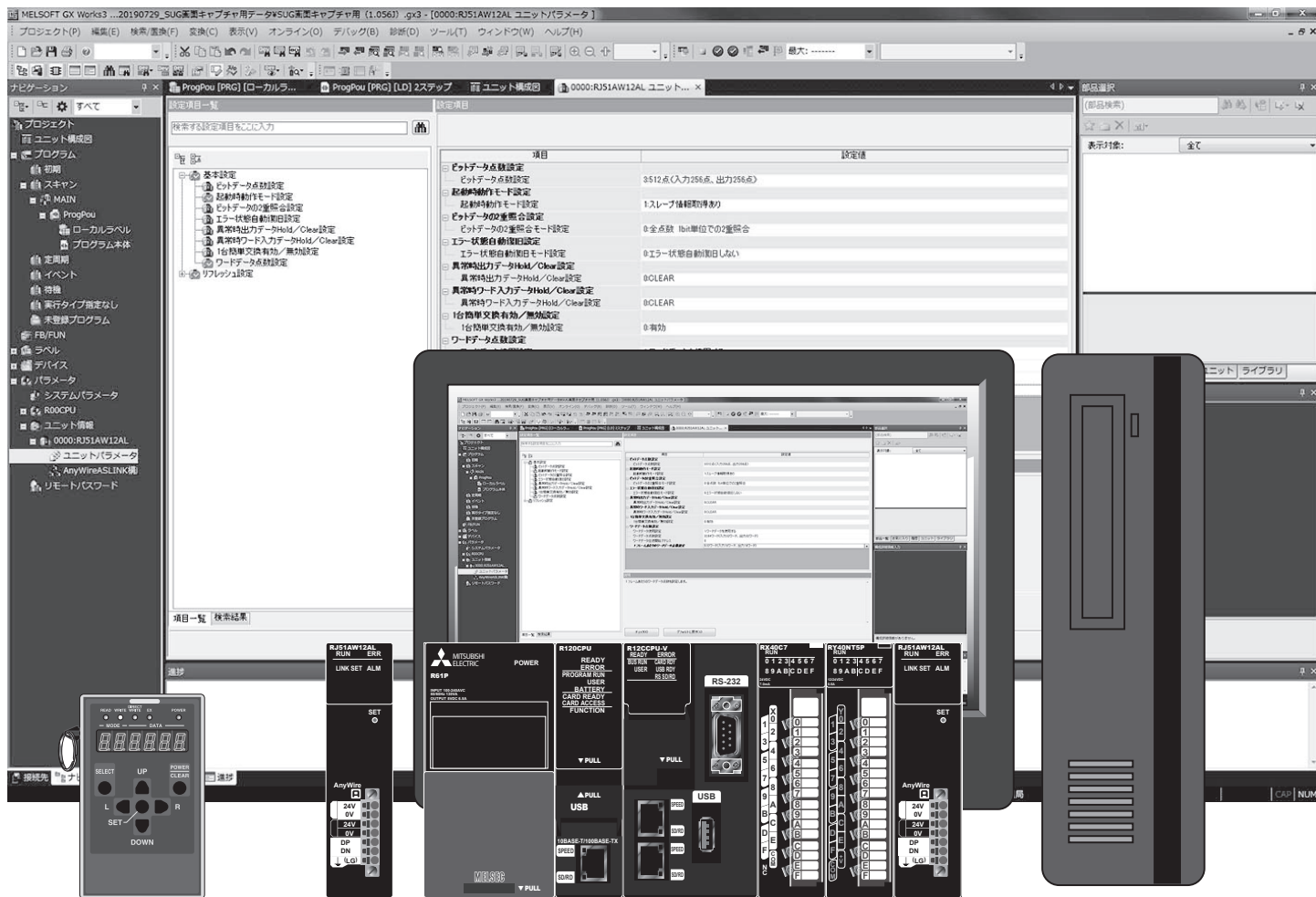


# AnyWireASLINK

## Startup Guide (GX Works3 Initial Setting)



# Introduction

This document describes settings of basic parameters for GX Works3 at startup of the AnyWireASLINK system.

- Notes on the use

For an in-depth description of engineering tools and CPU, refer to the user's manual for each product.

For an in-depth description of the AnyWireASLINK remote units, refer to respective product guides.

- Types of the master unit

This document describes examples of application for RJ51AW12AL.

If any master units other than RJ51AW12AL are used, check respective manuals and pay attention to the differences.

- Functional compatibility

Check relevant manuals for the manufacturing information on the master unit and differences in functional compatibility depending on the version of GX Works3.

- Revision of contents

Contents of this document are subject to change without prior notice.

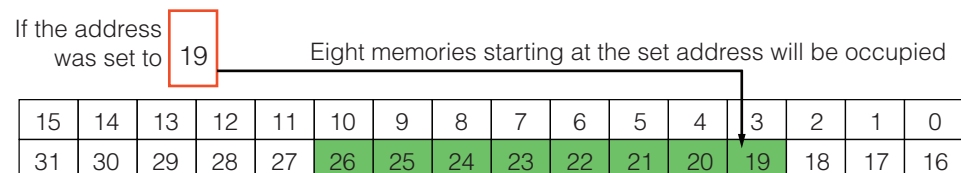
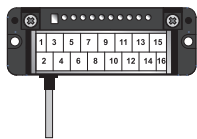
# 1) AnyWire address setting

## ■ What is an AnyWire address?

As the term implies, an “address” determines the start address in the memory used by a remote unit. It is defined by a decimal number.

Although the number of memories occupied by a remote unit varies depending on the unit used, the area including the set address and subsequent number of memories will be occupied.

### [An example of BL296SB-08F-V50 (remote unit with eight inputs)]

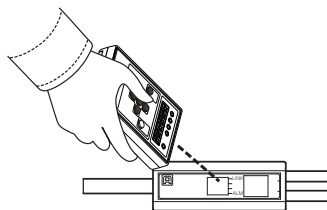


## ■ Rules for setting the address

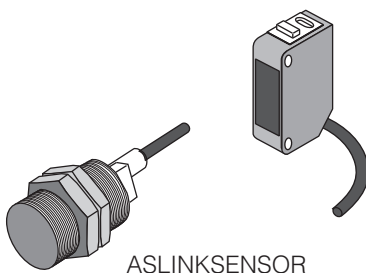
- ① Use a dedicated address writer (ARW-04) and perform the setting via the infrared data communication.



Address writer (ARW-04)

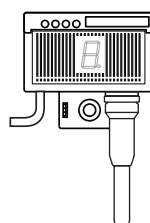


- ② Set addresses for **all** remote units to be used.



ASLINKSENSOR

ASLINKPOKAYOKE



ASLINKTERMINAL

- ③ The address numbers available for setting are from 0 through 254 for both input and output. It is also possible to set the address with a blank interval. The address number 255 cannot be used because it is a special number indicating the status of shipment.



## Tips

- For an input/output mixing slave unit, only one address is set to indicate the starting address for the input and output memory area.
- It is also possible to set aside blank areas in anticipation of future system modification and addition of slave units.
- Since the master unit has an address non-setting detection function (address #255 is used to detect non-setting), failing to perform the address setting is not a problem.
- \* For further information, refer to the manual of the master unit.

- ④ There should be no duplication of address being set or overlapping of memory area among the input slave units used, or among the output slave units used.

Input area	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48

**NG**

Address No. 44 in a 4-point input area

Address No. 44 in a 1-point input area

Duplicate address between input (output) units

**OK**

Address No. 0 in an 8-point input area

Duplicate address between input and output units

Address No. 0 in an 8-point output area

Output area	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48

**OK**

Address No. 44 in a 1-point output area

An address setting with a blank area in the occupied area

**NG**

Address No. 6 in an 8-point output area

Duplicated with the occupied area starting at address No. 0

## ■ Execution of automatic address identification

Upon completion of address setting for all remote units connected, perform the automatic address identification operation.

### [What is the automatic address identification?]

It is an operation in which the master unit stores the configuration and addresses of connected remote units in the EEPROM. The detection of transmission line disconnection works only after this operation.

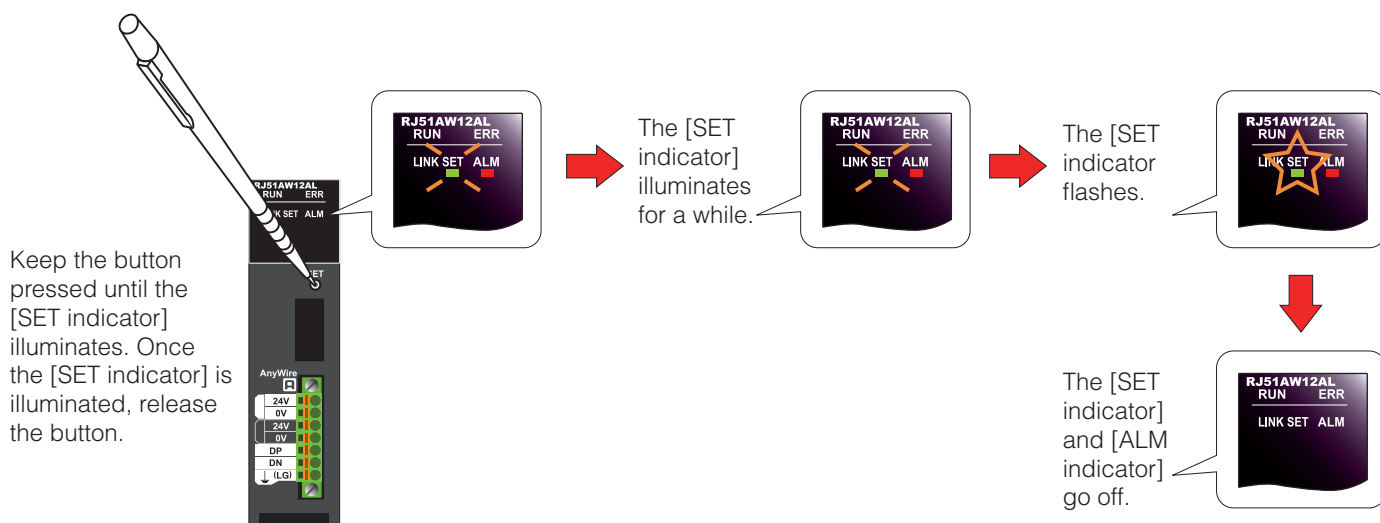
- At the system startup
- When the system has been modified

**Always perform the operation on these occasions.**

## ■ How to perform the automatic address identification operation

There are two ways to perform the automatic address identification operation.

### ① Keeping the SET button on the master unit pressed



### ② Using the Y-output from the sequencer side

For further information, refer to the manual of the master unit.

The LED functions in the same manner as in [1] during the operation.

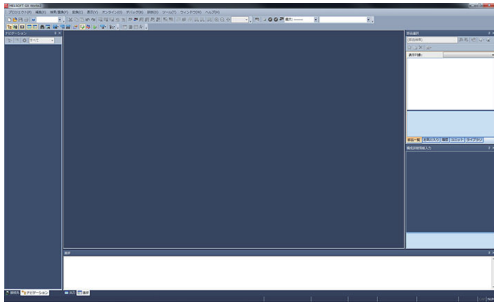
## [Tips]

Before performing the automatic address identification operation, ensure that the LINK indicators on all remote units are flashing.

When the master unit is energized, the ALM indicator on the unit will be illuminated until the automatic address identification operation is performed.

# GX Works3 Setting

## ■ Start the GX Works3



Startup screen

## ■ Creation of a new project

① Select Project and then New.



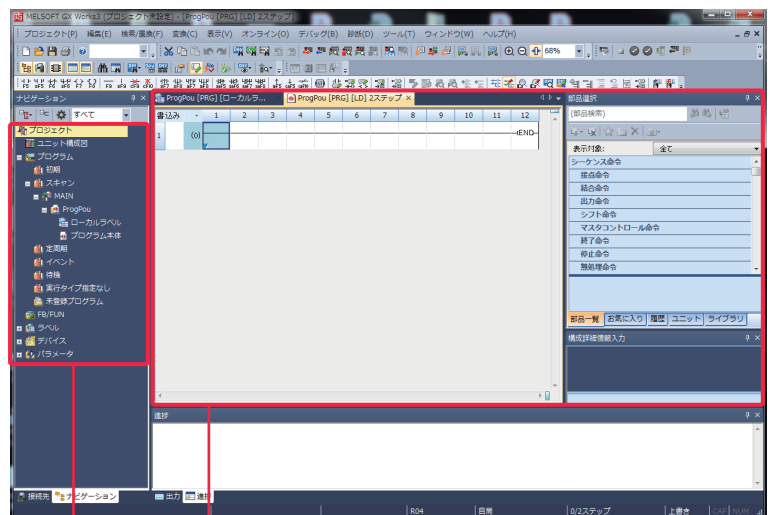
② Select Series. (Here, RCPU is selected.)

③ Select the Model. (Here, R04 is selected.)

④ Click on the OK button.



Project tree, circuit window, and parts selection field will appear. (The creation of a new project is complete.)

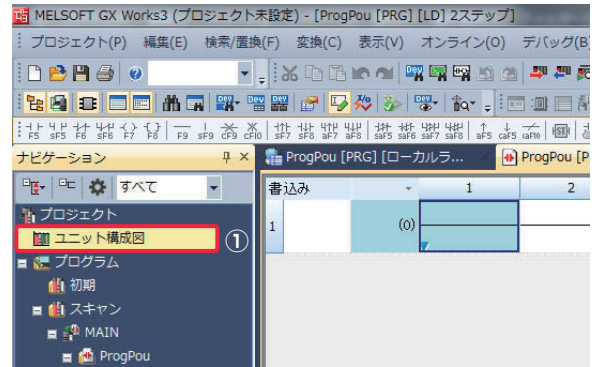


Project tree

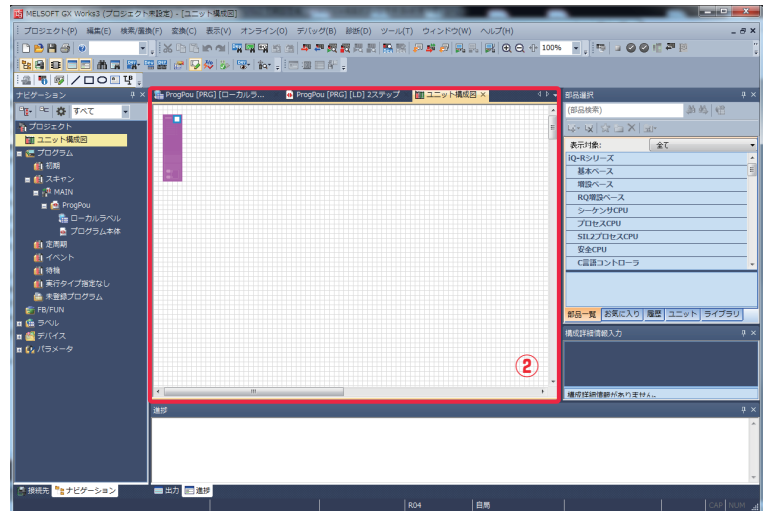
Circuit window and parts selection field

## ■ Creation of unit configuration

- ① Double-click on “Unit configuration” in the project tree.

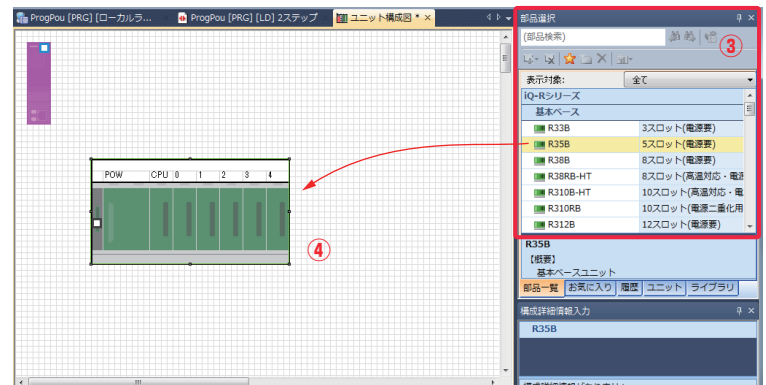


- ② The “Unit configuration” setting window will open.



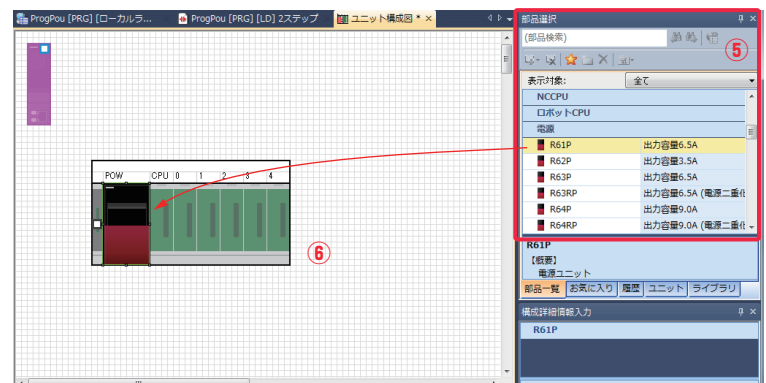
- ③ Select a model to be used from the “Parts selection” field, and drag and drop the relevant unit into the configuration field.

- ④ Select a target model from the “Base unit” field, and place it in the configuration field in the same manner as mounting actual equipment.

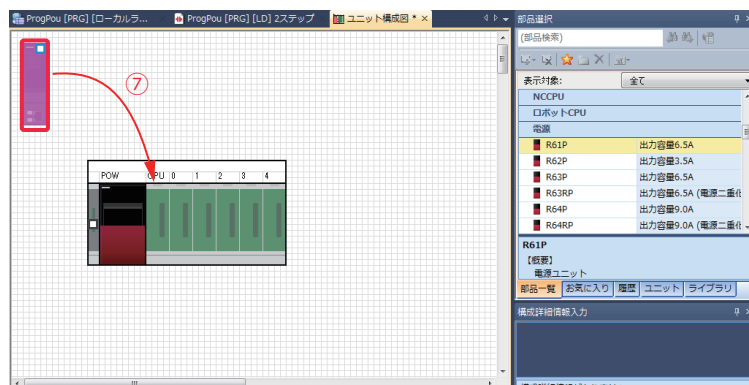


- ⑤ Select a target model from the “Power supply unit” field, and place it in the configuration field.

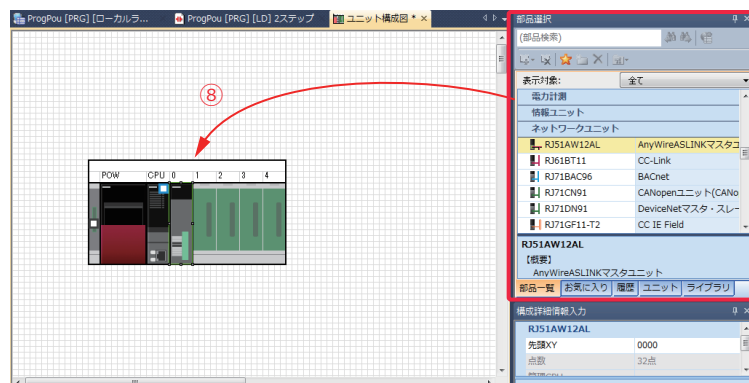
- ⑥ Arrangement of base unit and power supply unit is completed.



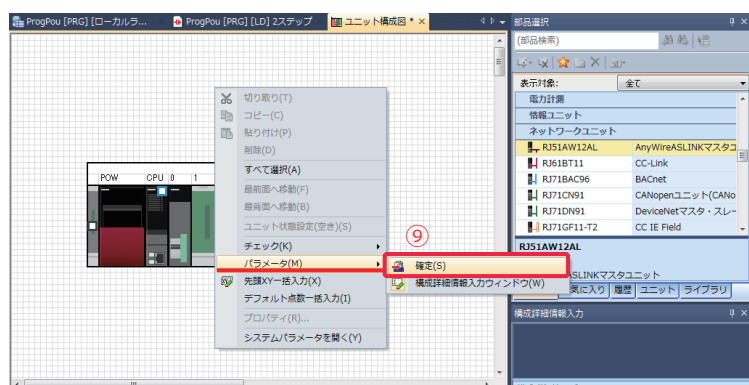
- ⑦ Set the CPU displayed at the left top of the unit configuration window as the base unit.



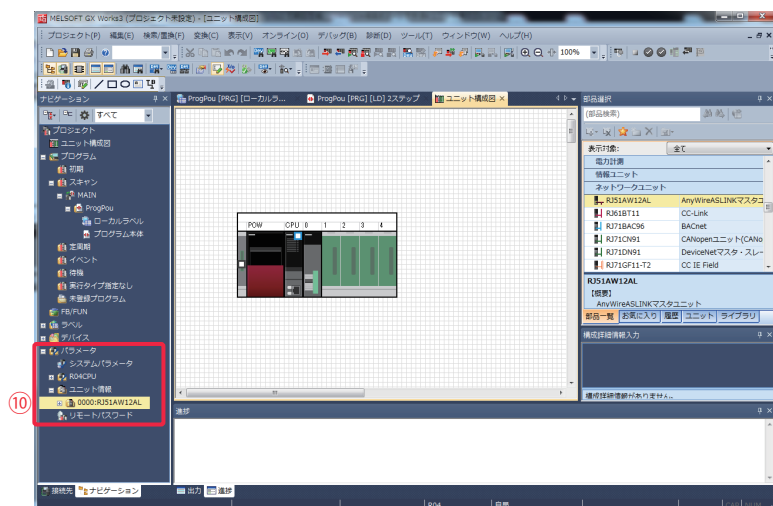
Drag and drop the “RJ51AW12AL” unit from the “Network unit” field into the configuration field.



After unit configuration is completed, click the right button, and select “Parameter” “Set” to confirm the setting.



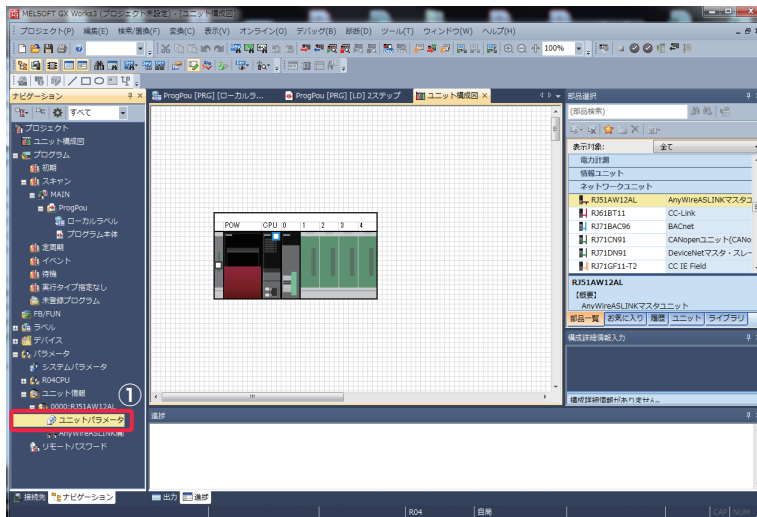
“RJ51AW12AL” will be added to the project tree.  
(Unit configuration is completed.)



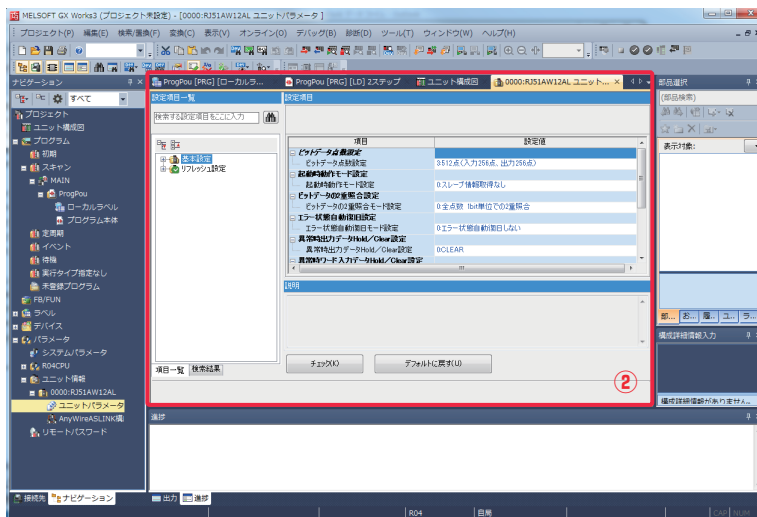


## Setting of unit parameter

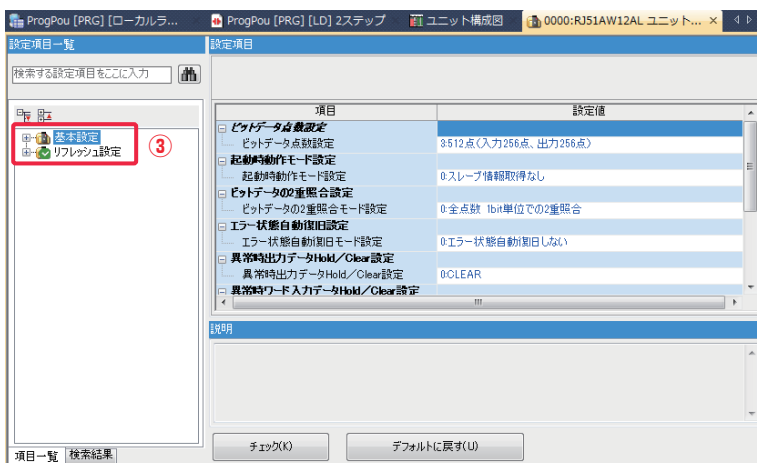
- ① Double-click on “RJ51AW12AL” → “Unit parameter” in the project tree.



- ② The “Unit parameter” setting window will open.



- ③ Select “Basic setting” → “Refresh setting”, and specify each item.



## ◇ Basic setting

### ① Number of bit data points setting

Specify the number of bit data points used for the AnyWireASLINK system.

項目	設定値
□ ビットデータ点数設定	
ビットデータ点数設定	3:512点(入力256点、出力256点)
□ 起動時動作モード設定	0:64点(入力32点、出力32点)
起動時動作モード設定	1:128点(入力64点、出力64点)
□ ビットデータの2重照合設定	2:256点(入力128点、出力128点)
ビットデータの2重照合モード設定	3:512点(入力256点、出力256点)
□ エラー状態自動復旧設定	10:0点(ビットデータなし)

### ② Startup operation mode setting

Specify whether batch reading of remote unit parameters is automatically executed or not during startup of the master unit of the AnyWireASLINK system.

項目	設定値
□ 起動時動作モード設定	
起動時動作モード設定	0:リモートユニット情報取得なし
□ ビットデータの2重照合設定	0:リモートユニット情報取得なし
ビットデータの2重照合モード設定	1:リモートユニット情報取得あり
□ エラー状態自動復旧設定	
エラー状態自動復旧モード設定	0:エラー状態自動復旧しない
□ 異常時出力データHold/Clear設定	

### ③ Bit data duplication check setting

Specify whether bit data duplication check is executed in units of 1 bit or 16 bits, and select the range subject to duplication check.

項目	設定値
□ ビットデータの2重照合設定	
ビットデータの2重照合モード設定	0:全点数 1bit単位での2重照合
□ エラー状態自動復旧設定	0:全点数 1bit単位での2重照合
エラー状態自動復旧モード設定	1:1ワード目まで16bit(word)単位での2重照合
□ 異常時出力データHold/Clear設定	2:2ワード目まで16bit(word)単位での2重照合
異常時出力データHold/Clear設定	3:3ワード目まで16bit(word)単位での2重照合
□ 異常時ワード入力データHold/Clear設定	4:4ワード目まで16bit(word)単位での2重照合

### ④ Automatic error reset setting

Specify how the system operates at reset of error (DP/DN wire break error or parameter access error).

項目	設定値
□ エラー状態自動復旧設定	
エラー状態自動復旧モード設定	0:エラー状態自動復旧しない
□ 異常時出力データHold/Clear設定	0:エラー状態自動復旧しない
異常時出力データHold/Clear設定	1:エラー状態自動復旧する
□ 異常時ワード入力データHold/Clear設定	
異常時ワード入力データHold/Clear設定	0:CLEAR
□ 1台簡単交換有効/無効設定	

\* For terminology and detailed description of functions, refer to User's Manual for the master unit.

#### ⑤ Output data Hold/Clear setting for error

Specify operation of output data at occurrence of CPU stop error, system error, CPU error and ASIC access error.

項目	設定値
異常時出力データHold/Clear設定	
異常時出力データHold/Clear設定	0: CLEAR
異常時ワード入力データHold/Clear設定	0: CLEAR
異常時ワード入力データHold/Clear設定	1: HOLD
1台簡単交換有効/無効設定	
1台簡単交換有効/無効設定	0: 有効
ワードデータ点数設定	

#### ⑥ Word input data Hold/Clear setting for error

Configure whether to clear or retain the word input data when the word-input remote unit is disconnected.

異常時ワード入力データHold/Clear設定	
異常時ワード入力データHold/Clear設定	0: CLEAR
1台簡単交換有効/無効設定	0: CLEAR
1台簡単交換有効/無効設定	1: HOLD
ワードデータ点数設定	
ワードデータ使用設定	0: ワードデータを使用しない
ワードデータ点数設定	0: ワードデータを使用しない
ワードデータ伝送開始アドレス	0

#### ⑦ Single unit simplified replacement Enable/Disable setting

Specify whether the single unit simplified replacement function is used or not.

1台簡単交換有効/無効設定	
1台簡単交換有効/無効設定	0: 有効
ワードデータ点数設定	0: 有効
ワードデータ使用設定	1: 無効
ワードデータ点数設定	0: ワードデータを使用しない
ワードデータ伝送開始アドレス	0
1フレームあたりのワードデータ点数設定	0: ワードデータなし

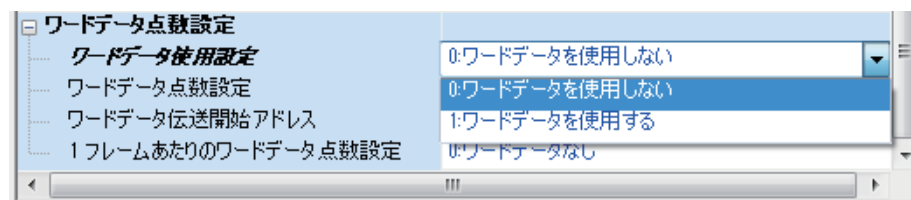
### [Precaution for using the single unit simplified replacement function]

Once the single unit simplified replacement function “Enable/Disable” setting is changed, be sure to execute automatic address identification. Even if the single unit simplified replacement function is set to “Enable”, this function does not normally work, unless automatic address identification is executed.

\* For terminology and detailed description of functions, refer to User's Manual for the master unit.

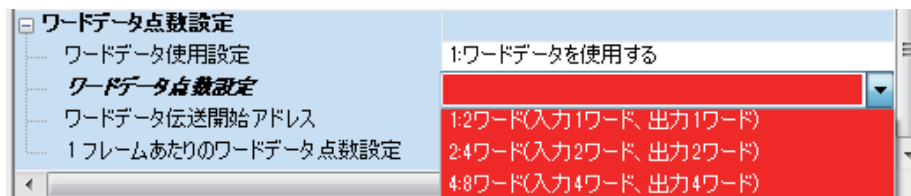
## ⑧ Word data use setting

Specify whether word data transmission is enabled or not with the AnyWireASLINK system.



## ⑨ Number of word data points setting

Specify the number of word data points when word data transmission is enabled.



## ⑩ Word data transmission starting address

Specify an address to start word data transmission when word data transmission is enabled.



## ⑪ Number of word data points per frame setting

Specify the number of word data points to be transmitted by one frame.



What does “selection of the number of word data points to be transmitted by one frame” mean?

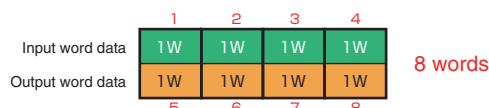
This setting is intended for the function that enables “total number of word data points to be used” and “number of word data points to be transmitted by one frame” to be separately considered.

### [Example of setting]

When the setting of item ⑨ is “4”:

Number of word data points to be used: 8 words (input: 4 words, output: 4 words)

➡ 8 words (input: 4 words, output: 4 words) can be transmitted in total.



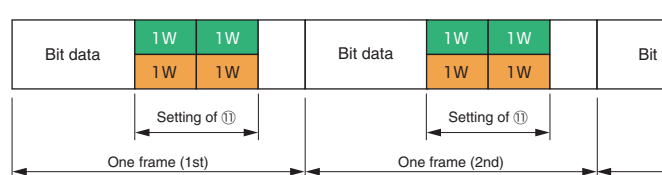
For another example,

When the setting of item ⑪ is “2”:

Number of word data points to be transmitted by one frame:

4 words (input: 2 words, output: 2 words)

➡ 8 words (input: 4 words, output: 4 words) can be transmitted by two frames in total (setting of item ⑨). 4 words are transmitted by one frame (input: 2 words, output: 2 words).



➡ As the number of word data points assigned to one frame becomes smaller, the number of cycles required to refresh all word data is increased, but the length of one frame can be shortened. (Influence on bit data refresh time can be reduced.)

\* For terminology and detailed description of functions, refer to User's Manual for the master unit.

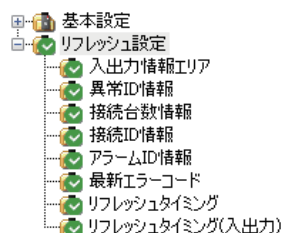
## ◇ Refresh setting

This function enables the master unit buffer memory to be easily linked to any PLC device, regardless of buffer memory address. (Unit: 16 bits)

Specify six areas of the buffer memory subject to the refresh function as required.

Data in other areas of the buffer memory can be read or written by programming.

- ① Input/output information area
- ② Error ID information
- ③ Information on the number of connected units
- ④ Connection ID information
- ⑤ Alarm ID information
- ⑥ Latest error code



### ◇ Example of setting

[Input/output information area: Transfer to network unit (bit)]

This setting is intended to refresh the bit output information area of the master unit buffer memory.

Starting from the specified device, information will be transferred to the corresponding buffer memory area in units of 16 bits.

項目	設定値
入出力情報エリア	
ネットワークユニットへ転送(ビット)	
出力0-15	Y100
出力16-31	Y110
出力32-47	Y120
出力48-63	Y130

PLC device	Transfer	Contents	Buffer memory address
Y100 to Y10F	→	Bit output 0 to Bit output 15	Un¥G4096.0 to Un¥G4096.F
Y110 to Y11F		Bit output 16 to Bit output 31	Un¥G4097.0 to Un¥G4097.F
Y120 to Y12F		Bit output 32 to Bit output 47	Un¥G4098.0 to Un¥G4098.F
Y130 to Y13F		Bit output 48 to Bit output 63	Un¥G4099.0 to Un¥G4099.F

[Input/output information area: Transfer to CPU (bit)]

This setting is intended to refresh the bit input information area of the master unit buffer memory.

Data in the corresponding buffer memory area will be transferred to the specified device in units of 16 bits.

項目	設定値
出力511	
CPUへ転送(ビット)	
入力0-15	X100
入力16-31	X110
入力32-47	X120
入力48-63	X130

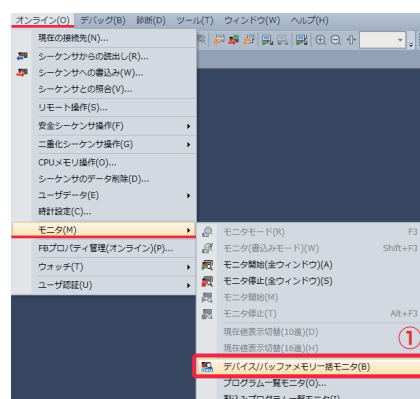
PLC device	Transfer	Contents	Buffer memory address
X100 to X10F	←	Bit input 0 to Bit input 15	Un¥G0.0 to Un¥G0.F
X110 to X11F		Bit input 16 to Bit input 31	Un¥G1.0 to Un¥G1.F
X120 to X12F		Bit input 32 to Bit input 47	Un¥G2.0 to Un¥G2.F
X130 to X13F		Bit input 48 to Bit input 63	Un¥G3.0 to Un¥G3.F

\* For detailed description of the buffer memory, refer to User's Manual for the master unit.

# I/O Check with GX Works3

## ■ Device/buffer memory joint monitor

- ① Select “Online”, “Monitor” and then “Device/buffer memory joint monitor”.



### [Monitoring a device]

- ② Select “Device”.  
③ Specify a device to be monitored, and press “Enter”.



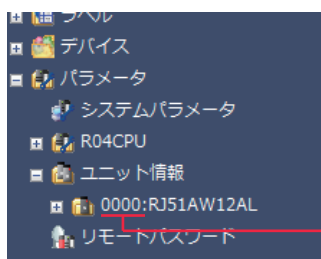
### [Monitoring a buffer memory]

- ② Select “Buffer memory”.  
③ Specify start XY of the master unit to be monitored.  
④ Specify a buffer memory to be monitored, and press “Enter”.



## FAQ

- ◇ Unit start: Indicates a start XY address of the master unit.



Start XY address

- ◇ Changing a current value:

When the device/buffer memory joint monitor is activated, data can be forcibly written.

When a program or refresh setting to link a device to a buffer memory is executed, it is necessary that current value (data) of the transmission source should be changed.

Example) When data of a Y device is transferred to a buffer memory of a network unit

Transmission source: Y device → Transmission destination: Network unit (buffer memory)

ネットワークユニットへ転送(ビット)	
出力0-15	Y100
出力16-31	Y110
出力32-47	Y120
出力48-63	Y130

Write data into a Y device of the transmission source, instead of a buffer memory of the transfer destination.

## ■ Checking bit input information

Specify a device that has been set for “Transfer to CPU (bit)” in the “Refresh setting” unit parameter, to monitor the device.  
The following example is intended for a case where “X100” is specified for start address of bit input information area.

### [System configuration]

① Bit input: 8 inputs (Bit address 0)

② Bit input: 1 input (Bit address 26)

③ Bit input: 2 inputs (Bit address 50)

デバイス名	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	現在値
X100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### ◆ Correspondence with the AnyWireASLINK address numbers ◆

X100	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
X110	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
X120	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32
X130	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48
X140	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64

### Checking bit output information and changing current value

Specify a device that has been set for “Transfer to network unit (bit)” in the “Refresh setting” unit parameter, to check the device.  
If the data type of the specified device is other than “bit”, the watch window is used to change the current value.

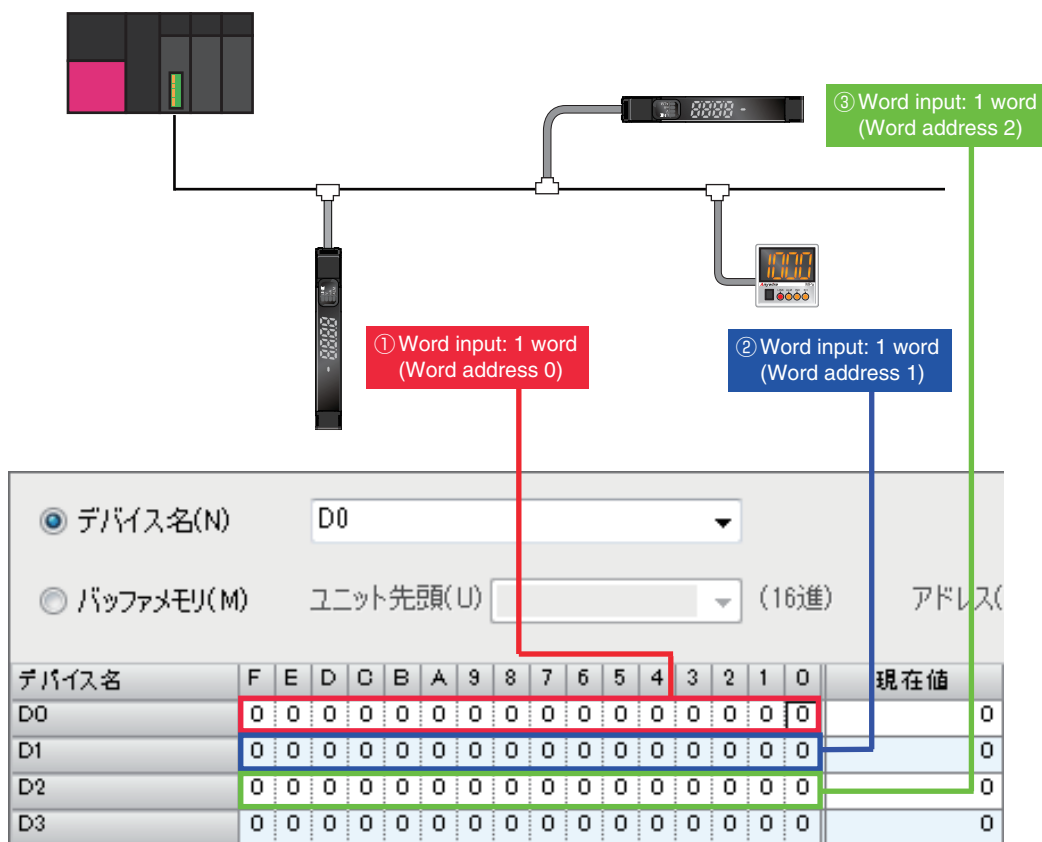
デバイス名	F	E	D	C	B	A	9	8	7	6	5	4	3	2	1	0	現在値
Y100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Y120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

In the above example, the current value can be directly changed, because the specified device is Y device (bit type).

## ■ Checking word input information

Specify a device that has been set for “Transfer to CPU (word)” in the “Refresh setting” unit parameter, to monitor the device.  
The following example is intended for a case where “D0” is specified for start address of word input information area.

### [System configuration]



### ◆ Correspondence with the AnyWireASLINK address numbers ◆

D0	Data of word address 0
D1	Data of word address 1
D2	Data of word address 2
D3	Data of word address 3

### Checking word output information and changing current value

名称	現在値	表示形式	データ型
D0	0	10進数	ワード[符号付き]
D1	0	10進数	ワード[符号付き]
D2	0	10進数	ワード[符号付き]

Specify a device that has been set for “Transfer to network unit (word)” in the “Refresh setting” unit parameter, to check the device.

If the data type of the specified device is other than “bit”, the watch window is used to change the current value.

In the above example, the watch window is used to change the current value, because the specified device is D device (word type).



[Address]

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