the virtual address map, F&eIT protocol, and to device-specific control sequences.

For details on how to use API functions, consult the help file.



### Figure 5.1. API-CAP(W32) Function Calling Sequence

API-CAP(W32) is provided as a group of functions and programs facilitating access to F&eIT device modules. The F&eIT protocol itself remains unchanged as it has been provided. The introduction of API-CAP(W32) has no effect on applications created so far by using F&eIT common functions and RemoteIO functions.

Applications based on conventional F&eIT common functions and RemoteIO functions run normally even in the API-CAP(W32) installed environment.

For details on F&eIT common functions and RemoteIO functions, consult the help file.

# **Access Using DDE**

FIT-SVR (DDE Server) contains DDE server function.

The application that has DDE client function is able to access to the FIT-SVR then get an input of the device.

For settings method of FIT-SVR, refer to the Help on FIT-SVR.

In the case of access by DDE, Topic and Item is defined as follows:

Application	: FIT_SVR
Торіс	: GRPxx "GRP" is a fixed item representing a group; "xx" indicates a two-digit (00 - 08) Group ID.
Item	: UxxDyyTzz
	<ul><li>U Fixed item representing a unit.</li><li>xx Unit ID. Set a two-digit numeric value. (00 - 07)</li></ul>
	<ul><li>D Fixed item representing a device.</li><li>yy Device ID. Set a two-digit numeric value. (00 - 07)</li></ul>
	T Set the type of device data, selected from among the following options:
	DI_BIT: Bit input (Logical type)DI_BYTE: Byte input (Integer type)DI_WORD: Word input (Integer type)DO_BIT: Bit output (Logical type)DO_BYTE: Byte output (Integer type)DO_WORD: Word output (Integer type)ADI: Analog input (Real number type)DAI: Count input (Integer type)* Integer type is 32Bit.
	zz Channel no. Set a two-digit numeric value. (Prefix 0 - 9 with a 0)



### For Example; Getting the data into Microsoft Excel

It is specified in the form of <u>= Application name|Topic name!Item name</u>

For Example:

GroupID:06 UnitID:00 DeiceID:03 (In the case that ADI12-8(FIT)GY is used) In the case getting the data of Channel: 01 into a cell,

```
=FIT_SVR|GRP06!U00D03ADI01
```

is inputted into a cell.

# 6. Troubleshooting

When encountering a problem during the operation of the Assist Server, you can follow the following procedures to verify the source of the problem:

(1) Check the LED on the front panel.

There are [RUN] and [STATUS] LED indicators on the front panel.

- Check to see that the [RUN] LED is on.
   If this LED is not on (or is flashing), refer to the preceding chapter and check the names and functions of the various components.
- Check to see that the [STATUS] LED is off. If [STATUS] is not off, refer to Chapter 2, "Nomenclature of Unit Components and Their Settings".
- (2) Check the LED for the network port.

Check the LED for the UTP connector on the front panel.

If the network cable is securely connected to the HUB, the [LINK] LED remains on. If this LED is not on, refer to Chapter 3, "Installation and Connection" to verify that everything is in order.

The [ACT] LED flashes when communications are conducted through the network port.

(3) Check to see whether the PING command generates a response from the host computer.

Issue PING to the IP address of this device.

If the device is operating normally, the host computer will respond.

Example: The device IP address is set as 192. 168. 1. 1:

ping 192.168.1.1<Enter>: Reply from 192.168.1.1: bytes=32 time<10ms TTL=255 Reply from 192.168.1.1: bytes=32 time<10ms TTL=255 Reply from 192.168.1.1: bytes=32 time<10ms TTL=255 A response is displayed.

If there is no response, use the Utility software to verify the IP address that is set.

# 7. Appendix

# System Reference

# **Product Specifications**

### SVR-IOA(FIT)GY

### Table 7.1. Product Specifications [SVR-IOA(FIT)GY]

Item	Specification
CPU	SH3 100MHz
Memory	Flash ROM: 1Mbyte(8Mbit)
	EDO DRAM: 2Mbyte(16Mbit)
LAN controller	ASIX 10BASE-T/100BASE-TX controller AX88796
	Build-in 16K byte SRAM & single PHY
	Full-duplex, half-duplex-capable
	NE2000-compatible registers
Interface	10BASE-T/100BASE-TX(IEEE802.3/802.3u)
(host side)	
Power supply	Power is supplied by means of a 2-piece power input connector (detachable),
voltage	5VDC±5%, on the front side.
	Use of a F&eIT series power supply unit or an off-the-shelf stabilized power
	supply unit is recommended.
Power	0.5A(Max.)
consumption	
FG pin	The power supply input connector includes a FG pin.
External	25.2(W) x 64.7(D) x 94.0(H) (exclusive of any protrusions)
dimensions(mm)	
Weight	100g
Installation	One-touch installation on a 35mm DIN rail.
method	The system unit includes a DIN rail mounting mechanism as a standard feature.

### Table 7.2. Installation Environment Requirements [SVR-IOA(FIT)GY]

Parameter		Requirement description
Operating to	emperature	0 - 50°C
Storage tem	perature	-10 - 60°C
Humidity		10 - 90%RH (No condensation)
Floating dus	st particles	Not to be excessive
Corrosive ga	ises	None
Line-Noise	Line-noise *1	AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)
resistance	Static electricity	Contact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2)
	resistance	Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)
Vibration	Sweep	10 - 57Hz/semi-amplitude 0.15mm, 57 - 150Hz/2.0G
resistance	resistance	80minutes each in X, Y, and Z directions
		(JIS C0040-compliant, IEC68-2-6-compliant)
Impact resistance		15G, half-sine shock for 11ms in X, Y, and Z directions
		(JIS C0041-compliant, IEC68-2-27-compliant)
Grounding		Class D grounding (previous class 3 grounding)

\*1 Assuming that the AC-DC power supply POW-AD22GY is used.

### SVR-IOA2(FIT)GY

Item	Specification
CPU	SH4 240MHz
Memory	Flash ROM: 4Mbyte(32Mbit)
	SDRAM: 32Mbyte(256Mbit)
LAN controller	National Semiconductor 10/100BASE-TX controller DP83815
	Build-in sending: 2Kbyte, receiving: 2Kbyte buffer
	Full-duplex-capable
Interface	10BASE-T/100BASE-TX(IEEE802.3/802.3u)
(host side)	
Power supply	Power is supplied by means of a 2-piece power input connector (detachable),
voltage	5VDC±5%, on the front side.
	Use of a F&eIT series power supply unit or an off-the-shelf stabilized power
	supply unit is recommended.
Power	0.7A(Max.)
consumption	
FG pin	The power supply input connector includes a FG pin.
External	25.2(W) x 64.7(D) x 94.0(H) (exclusive of any protrusions)
dimensions(mm)	
Weight	100g
Installation	One-touch installation on a 35mm DIN rail.
method	The system unit includes a DIN rail mounting mechanism as a standard feature.

### Table 7.3. Product Specifications [SVR-IOA2(FIT)GY]

### Table 7.4. Installation Environment Requirements [SVR-IOA2(FIT)GY]

Parameter		Requirement description			
Operating to	emperature	0 - 50°C			
Storage tem	perature	-10 - 60°C			
Humidity		10 - 90%RH (No condensation)			
Floating due	st particles	Not to be excessive			
Corrosive ga	ises	None			
Line-Noise Line-noise *1		AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)			
resistance	Static electricity	ontact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2)			
	resistance	Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)			
Vibration	Sweep	10 - 57Hz/semi-amplitude 0.15mm, 57 - 150Hz/2.0G			
resistance	resistance	80minutes each in X, Y, and Z directions			
		(JIS C0040-compliant, IEC68-2-6-compliant)			
Impact resistance		15G, half-sine shock for 11ms in X, Y, and Z directions			
		(JIS C0041-compliant, IEC68-2-27-compliant)			
Grounding		Class D grounding (previous class 3 grounding)			

\*1 Assuming that the AC-DC power supply POW-AD22GY is used.

## **External Dimensions**



The illustration above is of the SVR-IOA2(FIT)GY but it is the same as with the SVR-IOA(FIT)GY.

### Figure 7.1. External Dimensions

# **F&eIT Protocol Specifications**

The sudden spread of the Internet has resulted in networks springing up in a wide range of fields. This, in turn, has resulted in the appearance of many information devices that make use of this infrastructure. Yet, it is a fact that interconnectivity - the greatest advantage of networks - is not being used to its fullest. CONTEC sees networks as a prime part of the system bus concept and has developed distributed monitor & control networks that organically integrate various applications from corporate offices through to field applications.



Figure 7.2. Communications Server Concept-Overall Diagram

The following defines the common protocol layers that will be provided in all products based upon the communications server concept.

Such products, complying with the communications server specifications, will be able to access device information using the same protocol.

The role of the F&eIT Protocol

The F&eIT Protocol defines the following protocol layers.

Application layer	ACX, DLL, etc
Device-dependent control layer	
F&eIT protocol layer	F&eIT protocol specifications
Transport layer	UDP, ICMP
Network layer	IP, ARP
Data link layer	Ethernet (IEEE802.3), etc
Physical layer	

 Table 7.5.
 Table of Protocol Levels

# **Basic Specifications**

### Concepts

The F&eIT Protocol assigns all device resources (including resource, information) to virtual space so that any access to a device will be performed by specifying a virtual address. The virtual space is divided into information common to devices, device-specific information, I/O space, and memory space. The specific location in the virtual space where information is stored and the method by which information is stored is completely transparent with respect to where or how information is stored in actual physical resources.

-	
00000000h - 000FFFFFh	Information common to devices (1MB)
00100000h - 001FFFFFh	Device-specific information (1MB)
00200000h - 002FFFFFh	Definition of device-specific information (1MB)
00300000h - 003FFFFFh	I/O space (1MB)
00400000h - 004FFFFFh	Memory space (1MB)
FFE00000h - FFFFFFFFh	Firmware update area (2MB)

### Table 7.6. Overview of Virtual Space

### Data Communications Protocol

The F&eIT Protocol has two access procedures on the connectionless UDP/IP: response-type access and trap-type access.

(Response-type)





### Frame format

Using the UDP/IP port address 5007h, the F&eIT Protocol is installed in the data section. The frame structure takes the format described below. Due to the header byte order conventions, the Ethernet, IP, and UDP are treated as Big Endians; all other entities are treated as Little Endians, for which controls exerted by an x86 CPU hold priority.

	Header name	Size (byte)	Remarks
Ethernet	Destination Address	6	Remote MAC address
section	Source Address	6	Local MAC address
	Type Field	2	Ethernet II
IP section	IP Ver4 Header	20	Fragment disabled
UDP section	UDP Header	8	Port Address 5007h Check Sum disabled
Communication	Identifier	2	"SV"
servier section	Version	1	Version of the header structure
	Command	1	Command and the ACK flag
	Sequence number	2	Frame ID
	Response ID	2	Identifies the sender.
	Virtual address	4	Specifies a virtual address space.
	Access size	2	1436 bytes maximum
	Status	2	Result of command execution
	Access ID	8	Identifies the Read/Write privilege
	Remote MAC	6	Specifies a remote MAC address
	address		when using IP multicasting.
	Reserved	6	Reserved for future use
	Data section	1436	Data area

 Table 7.7.
 Frame Structure

[Description of communications server headers]

(1)	Identifier	 Identifies the frame as a F&eIT Protocol frame.		
(2)	Version	 Indicates the frame version.		
(3)	Command	 The virtual address access command.		
(4)	Sequence no.	 A counter that prevents the occurrence of duplicate frames, wherein the sequence number is incremented each time a packet is transmitted.		
(5)	Response ID	 When a response-type command is transmitted, the contents of the response ID are copied to the response ID for the response frame.		
(6)	Virtual address	 Specifies the virtual address being accessed, e.g., device information can be read by specifying the address 0000h.		
(7)	Access size	 Specifies the size of the data to be accessed, from 1 to a maximum of 1436 bytes.		
(8)	Status	 Stores status information after the command is executed.		
(9)	Access ID	 This is an ID for virtual address access control.		
(10)	Remote MAC address	 When data is read/written using IP Multicast, the MAC address of the remote device is set in this header. When data is to be sent to all devices on the network, the value <u>ALL[F]</u> is set in this header. ( <u>For Unicast: "ALL [0]"</u> )		

Commands in detail

The following command is set in the command section (Offset = 4 in the F&eIT Protocol header section.):

7	6	5	4	3	2	1	0
ACK			Comman	nd (1 - 127)			

#### Figure 7.4. Command Structure

Bits 0 to 6 represent the command; the MSB indicates a response frame (ACK).

7Bit = 0: command request

1: command response

#### Table 7.8. Commands in Detail

Command number	Command description	Туре	Remarks
1	Reads from a virtual address.	Response	Reads device information by specifying a virtual address.
2	Writes to a virtual address.	Response	Updates device information by specifying a virtual address.
3	Transmits messages.	Response	Exchanges messages between devices.
4	Тгар	Trap	Transmits trap information from a device, based on various events.
5	Reset	Response	Resets a device after returning a response frame.
7 - 127	Reserved	Undefined	Undefined

Command-issuing procedures

- Read a virtual address (command = 1)

A virtual address and its size are specified, and the frame is transmitted to the target device. The result is received as a response frame with data.

(Example: reading a vendor name)

Command generation (transmitted data)



Figure 7.5. Reading Procedures

Writing to a virtual address (command = 2)

A virtual address its size and data are specified, and the frame is transmitted to the target device. The result is received as a response frame status. (Example: setting an IP address)



#### Figure 7.6. Write Procedures

Message transmission (command = 3)

Writes the message to be transmitted into the data section. The result is received as a response frame status. The maximum data size that can be transmitted per command is 1436 bytes. (Example: data transmission)

Command generation (transmitted data)



Figure 7.7. Message Transmission

Trap transmission (command = 4)

This command is used by devices to send a signal to the controller when a trap event occurs (an interval timer event or a pre-set event). If a response is required, the MSB in the command is set to 0.



### Figure 7.8. Trap Transmission

Reset (command = 5)

This command resets a given device. Before resetting itself, the device will return a response frame.

Command generation (transmitted data)





Response status

Following is a table of status information that is returned by response-type commands:

### Table 7.9. Table of Status Information

Code	Description	Remarks
0000h	Normal termination	
0001h	Access violation	An attempt was made to write to a Read-only area.
0002h	Area error	Access was made to an area not defined on the device.
0003h	Access size error	An access request greater than 1436 bytes was made.
0004h	Parameter error	Invalid parameter contents, such as receipt of a non-supported command.
0005h	Length error	Invalid transmission length, such as an inconsistent data size with the number of data items calculated from the UDP/IP.
0006h	Insufficient resources	Too many tasks are waiting for ACK data, causing a resource shortfall. The resources can be released by a timeout.

# **Control Information**

The F&eIT Protocol assigns all resources that are disclosed outside the devices to 32-bit virtual space. Following is a table of correspondence between virtual addresses and device information. Bytes order is Little Endian.

Information common to devices

The following types of information are provided in all F&eIT Protocol-compliant devices:

0000h         32         R         Vendor name         "CONTEC CO.LTD."           - 0FFFh         32         R         Model         "SVR-IOAx(FIT)GY"           2         R         Equipment version         1.0           2         R         Firmware version         1.0           6         R         MAC address         00804C*****           2         R         Installation function         Bit 0: 1/O space           Bit 1: Memory space         Bit 2: Trap function         Bit 3: Message send           6         R         Product type         -           4         R         IP address         -           2         R         Freeder         -           4         R         Reserved         -           4008         R         Reserved         -           1000h         8         W         Read/Write privilege ID         (Initial value: 00h)           4         R/W         IP address         (Ex.) 192.168.132.31         -           4         R/W         Default gateway         (Ex.) 192.168.132.1         -           4         R/W         Number of effective multicast         0 - 4 (Initial value = 0)           devices	Address	Size	Access Type	Description	Remarks
- OFFFh       32       R       Model       "SVR-IOAx(FTT)GY"         2       R       Equipment version       1.0         2       R       Firmware version       1.0         6       R       MAC address       00804C******         2       R       Installation function       Bit 0: 1/0 space         Bit 1: Memory space       Bit 2: Trap function       Bit 3: Message send         100       R       Reserved       Bits 5 and higher: reserved         4       R       IP address       Bit 5: and higher: reserved         2       R       Product type       Arr Reserved         4       R       Reserved       Initial value: 00h)         - 1FFFh       8       W       Read privilege ID       (Initial value: 00h)         4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       IP address       (Ex.) 192.168.132.21         4       R/W       Default gateway       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         devices       4       R/W       Nulticast IP 1       Indicates the group address for multicast communications.         4       R/W	0000h	32	R	Vendor name	"CONTEC CO.,LTD."
2         R         Equipment version         1.0           2         R         Firmware version         1.0           6         R         MAC address         00804C******           2         R         Installation function         Bit 0: I/O space Bit 1: Memory space Bit 2: Trap function Bit 3: Message send Bit 4: Reset function           4         R         IP address         -           2         R         Product type         -           4         R         Reserved         -           2         R         F&eIT protocol version         -           4         R         Reserved         -           1000h         8         W         Read/Write privilege ID         (Initial value: 00h)           - 1FFFh         8         W         Read/Write privilege ID         (Initial value: 00h)           4         R/W         IP address         (Ex.) 192.168.132.31           4         R/W         Subnet mask         (Ex.) 192.168.132.1           4         R/W         Default gateway         (Ex.) 192.168.132.21           4         R/W         Number of effective multicast         0 - 4 (Initial value = 0) devices           4         R/W         Multicast IP 1         Indicates	- 0FFFh	32	R	Model	"SVR-IOAx(FIT)GY"
2       R       Firmware version       1.0         6       R       MAC address       00804C******         2       R       Installation function       Bit 0: 1/0 space Bit 1: Memory space Bit 2: Trap function Bit 3: Message send Bit 4: Researed         4       R       IP address         2       R       Product type         4       R       Reserved         2       R       F&elT protocol version         4008       R       Reserved         1000h       8       W       Read privilege ID         1000h       8       W       Read/Write privilege ID       (Initial value: 00h)         - 1FFFh       8       W       Read/Write privilege ID       (Initial value: 00h)         4       R/W       Default gateway       (Ex.) 192.168.132.11         4       R/W       Subnet mask       (Ex.) 192.168.132.11         4       R/W       Default gateway       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast devices       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 3       14       2		2	R	Equipment version	1.0
6     R     MAC address     00804C*****       2     R     Installation function     Bit 0: I/O space Bit 1: Memory space Bit 2: Trap function Bit 3: Message send Bit 4: Researd maintering       4     R     IP address       2     R     Product type       4     R     Reserved       2     R     Product type       4     R     Reserved       2     R     F&elT protocol version       4008     R     Reserved       1000h     8     W     Read/Write privilege ID       1000h     8     W     Read/Write privilege ID       1000h     4     R/W     IP address       4     R/W     Walt gateway     (Ex.) 192.168.132.31       4     R/W     Subnet mask     (Ex.) 192.168.132.21       4     R/W     Dadress     (Ex.) 192.168.132.21       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0) devices       4     R/W     Multicast IP 1     Indicates the group address for multicast communications.       4     R/W     Multicast IP 2     14       4     R/W     Multicast IP 3     14       2     Reserved     12     12       3     R/W     Device name     User-defined		2	R	Firmware version	1.0
2       R       Installation function       Bit 0: 1/0 space Bit 1: Memory space Bit 2: Trap function Bit 3: Message send Bit 4: Reset function         4       R       IP address         2       R       Product type         4       R       Reserved         2       R       F&elT protocol version         4008       R       Reserved         2       R       F&elT protocol version         40008       R       Reserved         1000h       8       W       Read privilege ID         1000h       4       R/W       IP address         1000h       4       R/W       IP address         1000h       4       R/W       IP address         11       Initial value: 00h)       Initial value: 00h)         11       4       R/W       Subnet mask         11       R/W       Subnet mask       (Ex.) 192.168.132.1         14       R/W       Number of effective multicast       (Ex.) 192.168.132.21         14       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         10       devices       Indicates the group address for multicast communications.         14       R/W       Multicast IP 3       Indicates the		6	R	MAC address	00804C*****
Bit 1: Memory space Bit 2: Trap function Bit 3: Message send Bit 4: Reset function Bit 5 and higher: reserved       4     R       2     R       2     R       2     R       4     R       2     R       2     R       4     R       2     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       4     R       4     R       5     M       4     R       1000h     -       4     R/W       102 ddress     (Ex.) 192.168.132.31       4     R/W       103 derices       4     R/W       11     Padress       4     R/W       12     R       4     R/W       12     R       4     R/W       12     R       4     R/W       13     Indicates the group address for multicast communications. <td></td> <td>2</td> <td>R</td> <td>Installation function</td> <td>Bit 0: I/O space</td>		2	R	Installation function	Bit 0: I/O space
Bit 2: Trap function       Bit 3: Message send       Bit 4: Reset function       Bits 5 and higher: reserved       2     R       2     R       2     R       2     R       2     R       4     R       2     R       2     R       2     R       4     R Reserved       2     R       4     R       4     R       4     R       4     R       4     R       4     R       4     Reserved       1000h     8       4     R/W       1000h     8       4     R/W       11000h     4       4     R/W       11000h     4       4     R/W       11000h     4       4     R/W       11000h     4       4     R/W       11000h     10       111     10       111     10       111     10       111     10       111     10       111     10       111     10       111     10					Bit 1: Memory space
Bit 3: Message send Bit 4: Reset function Bits 5 and higher: reserved       4     R       2     R       2     R       4     R       2     R       2     R       4     R       2     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       4     R       2     R       4     R       4     R       4     R       4     R       4     R/W       1000h     8       4     R/W       11     (Initial value: 00h)       4     R/W       12     R/W       14     R/W       15     192.168.132.21       4     R/W       16     10.4       17     Indicates the group address for multicast communications.       4     R/W       4     R/W       18     Reserved       192     Reserved       192     R					Bit 2: Trap function
Bit 4: Reset function Bits 5 and higher: reserved       4     R       2     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       2     R       4     R       4     R       4     R       4     R       4     R       4     R       4     R       4     R       4     R       4     R       4     R       8     W       8     W       8     W       8     W       8     W       8     W       1000h       4     R/W       10     Initial value: 00h)       4     R/W       11     Indicates 132.1       4     R/W       10     Indicates the group address for multicast communications.       4     R/W       4     R/W       10     Indicates the group address for multicast communications.       4 <td></td> <td></td> <td></td> <td></td> <td>Bit 3: Message send</td>					Bit 3: Message send
4     R     IP address       2     R     Product type       4     R     Reserved       2     R     F&eIT protocol version       4     R     Reserved       2     R     F&eIT protocol version       4008     R     Reserved       1000h     8     W     Read/Write privilege ID       1000h     4     R/W     Read/Write privilege ID     (Initial value: 00h)       4     R/W     IP address     (Ex.) 192.168.132.31       4     R/W     Subnet mask     (Ex.) 255.255.255.0       4     R/W     Default gateway     (Ex.) 192.168.132.1       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       4     R/W     Multicast IP 1     Indicates the group address for multicast communications.       4     R/W     Multicast IP 2     4       4     R/W     Multicast IP 3     4       2     R     W     Device name     User-defined       32     R/W     Device name     User-defined       32     R/W     Contact point     User-defined       32     R/W     Community name     1   <					Bit 4: Reset function
4       R       IP address         2       R       Product type         4       R       Reserved         2       R       F&eIT protocol version         4008       R       Reserved         1000h       8       W       Read privilege ID       (Initial value: 00h)         - 1FFFh       8       W       Read/Write privilege ID       (Initial value: 00h)         4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       Subnet mask       (Ex.) 25.255.255.0         4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Default gateway       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         -       -       -       -       devices         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         -       -       -       -       multicast communications.         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       -       -         2       Reserved <td< td=""><td></td><td></td><td></td><td></td><td>Bits 5 and higher: reserved</td></td<>					Bits 5 and higher: reserved
2     R     Product type       4     R     Reserved       2     R     F&eIT protocol version       4008     R     Reserved       1000h     8     W     Read privilege ID       100h     8     W     Read/Write privilege ID     (Initial value: 00h)       4     R/W     Read/Write privilege ID     (Initial value: 00h)       4     R/W     IP address     (Ex.) 192.168.132.31       4     R/W     Subnet mask     (Ex.) 255.255.255.0       4     R/W     Default gateway     (Ex.) 192.168.132.1       4     R/W     Default gateway     (Ex.) 192.168.132.21       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       -     -     -     -     -       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       -     -     -     -     -       4     R/W     Multicast IP 1     Indicates the group address for multicast communications.       4     R/W     Multicast IP 2     -       4     R/W     Multicast IP 4     -       2     Reserved     -     -       32     R/W     Device name     User-defined       32     R/W		4	R	IP address	
4       R       Reserved         2       R       F&eIT protocol version         4008       R       Reserved         1000h       8       W       Read privilege ID       (Initial value: 00h)         - 1FFFh       8       W       Read/Write privilege ID       (Initial value: 00h)         4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       Subnet mask       (Ex.) 255.255.255.0         4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       4       R/W         4       R/W       Multicast IP 4       2       2         2       R/W       UDP port       5007h (Initial value)         2       R/W       Device name       User-defined         32       R/W       Device physical position       User-defin		2	R	Product type	
2     R     F&eIT protocol version       4008     R     Reserved       1000h     8     W     Read privilege ID     (Initial value: 00h)       - 1FFFh     8     W     Read/Write privilege ID     (Initial value: 00h)       4     R/W     IP address     (Ex.) 192.168.132.31       4     R/W     Subnet mask     (Ex.) 192.168.132.31       4     R/W     Default gateway     (Ex.) 192.168.132.1       4     R/W     Default gateway     (Ex.) 192.168.132.21       4     R/W     Trap-to IP address     (Ex.) 192.168.132.21       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       4     R/W     Number of effective multicast     0 - 4 (Initial value = 0)       4     R/W     Multicast IP 1     Indicates the group address for       4     R/W     Multicast IP 2     1000000000000000000000000000000000000		4	R	Reserved	
4008RReserved1000h8WRead privilege ID(Initial value: 00h)- 1FFFh8WRead/Write privilege ID(Initial value: 00h)4R/WIP address(Ex.) 192.168.132.314R/WSubnet mask(Ex.) 255.255.255.04R/WDefault gateway(Ex.) 192.168.132.14R/WTrap-to IP address(Ex.) 192.168.132.214R/WNumber of effective multicast0 - 4 (Initial value = 0)4R/WMulticast IP 1Indicates the group address for multicast communications.4R/WMulticast IP 2-4R/WMulticast IP 3-4R/WMulticast IP 4-2Reserved-32R/WDevice nameUser-defined32R/WDevice physical positionUser-defined32R/WContact pointUser-defined32R/WCommunity name-4R/WAccess right0: Read Only 1: Read/Write		2	R	F&eIT protocol version	
1000h       8       W       Read privilege ID       (Initial value: 00h)         - 1FFFh       8       W       Read/Write privilege ID       (Initial value: 00h)         4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       Subnet mask       (Ex.) 255.255.255.0         4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       Indicates the group address for multicast communications.         4       R/W       Multicast IP 4       Indicates the group address for multicast communications.         4       R/W       Multicast IP 4       Indicates the group address for multicast communications.         2       R/W       UDP port       5007h (Initial value)         2       R/W       Device name       User-defined         32       R/W       Device physical position       User-defined </td <td></td> <td>4008</td> <td>R</td> <td>Reserved</td> <td></td>		4008	R	Reserved	
- 1FFFh       8       W       Read/Write privilege ID       (Initial value: 00h)         4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       Subnet mask       (Ex.) 255.255.255.0         4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       Indicates the group address for multicast communications.         4       R/W       Multicast IP 4       Indicates the group address for multicast communications.         4       R/W       Multicast IP 4       Indicates the group address for multicast communications.         2       R/W       UDP port       5007h (Initial value)         2       R/W       Device name       User-defined         32       R/W       Device physical position       User-defined	1000h	8	W	Read privilege ID	(Initial value: 00h)
4       R/W       IP address       (Ex.) 192.168.132.31         4       R/W       Subnet mask       (Ex.) 255.255.05.0         4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.1         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       1         4       R/W       Multicast IP 3       1         4       R/W       Multicast IP 4       1         2       R/W       UDP port       5007h (Initial value)         2       R/W       Device name       User-defined         32       R/W       Device physical position       User-defined         32       R/W       Contact point       User-defined         32       R/W       Community name       1         4       R/W       Community name       1         4       R/W       Access right       0: Read Only         1: Read/Writ	- 1FFFh	8	W	Read/Write privilege ID	(Initial value: 00h)
4R/WSubnet mask(Ex.) 255.255.255.04R/WDefault gateway(Ex.) 192.168.132.14R/WTrap-to IP address(Ex.) 192.168.132.214R/WNumber of effective multicast devices0 - 4 (Initial value = 0) devices4R/WMulticast IP 1Indicates the group address for multicast communications.4R/WMulticast IP 24R/WMulticast IP 34R/WMulticast IP 42R/WUDP port2Reserved32R/WDevice name32R/WDevice physical position32R/WContact point4R/WSNMP trap-to IP address32R/WCommunity name4R/WAccess right0C. Read Only 1: Read/Write		4	R/W	IP address	(Ex.) 192.168.132.31
4       R/W       Default gateway       (Ex.) 192.168.132.1         4       R/W       Trap-to IP address       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast devices       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2		4	R/W	Subnet mask	(Ex.) 255.255.255.0
4       R/W       Trap-to IP address       (Ex.) 192.168.132.21         4       R/W       Number of effective multicast       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       Indicates the group address for multicast communications.         4       R/W       Multicast IP 3       Indicates the group address for multicast communications.         4       R/W       Multicast IP 4       Indicates the group address for multicast communications.         2       R/W       UDP port       5007h (Initial value)         2       Reserved       Indicates the group address         32       R/W       Device name       User-defined         32       R/W       Contact point       User-defined         32       R/W       Contact point       User-defined         32       R/W       Community name       Indicates         4       R/W       Community name       Indicates         4       R/W       Access right       0: Read/Write		4	R/W	Default gateway	(Ex.) 192.168.132.1
4       R/W       Number of effective multicast devices       0 - 4 (Initial value = 0)         4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2		4	R/W	Trap-to IP address	(Ex.) 192.168.132.21
4       R/W       Multicast IP 1       Indicates the group address for multicast communications.         4       R/W       Multicast IP 2       multicast communications.         4       R/W       Multicast IP 3       multicast communications.         4       R/W       Multicast IP 4       multicast Communications.         2       R/W       Multicast IP 4       multicast Communications.         2       R/W       Multicast IP 4       multicast Communications.         2       R/W       UDP port       5007h (Initial value)         2       Reserved       multicast Communications.         32       R/W       Device name       User-defined         32       R/W       Contact point       User-defined         32       R/W       Contact point       User-defined         32       R/W       Community name       multicast Community name         4       R/W       Access right       0: Read Only         4       R/W       Reserved       multicast Community name         2       Reserved       multicast Community name       multicast Community name         4       R/W       Reserved       multicast Community name       multicast Community name         2       R		4	R/W	Number of effective multicast devices	0 - 4 (Initial value = 0)
4     R/W     Multicast IP 2       4     R/W     Multicast IP 2       4     R/W     Multicast IP 3       4     R/W     Multicast IP 4       2     R/W     UDP port       2     R/W     UDP port       32     R/W     Device name       32     R/W     Device physical position       32     R/W     Contact point       32     R/W     Contact point       32     R/W     Community name       4     R/W     SNMP trap-to IP address       32     R/W     Community name       4     R/W     Access right       0: Read Only     1: Read/Write		4	R/W	Multicast IP 1	Indicates the group address for
4       R/W       Multicast IP 2         4       R/W       Multicast IP 3         4       R/W       Multicast IP 4         2       R/W       UDP port         2       R/W       UDP port         32       R/W       Device name         32       R/W       Device physical position         32       R/W       Contact point         32       R/W       Contact point         32       R/W       Contact point         32       R/W       Community name         32       R/W       Community name         4       R/W       Access right       0: Read Only         1: Read/Write       2004       P       Percented					multicast communications.
4       R/W       Multicast IP 3         4       R/W       Multicast IP 4         2       R/W       UDP port       5007h (Initial value)         2       Reserved		4	R/W	Multicast IP 2	
4     R/W     Multicast IP 4       2     R/W     UDP port     5007h (Initial value)       2     Reserved		4	R/W	Multicast IP 3	
2     R/W     UDP port     5007h (Initial value)       2     Reserved		4	R/W	Multicast IP 4	
2     Reserved       32     R/W     Device name     User-defined       32     R/W     Device physical position     User-defined       32     R/W     Contact point     User-defined       4     R/W     SNMP trap-to IP address     Image: Constant of the second of the secon		2	R/W	UDP port	5007h (Initial value)
32     R/W     Device name     User-defined       32     R/W     Device physical position     User-defined       32     R/W     Contact point     User-defined       4     R/W     SNMP trap-to IP address     Image: Contact point       32     R/W     Community name     Image: Contact point       4     R/W     Access right     0: Read Only       1: Read/Write     Image: Contact point     Image: Contact point		2		Reserved	
32     R/W     Device physical position     User-defined       32     R/W     Contact point     User-defined       4     R/W     SNMP trap-to IP address     32       32     R/W     Community name     0: Read Only       4     R/W     Access right     0: Read/Write		32	R/W	Device name	User-defined
32     R/W     Contact point     User-defined       4     R/W     SNMP trap-to IP address		32	R/W	Device physical position	User-defined
4     R/W     SNMP trap-to IP address       32     R/W     Community name       4     R/W     Access right     0: Read Only 1: Read/Write		32	R/W	Contact point	User-defined
32     R/W     Community name       4     R/W     Access right     0: Read Only 1: Read/Write		4	R/W	SNMP trap-to IP address	
4 R/W Access right 0: Read Only 1: Read/Write		32	R/W	Community name	
2004 P. Pacarvad		4	R/W	Access right	0: Read Only 1: Read/Write
3304 R Reserved		3904	R	Reserved	

Table 7.10. Information Common to Devices (Example) < 1/2 >

\*1 These resources are not used for the SVR-IOAx(FIT)GY as it has no SNMP agent installed.

Address	Size	Access Type	Description	Remarks
2000h	4	R	Elapsed time after the system is started	Seconds
	4	R	Total number of transmitted frames	Counter
	4	R	Total number of transmitted bytes	Counter
	4	R	Total number of received frames	Counter
	4	R	Total number of received bytes	Counter
	4	R	Total number of transmission errors	Counter
	4	R	Total number of reception errors	Counter

Table 7.10. Information Common to Devices (Example)  $\langle 2/2 \rangle$ 

Device-specific information

 Table 7.11.
 Device-Specific Information (Example)

Address	Size	Access Type	Description	Remarks
100000h - 1FFFFFh	1M	R	Device-specific information	Defines device-specific information.
200000h - 2FFFFFh	1M	R	Explanation of device-specific information	Defines device-specific information in text. Kanji characters are not allowed; characters that can be viewed on Windows Notepad can be used.

Information common to devices (2)

 Table 7.12.
 Information Common to Devices (2) (Example)

Address	Size	Access Type	Description	Remarks
300000h - 3FFFFFh	1M max	Arbitrary	I/O space	Assigns the I/O resource to be disclosed.
400000h - 4FFFFFh	1M max	Arbitrary	Memory space	Assigns the memory resource to be disclosed.
500000h - FFDFFFFFh			Reserved	
FFE00000h - FFFFFFFFh	2M max	Arbitrary	Firmware	Optional

In the above table, the entries in the "size" column are in bytes.

- R : Read-only area
- W : Write-only area
- R/W : Read/Write area

For details on this product, see the "Virtual Address Map".

# Virtual Address Map

### **Virtual Address Space**

In the Assist Serve, virtual space is defined as indicated below. For the mapping of device modulespecific information (I/O space, memory space, and so forth), please refer to the manual that is supplied with the device module.

### -- I/O Section Overview of the Virtual Memory Map --

- In F&eIT devices, 1MB is the virtual memory map is reserved as an I/O space and a memory space.
- The I/O space is used for assigning modules that is connected to each I/O Controller Unit; it is also used for I/O data access purposes.
- A maximum of eight I/O controller units can be controlled.

			-00000000h	Device information	4KB
00000000h	Information common to devices	(1MB) —	00001000h	Settings information	4KB
00100000h	Device-specific information	(1MB)	00002000h	Statistics information	4KB
00200000h	Definition of device- specific information	(1MB)	_00003000h	Reserved	1012KE
00300000h	I/O space	1MB			
00400000h	Reserved	(1MB)	_00300000h	Module virtual memory	512KB
FFE00000h	Firmware update area	2MB	00380000h	I/O data storage area	64KB
			_00390000h	Reserved	448KB

### Figure 7.10. Virtual Address

Common device information :	Information common to the F&eIT series of devices. Holds version, IP address, and send/receive frame information.
Device-specific information :	Holds I/O controller unit operating status in the same Group ID and installed device module information.
Def. of device-specific information	: Holds a description of device-specific information in text format (not implemented).
I/O space :	Holds an I/O controller unit I/O area. Any data collected by the I/O controller unit is stored in the I/O space. When this area is updated, the output is posted to the I/O Controller Unit for output to the device module.
Firmware update area :	The area in which the firmware of this device can be updated.

## Information Common to Devices (0000000h)

Device information

This is a virtual address space common to all devices that provides integrated device information.

Address (h)	Area	Information	Size	Access Type	Remarks
00000000		Vendor name	32	R	"CONTEC CO.,LTD."
		Model	32	R	*2
		Device version	2	R	1.0
		Firmware version	2	R	1.0
		MAC address	6	R	00804C*****
		Installed functions *1	2	R	Bit 0: I/O space
					Bit 1: Memory space
	Device				Bit 2: Trap function
	information				Bit 3: Message send
					Bit 4: Reset function
					Bits 5 and above: Reserved
		IP address	4	R	
		Product type	2	R	*3
		Reserved	4	R	
		F&eIT Protocol version	2	R	
		Reserved	4008	R	

Table 7.13. Virtual Address Space

\*1 Installed functions: For I/O space, the trap function, and the reset function, in the Assist Server value 0x19, 0x00 are assigned to this area.

\*2 SVR-IOA (FIT)GY : "SVR-IOA(FIT)GY", SVR-IOA2(FIT)GY : "SVR-IOA2(FIT)GY" (string) are set.

\*3 The item is set to 5 for the SVR-IOA(FIT)GY or 23 for the SVR-IOA2(FIT)GY (in decimal).

#### Settings

Parameters that are necessary for communications are set in this area. Only the communications parameters that have the same ID as the privilege ID can be written in this area.

Address (h)	Area	Information	Size	Access Type	Remarks
00001000		Read-privilege identifier	8	W	*1 (Initial value: 00h)
		Read/Write privilege identifier	8	W	*1 (Initial value: 00h)
		IP address	4	R/W	(Ex.)192.168.132.31
		Subnet mask	4	R/W	(Ex.)255.255.255.0
		Default gateway	4	R/W	(Ex.)192.168.132.1
		Trap-to IP address	4	R/W	*2 (Ex.)192.168.132.21
		Effective multicast	4	R/W	0 - 4 (Initial value = 0)
		Multicast IP 1	4	R/W	*3 Indicates Group 3 address for
		Multicast IP 2	4	R/W	multicasting communications.
	Catting and	Multicast IP 3	4	R/W	
	Settings	Multicast IP 4	4	R/W	
		UDP port	2	R/W	5007h (Initial value)
		Reserved	2	R	
		Device name	32	R/W	"I/O Assist Server"
		Device physical position	32	R/W	User-defined
		Contact information	32	R/W	User-defined
		SNMP trap-to IP address	4	R/W	*4
		Community name	32	R/W	
		Access right	2	R/W	0: Read Only, 1: Read/Write
		Reserved	3906	R	

### Table 7.14. Settings

\*1 For security, the identifier is verified to determine whether the data can be read/written. (Because this is a writeonly area, if the current settings are lost, you need to initialize the area and re-do the setup process.)

\*2 Trap-to IP address: When started, the system transmits device-specific information to the host identified in the specified IP address.

\*3 Multicast IP1 - 4: Register the multicast group that accepts multicast communications.

\*4 SNMP trap-to IP address: Not supported in the current version. The following are areas to be set by SNMP: device name, device physical position, contact information, SNMP trap-to IP address, community name, and access right.

Statistics

This area provides statistics on various devices, including Assist Server send/receive information and error statistics.

Address (h)	Area	Information	Size	Access Type	Remarks
00002000		Elapsed time after the system is started	4	R	Seconds
		Total number of transmitted frames	4	R	Counter
		Total number of transmitted bytes	4	R	Counter
	G. 11.11	Total number of received frames	4	R	Counter
	Statistics	Total number of received bytes	4	R	Counter
		Total number of transmission errors	4	R	Counter
		Total number of reception errors	4	R	Counter
		Reserved	4068	R	

### Table 7.15. Statistics

## **Device-Specific Information (00100000h)**

In the Assist Server, data with the same format as the startup-time trap information is defined as devicespecific information.

Address (h)	Area	Information	Size	Access Type	Remarks
00100000	00000	Vendor name	32	R	"CONTEC CO.,LTD."
		Model	32	R	"SVR-IOAx(FIT)GY"
		Hardware version	2	R	1.0
		Firmware version	2	R	1.0
		MAC address	6	R	00804C*****
		Installed functions	2	R	*1 Installation function indicated by Bit 1 (see "Device information").
		IP address	4	R	
		Product type	2	R	*2
		Group ID	2	R	
		Device ID	2	R	0 x 10 (Fixation)
		F&eIT protocol version	2	R	
		Unit ID 0 information	36	R	*3
	Device-specific	Unit ID 1 information	36	R	*3
	information	Unit ID 2 information	36	R	*3
		Unit ID 3 information	36	R	*3
		Unit ID 4 information	36	R	*3
		Unit ID 5 information	36	R	*3
		Unit ID 6 information	36	R	*3
		Unit ID 7 information	36	R	*3
		Status control Unit ID 0	32	R	*4
		Status control Unit ID 1	32	R	*4
		Status control Unit ID 2	32	R	*4
		Status control Unit ID 3	32	R	*4
		Status control Unit ID 4	32	R	*4
		Status control Unit ID 5	32	R	*4
		Status control Unit ID 6	32	R	*4
		Status control Unit ID 7	32	R	*4

Table 7.16. Device-Specific Information

\* 1 Installed functions: For the I/O space, the trap function, and the reset function, in the Assist Server values 0x19, 0x00 are assigned to this area.

\*2 The item is set to 5 for the SVR-IOA(FIT)GY or 23 for the SVR-IOA2(FIT)GY (in decimal).

\*3 Table 7.17 shows the more details on the Unit ID xx information.

 $^{\ast}4~$  Table 7.18 shows the more details on the Status control Unit ID xx.

Information			Size	Access Type	Remarks		
Module ope	rating status	(Unit ID 0)	4	R	Each set of 4 bits indicates the status of a slot : bit0 - 3 : Device ID=0 bit4 - 7 : Device ID=1		
					 bit28 - 31 : Device ID=7 Value : bit0 : 0 : Does not exist, 1 : Exists, 1: Operating		
Module	Device ID 0	Module type (category)	1	R			
informati		Module type (serial No.)	1	R			
on		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 1	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 2	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 3	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 4	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 5	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 6	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			
	Device ID 7	Module type (category)	1	R			
		Module type (serial No.)	1	R			
		System Reserved (revision No.)	1	R			
		Reserved	1	R			

### Table 7.17. Unit ID xx Information

Table 7.18.Status control Unit ID xx

Information	Size	Access Type	Remarks
Elapsed time after the system is started	4	R	Unit (sec.)
Total number of transmitted frames	4	R	Obtained from each module statistics area.
Total number of transmitted bytes	4	R	Obtained from each module statistics area.
Total number of received frames	4	R	Obtained from each module statistics area.
Total number of received bytes	4	R	Obtained from each module statistics area.
Total number of transmission errors	4	R	Obtained from each module statistics area.
Total number of reception errors	4	R	Obtained from each module statistics area.
Reserved	4	R	

Table 7.19.Module Types

Module type		N 11		
Category	Serial No.	Model	Function	
0x01	0x00	DIO-8/8(FIT)GY	Digital input 8ch, output 8ch	
0x01	0x01	DI-16(FIT)GY	Digital input 16ch	
0x01	0x02	DO-16(FIT)GY	Digital output 16ch	
0x01	0x03	DIO-8/8H(FIT)GY	Digital input 8ch, output 8ch	
0x01	0x04	DO-16H(FIT)GY	Digital input 16ch	
0x01	0x05	DIO-4/4(FIT)GY	Digital input 4ch, output 4ch	
0x01	0x06	DI-8(FIT)GY	Digital input 8ch	
0x01	0x07	DO-8(FIT)GY	Digital output 8ch	
0x01	0x08	DIO-8D(FIT)GY	Digital I/O 8ch	
0x02	0x00	ADI12-8(FIT)GY	Analog input 8ch	
0x02	0x01	DAI12-4(FIT)GY	Analog output 4ch	
0x02	0x02	ADI16-4(FIT)GY	Analog input 4ch	
0x02	0x03	DAI16-4(FIT)GY	Analog output 4ch	
0x03	0x00	CNT24-2(FIT)GY	Counter input 2ch	

### **Defining Device-Specific Information (0020000h)**

Provides the definition of device-specific information in the text format.

# I/O Space (0030000h)

This space is defined as an I/O space data concentration structure for the I/O Control Unit. The 64KB device module virtual memory space is partitioned into a basic function and expanded function areas. The I/O data storage area is reserved for expansion purposes.



### Figure 7.11. I/O Space

\* The I/O data storage area is a mirror area in which the I/O data sections for device modules for control units are consolidated. The I/O data storage area can be used to update all I/O data in a single operation.

# **Module Virtual Memory**

### Basic function

Each area is split into 128-byte spaces by module. An expansion area is allocated so that a maximum of 8 modules can be accommodated.



### Figure 7.12. Basic Functions

Module information area	:	Stores the current settings of the module that is installed on the I/O Controller Unit.
Module settings area	:	Any changes to the current settings of the module that is installed on the I/O Controller Unit are written in this area

### - Module information area (H +0000 128byte)

The module information includes device-specific information, module settings, and channel settings. Device-specific information contains module-specific information with a format that is common to all modules. Module settings contain settings that are common to all modules with a module-dependent format (with a common module-startup register and error status positions). Channel settings contain channel-specific settings with a module-dependent format.

The starting address can be determined according to the following expression :

### Starting address = 00300000h + (10000h x (Module ID)) + (80h x (Device ID))

Address (h)	Area	Size	Information	Size	Remarks
Starting			Module type (category)	1	See hardware specs.
address			Module type (serial No.)	1	See hardware specs.
+0000			System-reserved (revision No.)	1	
	Specific	10	Supported functions: Indicates supported functions by bits (0: OFF, 1: ON): D0: Basic input D1: Basic output D2: Expanded function D3: Reserved D4: Continuous output D5: Continuous output D6: Reserved	1	When the expanded function is supported (D2 = ON), the host checks the expanded function information in the expanded function area to obtain details of the expanded function.
	information	16	D7: Save settings		
			Number of basic input channels	1	0 - 16
			Basic input data size: input data size per channel	1	0 - 128
			Number of basic output channels	1	0 - 16
			Basic output data size: output	1	0 - 128
			data size per channel		
			Input channel setting address	1	0x20 fixation
			Input channel setting data size	1	Setting data size per channel
			Output channel setting address	1	Stores the output channel settings starting position.
			Output channel setting data size	1	Setting data size per channel
			Reserved	4	
Starting address			Module startup register	1	0 : OFF ; 1 : ON D0 : Module start/stop
+0010	Module settings	16	Error status:	1	0 : Normal operation Non-zero : Error (Principally module startup setting errors are stored here.)
			Module-dependent	14	
Starting address +0020	Channel settings	96	Module-dependent	96	

 Table 7.20.
 Module Information

[Remarks]

In the case of a counter, the Input and Output channel settings use the same area; therefore, the output channel settings address holds the value 0x20, which is the same as the input channel settings address.

### Module settings area

The module settings area contains a 128-byte image for each module that is the same as the module information. Settings are written into the module settings area by a higher host. Assigning the value 0x1 to the module startup register causes the module to be activated according to the settings that are provided in the module settings area, and the module is reflected in the module information when a module startup command is issued. When reset-activated, the module is reflected in the module settings area.

The starting address can be determined according to the following expression :

### Starting address = 00301000h + (10000h x (Module ID)) + (80h x (Device ID))



Example: Analog I/O terminal

### Figure 7.13. Analog I/O Terminal [Remarks]

When the module is successfully started, the value 0 x 01 is stored in the module startup register for module information and the value 0x00 in the error status. If an error is found in the settings parameter, the value 0x00 is stored in the module startup register for module information and an error status other than 0x00 in the error status register.

If the module startup instruction is asserted when the module is already operating (module startup register = 0x01), the settings that are provided in the module settings area will be reflected in the operation of the module.

The startup of the module by means of the module startup register is executed upon completion of virtual address access to the I/O unit. This structure takes into account the fact that the host may simultaneously access both the settings data and the module startup register.

### - Basic I/O data

Basic I/O data is stored in the Little Endian. Details on the number of channels for stored data and the data size for each channel may be found in the respective device module information. The maximum allowable data size per device module is 128 bytes.

The starting address can be determined according to the following expression:

### Starting address = 00304000h + 10000h x (Module ID)

				ſ	+0000h	Device ID 0	128byte
					+0080h	Device ID 1	128byte
					+0100 h	Device ID 2	128byte
					+0180h	Device ID 3	128byte
					+0200h	Device ID 4	128byte
+0000 h	Module information area (current operation settings)	R	4KB		+0280h	Device ID 5	128byte
+1000h	Module settings area	R/W	4KB		+0300 h	Device ID 6	128byte
+2000 h	Reserved	R	4KB		+0380h	Device ID 7	128byte
+3000 h	Reserved	R	4KB		+0400 h	Reserved for expansion	1KB
+4000h	Basic input data	R	4KB -		+0800h	Reserved	2KB
+5000h	Basic output data	R/W	4KB	<ul> <li>I</li> </ul>	+0000h	Device ID 0	128byte
+6000h	Reserved	R	4KB		+0080h	Device ID 1	128byte
+7000h	Reserved	R	4KB		+0100 h	Device ID 2	128byte
					+0180  h	Device ID 3	128byte
					+0200 h	Device ID 4	128byte
					+0280h	Device ID 5	128byte
					+0300h	Device ID 6	128byte
					+0380h	Device ID 7	128byte
					+0400 h	Reserved for expansion	1KB
					+0800h	Reserved	2KB

Figure 7.14. Basic I/O Data

Expansion function (not implemented)

The expansion function is an area reserved for future expansion; it is intended to provide functions that cannot be accommodated by the basic I/O functions.

- Expansion function information (H +0000 128byte)

This area is divided into 128-byte spaces by module.

+0000h Basic function 32KB	+0000h	Expantion Information (current operation settings)	R	4KB
+8000h Expanded 32KB	+1000 h	Expantion setting area	R/W	4KB
function	+2000 h	Reserved	R	4KB
	+3000 h	Expantion storage settings	R	4KB
	+4000 h	Expantion input data	R	4KB
	+5000h	Expantion output data	R/W	4KB
	+6000h	Reserved	R	4KB
	+7000h	Reserved	R	4KB

		_
+0000h	Device ID 0	128byte
+0080h	Device ID 1	128byte
+0100 h	Device ID 2	128byte
+0180h	Device ID 3	128byte
+0200h	Device ID 4	128byte
+0280h	Device ID 5	128byte
+0300h	Device ID 6	128byte
+0380h	Device ID 7	128byte
+0400h	Reserved for expansion	1KB
+0800h	Reserved	2KB

### Figure 7.15. Expanded Function Information

- Expanded information (128byte)

### Table 7.21. Expanded Information

Item	Size	Description	Remarks
Supported function	1	Supported functions are indicated by bits. (0 : OFF, 1 : ON) * Supported functions are module-dependent.	

### I/O data storage area

The I/O data storage area is a mirror area in which the I/O data sections of the modules are consolidated. This area can be used by the Assist Server when collecting module data in a single operation.

00300000h	Module virtual memory	512KB	00380000h	Device status	32KB
00380000h	I/O data storage area	64KB	00380080h	Device ID I/O data	32KB
00390000h	Reserved	448KB			

### Figure 7.16. I/O Data Storage Area

- The contents of the module status consist of mirroring information on the module startup register and the error status as part of the module information stored in this function area.
- The contents of the I/O module I/O data consist of mirroring information comprised of the higher 16 bytes of the basic input and output data stored in the function area.

The starting address can be determined according to the following expression :

### Starting address = 00380000h

#### Table 7.22. I/O Data Storage Area

Address	Area	Size	Information	Size	Remarks
Starting address+000			I/O Controller Unit ID 0	16	*1
- Starting address+00F					
Starting address+010			I/O Controller Unit ID 1	16	
- Starting address+01F					
Starting address+020			I/O Controller Unit ID 2	16	
- Starting address+02F					
Starting address+030			I/O Controller Unit ID 3	16	
- Starting address+03F	Device status	190			
Starting address+040	Device status	128	I/O Controller Unit ID 4	16	
- Starting address+04F					
Starting address+050			I/O Controller Unit ID 5	16	
- Starting address+05F					
Starting address+060			I/O Controller Unit ID 6	16	
- Starting address+06F					
Starting address+070			I/O Controller Unit ID 7	16	
<ul> <li>Starting address+07F</li> </ul>					
Starting address+080			I/O Controller Unit ID 0	128	*2
<ul> <li>Starting address+0FF</li> </ul>					
Starting address+100			I/O Controller Unit ID 1	128	
- Starting address+07F					
Starting address+180			I/O Controller Unit ID 2	128	
<ul> <li>Starting address+1FF</li> </ul>					
Starting address+200			I/O Controller Unit ID 3	128	
<ul> <li>Starting address+27F</li> </ul>	Device ID	1024			
Starting address+280	I/O data	1024	I/O Controller Unit ID 4	128	
<ul> <li>Starting address+2FF</li> </ul>					
Starting address+300			I/O Controller Unit ID 5	128	
<ul> <li>Starting address+37F</li> </ul>					
Starting address+380			I/O Controller Unit ID 6	128	
<ul> <li>Starting address+3FF</li> </ul>					
Starting address+400			I/O Controller Unit ID 7	128	
<ul> <li>Starting address+47F</li> </ul>					

\*1 Table 7.23 shows the more details on the I/O Controller Unit ID xx.

 $^{\ast}2$  Table 7.24 shows the more details on the I/O Controller Unit ID xx I/O data.

	Information	Size	Remarks
Device ID 0	Module startup status	1	R
	Error status	1	R
Device ID 1	Module startup status	1	R
	Error status	1	R
Device ID 2	Module startup status	1	R
	Error status	1	R
Device ID 3	Module startup status	1	R
	Error status	1	R
Device ID 4	Module startup status	1	R
	Error status	1	R
Device ID 5	Module startup status	1	R
	Error status	1	R
Device ID 6	Module startup status	1	R
	Error status	1	R
Device ID 7	Module startup status	1	R
	Error status	1	R

 Table 7.23.
 More details on the I/O Controller Unit ID xx

Table 7.24. More details on the I/O Controller Unit ID xx I/O data

Information	Size	Remarks
Device ID 0 I/O data	16	R/W
Device ID 1 I/O data	16	R/W
Device ID 2 I/O data	16	R/W
Device ID 3 I/O data	16	R/W
Device ID 4 I/O data	16	R/W
Device ID 5 I/O data	16	R/W
Device ID 6 I/O data	16	R/W
Device ID 7 I/O data	16	R/W

### Shared Memory Area (0040000h)

This area can be used commonly irrespective of the device configuration.

The area is NULL-cleared when the power is turned on.

Once written to, the area retains its content until it is written to next or until the power is turned off.

### Table 7.25. Shared Memory Area

Address (h)	Area	Information	Size	Remarks
00400000	Shared Memory Area	Message	Max. 2K	R/W

### Firmware Update Area (FFE00000h)

By accessing this area, you can read and write the firmware.

Table 7.26.	Firmware	Update	Area

Address (h)	Area	Information	Size	Remarks
FFE00000	Firmware Update	Firmware	Max. 2M	R/W
-FFFFFFFF	Area			

[Notes on performing firmware access]

(1) Read/write operations are performed by shifting the offset.

1st operation	: Offset = $0x00000000$ , number of data pieces = $1024$
2nd operation	: Offset = $0x00000400$ , number of data pieces = $1024$
3rd operation	: Offset = $0x00000800$ , number of data pieces = $1024$

(2) Detection of the End of File

Read operation ... The EOF is reached when the response packet has a normal status and the access size is [0].

Write operation ... The EOF is reached when the access size of the requesting packet is [0].
# **Operating Procedures**

#### **Startup Sequence - Routine Startup**

- (1) Module devices are polled by means of the multicast IP; of the modules that respond to the polling, those in which the same Group ID are assigned are registered as modules that are subject to control.
- (2) The polling process uses module device information requests to determine module types, the types of cards that are installed in module slots, and startup and settings information. This information is used by PCs that obtain information from the Assist Server (for the conversion of physical quantities involving Analog Input data).



Figure 7.17. Startup Sequence-Routine Startup

#### **Reading/Writing Data**

Overview of Module Communications Processing

Communications with modules are performed by mutually independent and module-specific processes.



#### Figure 7.18. Overview of Module Communications Processing

\* If waiting on the data queue can be terminated when data is entered into the queue or at a specified time, waiting on the queue is assumed to be the default condition.

Overview of the Communications Process with a Higher HOST (PC)

Communications with a higher HOST (PC) are conducted in a process in which the 5007h port remains open. Because this port is also used for the reception of module Trap information, data must be properly assigned to it.



Figure 7.19. Overview of Processing of Communications with a Higher Host (PC)

Procedures for collecting monitoring data through the Web

- For each I/O module, a specific communications process is provided, and each process polls modules independently.
- (2) The data obtained by means of the polling is set in a common area. The data is read in response to queries received from a higher PC via the F&eIT (this table is managed by the control process and the data queue).
- (3) Data requests received from a Java applet running on a client PC are also processed according to F&eIT specifications.



Figure 7.20. Procedures for Collecting Monitoring Data through the Web

### **Initialization of Settings**

If the initialization process is assigned to the Group ID rotary switch "F" and the system is started (reset), the system boots itself by initializing module information and the information common to devices.

# Forced Startup of a Loader

## (Loader Specifications)

If the initialization process is assigned to the Group ID rotary switch "E" and the system is started (reset), only the Loader is started without loading the firmware. This option can be used when it is necessary to bypass the loading of the firmware, such as when there is a firmware problem, so that new firmware can be downloaded.

# SVR-IOA(FIT)GY SVR-IOA2(FIT)GY User's Manual

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