DeviceNet™ Analog I/O Terminals

Replace Guide
From DRT2-AD/DA to R7 Series

OMRON

DRT2-AD04

DRT2-DA02

MG CO., LTD.

Remote I/O R7 Series

R7D-SV4

R7D-YV2

R7D-YS2

P155-E1-02

■Introduction

This document is intended for experienced users who have designed remote I/O communication systems using DeviceNet,

This is the summary of points to smoothly transfer the system to R7D-SV4/R7D-YV2/YS2 manufactured by MG CO., LTD.

This document is a summary of only the points. For detailed operating procedures, refer to the documentation and technical documentation in "7. REFERENCE INFORMATION".

■Target readers

This guide is written for the following:

With electrical knowledge (electrical engineers or equivalent knowledge)

- Those responsible for the installation of factory automation equipment
- Those designing FA systems
- Those who manage factory automation sites

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Intended Customer

- A customer who has previously been designed a remote I/O communication system using DeviceNet and will be responsible for replacing the unit from DRT2-AD04/DA02 to R7D-SV4/YV2/YS2 in the future.
- Omron or your retailer's sales representative or SE that supports the introduction of the above customer.

Object product

Name	Type
DeviceNet master unit	Model CJ1W-CRM21 Model CS1W-CRM21
DeviceNet analogue-in terminals	Model DRT2-AD04
DeviceNet Analogue Out Terminals	Model DRT2-DA02
MG Co., Ltd. Remote I/OR7 Series DC voltage/current input module	Model R7D-SV4
MG Co., Ltd. Remote I/OR7 Series DC voltage output unit	Model R7D-YV2
MG Co., Ltd. Remote I/OR7 Series DC current output unit	Model R7D-YS2
Included in CX-Programmer (Included in CX-One)	
Included in CX-Integrator (Included in CX-One)	
MG Co., Ltd. Configuration software	Model R7CON
MG Co., Ltd. PC configuration cable	Model COP-US

1 Comparing DRT2-AD04/DA02 and R7D-SV4/YV2/YS2 specifications

This chapter compares the functions and specific cations of DRT2-AD04/DA02 and R7D-SV4/YV2/YS2.

1.1 Analog input terminal

<table>
<tr><th>Item</th><th colspan="4">DRT2-AD04</th><th colspan="2">R7D-SV4</th></tr>
<tr><td>Number of analog input points</td><td colspan="4">4 points</td><td colspan="2">4 points</td></tr>
<tr><td>Input range</td><td colspan="2">Voltage</td><td colspan="2">Current</td><td>Voltage</td><td>Current</td></tr>
<tr><td></td><td colspan="2">0 ～ 5V
1 ～5V
0 ～ 10V
10 ～ +10V</td><td colspan="2">0 ～ 20mA
4～ 20mA</td><td>0～5V
1～5V
-5V～+5V
0～10V
-10V～+10V
-1～+1V
0～1V
-0.5～+0.5V</td><td>0～20mA
4～20mA
-20～+20mA</td></tr>
<tr><td>AD conversion cycle</td><td colspan="4">4 points 4ms or less</td><td colspan="2">4 points 10m s,20ms,40ms,80ms</td></tr>
<tr><td>Resolution</td><td colspan="4">1/6000</td><td colspan="2">1/10000</td></tr>
<tr><td>Unit power supply</td><td colspan="6">Supplied from communication power</td></tr>
<tr><td>Accuracy</td><td></td><td>Voltage</td><td>Current</td><td colspan="3" rowspan="3">Accuracy Conversion Speed
±0.1% 80ms
±0.2% 40ms
±0.4% 20ms
±0.8% 10ms</td></tr>
<tr><td>25℃</td><td>±0.3%</td><td>±0.4%</td></tr>
<tr><td>0～55℃</td><td>±0.6%</td><td>±0.8%</td></tr>
<tr><td>Assignment data to master</td><td colspan="4">Default: Input analog for 4 points
The following data can be assigned by setting from the Configurator.
Peak value, Bottom value, Top value, Barre value, Rate of change value, Comparator result, General status, etc.</td><td colspan="2">4 input analog points</td></tr>
<tr><td>Input point switching (A/D conversion point setting)</td><td colspan="4">Yes
Depending on the setting from the Configurator: 1 to 4 points)</td><td colspan="2">None</td></tr>
<tr><td>Input range switching</td><td colspan="4">With DIP switch setting: Input 0, 1 Common, Input 2, 3 Common
Depending on the setting from the Configurator
: Input 0 to 3 can be set individually.</td><td colspan="2">With DIP switch setting: Common to inputs 0 to 3
Using the configuration software (R7CON): Input 0 to 3 can be set individually.</td></tr>
<tr><td>Node address setting</td><td colspan="4">Rotary switch,
Or set by the Configurator</td><td colspan="2">Rotary switch</td></tr>
<tr><td>Dialing speed</td><td colspan="4">Automatically follow master sets</td><td colspan="2">Rotary switch.
Automatic tracking to the master setting is also possible by setting the rotary switch.</td></tr>
<tr><td>Averaging function</td><td colspan="4" rowspan="7">Yes</td><td colspan="2" rowspan="7">None</td></tr>
<tr><td>Disconnection detection function</td></tr>
<tr><td>Scaling function</td></tr>
<tr><td>Offset compensation function</td></tr>
<tr><td>Peak Bottom Hold function</td></tr>
<tr><td>Top valley hold function</td></tr>
<tr><td>Conversion rate</td></tr>
</table>

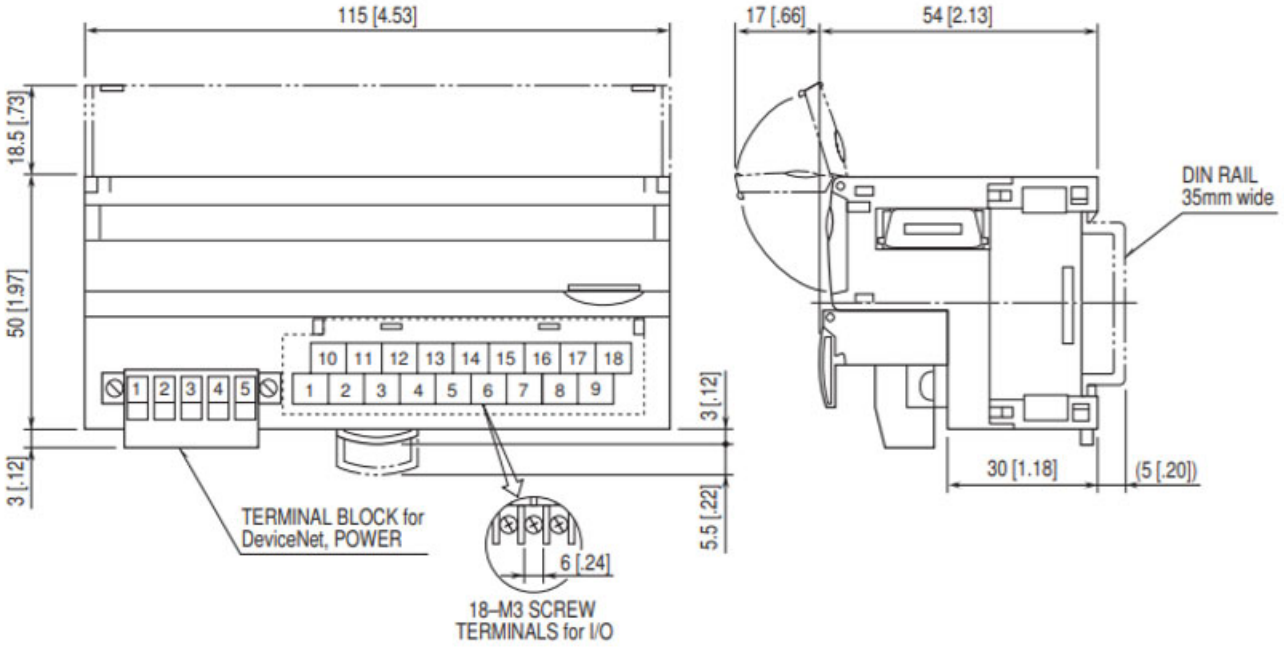
calculation function		
Comparator function User calibration function		
Integral function		
Last maintenance day function		

1.2 Analog Output Terminals

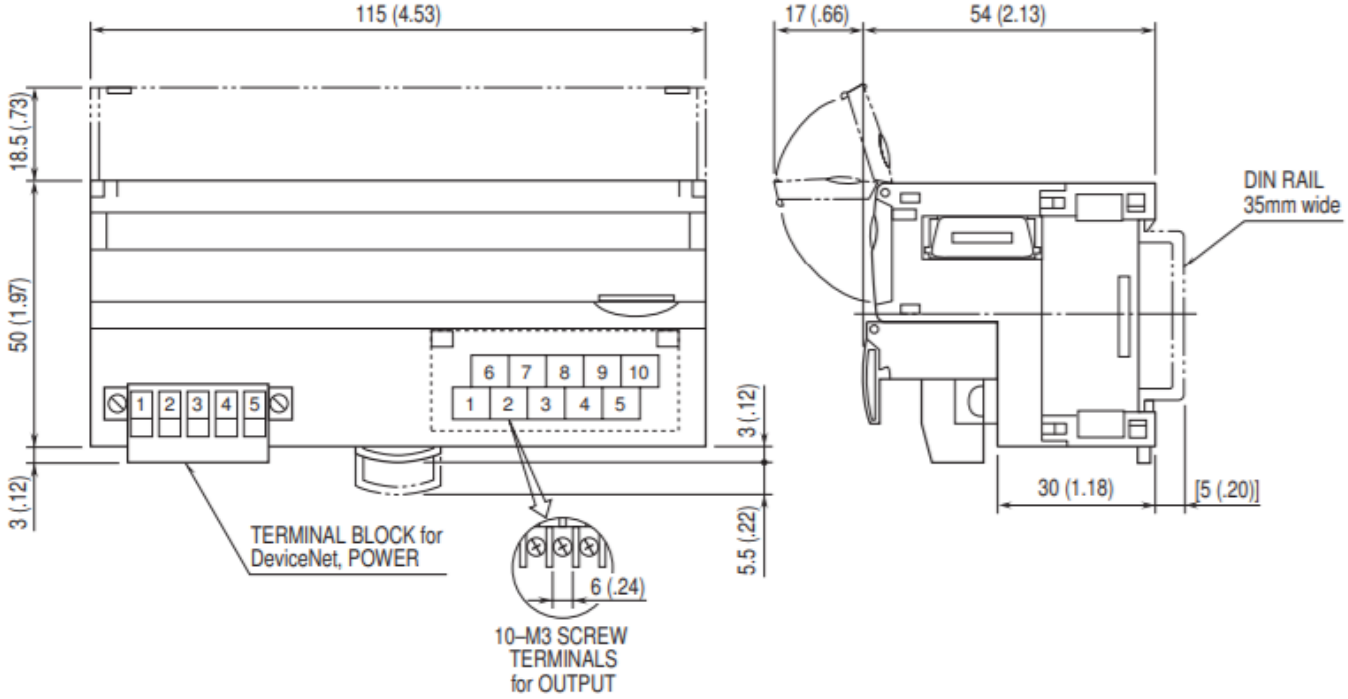
Item	DRT2-DA02		R7D-YV2	R7D-YS2
Number of analog output points	2 points			
Output range	Voltage	Current	Voltage	Current
	0 ～ 5V 1 ～5V 0 ～ 10V - 10 ～ +10V	0 ～ 20mA 4～ 20mA	0～5V 1～5V -5V～+5V 0～10V -10V～+10V -1～+1V 0～1V -0.5～+0.5V	4～20mA
AD conversion cycle	2 points 4ms or less		2 points 250ms	
Resolution	1/6000		1/10000	
Unit power supply	Supplied from communication power			
Accuracy	25℃	±0.6%	±0.1%	
	0～55℃	±0.8%		
Assignment data to master	Default: Output analog value of 2 points General-purpose status can be assigned by setting from the Configurator.		Output analog value for two points	
Output range switching	Depends on the DIP switch setting or the setting from the Configurator.		DIP switch setting or setting by the configuration software (R7CON)	None
Node address setting	Rotary switch, Or set by the Configurator		Rotary switch	
Dialing speed	Automatically follow master sets		Rotary switch Automatic tracking to the master setting is also possible by setting the rotary switch.	
Output condition at the time of communication error	Depending on the setting from the Configurator		DIP switch	
Scaling function	Yes		None	
User calibration function				
Scaling function				
Integral function				
Last maintenance day function				

1.3 EXTERNAL DIMENSIONS

R7D-SV4



R7D-YV2/YS2



2 Switch setting method

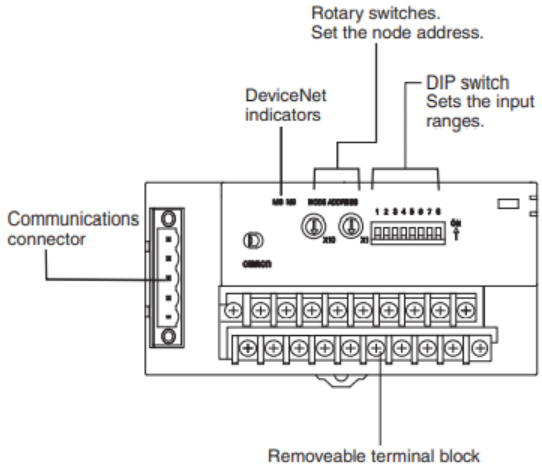
DRT2-AD04/DA02 and R7D-SV4/YV2/YS2 settings are described with both units.
I will explain it.

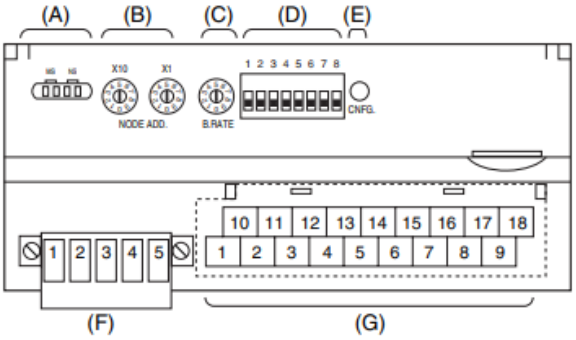
Safety Key Points

Be sure to turn off the power to the slave before making sets.

2.1 DRT2-AD04 and R7D-SV4

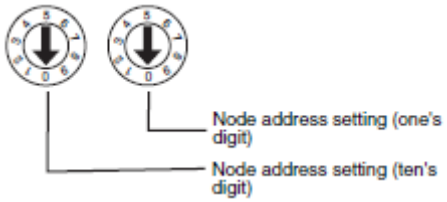
DRT2-AD04	R7D-SV4
Set the node address and input range. ・Model DRT2-AD04	Set the node address, communication speed, input range, and conversion speed/accuracy. ・Model R7D-SV4



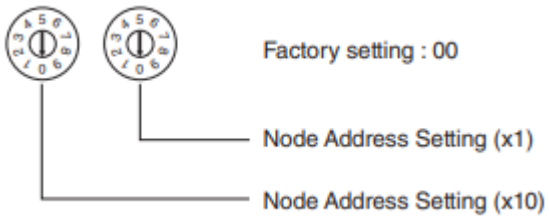


(A) Status Indicator LED
(B) Node Address Setting Rotary SW
(C) Baud Rate Setting Rotary SW
(D) Operating Mode Setting DIP SW (SW1)
(E) PC Configurator Jack
(F) DeviceNet, Power Supply Terminals
(G) Input Terminals

Setting the Node Address



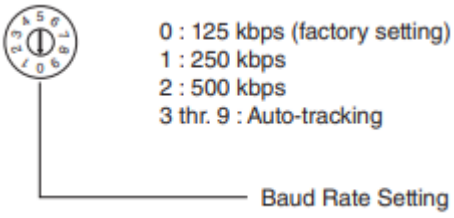
Setting the Node Address



Setting the Baud Rate

There is no setting.

Setting the Baud Rate



Setting input range

Pin No.	Setting	Specifications
1	Input Terminal: Input range setting for Inputs 0 and 1.	Default setting: All pins OFF
2		
3		
4	Input Terminal: Input range setting for Inputs 2 and 3.	Default setting: All pins OFF
5		
6		
7	AD conversion data format setting	ON: Signed binary OFF: Two's complement
8	Range setting method	OFF: Use Configurator. ON: Use DIP switch. The other DIP switch settings are disabled when pin 8 is OFF. Default setting: OFF

■ **Inputs 0 and 1 (Shared Setting)**

Signal range	Pin 1	Pin 2	Pin 3
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON
Cannot set for other ranges.	---	---	---

■ **Inputs 2 and 3 (Shared Setting)**

Signal range	Pin 4	Pin 5	Pin 6
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON
Cannot set for other ranges.	---	---	---

Conversion Speed/Accuracy Setting

There is no setting.

Setting input range

SW1-5	SW1-6	SW1-7	SW1-8	INPUT RANGE
OFF	OFF	OFF	OFF	-10 – +10V DC (*)
ON	OFF	OFF	OFF	-5 – +5V DC
OFF	ON	OFF	OFF	-1 – +1V DC
ON	ON	OFF	OFF	0 – 10V DC
OFF	OFF	ON	OFF	0 – 5V DC
ON	OFF	ON	OFF	1 – 5V DC
OFF	ON	ON	OFF	0 – 1V DC
ON	ON	ON	OFF	-0.5 – +0.5V DC
ON	OFF	OFF	ON	-20 – +20mA DC
OFF	ON	OFF	ON	4 – 20mA DC
ON	ON	OFF	ON	0 – 20mA DC
ON	ON	ON	ON	PC Configurator setting

Conversion Speed/Accuracy Setting

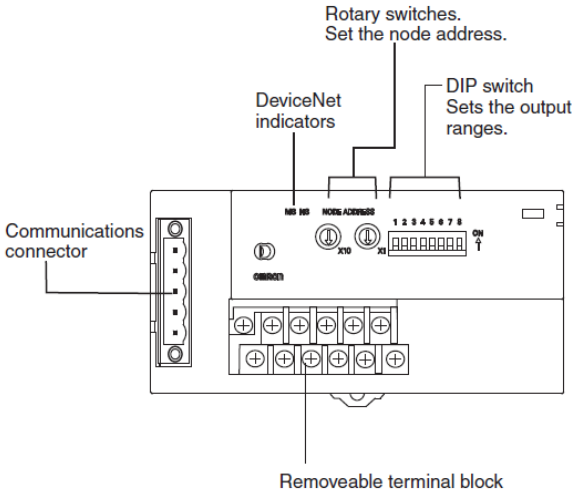
SW1-3	SW1-4	CONVERSION RATE / ACCURACY
OFF	OFF	80 msec. / ±0.1% (*)
ON	OFF	40 msec. / ±0.2%
OFF	ON	20 msec. / ±0.4%
ON	ON	10 msec. / ±0.8%

2.2 DRT2-DA02 and R7D-YV2

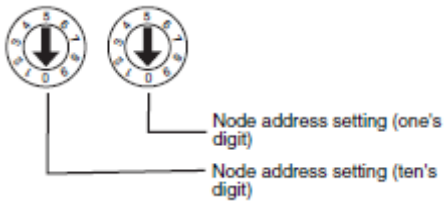
DRT2-DA02

Set the node address and output range

・Model DRT2-DA02



Setting the Node Address



Setting the Baud Rate

There is no setting.

Output condition at the time of communication error

Set in the Configurator.

Output range setting

■ Output 0

Signal range	Pin 1	Pin 2	Pin 3
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON

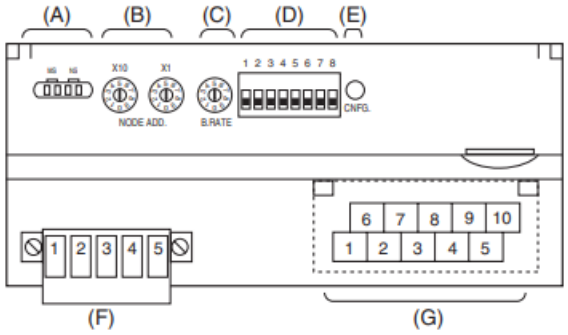
■ Output 1

Signal range	Pin 4	Pin 5	Pin 6
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON

R7D-YV2

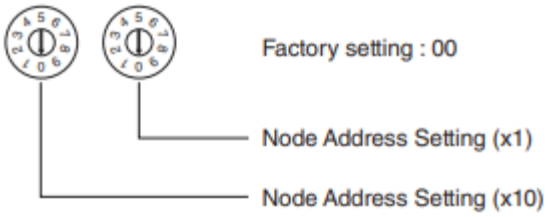
Set the node address, communication speed, output at communication interruption, and output range.

・Model R7D-YV2

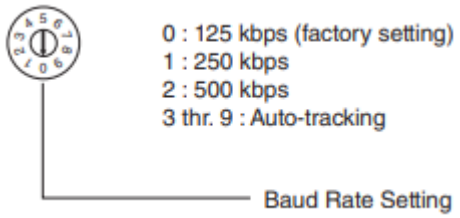


(A) Status Indicator LED
(B) Node Address Setting Rotary SW
(C) Baud Rate Setting Rotary SW
(D) Operating Mode Setting DIP SW (SW1)
(E) PC Configurator Jack
(F) DeviceNet, Power Supply Terminals
(G) Output Terminals

Setting the Node Address



Setting the Baud Rate



Output condition at the time of communication error

SW1-4	OUTPUT AT THE LOSS OF COMMUNICATION
OFF	Reset the output (to -15% or approx. -11.5V DC)
ON	Hold the output (*) (maintains the last data received normally)

Output range setting

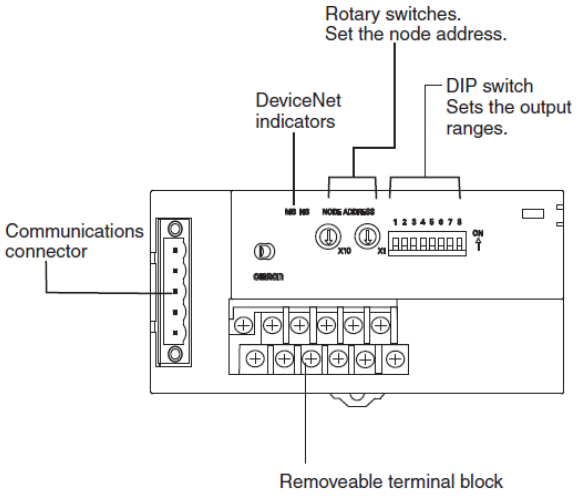
SW1-5	SW1-6	SW1-7	SW1-8	OUTPUT RANGE
OFF	OFF	OFF	OFF	-10 – +10V DC (*)
ON	OFF	OFF	OFF	-5 – +5V DC
OFF	ON	OFF	OFF	-1 – +1V DC
ON	ON	OFF	OFF	0 – 10V DC
OFF	OFF	ON	OFF	0 – 5V DC
ON	OFF	ON	OFF	1 – 5V DC
OFF	ON	ON	OFF	0 – 1V DC
ON	ON	ON	OFF	-0.5 – +0.5V DC
ON	ON	ON	ON	PC Configurator setting

2.3 DRT2-DA02 and R7D-YS2

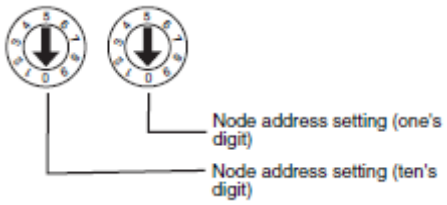
DRT2-DA02

Set the node address and output range.

・Model DRT2-DA02



Setting the Node Address



Setting the Baud Rate

There is no setting.

Output condition at the time of communication error

Set in the Configurator.

Output range setting

■ Output 0

Signal range	Pin 1	Pin 2	Pin 3
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON

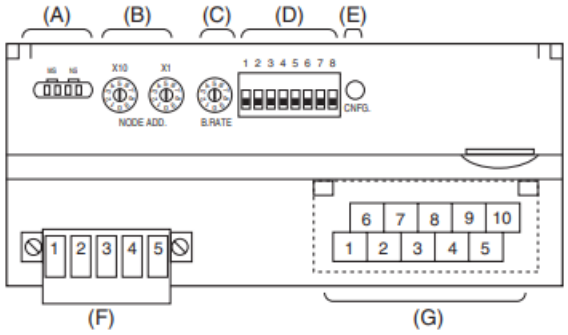
■ Output 1

Signal range	Pin 4	Pin 5	Pin 6
0 to 5 V	OFF	OFF	OFF
1 to 5 V	ON	OFF	OFF
0 to 10 V	OFF	ON	OFF
–10 to 10 V	ON	ON	OFF
4 to 20 mA	OFF	OFF	ON
0 to 20 mA	ON	OFF	ON

R7D-YS2

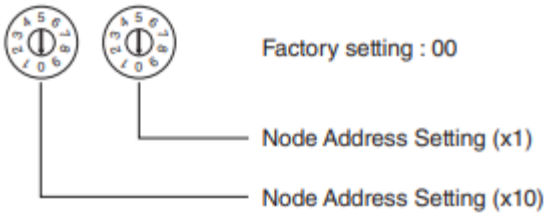
Set the node address, communication speed, output at communication interruption, and output range.

・Model R7D-YS2

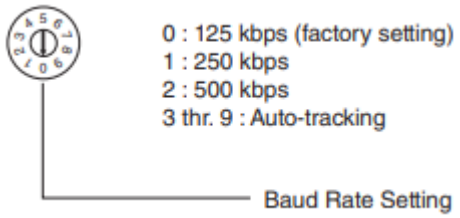


(A) Status Indicator LED
(B) Node Address Setting Rotary SW
(C) Baud Rate Setting Rotary SW
(D) Operating Mode Setting DIP SW (SW1)
(E) PC Configurator Jack
(F) DeviceNet, Power Supply Terminals
(G) Output Terminals

Setting the Node Address



Setting the Baud Rate



Output condition at the time of communication error

SW1-4	OUTPUT AT THE LOSS OF COMMUNICATION
OFF	Reset the output (to -15% or approx. -11.5V DC)
ON	Hold the output (*) (maintains the last data received normally)

Output range setting

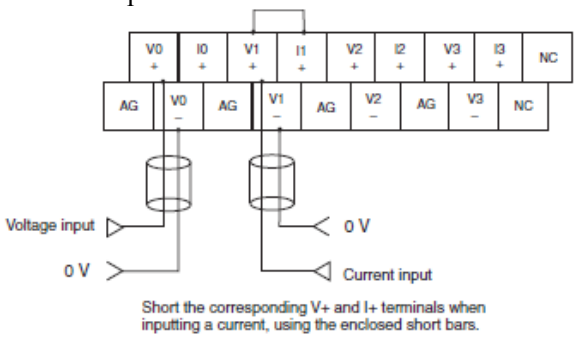
There is no setting.

3 Wiring method

3.1 DRT2-AD04 and R7D-SV4

DRT2-AD04

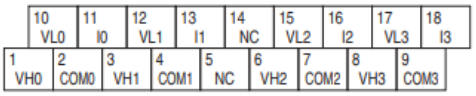
Wire each input unit according to the voltage input or current input as shown below.



Short the corresponding V+ and I+ terminals when inputting a current, using the enclosed short bars.

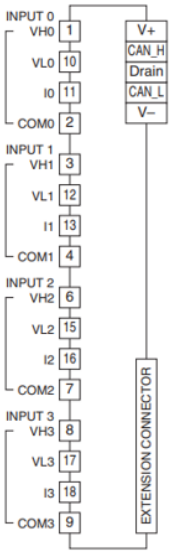
R7D-SV4

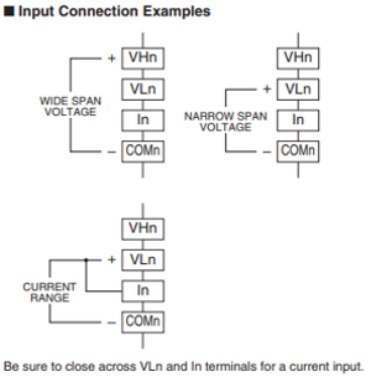
Wire each input unit according to the voltage input or current input as shown below.



NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	VH0	Wide span volt. 0	10	VL0	Narrow span volt. 0
2	COM0	Common 0	11	I0	Current range 0
3	VH1	Wide span volt. 1	12	VL1	Narrow span volt. 1
4	COM1	Common 1	13	I1	Current range 1
5	NC	No connection	14	NC	No connection
6	VH2	Wide span volt. 2	15	VL2	Narrow span volt. 2
7	COM2	Common 2	16	I2	Current range 2
8	VH3	Wide span volt. 3	17	VL3	Narrow span volt. 3
9	COM3	Common 3	18	I3	Current range 3

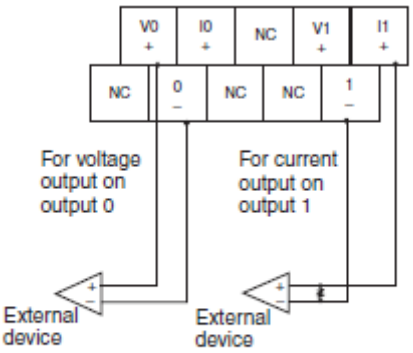
Terminal connection diagram



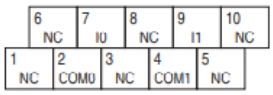


3.2 DRT2-DA02 and R7D-YS2

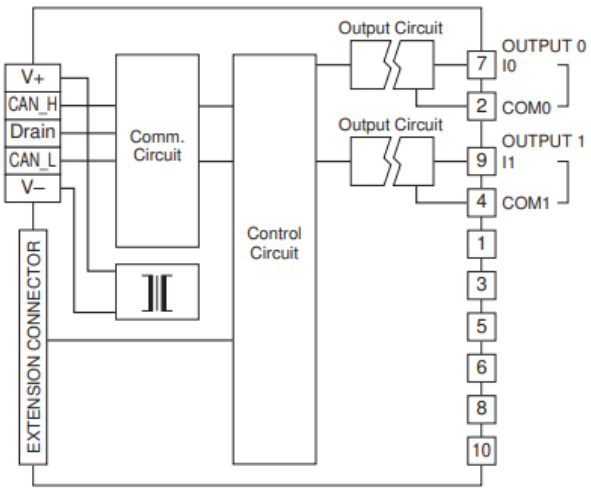
DRT2-DA02	R7D-YS2
Wire each output unit according to the voltage output or current output as shown below.	



Note: The voltage or current output signal ranges are set on the DIP switch or from the Configurator.

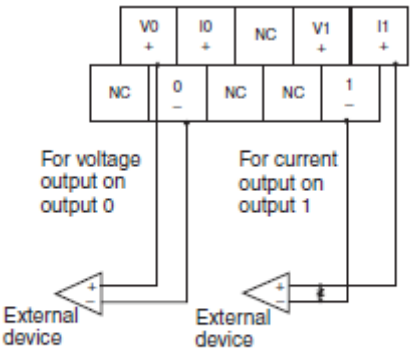


NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	NC	No connection	6	NC	No connection
2	COM0	Common 0	7	I0	Current 0
3	NC	No connection	8	NC	No connection
4	COM1	Common 1	9	I1	Current 1
5	NC	No connection	10	NC	No connection

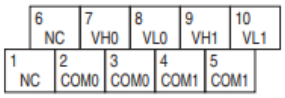


3.3 DRT2-DA02 and R7D-YV2

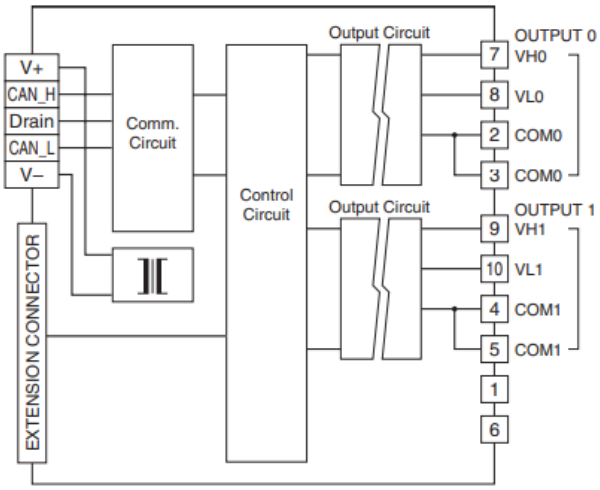
DRT2-DA02	R7D-YV2
Wire each output unit according to the voltage output or current output as shown below.	



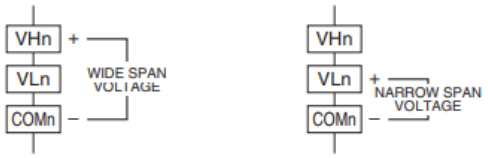
Note: The voltage or current output signal ranges are set on the DIP switch or from the Configurator.



NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	NC	No connection	6	NC	No connection
2	COM0	Common 0	7	VH0	Wide span volt. 0
3	COM0	Common 0	8	VL0	Narrow span volt. 0
4	COM1	Common 1	9	VH1	Wide span volt. 1
5	COM1	Common 1	10	VL1	Narrow span volt. 1



■ **Output Connection Examples**



4 Setting by PC Configurator Software

For the R7D series manufactured by MG Co., Ltd. the range of each channel can be set by using the PC Configurator software.
The following sections describe how to set the range for each channel.

R7CON

Operating Environment

・WindowsXP, Windows7 (32-bit/64-bit) or Windows10 (32-bit/64-bit) installed correctly
A DOS/V compatible personal computer.

To connect the device to the PC communication port, the configurator connection cable shown in the table below is required.

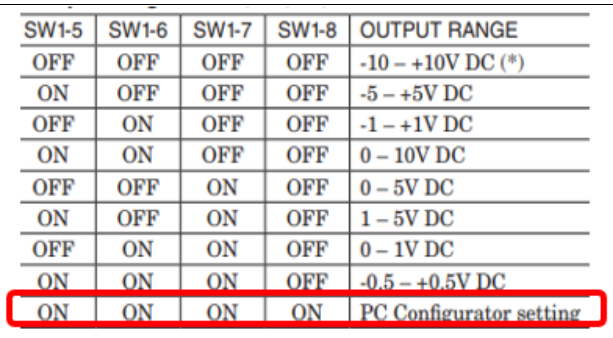
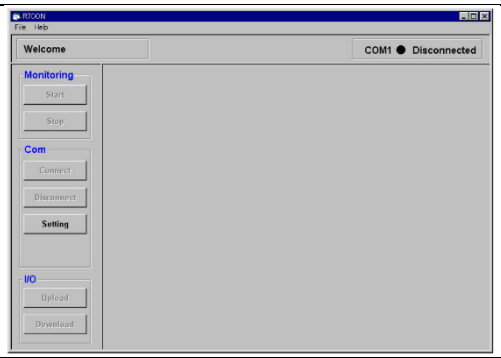
Connection port	CONFIGURATOR CONNECTION CABLE FORMAT
RS-232-C	MCN-CON
USB	COP-US

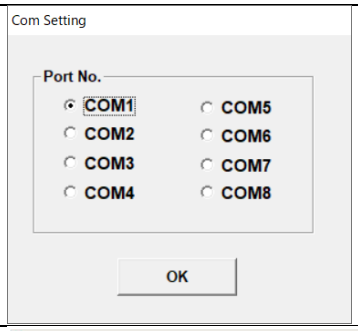
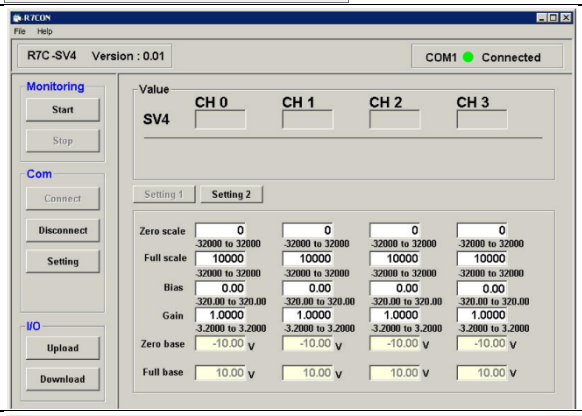
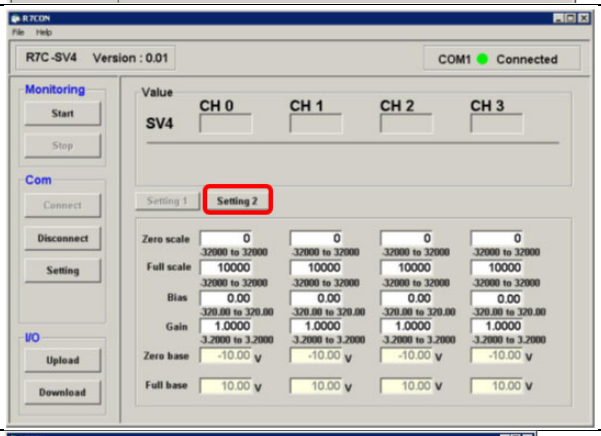
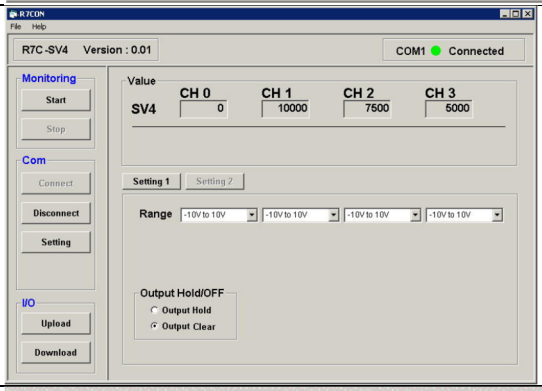
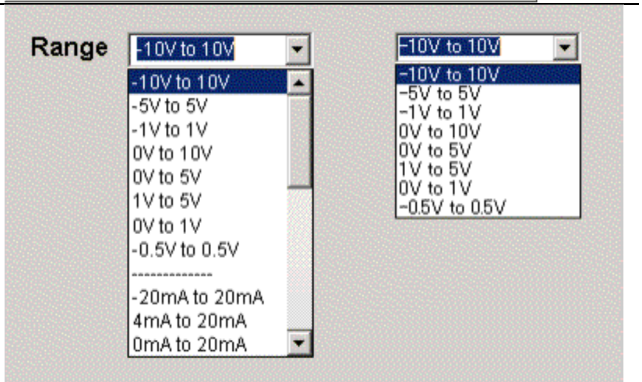
Preparing to use R7CON
To use the Configurator software, you must install the software.
To write the configured data to the control module, the PC and the remote I/O converter must be properly connected.
Installing R7CON

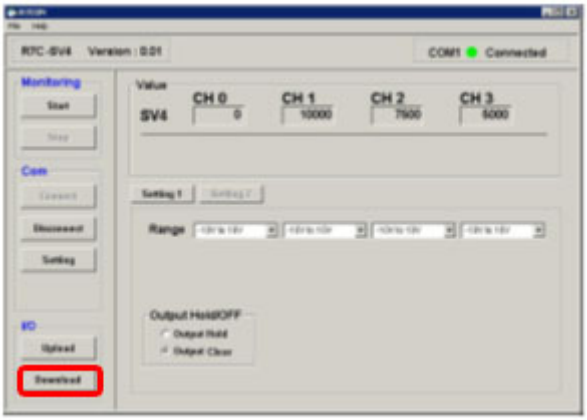
① Start Windows.
② Download the Configurator Software from the website of MG Co., Ltd. Institute (https://www.mgco.jp/download_w/dl_softwareE.html) and save it on the local disc of your PC.
③ Check the size and version of the downloaded file.
File name: R7CON_R□. exe or R7CON_R□.zip □ contains the version.
④ Double-click to create R7CON folders.
⑤ Execute setup.exe in R7CON folders and follow the instructions of the installer to install.

Connection between PC and R7D

① Connect the Configurator Kick ^ to the COM port or USB of the PC.
② Connect the Configurator Connection Cable (Stereo Jack Side) to the setting connector on the R7D.

1	Setting the dip switch To R7D-SV4/YV2's SW1-5, 6, 7, and 8 Turns all ON.	 SW1-5 / SW1-6 / SW1-7 / SW1-8 / OUTPUT RANGE OFF / OFF / OFF / OFF / -10 – +10V DC (*) ON / OFF / OFF / OFF / -5 – +5V DC OFF / ON / OFF / OFF / -1 – +1V DC ON / ON / OFF / OFF / 0 – 10V DC OFF / OFF / ON / OFF / 0 – 5V DC ON / OFF / ON / OFF / 1 – 5V DC OFF / ON / ON / OFF / 0 – 1V DC ON / ON / ON / OFF / -0.5 – +0.5V DC ON / ON / ON / ON / PC Configurator setting
2	From the [Start] menu, select [Programs]-[R7CON].	
3	Start R7CON.	 Welcome COM1 Disconnected Monitoring Start Stop Com Connect Disconnect Setting I/O Upload Download

4	Select the COM port by clicking the "Setting" button. The COM port selection screen appears. Select the COM port you want to use, Click the OK button.	
5	After connecting, the initial screen is displayed.	
6	Click Setting2.	
7	This displays the range selection screen.	
8	Select the range to be used from the "Range" pull-down menu.	 R7D-SV4 R7D-YV2

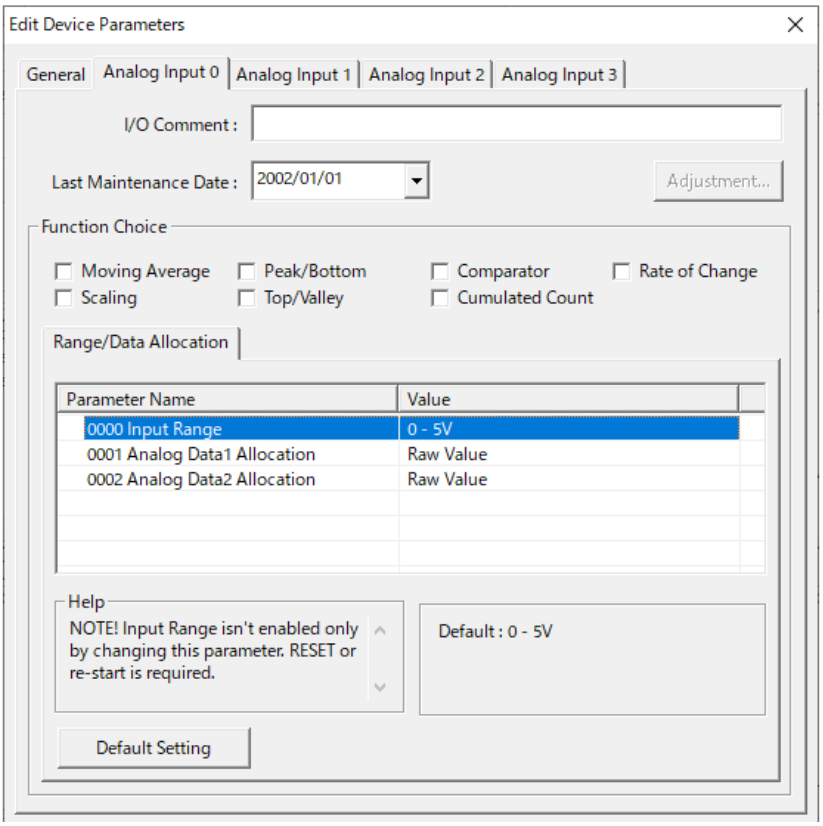
9	Change the required CH range.	
10	Download the configuration	

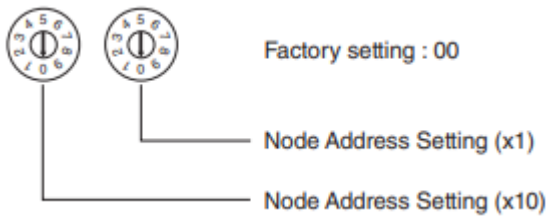
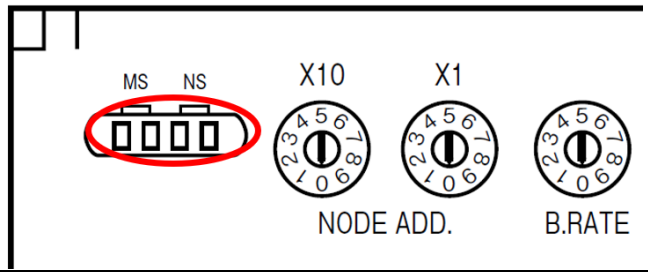
5 Replacing the Unit

5.1 Replacement of Unit at Fixed Assignment

Safety Key Points

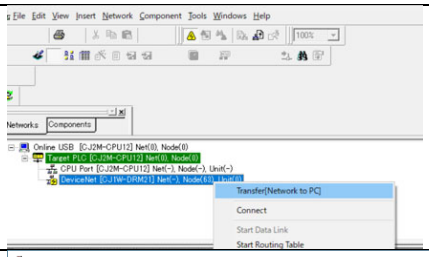
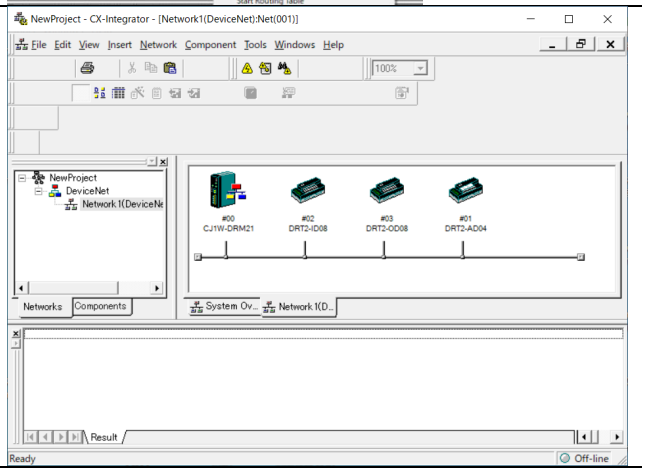
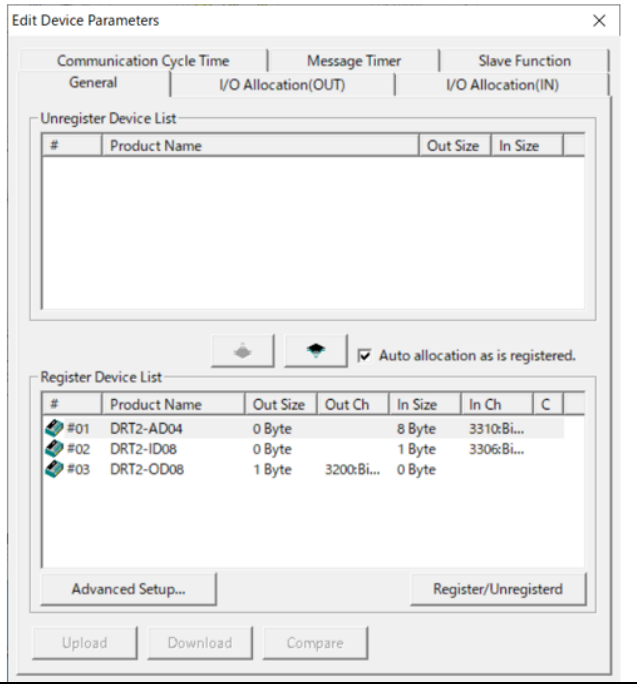
Be sure to turn off the power to the slave before making sets.

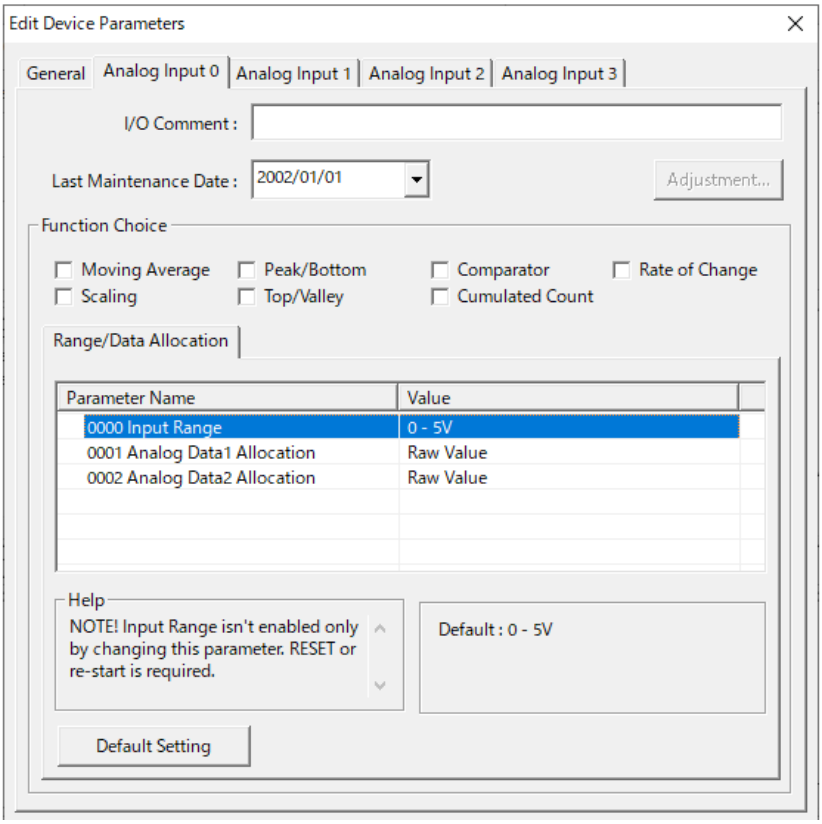
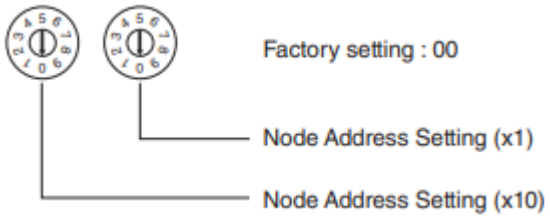
1	Check DRT2-AD04/DA02 range.	 ■When DIP switch 8 is OFF, set with the Configurator. Check the range that is being used. ①Double-click the slave to be set on the normal screen, Open the Edit Device Parameters screen. (In the Maintenance Mode screen, right-click-"Parameter"-"Edit") ③ Select the tab for the channel whose range you want to check  ■When DIP switch 8 is ON, it is not necessary to check the settings using the DIP switch.
2	Sets R7D-SV4/YV2 range.	If DRT2-AD04/DA02 range is set to the DIP switch and all channels are set to the same range, use the DIP switch to set R7D-SV4/YV2 range. For details on how to set the DIP switch, refer to "4. Switching." If DRT2-AD04/DA02 range setting is not the same as the Configurator setting or all channels, set R7D-SV4/YV2 range using the PC Configurator software. For details on how to set the PC Configurator software, refer to "4 Setting by PC configuration software".
3	Sets the node address.	Set the node address of R7D-SV4/YV2/YS2 to the same node address as DRT2-AD04/DA02.

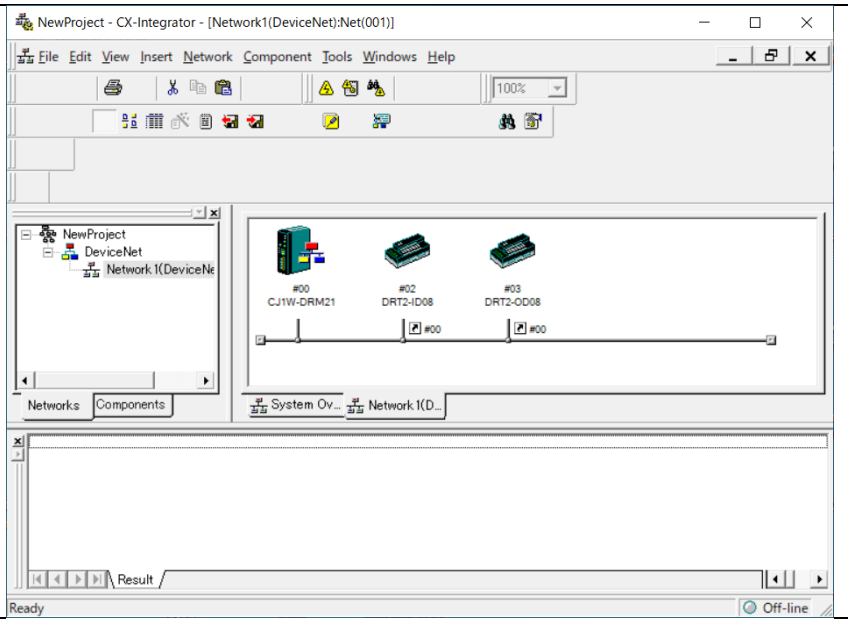
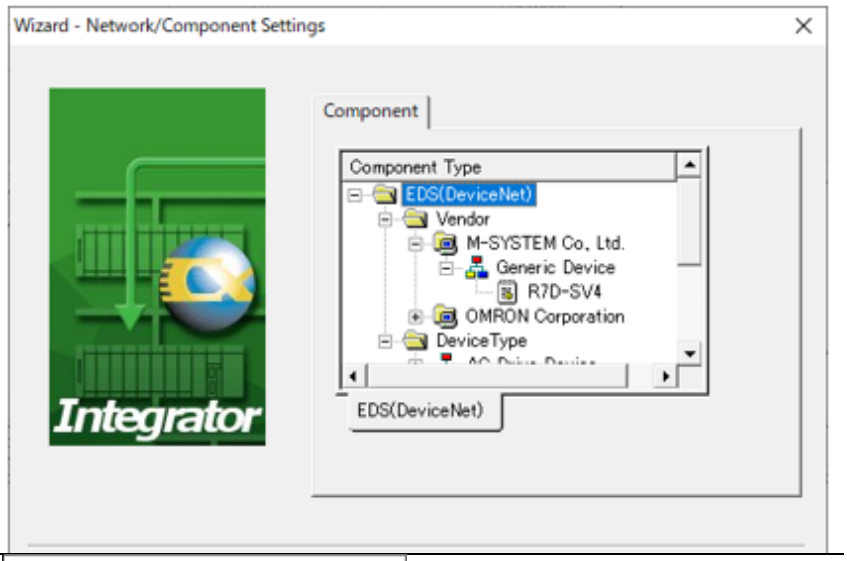
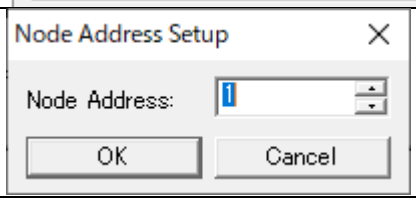
4	Setting the Baud Rate	 Set the rotary switch to 3 to 9: Automatic follow-up.
5	Connect the unit.	After changing the wiring to the terminal of R7D-SV4/YV2/YS2, connect DeviceNet circuit to the communication connector of DevicNet.
6	Turn on the power.	Check that MS and NS of R7D-SV4/YV2/YS2 are lit in green. 

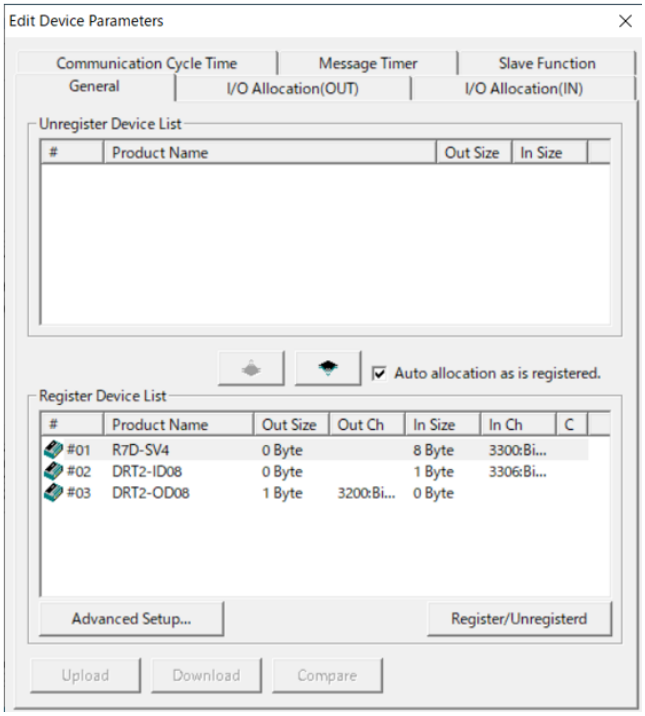
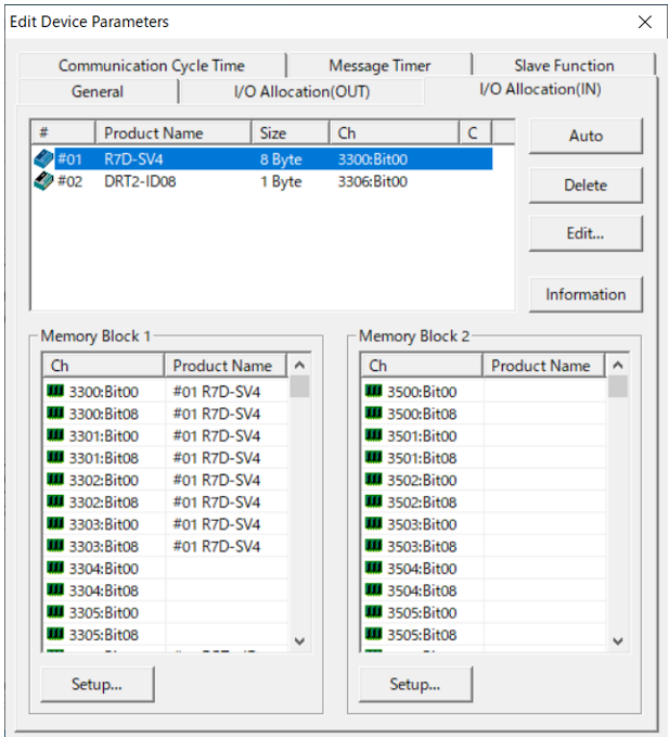
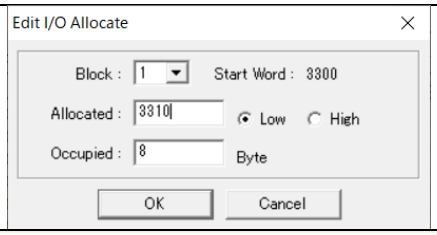
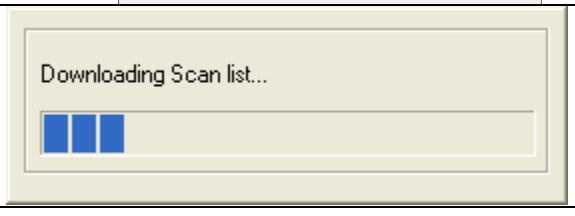
5.2 Replacement of Unit at Free Assignment

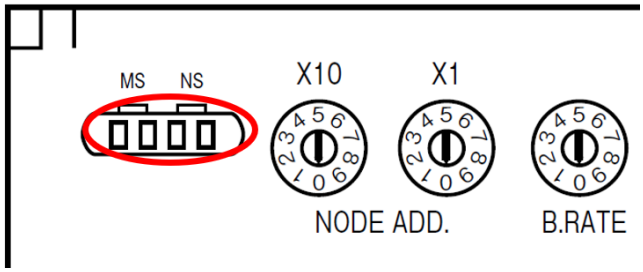
The following procedure shows how to replace DRT2-AD04 allocated in 4ch from 3310Ch with a R7D-SV4.

1	Turn on the PLC.	
2	Bring PLCs and CX-Integrator online. The device configuration is actually uploaded from DeviceNet to the PC.	
3	Select the master unit in the network configuration window and double-click it.	
4	Check that DRT2-AD04 is assigned 8byte from 3310 channels.	

5	Check DRT2-AD04 range.	 ■When DIP switch 8 is OFF, set with the Configurator. Check the range that is being used. ①Double-click the slave to be set on the normal screen. Then open the Edit Device Parameters screen. (In the Maintenance Mode screen, right-click-"Parameter"-"Edit") ②Select the tab for the channel whose range you want to check.  ■When DIP switch 8 is ON, it is not necessary to check the settings using the DIP switch.
6	Sets R7D-SV4 range.	If DRT2-AD04 range is set to the DIP switch and all channels are set to the same range, use the DIP switch to set R7D-SV4/YV2 range. For details on how to set the DIP switch, refer to "4. Switching." If DRT2-AD04/DA02 range setting is not the same as the Configurator setting or all channels, set R7D-SV4/YV2 range using the PC Configurator software. For details on how to set the PC Configurator software, refer to "4 Setting by PC configuration software".
7	Sets the node address.	Set the node address of R7D-SV4 to the same node address as DRT2-AD04 (address 1 in this case).
8	Setting the Baud Rate	 Set the rotary switch to 3 to 9: Automatic follow-up.

9	Removes a DRT2-AD04 from the scan list.	
10	Select R7D-SV4 EDS-file.	
11	Register with node address "1".	

12	Select the master I/O assignment (IN) from the device parameter edit of the master.	 
13	To R7D-SV4 allocation channel Changed to 3310	
14	Write the scan list to the master.	

15	Connect the unit.	After changing the wiring to the terminal of R7D-SV4/YV2/YS2, connect DeviceNet circuit to the communication connector of DevicNet.
16	Turn on the power.	Check that MS and NS of R7D-SV4/YV2/YS2 are lit in green. 

6 Terminology and definitions

Term	Explanation and define
Remote I/O Communication	This is communication that always shares data between CPU module and slaves. Communication starts automatically by turning on the power supply (communication power supply to the slave and power supply of PLC main unit) and data sharing starts between I/O memory area of CPU unit and the slave unit. The ladder program can only be used to read and write data from and to the area where data is always shared (slave assignment area). However, in this case, the slave is read from or written to the slave on the condition that the slave is operating normally.
Messaging	Message communication is a function to control data transmission/reception (time information, error history, etc.) and special information reading/writing (forced set/reset, etc.) when required (when conditions are met) between nodes on DeviceNet network (between PLC ← master and PLC ← slave). The messaging function has two functions: FINS messaging function and Explicit messaging function.
Master unit	Manages the network and exchanges I/O between PLC and the slave modules. There is only one master unit in the entire network. The master unit must be connected to the end of the trunk line.
Slave module	Outputs OUT data received from the master unit through the network. In addition, the input IN data is sent to the master unit via the network.

7 Reference information

Company	Man.No.	Type	Manual name
OMRON	W380	Model CJ1W-DRM21 Model CS1W-DRM21 (-V1)	DeviceNet Units Operation Manual
OMRON	W404	Model DRT2-AD04 Model DRT2-DA02	DRT2 Series DeviceNet Slave Operation Manual
OMRON	W446	Model WS02-CXPC □-V8	SYSMAC CX-Programmer Operation Manual
OMRON	W464	Model CXONE-AL□□C-V3/AL□□D-V3	SYSMAC CX-Integrator Operation Manual
MG	EN-7802-A	Type R7D-SV4	User's Manual Remote I/O R7 Series Isolated 4-point DC voltage/current input module for DeviceNet
MG	EN-7802-D	Model R7D-YV2	User's Manual Remote I/O R7 Series Insulation 2-point DC voltage-output unit for DeviceNet
MG	ES-7802	Model R7D-YS2	User's Manual Remote I/O R7 Series Insulation 2-point DC current output unit for DeviceNet
MG	EN-9269	Model R7CON	Remote I/O converter R7 Series PC Configurator Software R7 CON User's Manual

8 Notes

(1) When constructing a system based on this document, please read the instruction manual of the product to be constructed and confirm the specs, performance and safety.

The symbols used in this document have the following meanings:

Safety Key Points

Indicates what should be done or avoided in order to use the product safely.

Usage Notes

Indicates that the product should be implemented or avoided to prevent inoperability, malfunction, or negative impact on performance or functionality.

See Also

Items that you want to read as necessary.
This chapter provides useful information that you should be aware of, as well as reference information for use.

9 Revision History

Revision code	Date of revision	Revision Reason/Revision Page
01	December15th 2021	First edition
02	May8th 2025	Change of company name（M-SYSTEM CO., LTD. →MG CO.,LTD.)

Note: Do not use this document to operate the Unit.

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