# **GE Fanuc Automation**

Series 90-30/70

## **Computer Link Driver**

Supported version T

TOP Design Studio V1.0 or higher



### CONTENTS

We would like to thank our customers for using M2I's "Touch Operation Panel (M2I TOP) Series". Read this manual and familiarize yourself with the connection method and procedures of the "TOP and external device".

### **1.** System configuration

### Page 2

Describes the devices required for connection, the setting of each device, cables, and configurable systems.

### 2. External device selection Page 4

Select a TOP model and an external device.

### **3.** TOP communication setting Page 5

Describes how to set the TOP communication.

### 4. External device setting Page 10

Describes how to set up communication for external devices.

### 5. Cable table

### Page 18

Describes the cable specifications required for connection.

### **6.** Supported addresses

### Page 21

Refer to this section to check the addresses which can communicate with an external device.



## 1. System configuration

The system configuration of TOP and "GE Fanuc Intelligent Platforms, Inc. - Series 90-30/70, VersaMax(Nano/Micro)" is as follows.

Series	CPU	Link I/F	Communication method	System setting	Cable
Series 90–30 PLC	IC693CPU311 IC693CPU313 IC693CPU321 IC693CPU323 IC693CPU323 IC693CPU340 IC693CPU340 IC693CPU350 IC693CPU350 IC693CPU352 IC693CPU360 IC693CPU363 IC693CPU364 IC693CPU374 IC693CPU311 IC693CPU313 IC693CPU323 IC693CPU331 IC693CPU331	SNP Serial Port on Power unit	RS-422 (4 wire)	<u>3. TOP communication</u> <u>setting</u> 4.1. External device setting 1	5.1. Cable table 1
	IC693CPU311 IC693CPU313 IC693CPU321 IC693CPU323 IC693CPU331 IC693CPU340 IC693CPU341 IC693CPU350 IC693CPU360 IC693CPU364	Built-in Serial Port	RS-422 (4 wire)	3. TOP communication setting 4.1. External device setting 1	5.1. Cable table 1
		IC693CPU331 IC693CPU340 IC693CPU341 IC693CPU350 IC693CPU360 IC693CPU364	RS-232C RS-422 (4 wire)	<u>3. TOP communication</u> <u>setting</u> <u>4.3 External device setting 3</u>	5.2. Cable table 2
	Built-in S Port 1 IC693CPU351 on CPU IC693CPU352 Port 2 IC693CPU363 on CPU IC693CPU363	Built-in Serial Port	RS–422 (4 wire)	3. TOP communication setting 4.1. External device setting 1	5.1. Cable table 1
		Port 1 on CPU Unit Port 2 on CPU Unit	RS-232C RS-422 (4 wire)	3. TOP communication setting 4.2. External device setting 2	5.1. Cable table 1
		IC693CMM311	RS-232C RS-422 (4 wire)	3. TOP communication setting 4.3 External device setting 3	5.2. Cable table 2
		Port on Power unit	RS-422 (4 wire)	3. TOP communication setting 4.1. External device setting 1	5.1. Cable table 1
	IC693CPU374	IC693CMM311	RS-232C RS-422 (4 wire)	3. TOP communication setting 4.3 External device setting 3	5.2. Cable table 2

Continued on the next page.

					한민국대표 터치패널 buch Operation Panel
Series	CPU	Link I/F	Communication method	System setting	Cable
Series	IC697CPU731 IC697CPU771 IC697CPU772 IC697CPU780 IC697CPU780 IC697CPU782 IC697CPU788 IC697CPU788 IC697CPU789 IC697CPM790 IC697CPM915 IC697CPM925 IC697CPX722 IC697CPX782 IC697CPX782 IC697CPX935 IC697CPX935 IC697CGR772 IC697CGR772 IC697CGR735 IC697CSE784 IC697CSE924	SNP Serial Port on CPU unit	RS-422 (4 wire)	3. TOP communication setting 4.1. External device setting 1	5.1. Cable table 1
90-70 PLC	IC697CPU731 IC697CPU731 IC697CPU732 IC697CPU771 IC697CPU772 IC697CPU781 IC697CPU782 IC697CPU788 IC697CPU789 IC697CPM790 IC697CPM914 IC697CPM915 IC697CPM924 IC697CPM925 IC697CPM925 IC697CPX72 IC697CPX782 IC697CPX782 IC697CPX935 IC697CPX935	IC697CMM711	RS-232C RS-422 (4 wire)	3. TOP communication setting 4.3 External device setting 3	5.2. Cable table 2
VersaMax		Port 1 on CPU unit	RS-232C	3. TOP communication setting	5.3 Cable table 3
PLC		Port 2 on CPU unit	RS-422 (4 wire)	4.4. External device setting 4	

#### Connection configuration

• 1:1 (one TOP and one external device) connection – configuration which is possible in RS232C/422 communication.





• 1:N (one TOP and multiple external devices) connection – configuration which is possible in RS422 communication.





### 2. External device selection

■ Select a TOP model and a port, and then select an external device.

PLC select [CC	DM1]					
Filter : [All]			$\sim$		Search :	
					Mod	lel 🔿 Vendor
Vendor		Mode	el			
LS Industrial Systems		^ 🌮	Series90-3	0/70		
MODBUS Organization						
SIEMENS AG.						
Rockwell Automation						
GE Fanuc Automation						
PANASONIC Electric Wo	rks					
YASKAWA Electric Corpo	oration					
YOKOGAWA Electric Cor	poration					
Schneider Electric Indust	tries					
KDT Systems						
RS Automation						
HITACHI IES						
FATEK Automation Corp	oration					
DELTA Electropica		~				
PLC Setting[ Serie	s90-30/70	)]				
Abaa Ata	PLC1					
Allas Name :						
Allas Name : Interface :	Computer Li	nk	~			
Alias Name : Interface : Protocol : String Save Mode :	Computer Li	nk	∨ ∨		C	omm Manual
Alias Name : Interface : Protocol : String Save Mode :	Computer Li SNP First HL HL	nk C	V hange		c	omm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundanc Operate Condition : A	Computer Li SNP First HL HL	nk C	v ihange		C	omm Manual
Allas Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : All Change Condition :	Computer Li SNP First HL HL Y ND V	nk (C	ihange		C	omm Manual
Auis Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition :	Computer Li SNP First HL HL Y ND ~ TimeOut Condition	nk C	(Second)		C	omm Manual
Auss Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition :	Computer Li SNP First HL HL ND ~ TimeOut Condition	nk [ C	ihange		C	omm Manual
Auss reame : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout	Computer Li SNP First HL HL Y ND ~ TimeOut Condition	nk C	Change		C	omm Manual
Alias reame : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Change Condition : Primary Option Timeout Send Wait	Computer Li SNP First HL HL Y ND V TimeOut Condition 300 8 0 8	nk C 5 msec msec	(Second)		C	omm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition : A Primary Option Timeout Send Wait Retry	Computer Li SNP First HL HL Y ND Condition 300 5 5 5	nk C	ihange (Second)			omm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : A Change Condition : A Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL Y ND ~ TimeOut Condition	nk	v hange ↓ (Second)		c	omm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL ND TimeOut Condition 300 5 6 Unuse	nk	↓ hange (Second)		c	omm Manual
Alias Name : Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Aliange Condition : Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL Y ND V TimeOut Condition 300 E 5 E Unuse	nk	v hange ↓ (Second)		c	omm Manual
Alias Name : Interface : String Save Mode : Use Redundance Operate Condition : Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL Y ND Condition 300 5 8 Unuse	nk	(Second)		C	emm Manual
Alias Name : Interface : String Save Mode : Use Redundance Operate Condition : Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL Y ND V TimeOut Condition 300 8 5 8 Unuse	nk 5 5 msec 6	(Second)		C	emm Manual
Interface : Protocol : String Save Mode : Use Redundance Operate Condition : Primary Option Timeout Send Wait Retry SNP ID	Computer Li SNP First HL HL Y ND V TimeOut Condition 300 5 5 2 Unuse	nk C	↓ hange ↓ (Second)			edit

Settings		Contents			
ТОР	Model	Check the TOP display and process to select the touch model.			
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select "GE Fanuc Automation".			
	PLC Select an external device to connect to				Protocol
		Series 90-30/70	Computer Li	nk	Set Users
		Supported Protocol			
SNP Please check connect is a		SNP		SNP-X	
		Please check the system config connect is a model whose syste	uration in Cha m can be conf	apter 1 to see if t igured.	he external device you want to



## 3. TOP communication setting

The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

### 3.1 Communication setting in TOP Design Studio

#### (1) Communication interface setting

- [Project > Project properties > TOP settings] → [Project option > Check "Use HMI settings" > Edit > Serial ]
  - Set the TOP communication interface in TOP Design Studio.



Items	т	OP	External device	Remarks	
Signal Level (port)		DC 422	RS-232C		
	RS-232C	KS-422	RS-422		
Baud Rate	19200				
Data Bit					
Stop Bit	1				
Parity Bit	None.				

\* The above settings are examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device.
Baud Rate	Select the serial communication speed between the TOP and an external device.
Data Bit	Select the serial communication data bit between the TOP and an external device.
Stop Bit	Select the serial communication stop bit between the TOP and an external device.
Parity Bit	Select the serial communication parity bit check method between the TOP and an external device.



### (2) Communication option setting

- [ Project > Project properties > PLC settings > COM > "PLC1 : Series90-30/70"]
  - Set the options of the communication driver of Series90-30/70 Computer Link (SNP/SNP-X) in TOP Design Studio.

Project Option			×
Change HMI[H] Add PI	LC [A] TTTT Change PLC[C]	Delete PLC[D]	
<ul> <li>TOP Setting</li> <li>SYS: RD1520X</li> <li>Option Module Setting</li> <li>FieldBus (0)</li> <li>RFID (0)</li> <li>Device Setting</li> <li>COM1 (1)</li> <li>Ethernet (0)</li> <li>Wireless (0)</li> <li>USBDevice (0)</li> </ul>	PLC Setting[ Series90-30         Alias Name :       PLC1         Interface :       Compu         Protocol :       SNP         String Save Mode :       First H         Use Redundancy       Operate Condition :       AND         Change Condition :       ImeOut         Condition       TimeOut       300         Send Wait       0         Retry       5         SNP ID       Unuse	<pre>//70] ter Link  </pre>	Comm Manual
			Apply Close

Items	Settings	Remarks
Interface	Select "Computer Link".	Refer to "2. External
Protocol	Select the serial communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device	
	and sending the next command request.	
SNP ID	Enter SNP ID for external device.	



### 3.2. Communication setting in TOP

\* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

■ Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.



#### (1) Communication interface setting

■ [ Main screen > Control panel > Serial ]



Items	т	OP	External device	Remarks	
Signal Level (port)		DC 422	RS-232C		
	KS-232C	KS-422	RS-422		
Baud Rate	19200				
Data Bit		8			
Stop Bit					
Parity Bit		Non	е.		

\* The above settings are setting examples recommended by the company.

Items	Description
Signal Level	Select the serial communication method between the TOP and an external device.
Baud Rate	Select the serial communication speed between the TOP and an external device.
Data Bit	Select the serial communication data bit between the TOP and an external device.
Stop Bit	Select the serial communication stop bit between the TOP and an external device.
Parity Bit	Select the serial communication parity bit check method between the TOP and an external device.



### (2) Communication option setting

■ [ Main screen > Control panel > PLC ]

		PLC	×
Run Sy	ste Driver(COM1)	PLC1(Series90-30/70) - Computer Link -	
	Protocol Timeout	SNP     SNP	
VNC Viewer Etherne	Send Wait Retry SNP ID	0 - The mission of th	
Screen shot Diagnost	ic		
[Syst	em Diagnostic		Cancel
ems Se	ttings		Remark

Items	Settings	Remarks
Interface	Select "Computer Link".	Refer to "2. External
Protocol	Select the serial communication protocol between the TOP and an external device.	device selection".
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external device	
	and sending the next command request.	
SNP ID	Enter SNP ID for external device. (Configure with TOP Design Studio)	



### **3.3 Communication diagnostics**

■ Check the interface setting status between the TOP and an external device.

- Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.
- Check if the COM port settings you want to use in [Control Panel > Serial] are the same as those of the external device.
- Diagnosis of whether the port communication is normal or not
- Touch "Communication diagnostics" in [Control Panel > PLC ].
- The Diagnostics dialog box pops up on the screen and determines the diagnostic status.

ОК	Communication setting normal
Time Out Error	Communication setting abnormal
	- Check the cable, TOP, and external device setting status. (Reference: Communication diagnostics sheet)

#### ■ Communication diagnostics sheet

- If there is a problem with the communication connection with an external terminal, please check the settings in the sheet below.

Items	Contents		Ch	eck	Remarks	
System	How to connect the sy	stem	OK	NG	1 Cretem configuration	
configuration	Connection cable name	2	OK	NG	<u>1. System computation</u>	
TOP	Version information		OK	NG		
	Port in use		OK	NG		
	Driver name		OK	NG		
	Other detailed settings		OK	NG		
	Relative prefix	Project setting	OK	NG		
		Communication	OK	NG	2. External device selection	
		diagnostics	ÜK	NG	3. Communication setting	
	Serial Parameter	Transmission	OK	NG		
		Speed	OK	NG		
		Data Bit	OK	NG		
		Stop Bit	OK	NG		
		Parity Bit	OK	NG		
External device	CPU name		OK	NG		
	Communication port name (module name)		OK	NG		
	Protocol (mode)		OK	NG		
	Setup Prefix		OK	NG		
	Other detailed settings		OK	NG	4. External device setting	
	Serial Parameter	Transmission	OK		4. External device setting	
		Speed	ÖK	NG		
		Data Bit	OK	NG		
		Stop Bit	OK	NG		
		Parity Bit	OK	NG		
	Check address range				6. Supported addresses	
			OK	NG	(For details, please refer to the PLC	
					vendor's manual.)	



### 4. External device setting

#### 4.1 External device setting 1 (Port on Power Unit, Built in Serial Port of Series 90-30/70)

Use "90–30/70 Series" Ladder Software "CIMPLICITY Machine Edition" to set as follows. Reboot the external device after downloading the settings. For more detailed setting method than described in this example, refer to PLC user manual.

**Step 1.** Add the PLC Series you want to use as "Target" through the "[Project] – [Add Target] – [GE Fanuc Controller]" path of the Tool Bar.



Step 2. Add the "Power" and "CPU Module" to the "[Hardware Configuration] – [Main Rack]" path.

**Step 3.** Select the communication method between PC and PLC in the [Properties] of the "Target", and then execute [Target] – [Go Online with "Target"] in the Tool Bar to connect to PLC.







🕱 GE Fanuc - Proficy Machine Edition - [(0.1) IC693CPU331]							
🔉 <u>F</u> ile <u>E</u> dit <u>S</u> earch <u>P</u> roject T <u>a</u> rget Va <u>r</u> iables <u>P</u> arar	neter <u>T</u> ools <u>W</u> indow <u>H</u> elp						
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·▶ +F # • 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	* Br #						
: 7 🕙 M 🕨 🗰 🔲 U C E j: Tê da Q E							
Navigator 🛛 🗘 🗙	InfoViewer (0.1) IC693CP	U331					
	Settings Scan Memory Power Co	nsumption					
⊡ GE Fanuc	Parameters	Values					
iarget1	1/0 Scan-Stop:	No					
🔤 🔜 Data Watch Lists	Power Up Mode:	Last					
🖕 🎆 Hardware Configuration *	Logic / Configuration From:	RAM					
🚊 🖬 Main Rack (IC693CHS397)	Registers:	RAM					
	Passwords:	Enabled					
Slot 1 (IC693CPU331) *	Checksum Words:	8					
Slot 2 (IC693CMM321)	Data Rate (bps):	19200					
I Slot 3.0	Parity:	None					
	Stop Bits:	1					
	Modem Turnaround Time (.01 Sec / C	0					
	Idle Time (Sec):	10					
	Timer Faults:	Disabled					
	SNP ID:						
	Ignore Fatal Faults:	Disabled					
Rack 4 (IC693CHS392)							
⊨ <b>:</b> D Logic							

Items	Contents	Settings	Remarks
Data Rate[bps]	Set the serial communication speed of an external device.	19200	
Parity	Set the serial communication parity bit of an external device.	None	
Stop Bits	Set the serial communication stop bit of an external device.	1	
SNP ID	Set the SNP ID of the external device.	0	

Step 4. Execute [Target] – [Download "Target" to Controller...] in the Tool Bar to download the settings to PLC.



### 4.2 External device setting 2 (Port 1/2 on CPU Unit of Series 90-30/70)

Use "90–30/70 Series" Ladder Software "CIMPLICITY Machine Edition" to set as follows. Reboot the external device after downloading the settings. For more detailed setting method than described in this example, refer to PLC user manual.

Step 1. Add the PLC Series you want to use as "Target" through the "[Project] - [Add Target] - [GE Fanuc Controller]" path of the



Step 2. Add the "Power" and "CPU Module" to the "[Hardware Configuration] - [Main Rack]" path.

**Step 3.** Select the communication method between PC and PLC in the [Properties] of the "Target", and then execute [Target] – [Go Online with "Target"] in the Tool Bar to connect to PLC.

GE Fanue - Proficy Mar	hine Edition - Infolviewer				
CE Fande - Proney Mat	raiart Tarant Variables Taals Window Hala				
	Add Component to "Target1"				
	Add All Components				
1 1 1 1 1 0 0 0	Remove Component from "Target1"				
: <b>f</b> @ H <b>b</b> \$					
Navigator					
GE Fanuc					
Data Watch	Lists				
🖻 🎆 Hardware Co					
🖻 🏢 Main Rad					
PWR	(C693 Offine Commands				
Slot 2					
Slot 3	Report Ctrl+T View				
- Slot 4	0 Diagnostics				
Slot S	50 Show Documentation				
	C693C Clean Build Folders "Target1"				
🕀 🎆 Rack 3 (I	C693C Import				
🗄 🎆 Rack 4 (I	C693C Export Binaries				
E-D Logic	2009 GE Fanuc Intelligent Platforms, Inc. All rights reserved.     *Trademark of GE Fanuc Intelligent Platforms, Inc.				
	All other brands or names are property of their respective holders.				
🕮 📴 🖉 Reference View Tables					
🖃 🕼 Supplement	al Files				
APM File	S .				
Docume	ntation Files				
🔄 Initial Va	lue Tables				
•	m b				
🛛 😹 О 🦯 О 😹 М	🗊 P 🔞 V 💡 I				
Inspector	# ×				
Desumentation Address					
Family	Series 90.20 PLC				
Controller Target Name	TFCT11				
Lindate Bate (ms)	250				
Sweep Time (ms)	Offline				
Controller Status	Offline				
Enable Shared Variables	False				
Physical Port	ETHERNET -				
nspector					
Companion	COM3				
Physical Port	COM4 ETHERNET				
The method used to	< <add com="" port="" remove="">&gt;</add>				



Step 3. Double-click "CPU Module" to display the setting window, and in the [Port1 (RS-232)] or [Port2 (RS-485)] tab of the window set as follows

window, set as follows.		
🔉 GE Fanuc - Proficy Machine Edition - [(0.1) IC693CPU35	[Target1]]	
🔀 Eile Edit Search Project Target Variables Paran	neter <u>T</u> ools <u>W</u> indow <u>H</u> elp	
i 🕅 🖆 🔒 🗸 🎙 🖡 👘 🥼 🖄 🖿 🛍 🗅 🗅	🗙 🗷 🕴 🖪 💺 🔊 🗃 🎇 🧉	🕽 🖋 🏙 🕴 🗢 🔿 🕥 😰 🚮 🔬
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Navigator 🕂 🗸 🛪	InfoViewer (0.1) IC693CP	U351 [Target1]
	Settings Scan Port 1 (RS-232) Po	rt 2 (RS-485) Memory Power Consumption
⊡…信题 GE Fanuc ▲	Paramotoro	Waluos
🖻 🔅 Target1	Port Node:	SNP
Data Watch Lists	Port Type:	Slave
🗄 🎬 Hardware Configuration *	Data Bate (bos):	19200
🖨 📶 Main Rack (IC693CHS391)	Flow Control:	None
	Parity:	None
Slot 1 (IC693CPU351) *	Stop Bits:	1
Slot 2 (IC693CMM321)	Timeout:	Long
<b>D</b> Slot 3 0	Turnaround Delay (.01 Sec / Count):	0
	SNP ID:	0
I Slot 5 0		
Slot 6 0		
	Settings Scan Port 1 (RS-232) Po	rt 2 (RS-485) Memory Power Consumption
Slot 8 ()	Parameters	Values
Slot 9 ()	Port Mode:	SNP
Slot 10 ()	Port Type:	Slave
	Data Rate (bps):	19200
	Flow Control:	None
Rack 3 (IC693CHS392)	Parity:	
Rack 4 (IC693CHS392)	Stop Bits:	
	Turnaround Delay ( 01 Sec / Count)	0
Rack 6 (IC693CHS392)	SNP ID:	0
	Converter Power Consumption (Watts)	0
Logic		

Items	Contents	Settings	Remarks
Port Mode	Set the serial communication protocol of the corresponding port.	SNP	Fixed
Port Type	Set the serial communication mode of the corresponding port.	Slave	Fixed
Data Rate[bps]	Set the serial communication speed of an external device.	19200	Set Users
Parity	Set the serial communication parity bit of an external device.	None	
Stop Bits	Set the serial communication stop bit of an external device.	1	
SNP ID	Set the SNP ID of the external device.	0	

Step 4. Execute [Target] – [Download "Target" to Controller...] in the Tool Bar to download the settings to PLC.



### 4.3 External device setting 3 (IC693CMM311, IC697CMM711)

Use "90–30/70 Series" Ladder Software "CIMPLICITY Machine Edition" to set as follows. Reboot the external device after downloading the settings. For more detailed setting method than described in this example, refer to PLC user manual.

Step 1. Add the PLC Series you want to use as "Target" through the "[Project] – [Add Target] – [GE Fanuc Controller]" path of the



Step 2. Add the "Power", "CPU Module", and "link I/F Module" to the "[Hardware Configuration] - [Main Rack]" path.

**Step 3.** Select the communication method between PC and PLC in the [Properties] of the "Target", and then execute [Target] – [Go Online with "Target"] in the Tool Bar to connect to PLC.

😹 GE Fanuc - Proficy Machine Editio	on - [InfoViewer]
📸 Eile Edit Search Project Ta	rget Va <u>r</u> iables <u>T</u> ools <u>W</u> indow <u>H</u> elp
i 🎒 🚅 🖬 🍜 🗸 🎙 🖫 🔇	Add Component to "Target1" 🔹 🕨 🞇 😭 🚀 💕 🤅 🛑 🕫 💕 🖓 🖓
IN 11 # O () () () ()	Add <u>A</u> ll Components
. ≠	Remove Component from "Target1" 🔸 🕂   T 📮 🖨
Navigator	Set Active Target
	Validate "Target1" F7
🖃 👘 GE Fanuc	Download "Target1" to Controller F8
Target1	
Data Watch Lists	Download and Start "Target1" F9
🖻 🎬 Hardware Configu	Go Online with "Target1"
Slot 1 (C69	
Slot 2 (1C69	
Slot 3 ()	Report Ctrl+T View
Slot 4 0	Diagnostics
Slot 5 ()	Show Documentation
Rack 1 (IC693C)	Clean Build Folders "Target1"
🗈 🎆 Rack 2 (IC693C	
Rack 3 (IC693C	inhore .
E- Kack 4 (IC093C	Export Binaries
Program Blocks	* <u>Trademark</u> of GE Fanuc Intelligent Platforms, Inc.
MAIN	All other brands or names are property of their respective holders.
Reference View Tables	
🗄 🕼 Supplemental Files	
APM Files	
AUP Files	
Documentation File	5
Inspector	
Description	
Documentation Address	
Family Series 90-3	10 PLC
Controller Target Name TEST11	
Update Rate (ms) 250	
Sweep Time (ms) Offline	
Controller Status Offline	
Enable Shared Variables False	
Physical Port ETHERNE	
nspector COM1	
Companion COM3	
Physical Port ETHERNE	T main COM Bath >
The method used to decoded to decoded the test of test	neve war are arget. Can be any of the following:



<b>p 3.</b> Double-click "link I/F Module" to display the s	etting window, and in the [F	ort1] or [Port2] tab of the window, set as fol
🔀 GE Fanuc - Proficy Machine Edition - [(0.3) IC693CMM	11]	
🔀 <u>F</u> ile <u>E</u> dit <u>S</u> earch <u>P</u> roject T <u>a</u> rget Va <u>r</u> iables <u>P</u> ara	meter <u>T</u> ools <u>W</u> indow <u>H</u> elp	
i 🏭 🚅 🖶 🍜 🗸 📮 🗣 👘 i 🐰 🖻 💼 🗅 🖸	: 🗙 🛛 🗄 🖪 🔩 🔊 😭 🕯	🔋 🥌 🛠 🕍 🤄 🗢 🗢 🕼 🛣 💭
:▶ ++ ++ • 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	*1 & ø	
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Navigator 🏨 🗶	InfoViewer (0.3) IC69	3CMM311
	Settings Port 1   Port 2   Power	Consumption
🖃 📾 GE Fanuc	Parameters	Values
🖻 💥 Target1	Configuration Mode:	SNP Only
Data Watch Lists		
Hardware Configuration *	Settings Port 1 Port 2 Power	Consumption
	Basamatasa	Maluas
	SNP Enable:	Yes
	SNP Mode:	Slave
Slot 2 (IC693CMM321)	Data Rate (bps):	19200
	Parity:	None
Slot 4 0	Stop Bits:	1
Slot 5 ()	Flow Control:	None
	Turnaround Delay (mSec):	None
	Timeout:	Long
⊡- <b>∭</b> Rack 4 (IC693CHS392)	Settings Port 1 Port 2 Power	Consumption
	Parameters	Values
	SNP Enable:	Yes
Beference View Tables	SNP Mode:	Slave
Reference view Tables	Interface:	RS485
E ADA Files	Data Rate (bps):	19200
	Panty:	None
	Stop Bits:	Nono
Documentation Files	Turnaround Delau (mSec):	None
Initial Value Tables	Timeout:	
۰ III ا		

Setting items	Contents	Settings	Remarks
Configuration Mode	Set the serial communication protocol of the Link I/F Module.	SNP Only	Fixed
Port 1 item	Contents	Settings	Remarks
SNP Enable	Set whether to communicate with SNP.	Yes	Fixed
SNP Mode	Set the SNP communication mode.	Slave	Fixed
Data Rate (bps)	Set the serial communication speed of Link I/F Module.	19200	
Parity	Set the serial parity bit of Link I/F Module.	None	
Stop Bit	Set the serial stop bit of Link I/F Module.	1	
Port 2 item	Contents	Settings	Remarks
SNP Enable	Set whether to communicate with SNP.	Yes	Fixed
SNP Mode	Set the SNP communication mode.	Slave	Fixed
Data Rate (bps)	Set the serial communication speed of Link I/F Module.	19200	
Interface	Set the serial communication interface of Link I/F Module.	RS485	
Parity	Set the serial parity bit of Link I/F Module.	None	
Stop Bit	Set the serial stop bit of Link I/F Module.	1	

### **※** Set the "SNP ID" among [CPU module] - [Settings] parameter items.

Step 4. Execute [Target] – [Download "Target" to Controller...] in the Tool Bar to download the settings to PLC.



### 4.4 External device setting 4 (Port 1/2 on CPU Unit of VersaMax)

Use "90–30/70 Series" Ladder Software "CIMPLICITY Machine Edition" to set as follows. Reboot the external device after downloading the settings. For more detailed setting method than described in this example, refer to PLC user manual.

Step 1. Add the PLC Series you want to use as "Target" through the "[Project] – [Add Target] – [GE Fanuc Controller]" path of the



Step 2. Add the "Power" and "CPU Module" to the "[Hardware Configuration] – [Main Rack]" path.

**Step 3.** Select the communication method between PC and PLC in the [Properties] of the "Target", and then execute [Target] – [Go Online with "Target"] in the Tool Bar to connect to PLC.





**Step 3.** Double-click "CPU Module" to display the setting window, and in the [Port1 (RS-232)] or [Port2 (RS-485)] tab of the window, set as follows.

window, set as follows.							
🔀 GE Fanuc - Proficy Machine Edition - [(0.0) IC200UDR00	5/006/010/228 [Target2]]	CONTRACTOR OF CONT					
🔀 <u>F</u> ile <u>E</u> dit <u>S</u> earch <u>P</u> roject T <u>a</u> rget Va <u>r</u> iables <u>P</u> aran	neter <u>T</u> ools <u>W</u> indow <u>H</u> elp						
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Navigator 🛛 🕂 🗙	InfoViewer (0.0) IC200UD	R005/006/010/228 [Target2]					
	CRU Cawlere L Carry Rott 1 (RS-222						
⊡ 🚰 GE Fanuc	CPU Settings   Scan   Fott (13-232	Port 2 (HS-485)   Memory   Winng					
Target1	Parameters	Values					
Target2	Fort Mode:	SNP					
	Port Type:	Slave					
Data Watch Lists	Data Rate (bps):	19200					
🗄 🎆 Hardware Configuration *	Flow Control:	None					
🖃 🎟 Main Rack	Parity:	None					
CPU (C2001/DR005/006/010/228) *	Stop Bits:	1					
Ci o (1620000/1000/010/220)	Timeout						
Discrete I/O	Turnaround Delau ( 01 Sec. / Count):						
HSC/PWM/PTO	CND ID:	0					
ia logic	SNF ID.						
er	CPU Settings Scan Port 1 (RS-232	Port 2 (RS-485) Memory   Wiring					
🗄 📭 Supplemental Files	Parameters	Values					
	Fort Mode:	SNP					
	Port Type:	Slave					
	Data Rate (bps):	19200					
	Flow Control:	None					
	Parity:	None					
	Ston Bits:	1					
	Timeout	long					
	Turnaround Delau ( 01 Sec / Count):						
	CNID ID-						
	JNI ID.						
4							
🛛 💏 O 📝 U 😹 M 📴 P 🔞 V 🧣 I 📗							

Items	Contents	Settings	Remarks
Port Mode	Set the serial communication protocol of the corresponding port.	SNP	Fixed
Port Type	Set the serial communication mode of the corresponding port.	Slave	Fixed
Data Rate[bps]	Set the serial communication speed of an external device.	19200	
Parity	Set the serial communication parity bit of an external device.	None	
Stop Bits	Set the serial communication stop bit of an external device.	1	
SNP ID	Set the SNP ID of the external device.	0	

Step 4. Execute [Target] – [Download "Target" to Controller...] in the Tool Bar to download the settings to PLC.



### 5. Cable table

This chapter introduces a cable diagram for normal communication between the TOP and the corresponding device. (The cable diagram described in this section may differ from the recommendations of "GE Fanuc Automation".)

### 5.1 Cable table 1 (Port on Power Unit, Built-in Serial Port of Series 90-30/70)

### ■ **RS-422** (1:1 connection)

COM				PLC		
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
15	RDA	1		13	SDA	1 9
0 0		2	•	12	SDB	$\left( \begin{array}{c} \bullet & \bullet \\ \bullet & \bullet \end{array} \right)$
		3	•	11	RDA	9 15
6 9 Paced on	RDB	4 ·		10	RDB	Based on
	SG	5		7	SG	communication
	SDA	6	<u>↓                                      </u>	6	RTS+	cable connector
front		7		15	CTS+	front,
D-SUB 9 Pin male		8		14	RTS-	D-SUB 15 Pin male
(male, convex)	SDB	9	•	8	CTS-	(male, convex)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

### **RS-232C** (1:1 connection)

CC	M				PI	_C
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
	CD	1	•	1	CTS	$\wedge$
1 5	RD	2		2	TXD	
	SD	3		3	0V	
6 9	DTR	4	•	4	SG	
Based on	SG	5	┝┪ ┥┥	5	RXD	16
communication	DSR	6	•                 •             •           •         •       •       •         •       •       •       •       •       •       •       •       •     •     •     •     •     •     •     •       •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •     •	6	RTS	Based on
cable connector	RTS	7				communication
front,	CTS	8				cable connector
D-SUB 9 Pin male		9				front,
(male, convex)						6 pin male RJ12
(,,						(male, convex)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

## ■ RS-422 (1:N connection) – Refer to 1:1 connection to connect in the following way.

TOP	Cable connection and signal	PLC	Cable connection and signal	Terminating PLC
Signal name	direction	Signal name	direction	Signal name
RDA		SDA		SDA
RDB		SDB		SDB
SDA		RDA		RDA
SDB		RDB		RDB
SG	-	0V		0V
	•	RTS+	] <del>,</del>	RTS+
	•	CTS+	]	CTS+
	•	RTS-	•	RTS-
		CTS-	1	CTS-



### 5.2 Cable table 2 (ICM693CMM311, ICM697CMM711)

CC	M				Р	LC
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
15	CD	1		1		1 13
$(\circ \circ)$	RD	2		2	TD	$\left( \begin{array}{c} \bullet & \bullet \end{array} \right)$
	SD	3		3	RD	14 25
6 9 Deced on	DTR	4	•	4	RTS	Based on
communication	SG	5	•	5	CTS	communication
cable connector	DSR	6		6		cable connector
front	RTS	7		7	SG	front,
D-SUB 9 Pin male	CTS	8				D-SUB 25 Pin male
(male, convex)		9		(Omi	tted)	(male, convex)

#### ■ RS-232C (1:1 connection)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

### ■ **RS-422** (1:1 connection)

СОМ			P		LC	
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
15	RDA	1 ·		21	SDA	1 13
$(\circ \circ)$		2	•	9	SDB	$\left( \begin{array}{c} \bullet & \bullet \end{array} \right)$
		3	•	25	RDA	14 25
6 9 Based on	RDB	4 ·		13	RDB	Based on
communication		5 .		7	SG	communication
cable connector	SDA	6		10	RTS+	cable connector
front		7		11	CTS+	front,
D-SUB 9 Pin male		8	•	22	RTS-	D-SUB 25 Pin male
(male, convex)	SDB	9		23	CTS-	(male, convex)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

#### TOP Cable connection and signal PLC Cable connection and signal Terminating PLC Signal name direction Signal name direction Signal name RDA SDA SDA RDB SDB SDB SDA RDA RDA SDB RDB RDB SG 0V 0V RTS+ RTS+ CTS+ CTS+ RTS-RTS-CTS-CTS-

■ RS-422 (1:N connection) – Refer to 1:1 connection to connect in the following way.



CC	M				P	LC
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
1 5	CD	1	•	1	RTS	
00	RD	2	• •	2	CTS	
$\bigcirc$	SD	3		3	RXD	
6 9	DTR	4	•	4	TXD	8
Based on	SG	5	•	5		Based on
communication	DSR	6		6		communication
cable connector	RTS	7		7		cable connector
front,	CTS	8	•	8	GND	front,
D-SUB 9 Pin male		9				8-pin male RJ45
(male, convex)		5				(Male, convex)

### **RS-232C** (1:1 connection)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

### ■ **RS-422** (1:1 connection)

СОМ				PLC		
Pin	Signal	Pin	Cable connection	Pin	Signal	Pin
arrangement*Note 1)	name	number		number	name	arrangement*Note 1)
15	RDA	1 .		13	SDA	1 8
0 0		2	•	12	SDB	(° °)
		3	<del> </del>	11	RDA	9 15
6 9 Paced on	RDB	4 ·	e	10	RDB	Based on
		5 .		7	SG	communication
cable connector	SDA	6		6	RTS+	cable connector
front		7		15	CTS+	front,
D-SLIB 9 Pin male		8	•	14	RTS-	D-SUB 15 Pin male
(male, convex)	SDB	9 ·	└─── <b>└</b>	8	CTS-	(male, convex)

\*Note 1) The pin arrangement is as seen from the connecting side of the cable connection connector.

### **RS-422** (1:N connection) – Refer to 1:1 connection to connect in the following way.

TOP	Cable connection and signal	PLC	Cable connection and signal	Terminating PLC
Signal name	direction	Signal name	direction	Signal name
RDA		SDA		SDA
RDB		SDB		SDB
SDA		RDA		RDA
SDB		RDB		RDB
SG		0V		0V
	• •	RTS+	•	RTS+
	•	CTS+		CTS+
	•	RTS-	•	RTS-
	•	CTS-	]	CTS-



## 6. Supported addresses

### The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

Device	Bit Address	Word Address	Word Address NOTE	32 BIT	
Input Relay	100001 – 132768	100001 – 132753	100001 + 16*n *Note 1)		
Output Relay	Q00001 – Q32768	Q00001 – Q32753	Q00001 + 16*n *Note 1)		
Internal Relay	M00001 – M32768	M00001 – M32753	M00001 + 16*n *Note 1)		
Global Relay	G0001 – G7680	G0001 – G7665	G0001 + 16*n *Note 1)		
Momentary Relay	T001 – T1024	T001 – T1009	T001 + 16*n *Note 1)		
	S001 – S128	S001 – S113			
System Euroption Bolow	SA001 – SA128	SA001 – SA113	$5001 + 16^{+}$		
System Function Relay	SB001 – SB128	SB001 – SB113	SUUT + 10"11 *Note 1)		
	SC001 – SC128	SC001 – SC113			
Register	R00001.0 - R32640.15	0001.0 - R32640.15 R00001 - R32640			
Analog Input	AI0001.0 - AI32640.15	AI0001 – AI32640			
Analog Output	AQ0001.0 - AQ32640.15	AQ0001 – AQ32640			

\*Note 1) When using a bit address that uses decimals, use a word address in units of "16"

\*Note 2) The lower 16-bit data of 32-bit data is saved in the screen-registered address, and the upper 16-bit data is saved in the address following the screen-registered address.

Ex. When saving 32BIT data hexadecimal data 12345678 in address D00100, it is saved to 16BIT device address as follows:

Items	32BIT	16BIT	
Address	D00100	D00100	D00101
Input data (hexadecimal)	12345678	5678	1234