CC-Link IE TSN

Open Field Network

Control & Communication System Profile (CSP+) Creation Guidelines

CC-Link IE TSN (Application)

CC-Link協会

Table of Contents

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1. INTRODUCTION

This document describes guidelines for CSP+ description and utility software based on the Control & Communication System Profile Specification (BAP-C2008ENG-001) for designers. There are multiple parts (such as DEVICE_INFO part, COMM_IF_INFO part, and others) to configure CSP+. The document describes where to display items of each element described in each part and how to use the items when the items are not displayed on the utility software. When creating CSP+, the document provides which part of CSP+ should be described to use the utility software function. In addition, designers can check if the created CSP+ is applied to the utility software windows by checking the CSP+ description and the actual display on utility software at the test.

[Remarks]

The CSP+ described in this document uses an example of the CC-Link IE TSN analog-digital converter module (model name: NZ2GN2B-60AD4) (manufactured by Mitsubishi Electric). A window display of utility software described in this document indicates that of GX Works3 manufactured by Mitsubishi Electric.

Implementation of utility software described in this document is an example. The application of information described in the CSP+ is not limited to the one described in this document.

1.1 Description Details

Chapters correspond to CSP+ sections and sections correspond to CSP+ parts in this document. Each section has the following components (1) to (4).

(1) Specifications of each part

Elements/items and descriptions to be described in each part are listed.

Table 1.1-1 List of Elements which Configure the DEVICE_INFO Part

No.	Element	Description	Required/ Optional
1	VendorName	Describes the name of the vendor that manufactured the module.	Required
2	VendorCode	Describes the code of vendor that manufactured the module. The fifth to eighth digits of the membership number of the CC-Link Partner Association are de	Required
4	ProductID	Describes the product ID of the module. The ID managed by the vendor that manufactured the module is de	Optional
26	Weigh		
27	Price		Optional
28	UI_ATTRIBU	to be specified in UI_ATTRIBUTE. n "**".	Optional

Items in the CSP+ Specification are numbered.
The numbers correspond to those in the square red boxes in the figures of (2), (3), and (4).

(2) Example of CSP+ descriptions

Display examples of each part when CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool are shown.

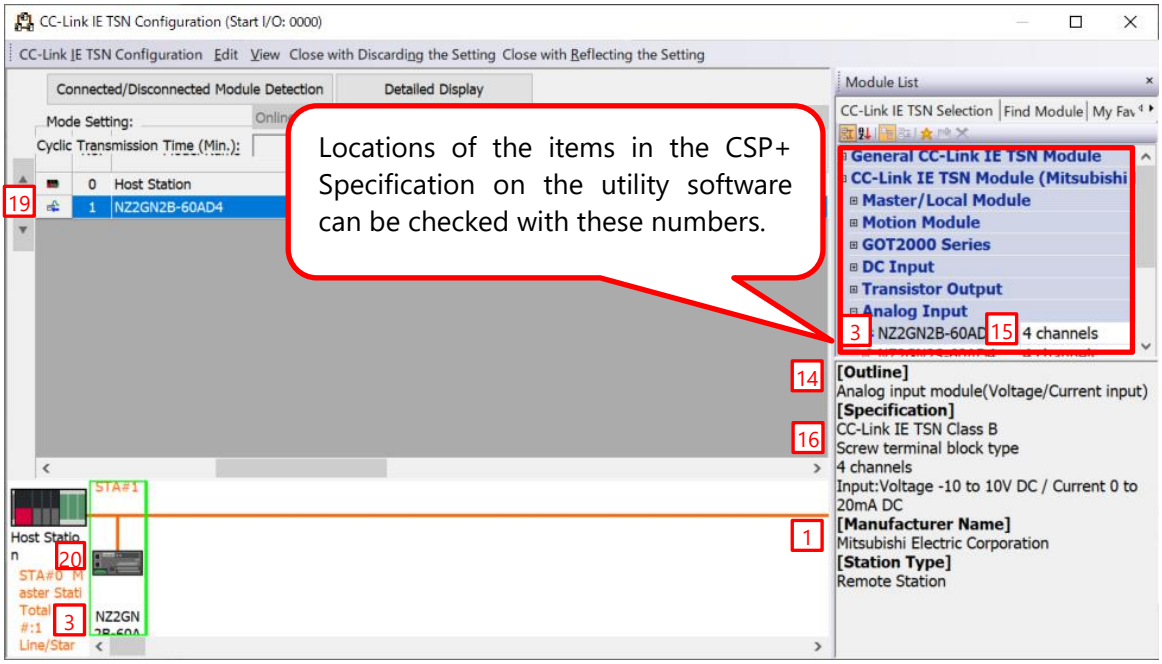
DeviceInformation

	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DATA
1	VendorName	Vendor name	COMMON	Vendor name	STRING U(64)	Mitsubishi Electric Corporation
2	VendorCode	Vendor code	COMMON	Vendor code	WORD	0x0000
3	DeviceModel	Device model	COMMON	Device model	STRING(48)	NZ2GN2B-60AD4
4	ProductID	ProductID	COMMON	Product ID	STRING(256)	1342177283

Locations of the items in the CSP+ Specification can be checked with these numbers.

(3) Display example on utility software

A display example on GX Works3 when CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is used is shown below.



(4) Elements and items not being used on the utility software window despite being described in the CSP+ description specifications

Elements and items that are not used for displaying the utility software window are listed.

4	ProductID	Used to check whether the ProductID matches the model code acquired from the actual device during automatic detection and scanning. Example: L26CPU-BT 0x40000548 LJ61BT11 0x00000001 RJ71EN71 0x00000029 • When an error occurs If the number is incorrect, the utility software recognizes a module as a different one.
5	DeviceTypeID	Describes the code of the device type list determined by the CC-Link Partner Association. (Example: 0x20 for an inverter)
9	VersionPolicyType	Describes the price with a unit.

Definitions of terminology and figures

A black word balloon describes an explanation of an item.

A blue word balloon describes a point of display and processing of CSP+ and the utility software.

2. FILE SECTION

The FILE section consists of only one FILE_INFO part.

2.1 FILE_INFO Part

The FILE_INFO part describes the file information (such as file updated date) of the CSP+ file.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.1.1 FILE_INFO part

Table 2.1-1 lists elements which configure the FILE_INFO part.

Table 2.1-1 List of Elements which Configure the FILE_INFO Part

No.	Element	Description	Required/ Optional
1	CreateDate	Describes the date the CSP+ file was created.	Required
2	CreateTime	Describes the time the CSP+ file was created.	Required
3	ModDate	Describes the date last modified.	Required
4	ModTime	Describes the time last modified.	Required
5	Language	Describes the language in which the CSP+ file is described.	Required
6	FileVersion	Describes the version of the CSP+ information for the target module.	Required
7	CCLinkFamilyProfileVersion	Describes the version of CSP+ description specifications.	Required

(2) CSP+ descriptions

Figure 2.1-1 shows a display example of the FILE_INFO part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.

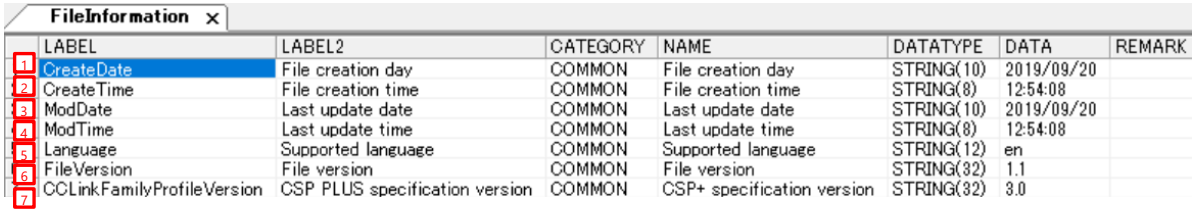


Figure 2.1-1 Display Example When CSP+ profile creation support tool is Used (FILE_INFO)

(3) Utility software

Any elements that configure the FILE_INFO part are not displayed on the utility software.

(4) Elements not being used on the utility software window despite being described in the CSP+ description specifications

Table 2.1-2 lists the elements not being used on the utility software window despite being described in the CSP+ description specifications.

Table 2.1-2 Elements Not Being Used on the Utility Software Window (FILE_INFO)

No.	Element	Application	Required/ Optional
1	CreateDate	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
2	CreateTime	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
3	ModDate	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
4	ModTime	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
5	Language	Displays the corresponding language of CSP+ by comparing the language of the utility software and the string described in this element.	Required
6	FileVersion	Utility software uses CSP+ with the latest file version.	Required
7	CCLinkFamilyProfileVersion	Utility software that does not support the description specification version of CSP+ described in this element cannot use the CSP+.	Required

3. DEVICE SECTION

The DEVICE section consists of only one DEVICE_INFO part.

3.1 DEVICE_INFO Part

The DEVICE_INFO part describes the product identification information and the information related to the product specifications.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.2.1 DEVICE_INFO part

Table 3.1-1 lists elements which configure the DEVICE_INFO part.

Table 3.1-1 List of Elements which Configure the DEVICE_INFO Part

No.	Element	Description	Required/ Optional
1	VendorName	Describes the name of the vendor that manufactured the module.	Required
2	VendorCode	Describes the code of vendor that manufactured the module. The fifth to eighth digits of the membership number of the CC-Link Partner Association are described.	Required
3	DeviceModel	Describes the model of the module.	Required
4	ProductID	Describes the product ID of the module managed by each vendor.	Required
5	DeviceTypeID	Describes the ID of the module type.	*1
6	DeviceTypeDetail	Describes the specific device type.	*1
7	Version	Describes the device version of the module.	Required
8	VersionDisplayFlg	Describes whether to show/hide the device version to/from the user.	Required
9	VersionPolicyType	Describes the policy of the relationship between the actual device version and the device version described in the CSP+ file when the actual device is accessed using the CSP+ file.	Required
10	DisplayVersionValue	Describes the value of the device version to be displayed when the value (Version) of the device version acquired from the actual device differs from the value of the version displayed to the user on the utility software.	Optional
11	VersionComment	Describes a comment related to the device version.	Optional
12	DeviceConfigurationID	Assigns an identifier to each device configuration which can be changed. The device configuration ID must be unique in the user environment.	Optional
13	DeviceConfigurationComment	Describes a comment related to the device configuration ID to identify the CSP+ file using the ID.	Optional
14	ReferenceURL	Describes a URL if the module information is disclosed on the website.	Optional
15	URLInfo	Describes the information indicated by the reference URL.	Optional
16	Outline	Describes the general specifications of the module.	Optional
17	Feature	Describes the features of the module.	Optional
18	SpecList	Describes the module specifications using a set of strings.	Optional
19	PowerSupplyVoltage	Describes the power supply voltage with a unit of V (volts).	Optional
20	ConsumptionCurrent	Describes the current consumption with a unit of mA (milliamperes).	Optional
21	IconFileName	Describes the icon file name with the extension (.ico) when displaying the module as an icon on the utility software.	Optional
22	GraphicsFileName	Describes the graphics file name with extensions (.bmp, .png, .jpg, .gif) when displaying the module on the utility software.	Optional
23	Height	Describes the height of the external dimensions with a unit.	Optional
24	Width	Describes the width of the external dimensions with a unit.	Optional
25	Depth	Describes the depth of the external dimensions with a unit.	Optional

No.	Element	Description	Required/ Optional
26	Weight	Describes the weight with a unit.	Optional
27	Price	Describes the price with a unit.	Optional
28	UI_ATTRIBUTE_Window**	Describes the name of the Window to be specified in UI_ATTRIBUTE. The Window number is described in "**".	Optional
29	DedicatedToolFlg	Describes if a supported dedicated tool exists.	Optional
30	DedicatedToolName	Describes the supported dedicated tool name.	*2
31	InstallRegistryKeyName	Describes the registry key name only when the supported dedicated tool is installed.	*2
32	InstallRegistryValueName	Describes the registry value name only when the supported dedicated tool is installed.	*3
33	ExePathRegistryKeyName	Describes the key name of the registry where the path information of the execution file (.exe) for the supported dedicated tool is stored.	*2
34	ExePathRegistryValueName	Describes the value name of the registry where the path information of the execution file (.exe) for the supported dedicated tool is stored.	*2

*1: Prohibited from omitting both the DeviceTypeID element and the DeviceTypeDetail element. Ensure to describe either of these elements. When both of the elements are described, the DeviceTypeDetail element takes precedence.

*2: Required when the DedicatedToolFlg element is described and its DATA item value is 1. Otherwise, description is prohibited.

*3: Optional when the DedicatedToolFlg element is described and its DATA item value is 1. Otherwise, description is prohibited.

(2) CSP+ descriptions

Figure 3.1-1 shows a display example of the DEVICE_INFO part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.

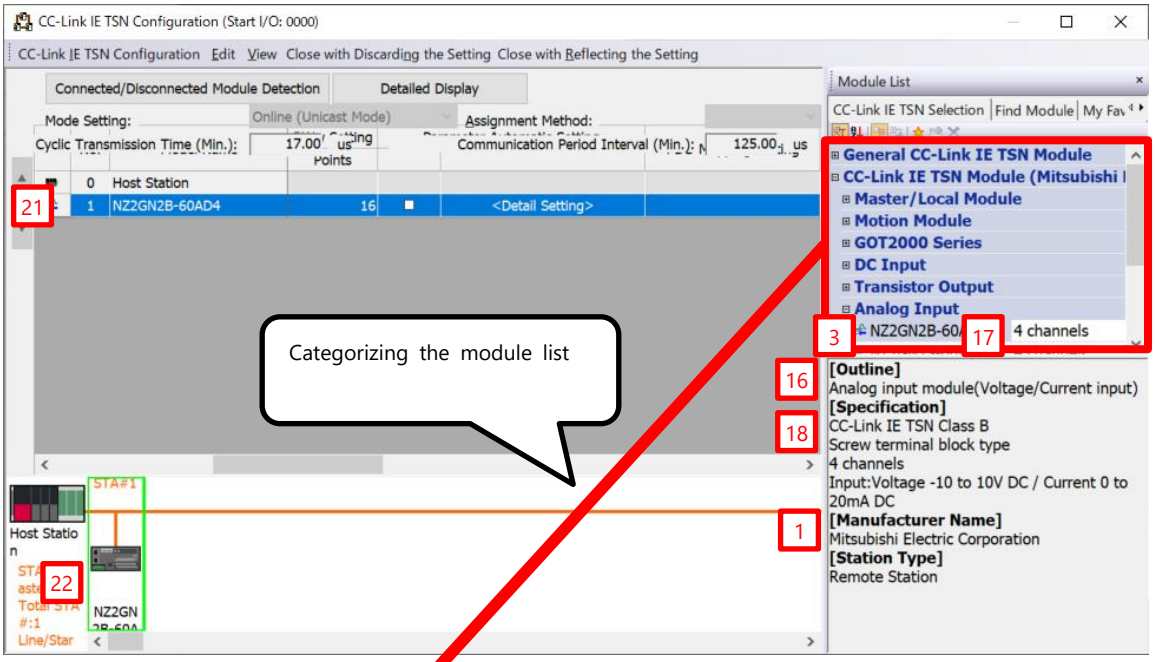
DeviceInformation

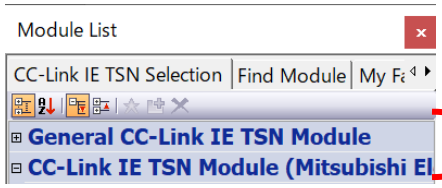
	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DATA	REMARK
1	VendorName	Vendor name	COMMON	Vendor name	STRING U(64)	Mitsubishi Electric Corporation	1
2	VendorCode	Vendor code	COMMON	Vendor code	WORD	0x0000	2
3	DeviceModel	Device model	COMMON	Device model	STRING(48)	NZ2GN2B-60AD4	3
4	ProductID	ProductID	COMMON	Product ID	STRING(256)	1342177283	4
5	DeviceTypeID	Device type ID	COMMON	Device type ID	WORD	0x0004	5
6	DeviceTypeDetail	Device type detail	COMMON	Device type detail	STRING U(256)	Analog Input	6
7	Version	Device version	COMMON	Device version	UINT16	1	7
8	VersionDisplayFlg	Device version display flag	COMMON	Device version display flag	BOOL	1	8
9	VersionPolicyType	Device version policy type	COMMON	Device version policy type	UINT16	1	9
10	VersionComment	Comment for device version	COMMON	Comment for device version	STRING U(256)	Profile ver.01E	11
11	Outline	Outline specification	COMMON	Outline specification	STRING U(256)	Analog input module(Voltage/Current input)	16
12	Feature	Feature	COMMON	Feature	STRING U(256)	4 channels	17
13	SpecList	Specification_list	COMMON	Specification list	STRING_U(256)()	CC-Link IE TSN Class B, Screw terminal block type, 4 channels, Input:Voltage -10 to 10V DC / Current 0 to 20mA DC	18
14	IconFileName	Icon file name	COMMON	Icon file name	STRING(52)	CCLi0401.ico	21
15	GraphicsFileName	Image file name	COMMON	Image file name	STRING(52)	NZ2GN2B-60AD4 64x32.bmp	22

Figure 3.1-1 Display Example When CSP+ profile creation support tool is Used (DEVICE_INFO)

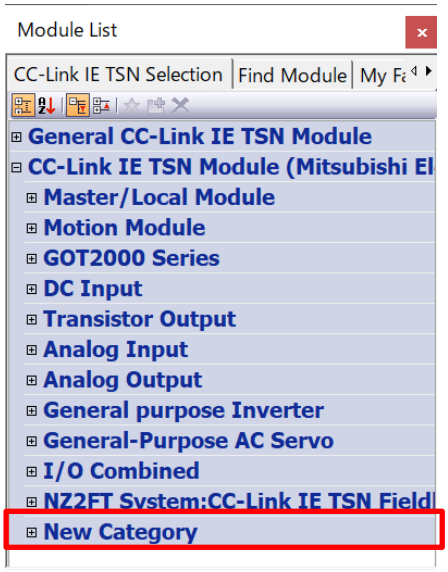
(3) Utility software - (CC-Link IE TSN configuration diagram)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. A display example of utility software (CC-Link IE TSN configuration diagram) is shown below.



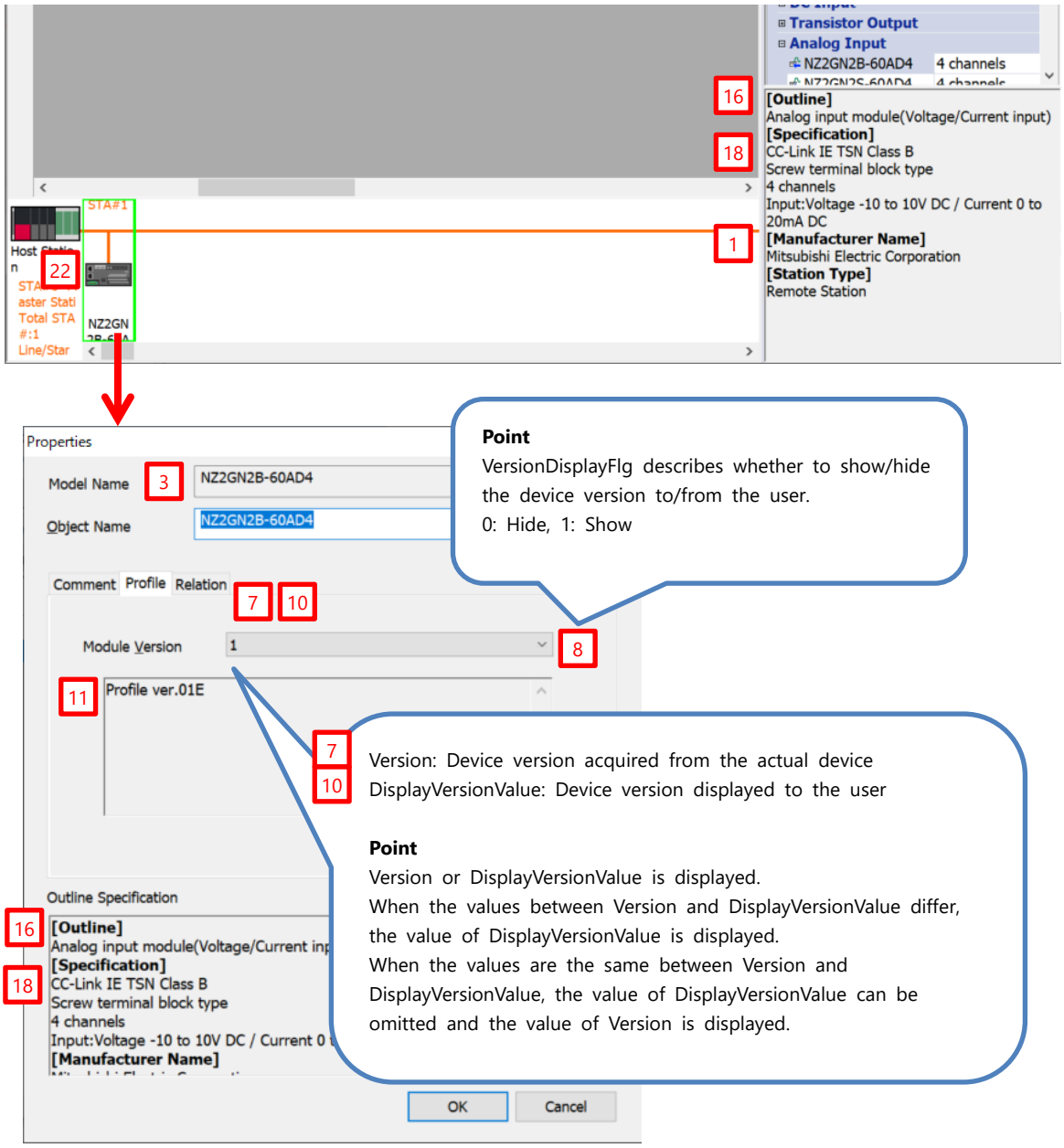


Point
The categories are listed in ascending numerical order of VendorCode.



Point
DeviceTypeDetail is categorized in the second hierarchy level of the module list. Categorized items are listed in the order of registration in the engineering tool.

For example, when the description of DeviceTypeDetail in the analog input profile is changed from "Analog Input" to "Add new category", the displayed name on the tree is changed.


Transistor Output
Analog Input
NZ2GN2B-60AD4
4 channels
16
18
1
22
[Outline]
Analog input module(Voltage/Current input)
[Specification]
CC-Link IE TSN Class B
Screw terminal block type
4 channels
Input:Voltage -10 to 10V DC / Current 0 to 20mA DC
[Manufacturer Name]
Mitsubishi Electric Corporation
[Station Type]
Remote Station
STA#1
Properties
Model Name
3
NZ2GN2B-60AD4
Object Name
NZ2GN2B-60AD4
Comment
Profile
Relation
7
10
Module Version
1
8
11
Profile ver.01E
Outline Specification
16
[Outline]
18
[Specification]
CC-Link IE TSN Class B
Screw terminal block type
4 channels
[Manufacturer Name]
OK
Cancel
Point
VersionDisplayFlg describes whether to show/hide the device version to/from the user.
0: Hide, 1: Show
7
10
Version: Device version acquired from the actual device
DisplayVersionValue: Device version displayed to the user
Point
Version or DisplayVersionValue is displayed.
When the values between Version and DisplayVersionValue differ, the value of DisplayVersionValue is displayed.
When the values are the same between Version and DisplayVersionValue, the value of DisplayVersionValue can be omitted and the value of Version is displayed.

(4) Elements not being used on the utility software window despite being described in the CSP+ description specifications

Table 3.1-2 lists the elements not being used on the utility software window despite being described in the CSP+ description specifications.

Table 3.1-2 Elements Not Being Used on Utility Software Window (DEVICE_INFO)

No.	Element	Application	Required/ Optional
4	ProductID	Used to check whether the ProductID matches the model code acquired from the actual device during automatic detection and scanning. Example: L26CPU-BT 0x40000548 LJ61BT11 0x00000001 RJ71EN71 0x00000029	Optional
5	DeviceTypeID	Describes the code of the device type list determined by the CC-Link Partner Association. (Example: 0x20 for an inverter) For the code assignment, refer to the CC-Link Partner Association website. If the device type is not included in any of the categories, submit an application to the CC-Link Partner Association to add a code. Please contact the CC-Link Partner Association. A string corresponding to the code described in DeviceTypeID is displayed when DeviceTypeDetail is not described.	*1
9	VersionPolicyType	Describes the policy of the device version between the module and the CSP+ file. The device version to be used is determined based on this value. For the meanings of each value and modules to be used, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.2.1 DEVICE_INFO part - (2) Device version (Version element) - (f) Device version comparison policy for module and CSP+ file (VersionPolicyType element)	Required
12	DeviceConfigurationID	For future expansion	Optional
13	DeviceConfigurationComment	For future expansion	Optional
19	PowerSupplyVoltage	Not used for the CC-Link IE TSN profile.	Optional
20	ConsumptionCurrent	Not used for the CC-Link IE TSN profile.	Optional
23	Height	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
24	Width	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
25	Depth	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
26	Weight	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
27	Price	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
28	UI_ATTRIBUTE_Window**	For future expansion	Optional
29	DedicatedToolFlg	Uses for utility software to determine if a dedicated tool exists.	Optional
30	DedicatedToolName	Describes the dedicated tool name.	*2
31	InstallRegistryKeyName	Describes the registry key name and that value name to InstallRegistryKeyName and InstallRegistryValueName only when the dedicated tool is installed.	*2
32	InstallRegistryValueName		*3
33	ExePathRegistryKeyName	Acquires the execution file path of the dedicated tool from the registry where this element is described at start-up of the dedicated tool in utility software.	*2
34	ExePathRegistryValueName		*2

*1: Prohibited from omitting both the DeviceTypeID element and the DeviceTypeDetail element. Ensure to describe either of these elements. When both of the elements are described, the

DeviceTypeDetail element takes precedence.

*2: Required when the DedicatedToolFlg element is described and its DATA item value is 1. Otherwise, description is prohibited.

*3: Optional when the DedicatedToolFlg element is described and its DATA item value is 1. Otherwise, description is prohibited.

4. COMM IF SECTION

The COMM_IF section defines the information of the communication functions and consists of multiple parts as shown in Figure 4-1.

COMM_IF section	
COMM_IF_INFO part	Describes the identification information and communication specifications of the communication interface.
COMM_IF_INPUT part	Describes the input information of the communication interface.
COMM_IF_OUTPUT part	Describes the output information of the communication interface.
COMM_IF_PARAMETER part	Describes the parameter information of the communication interface.
COMM_IF_COMMAND part	Describes the commands to be executed by the communication interface.
METHOD part	Describes the information related to the commands issued from the communication interface and the parameter settings.
MESSAGE part	Describes the information required for the communication processing to be executed, specifying a data format.
STRUCT part	Describes the structure of the inputs and outputs of multiple elements.
ENUM part	Describes the options for values and return values to be set for the element.
COMMAND_ARGUMENT part	Describes the argument information of COMM_IF_COMMAND.

Figure 4-1 Structure of the COMM_IF Section

4.1 COMM_IF_INFO Part

The COMM_IF_INFO part describes the identification information and communication specifications of the communication interface.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.1 COMM_IF_INFO part

Table 4.1-1 lists elements which configure the COMM_IF_INFO part.

Table 4.1-1 List of Elements which Configure the COMM_IF_INFO Part

	No.	Element	Description	Required/ Optional
Common part	1	VendorName	Describes the name of the vendor that manufactured the module.	Required
	2	VendorCode	Describes the code of vendor that manufactured the module. The fifth to eighth digits of the membership number of the CC-Link Partner Association are described.	Required
	3	CommIFTypeID	Describes the ID that indicates the communication interface type in a string.	Required
	4	Version	Describes the firmware version in a string.	Required
Network-dependent part	5	StationMode	Describes the station mode setting value.	Optional
	6	StationModeName	Describes the station mode name.	*1
	7	LocalFunction	Describes if the local function exists.	Optional
	8	AutoSettingHeaderType	Describes the automatic setting header type number.	Optional
	9	AutoSettingType	Describes the automatic setting type. The type is displayed only when a module that supports the slave station parameter automatic setting function is used.	Optional
	10	ModelCode	Describes the model code.	Required
	11	ModelCodeEx	Describes the extension model code.	Optional
	12	DevModel	Describes the model name.	Required
	13	CanProfileNum	Describes the CiA standard number.	Optional
	14	ObjectDictionaryFileName	Describes the object dictionary file name with the extension (.csv).	*2
	15	IEEE802_1ASFunction	Describes if the IEEE 802.1AS function exists.	Required
	16	ReceiveFunction100M	Describes if the 100 Mbps full-rate receive function exists.	Required
	17	RelayFunction100M	Describes if the 100 Mbps full-rate relay function exists.	Required
	18	ReceiveFunction1G	Describes if the 1 Gbps full-rate receive function exists.	Required
	19	RelayFunction1G	Describes if the 1 Gbps full-rate relay function exists.	Required
	20	MultiCastFunction	Describes if the broadcast/multicast function exists.	Required
	21	CertificationClass	Describes strings indicating the certification class.	Required
	22	S_B_DefaultSize	Describes the default size of the send bit data (RX) in the number of bits.	Required
	23	S_W_DefaultSize	Describes the default size of the send word data (RWr, TPDO, general send access) in the number of words.	Required
	24	R_B_DefaultSize	Describes the default size of the receive bit data (RY) in the number of bits.	Required
	25	R_W_DefaultSize	Describes the default size of the receive word data (RWw, RPDO, general receive access) in the number of words.	Required
	26	L_B_DefaultSize	Describes the default size of the link relay data (LB) in the number of bits.	Optional
	27	L_W_DefaultSize	Describes the default size of the link register data (LW) in the number of words.	Optional
	28	S_B_MaxSize	Describes the maximum size of the send bit data (RX) in the number of bits.	Required

	No.	Element	Description	Required/ Optional
	29	S_W_MaxSize	Describes the maximum size of the send word data (RWr, TPDO, general send access) in the number of words.	Required
	30	R_B_MaxSize	Describes the maximum size of the receive bit data (RY) in the number of bits.	Required
	31	R_W_MaxSize	Describes the maximum size of the receive word data (RWw, RPDO, general receive access) in the number of words.	Required
	32	L_B_MaxSize	Describes the maximum size of the link relay data (LB) in the number of bits.	Optional
	33	L_W_MaxSize	Describes the maximum size of the link register data (LW) in the number of words.	Optional
	34	S_B_MinSize	Describes the minimum size of the send bit data (RX) in the number of bits.	Optional
	35	S_W_MinSize	Describes the minimum size of the send word data (RWr, TPDO, general send access) in the number of words.	Optional
	36	R_B_MinSize	Describes the minimum size of the receive bit data (RY) in the number of bits.	Optional
	37	R_W_MinSize	Describes the minimum size of the receive word data (RWw, RPDO, general receive access) in the number of words.	Optional
	38	L_B_MinSize	Describes the minimum size of the link relay data (LB) in the number of bits.	Optional
	39	L_W_MinSize	Describes the minimum size of the link register data (LW) in the number of words.	Optional
	40	S_B_Address	Describes the start address used for send bit data (RX) communications.	*3
	41	S_W_Address	Describes the start address used for send word data (RWr) communications.	*3
	42	R_B_Address	Describes the memory address used for receive bit data (RY) communications.	*3
	43	R_W_Address	Describes the memory address used for receive word data (RWw) communications.	*3
	44	StsW_Address	Describes the memory address for the status notification device (StsW).	Required
	45	PDOConfigIndex1	Describes the index of the PDO configuration.	*4
	46	PDOConfigPDOType1	Describes the PDO type of the PDO configuration.	*5
	47	PDOConfigMemoryAddress1	Describes the memory address of the PDO configuration.	*5
	48	PDOConfigPossibleMapping1	Describes the PDO mapping objects that can be set in PDO Assignment of the PDO configuration as an array in priority order.	*5
	49	S_General_Address	Describes the memory address for general send access.	*3
	50	R_General_Address	Describes the memory address for general receive access.	*3

*1: Description is prohibited when the StationMode element is not described.
Description is required when the StationMode element is described.

*2: Description is required for a CAN compatible device (device with the CanProfileNum element). When a device is not compatible with CAN, description is prohibited.

*3: The memory address information of the available communication type is required. Description of the memory address information of the unavailable communication type is prohibited.

*4: Description is required when the device performs the PDO communications. Describe the required number of indexes. When a device does not perform the PDO communications, description is prohibited.

*5: Description of a corresponding element is required when PDOConfigIndex is described.
Description is prohibited when PDOConfigIndex is not described.

(2) CSP+ descriptions

Figure 4.1-1 shows a display example of the COMM_IF_INFO part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.

Point

When the specifications of the device in the network settings do not change, create one common BLOCK, and refer to the BLOCK from the multiple COMM_IF sections.

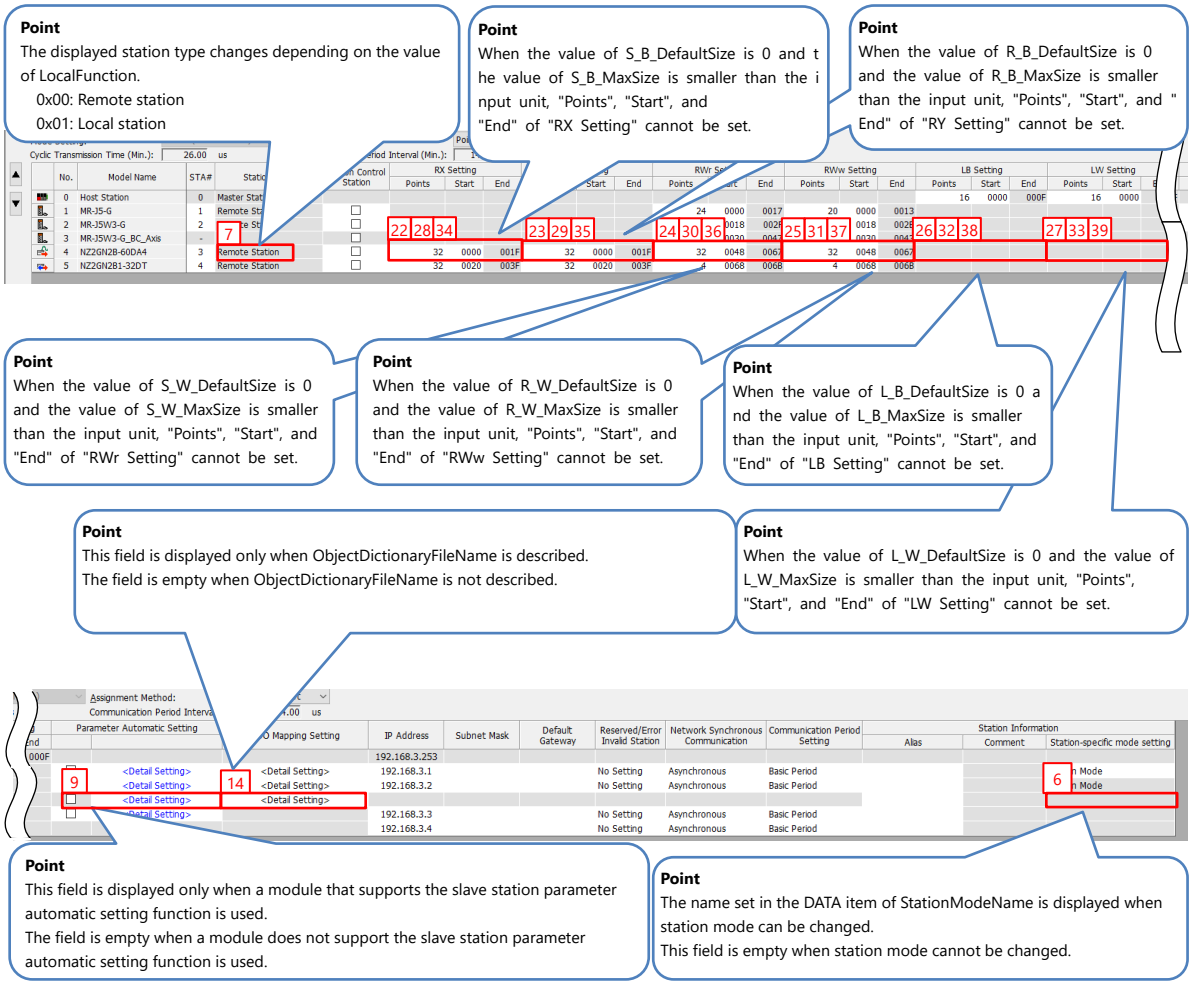
commIfInfo

	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DATA	REMARK
1	VendorName	Vendor name	COMMON	Vendor name	STRING U(64)	Mitsubishi Electric Corporation	1
2	VendorCode	Vendor code	COMMON	Vendor code	WORD	0x0000	2
3	CommIFTypeID	Communication interface type ID	COMMON	Communication interface type ID	STRING(32)	CCLinkIETSN	3
4	Version	Version	COMMON	Version	UINT16	1	4
5	AutoSettingHeaderType	Auto setting header type	COMMON CC-Link IE TSN	Auto-setting header type	BYTE	0x00	8
6	AutoSettingType	Auto setting type	COMMON CC-Link IE TSN	Auto-setting type	WORD	0x0001	9
7	ModelCode	Device code	COMMON CC-Link IE TSN	Device code	UINT32	1342177283	10
8	DevModel	Model name Type name	COMMON CC-Link IE TSN	Model name Type name	STRING(48)	NZ2GN2B-60AD4	12
9	CommunicationCycleMinTime ns	The shortest comm cycle ns	COMMON CC-Link IE TSN	The shortest communication cycle ns	UINT32	31250	
10	IEEE802 1ASFunction	IEEE802 1AS function	COMMON CC-Link IE TSN	IEEE802 1AS function	BOOL	1	15
11	ReceiveFunction100M	Reception function 100Mbps	COMMON CC-Link IE TSN	Reception function 100Mbps	BOOL	0	16
12	RelayFunction100M	Relay function 100Mbps	COMMON CC-Link IE TSN	Relay function 100Mbps	BOOL	0	17
13	ReceiveFunction1G	Reception function 1Gbps	COMMON CC-Link IE TSN	Reception function 1Gbps	BOOL	1	18
14	RelayFunction1G	Relay function 1Gbps	COMMON CC-Link IE TSN	Relay function 1Gbps	BOOL	1	19
15	MultiCastFunction	Broad multicast function	COMMON CC-Link IE TSN	Broad multicast function	BOOL	1	20
16	CertificationClass	Authentication class	COMMON CC-Link IE TSN	Authentication class	STRING U(2)	B	21
17	S B DefaultSize	Send bit data default size	COMMON CC-Link IE TSN	Send bit data default size	UINT32	32	22
18	S W DefaultSize	Send word data default size	COMMON CC-Link IE TSN	Send word data default size	UINT16	16	23
19	R B DefaultSize	Receive bit data default size	COMMON CC-Link IE TSN	Receive bit data default size	UINT32	32	24
20	R W DefaultSize	Receive word data default size	COMMON CC-Link IE TSN	Receive word data default size	UINT16	16	25
21	S B MaxSize	Send bit data maximum size	COMMON CC-Link IE TSN	Send bit data maximum size	UINT32	128	28
22	S W MaxSize	Send word data maximum size	COMMON CC-Link IE TSN	Send word data maximum size	UINT16	64	29
23	R B MaxSize	Receive bit data maximum size	COMMON CC-Link IE TSN	Receive bit data maximum size	UINT32	128	30
24	R W MaxSize	Receive word data maximum size	COMMON CC-Link IE TSN	Receive word data maximum size	UINT16	64	31
25	S B MinSize	Send bit data minimum size	COMMON CC-Link IE TSN	Send bit data minimum size	UINT32	0	34
26	S W MinSize	Send word data minimum size	COMMON CC-Link IE TSN	Send word data minimum size	UINT16	0	35
27	R B MinSize	Receive bit data minimum size	COMMON CC-Link IE TSN	Receive bit data minimum size	UINT32	0	36
28	R W MinSize	Receive word data minimum size	COMMON CC-Link IE TSN	Receive word data minimum size	UINT16	0	37
29	S B Address	Send bit data address	COMMON CC-Link IE TSN	Send bit data address	DWORD	0x00000010	40
30	S W Address	Send word data address	COMMON CC-Link IE TSN	Send word data address	DWORD	0x00000040	41
31	R B Address	Receive bit data address	COMMON CC-Link IE TSN	Receive bit data address	DWORD	0x00000000	42
32	R W Address	Receive word data address	COMMON CC-Link IE TSN	Receive word data address	DWORD	0x00000030	43
33	StsW Address	StateNotification device address	COMMON CC-Link IE TSN	Status notification device address	DWORD	0x00000260	44

Figure 4.1-1 Display Example When CSP+ profile creation support tool is Used (COMM_IF_INFO)

(3) Utility software - (CC-Link IE TSN configuration diagram)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. A display example of utility software (CC-Link IE TSN configuration diagram) is shown below.



(4) **Elements not being used on the utility software window despite being described in the CSP+ description specifications**

Table 4.1-2 lists the elements not being used on the utility software window despite being described in the CSP+ description specifications.

Table 4.1-2 Elements Not Being Used on Utility Software Window (COMM_IF_INFO)

No.	Element	Application	Required/ Optional
1	VendorName	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
2	VendorCode	Information to specify the device. If this value is changed at the time of CSP+ update, the utility software handles the CSP+ as a CSP+ of a different device.	Required
3	CommIFTypeID	Used to specify in which configuration diagram this device is used based on the description. Description example: CCLink: Used in the CC-Link configuration diagram CCIEField: Used in the CC-Link IE Field configuration diagram CCLinkIETSN: Used in the CC-Link IE TSN configuration diagram	Required
4	Version	Reference information. For example, assuming that the software version is A, the software is updated as versions B, C, ... as revised.	Required
5	StationMode	An ID to uniquely identify station mode.	Optional
8	AutoSettingHeaderType	For future expansion	Optional
10	ModelCode	Checks whether a model code matches the one acquired from the actual device during automatic detection of the connected device. If the network module (example: inverter and GOT) is separate from the device (main body), the model name is described by separately numbering each network.	Required
11	ModelCodeEx	For future expansion	Optional
12	DevModel	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
13	CanProfileNum	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
15	IEEE802_1ASFunction	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
16	ReceiveFunction100M	Describes the set value to the master module as parameters.	Required
17	RelayFunction100M	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
18	ReceiveFunction1G	Describes the set value to the master module as parameters.	Required
19	RelayFunction1G	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
20	MultiCastFunction	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
21	CertificationClass	Reference information. This element is displayed only in CSP+ profile creation support tool.	Required
40	S_B_Address	Describes the set value to the master module as parameters.	*1
41	S_W_Address	Describes the set value to the master module as parameters.	*1
42	R_B_Address	Describes the set value to the master module as parameters.	*1
43	R_W_Address	Describes the set value to the master module as parameters.	*1
44	StsW_Address	Describes the set value to the master module as parameters.	Required
45	PDOConfigIndex1	A data referenced for PDO mapping. The display may be affected by the PDO mapping future expansion.	*2
46	PDOConfigPDOType1	A data referenced for PDO mapping. The display may be affected by the PDO mapping future expansion.	*3
47	PDOConfigMemoryAddress1	A data referenced for PDO mapping. The display may be affected by the PDO mapping future expansion.	*3

No.	Element	Application	Required/ Optional
48	PDOConfigPossibleMapping1	A data referenced for PDO mapping. The display may be affected by the PDO mapping future expansion.	*3
49	S_General_Address	Reference information. This element is displayed only in CSP+ profile creation support tool.	*1
50	R_General_Address	Reference information. This element is displayed only in CSP+ profile creation support tool.	*1

*1: The memory address information of the available communication type is required. Description of the memory address information of the unavailable communication type is prohibited.

*2: Description is required when the device performs the PDO communications. Describe the required number of indexes. When a device does not perform the PDO communications, description is prohibited.

*3: Describe a corresponding element when PDOConfigIndex is described.
Description is prohibited when PDOConfigIndex is not described.

4.2 COMM_IF_INPUT Part

The COMM_IF_INPUT part describes the information related to the input information of the communication interface. (This part needs to be described when there is information output from the control side of the target module.)
The information includes the remote input RX area and remote register RWr area of the remote station.
Elements configuring the COMM_IF_INPUT part are defined based on the functions of the target module.
The configuration of each element of the COMM_IF_INPUT part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.2 COMM_IF_INPUT part

Table 4.2-1 lists the items to be described in each element of the COMM_IF_INPUT part.

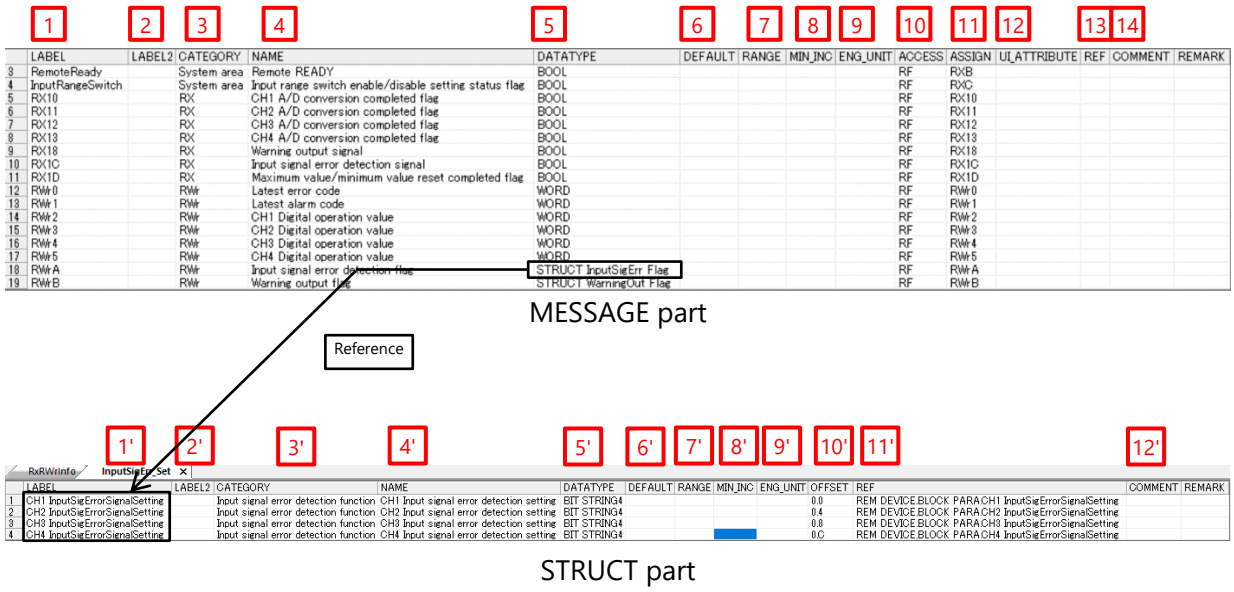
Table 4.2-1 List of Items to be Described in Each Element of the COMM_IF_INPUT Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Optional
5	DATATYPE*1	Describes the data type of the element.	Optional
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element.	Optional
8	MIN_INC	Describes the minimum increment applied to the element value.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the element value.	Optional
10	ACCESS	Describes the access attribute of the element.	Optional
11	ASSIGN	Describes the remote input and remote register that assign the element value.	Optional
12	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
13	REF	Describes a reference to the element of the BLOCK_OUTPUT part.	Optional
14	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*1: When STRUCT is specified, refer to "STRUCT part" in Section 4.3 "COMM_IF_OUTPUT Part".

(2) CSP+ descriptions

The following shows a display example of the COMM_IF_INPUT part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.



	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DEFAULT	RANGE	MIN_INC	ENG_UNIT	ACCESS	ASSIGN	UI_ATTRIBUTE	REF	COMMENT	REMARK
3	RemoteReady		System area	Remote READY	BOOL					RF	RXB				
4	InputRangeSwitch		System area	Input range switch enable/disable setting status flag	BOOL					RF	RXC				
5	RX10		RX	CH1 A/D conversion completed flag	BOOL					RF	RX10				
6	RX11		RX	CH2 A/D conversion completed flag	BOOL					RF	RX11				
7	RX12		RX	CH3 A/D conversion completed flag	BOOL					RF	RX12				
8	RX13		RX	CH4 A/D conversion completed flag	BOOL					RF	RX13				
9	RX18		RX	Warning output signal	BOOL					RF	RX18				
10	RX1C		RX	Input signal error detection signal	BOOL					RF	RX1C				
11	RX1D		RX	Maximum value/minimum value reset completed flag	BOOL					RF	RX1D				
12	RWr0		RWr	Latest error code	WORD					RF	RWr0				
13	RWr1		RWr	Latest alarm code	WORD					RF	RWr1				
14	RWr2		RWr	CH1 Digital operation value	WORD					RF	RWr2				
15	RWr3		RWr	CH2 Digital operation value	WORD					RF	RWr3				
16	RWr4		RWr	CH3 Digital operation value	WORD					RF	RWr4				
17	RWr5		RWr	CH4 Digital operation value	WORD					RF	RWr5				
18	RWrA		RWr	Input signal error detection flag	STRUCT InputSigErr Flag					RF	RWrA				
19	RWrB		RWr	Warning output flag	STRUCT WarningOut Flag					RF	RWrB				

MESSAGE part

RxRWrInfo | InputSigErr_Set

	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DEFAULT	RANGE	MIN_INC	ENG_UNIT	OFFSET	REF	COMMENT	REMARK
1	CH1 InputSigErrorSignalSetting		Input signal error detection function	CH1 Input signal error detection setting	BIT STRING4					0.0	REM DEVICE.BLOCK PARA.CH1 InputSigErrorSignalSetting		
2	CH2 InputSigErrorSignalSetting		Input signal error detection function	CH2 Input signal error detection setting	BIT STRING4					0.4	REM DEVICE.BLOCK PARA.CH2 InputSigErrorSignalSetting		
3	CH3 InputSigErrorSignalSetting		Input signal error detection function	CH3 Input signal error detection setting	BIT STRING4					0.8	REM DEVICE.BLOCK PARA.CH3 InputSigErrorSignalSetting		
4	CH4 InputSigErrorSignalSetting		Input signal error detection function	CH4 Input signal error detection setting	BIT STRING4					0.C	REM DEVICE.BLOCK PARA.CH4 InputSigErrorSignalSetting		

STRUCT part

(3) Utility software

Omitted because there is no item description example for utility software.

4.3 COMM_IF_OUTPUT Part

The COMM_IF_OUTPUT part describes the information related to the output information of the communication interface. (This part needs to be described when there is information input to the control side of the target module.)
The information includes the remote output RY area and remote register RWw area of the remote station.
Elements configuring the COMM_IF_OUTPUT part are defined based on the functions of the target module.
The configuration of each element of the COMM_IF_OUTPUT part, that is, the items to be described within each element, is the same as that of the COMM_IF_INPUT part.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.3 COMM_IF_OUTPUT part

Table 4.3-1 lists the items to be described in each element of the COMM_IF_OUTPUT part.

Table 4.3-1 List of Items to be Described in Each Element of the COMM_IF_OUTPUT Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Optional
5	DATATYPE[*1]	Describes the data type of the element.	Optional
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element.	Optional
8	MIN_INC	Describes the minimum increment applied to the element value.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the element value.	Optional
10	ACCESS	Describes the access attribute of the element.	Optional
11	ASSIGN	Describes the remote output and remote register that assign the element value.	Optional
12	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
13	REF	Describes a reference to the element of the BLOCK_INPUT part.	Optional
14	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*1 STRUCT part

The STRUCT part (structure) describes the information related to the structure of the inputs and outputs of multiple elements. A structure is used when an area is divided. Each element of the structure needs to be assigned to a consecutive address.

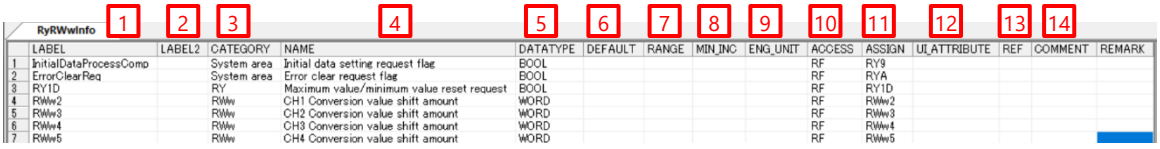
When describing the reference to the STRUCT part, describe it in the DATATYPE of the reference source. When referencing a description of the STRUCT part from an element in the COMM_IF section, describe the STRUCT part in the same COMM_IF section.

Table 4.3-2 List of Items in the STRUCT Part

No.	Item	Description	Required/ Optional
1'	LABEL	Describes the label for identifying the element.	Required
2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3'	CATEGORY	Describes the category for grouping the elements.	Optional
4'	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Optional
5'	DATATYPE	Describes the data type of the element.	Optional
6'	DEFAULT	Describes the default to be set for the element.	Optional
7'	RANGE	Describes the setting range of the element.	Optional
8'	MIN_INC	Describes the minimum increment applied to the element value.	Optional
9'	ENG_UNIT	Describes the engineering unit applied to the element value.	Optional
10'	OFFSET	Describes the offset of the element.	Optional
11'	REF	Describes the reference to be referenced by the element. When a structure is defined in the COMM_IF section, this item is used to reference input/output of the BLOCK section from each element of the structure. For references which can be described, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.30 REF conventions	Optional
12'	COMMENT	Describes the meaning of the element and usage precautions.	Optional

(2) CSP+ descriptions

The following shows a display example of the COMM_IF_OUTPUT part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.



(3) Utility software

Omitted because there is no item description example for utility software

4.4 COMM_IF_PARAMETER Part

The COMM_IF_PARAMETER part describes the information related to the parameters of the target module.
The information includes such as A/D conversion enablement/disablement and range settings of the analog-digital converter module (NZ2GN2B-60AD4).
Note that information which cannot be set or referenced via the communication interface, such as values set by using a DIP switch, is not described.
Elements configuring the COMM_IF_PARAMETER part are defined based on the communication functions of the target module.
The configuration of each element of the COMM_IF_PARAMETER part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.4 COMM_IF_PARAMETER part

1) Items to be described in the COMM_IF_PARAMETER part
Table 4.4-1 lists the items to be described in each element of the COMM_IF_PARAMETER part.

Table 4.4-1 List of Items to be Described in Each Element of the COMM_IF_PARAMETER Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Optional
5	DATATYPE	Describes the data type of the element.	Optional
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element.	Optional
8	MIN_INC	Describes the minimum increment applied to the element value along with ENG_UNIT.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the element value along with MIN_INC.	Optional
10	ACCESS	Describes the access attribute of the element.	Optional
11	WRITE_ORDER	Describes the order in which the element is to be described to the module.	Optional
12	ASSIGN	Describes the address and code that assign the element value.	Required
13	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
14	REF	Describes a reference to an element of the BLOCK_PARAMETER part referenced by an element of the COMM_IF_PARAMETER part.	Optional
15	COMMENT	Describes the meaning of the element and usage precautions.	Optional

2) Reference specifications of the COMM_IF_PARAMETER part

The specifications of parts related to the COMM_IF_PARAMETER part and reference relationship between communication services are described below.

The reference to the elements of the MESSAGE part and elements of the COMM_IF_PARAMETER part which carries out the settings and execution using the elements is described. The reference to the BLOCK_PARAMETER part cannot be described directly from the MESSAGE part. In the example of Figure 4.4-1, "Parameter Write" and "Parameter Read" are described as MESSAGE to read/write parameters 1, 2, ..., of the control function. The reference from each MESSAGE part to the BLOCK_PARAMETER part is described via the COMM_IF_PARAMETER part.

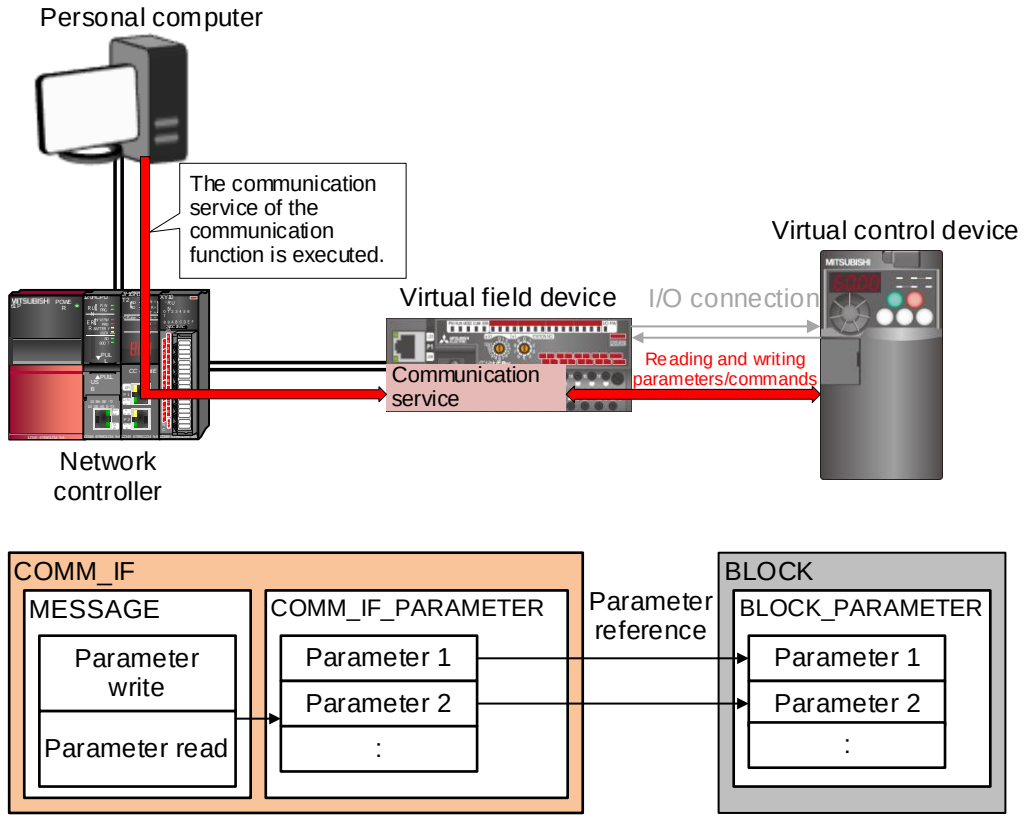


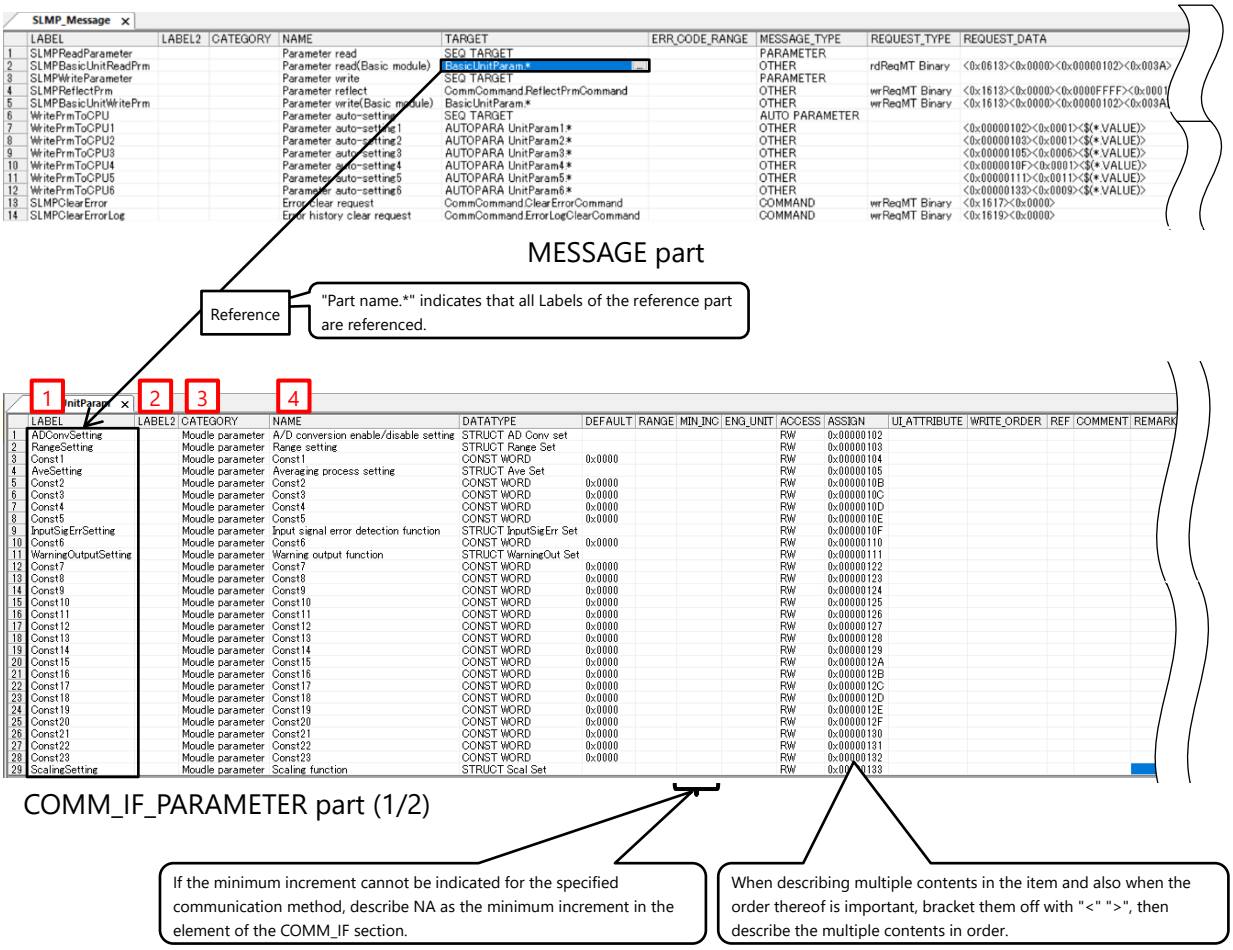
Figure 4.4-1 Example of Reference Specifications of the COMM_IF_PARAMETER Part

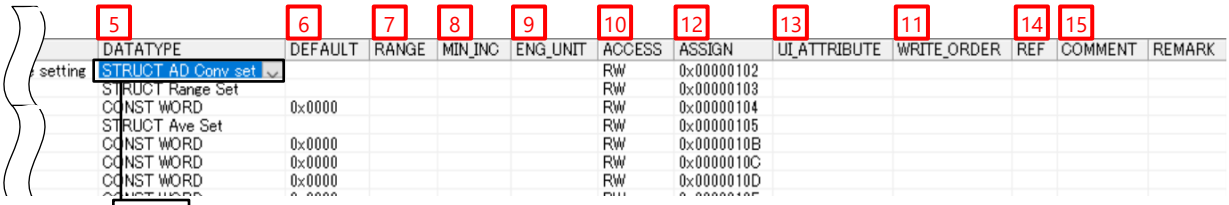
(2) CSP+ descriptions

Parameters are referenced in the following order.

MESSAGE part (SLMP_Message) →
COMMIF_PARAMETER part (BasicUnitParam) →
STRUCT part (AD_Conv_set) →
BLOCK_PARAMETER part (BLOCK_PARA)

The following shows a display example of the COMM_IF_PARAMETER part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.

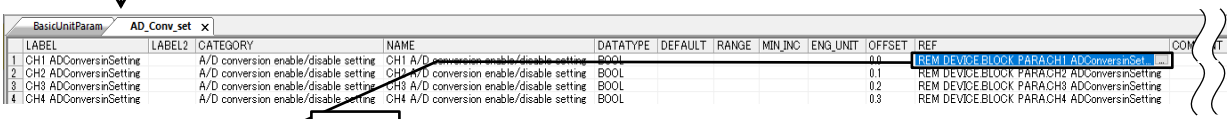




	5 DATATYPE	6 DEFAULT	7 RANGE	8 MIN_INC	9 ENG_UNIT	10 ACCESS	12 ASSIGN	13 UI_ATTRIBUTE	11 WRITE_ORDER	14 REF	15 COMMENT	REMARK
setting	STRUCT AD Conv set					RW	0x00000102					
	STRUCT Range Set					RW	0x00000103					
	CONST WORD	0x0000				RW	0x00000104					
	STRUCT Ave Set					RW	0x00000105					
	CONST WORD	0x0000				RW	0x0000010B					
	CONST WORD	0x0000				RW	0x0000010C					
	CONST WORD	0x0000				RW	0x0000010D					

Reference

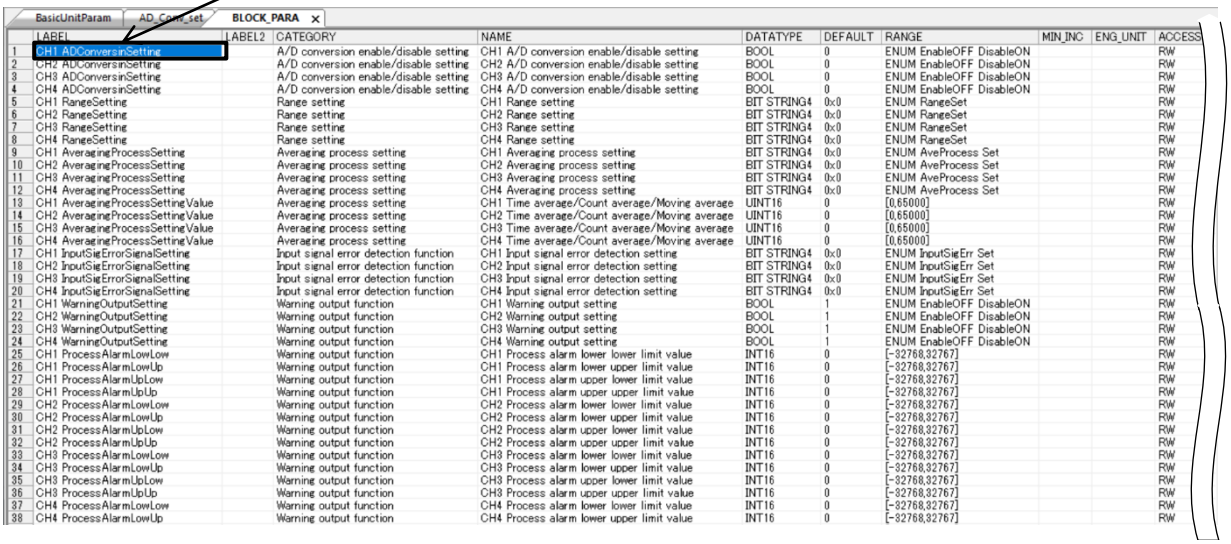
COMM_IF_PARAMETER part (2/2)



	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DEFAULT	RANGE	MIN_INC	ENG_UNIT	OFFSET	REF
1	CH1 ADConversinSetting		A/D conversion enable/disable setting	CH1 A/D conversion enable/disable setting	BOOL					0.0	REM DEVICE.BLOCK PARA.CH1 ADConversinSet
2	CH2 ADConversinSetting		A/D conversion enable/disable setting	CH2 A/D conversion enable/disable setting	BOOL					0.1	REM DEVICE.BLOCK PARA.CH2 ADConversinSetting
3	CH3 ADConversinSetting		A/D conversion enable/disable setting	CH3 A/D conversion enable/disable setting	BOOL					0.2	REM DEVICE.BLOCK PARA.CH3 ADConversinSetting
4	CH4 ADConversinSetting		A/D conversion enable/disable setting	CH4 A/D conversion enable/disable setting	BOOL					0.3	REM DEVICE.BLOCK PARA.CH4 ADConversinSetting

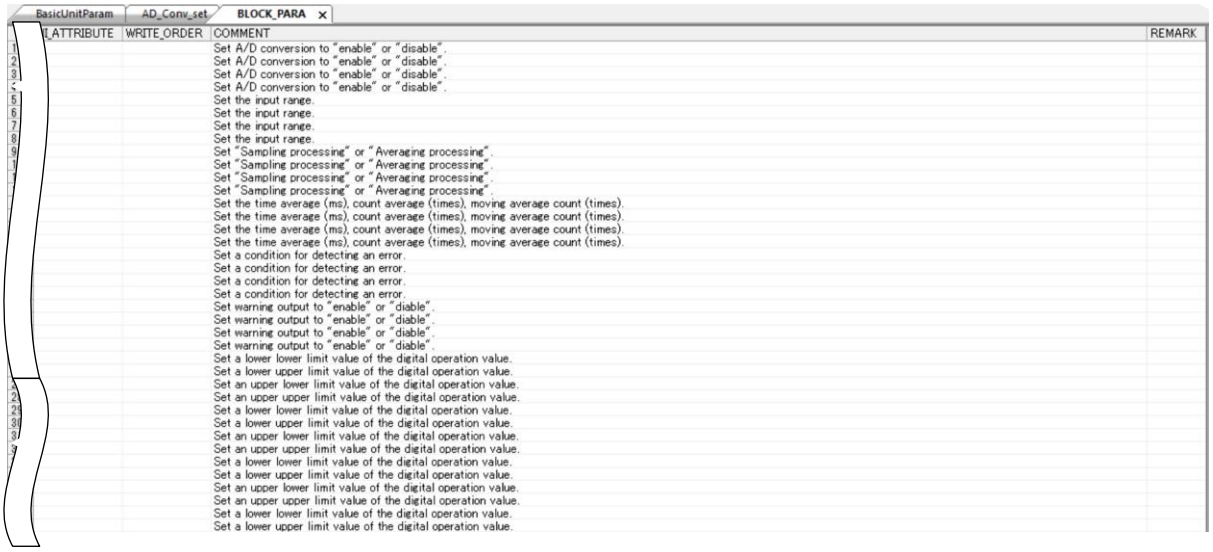
Reference

STRUCT part



	LABEL	LABEL2	CATEGORY	NAME	DATATYPE	DEFAULT	RANGE	MIN_INC	ENG_UNIT	ACCESS
1	CH1 ADConversinSetting		A/D conversion enable/disable setting	CH1 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON			RW
2	CH2 ADConversinSetting		A/D conversion enable/disable setting	CH2 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON			RW
3	CH3 ADConversinSetting		A/D conversion enable/disable setting	CH3 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON			RW
4	CH4 ADConversinSetting		A/D conversion enable/disable setting	CH4 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON			RW
5	CH1 RangeSetting		Range setting	CH1 Range setting	BIT STRING4	0x0	ENUM RangeSet			RW
6	CH2 RangeSetting		Range setting	CH2 Range setting	BIT STRING4	0x0	ENUM RangeSet			RW
7	CH3 RangeSetting		Range setting	CH3 Range setting	BIT STRING4	0x0	ENUM RangeSet			RW
8	CH4 RangeSetting		Range setting	CH4 Range setting	BIT STRING4	0x0	ENUM RangeSet			RW
9	CH1 AveragingProcessSetting		Averaging process setting	CH1 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set			RW
10	CH2 AveragingProcessSetting		Averaging process setting	CH2 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set			RW
11	CH3 AveragingProcessSetting		Averaging process setting	CH3 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set			RW
12	CH4 AveragingProcessSetting		Averaging process setting	CH4 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set			RW
13	CH1 AveragingProcessSettingValue		Averaging process setting	CH1 Time average/Count average/Moving average	UINT16	0	[0,65000]			RW
14	CH2 AveragingProcessSettingValue		Averaging process setting	CH2 Time average/Count average/Moving average	UINT16	0	[0,65000]			RW
15	CH3 AveragingProcessSettingValue		Averaging process setting	CH3 Time average/Count average/Moving average	UINT16	0	[0,65000]			RW
16	CH4 AveragingProcessSettingValue		Averaging process setting	CH4 Time average/Count average/Moving average	UINT16	0	[0,65000]			RW
17	CH1 InputSigErrorSignalSetting		Input signal error detection function	CH1 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set			RW
18	CH2 InputSigErrorSignalSetting		Input signal error detection function	CH2 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set			RW
19	CH3 InputSigErrorSignalSetting		Input signal error detection function	CH3 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set			RW
20	CH4 InputSigErrorSignalSetting		Input signal error detection function	CH4 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set			RW
21	CH1 WarningOutputSetting		Warning output function	CH1 Warning output setting	BOOL	1	ENUM EnableOFF DisableON			RW
22	CH2 WarningOutputSetting		Warning output function	CH2 Warning output setting	BOOL	1	ENUM EnableOFF DisableON			RW
23	CH3 WarningOutputSetting		Warning output function	CH3 Warning output setting	BOOL	1	ENUM EnableOFF DisableON			RW
24	CH4 WarningOutputSetting		Warning output function	CH4 Warning output setting	BOOL	1	ENUM EnableOFF DisableON			RW
25	CH1 ProcessAlarmLowLow		Warning output function	CH1 Process alarm lower lower limit value	INT16	0	[-32768,32767]			RW
26	CH1 ProcessAlarmLowUp		Warning output function	CH1 Process alarm lower upper limit value	INT16	0	[-32768,32767]			RW
27	CH1 ProcessAlarmUpLow		Warning output function	CH1 Process alarm upper lower limit value	INT16	0	[-32768,32767]			RW
28	CH1 ProcessAlarmUpUp		Warning output function	CH1 Process alarm upper upper limit value	INT16	0	[-32768,32767]			RW
29	CH2 ProcessAlarmLowLow		Warning output function	CH2 Process alarm lower lower limit value	INT16	0	[-32768,32767]			RW
30	CH2 ProcessAlarmLowUp		Warning output function	CH2 Process alarm lower upper limit value	INT16	0	[-32768,32767]			RW
31	CH2 ProcessAlarmUpLow		Warning output function	CH2 Process alarm upper lower limit value	INT16	0	[-32768,32767]			RW
32	CH2 ProcessAlarmUpUp		Warning output function	CH2 Process alarm upper upper limit value	INT16	0	[-32768,32767]			RW
33	CH3 ProcessAlarmLowLow		Warning output function	CH3 Process alarm lower lower limit value	INT16	0	[-32768,32767]			RW
34	CH3 ProcessAlarmLowUp		Warning output function	CH3 Process alarm lower upper limit value	INT16	0	[-32768,32767]			RW
35	CH3 ProcessAlarmUpLow		Warning output function	CH3 Process alarm upper lower limit value	INT16	0	[-32768,32767]			RW
36	CH3 ProcessAlarmUpUp		Warning output function	CH3 Process alarm upper upper limit value	INT16	0	[-32768,32767]			RW
37	CH4 ProcessAlarmLowLow		Warning output function	CH4 Process alarm lower lower limit value	INT16	0	[-32768,32767]			RW
38	CH4 ProcessAlarmLowUp		Warning output function	CH4 Process alarm lower upper limit value	INT16	0	[-32768,32767]			RW

BLOCK_PARAMETER part (1/2)

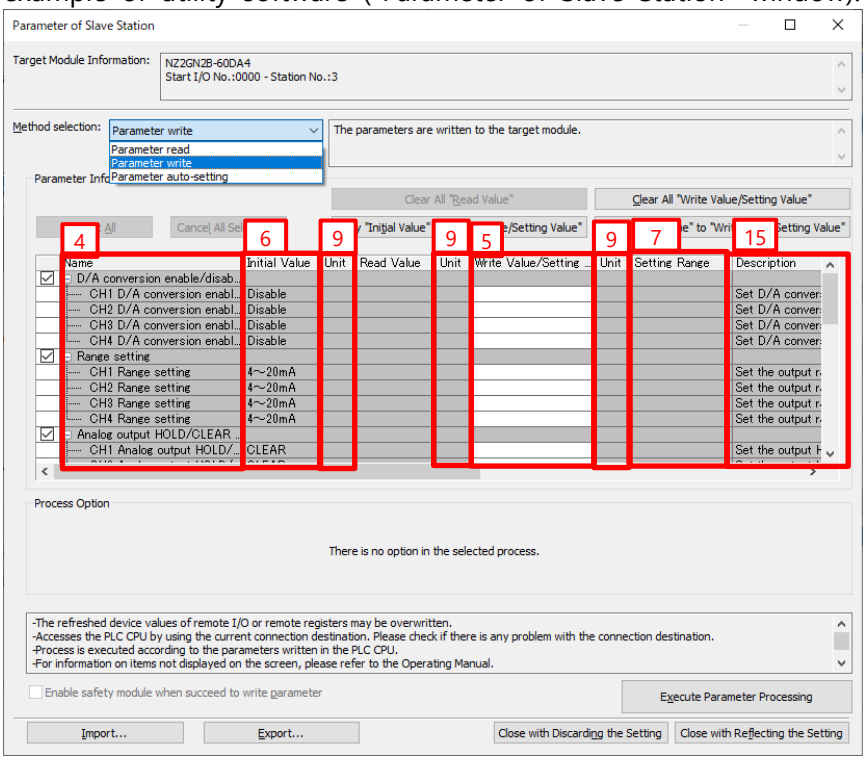


	LATTRIBUTE	WRITE_ORDER	COMMENT	REMARK
1			Set A/D conversion to "enable" or "disable".	
2			Set A/D conversion to "enable" or "disable".	
3			Set A/D conversion to "enable" or "disable".	
4			Set A/D conversion to "enable" or "disable".	
5			Set the input range.	
6			Set the input range.	
7			Set the input range.	
8			Set the input range.	
9			Set "Sampling processing" or "Averaging processing".	
10			Set "Sampling processing" or "Averaging processing".	
11			Set "Sampling processing" or "Averaging processing".	
12			Set "Sampling processing" or "Averaging processing".	
13			Set the time average (ms), count average (times), moving average count (times).	
14			Set the time average (ms), count average (times), moving average count (times).	
15			Set the time average (ms), count average (times), moving average count (times).	
16			Set the time average (ms), count average (times), moving average count (times).	
17			Set a condition for detecting an error.	
18			Set a condition for detecting an error.	
19			Set a condition for detecting an error.	
20			Set a condition for detecting an error.	
21			Set warning output to "enable" or "diable".	
22			Set warning output to "enable" or "diable".	
23			Set warning output to "enable" or "diable".	
24			Set warning output to "enable" or "diable".	
25			Set a lower lower limit value of the digital operation value.	
26			Set a lower upper limit value of the digital operation value.	
27			Set an upper lower limit value of the digital operation value.	
28			Set an upper upper limit value of the digital operation value.	
29			Set a lower lower limit value of the digital operation value.	
30			Set a lower upper limit value of the digital operation value.	
31			Set an upper lower limit value of the digital operation value.	
32			Set an upper upper limit value of the digital operation value.	
33			Set a lower lower limit value of the digital operation value.	
34			Set a lower upper limit value of the digital operation value.	
35			Set an upper lower limit value of the digital operation value.	
36			Set an upper upper limit value of the digital operation value.	
37			Set a lower lower limit value of the digital operation value.	
38			Set a lower upper limit value of the digital operation value.	

BLOCK_PARAMETER part (2/2)

(3) Utility software ("Parameter of Slave Station" window)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. The following is a display example of utility software ("Parameter of Slave Station" window).



(4) Items not being used on the utility software window despite being described in the CSP+ description specifications

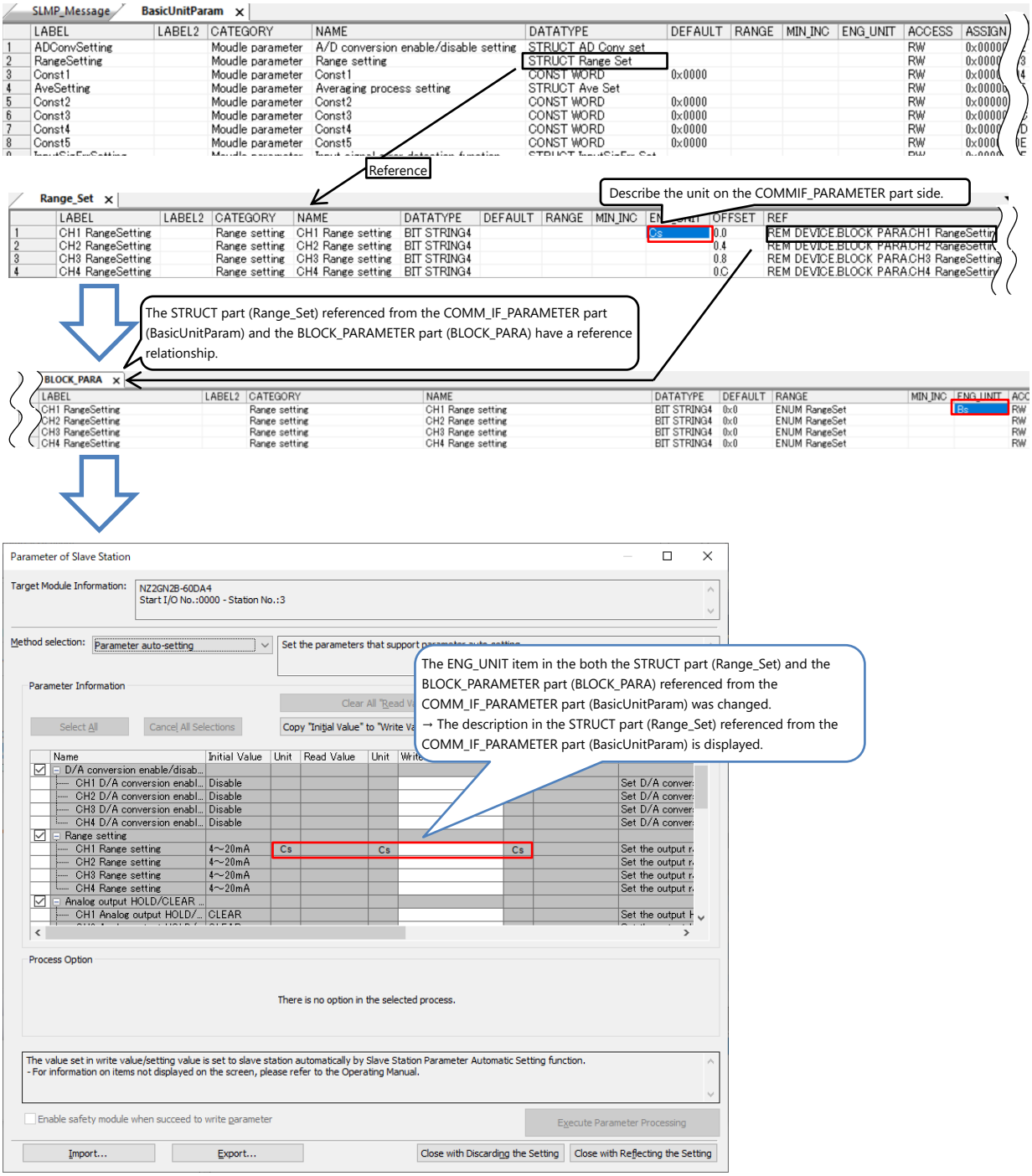
Table 4.4-2 lists the items not being used on the utility software window despite being described in the CSP+ description specifications.

Table 4.4-2 Items Not Being Used on the Utility Software Window (COMM_IF_PARAMETER)

No.	Item	Application	Required/ Optional
1	LABEL	Used as an identifier.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Reference information. This item is displayed in CSP+ profile creation support tool.	Optional
8	MIN_INC	Uses the numerical value in which the user input value is multiplied by the value described in MIN_INC during internal processing.	Optional
10	ACCESS	Used to identify the access information of the target item: "Readable", "Writable", "Readable and writable", "Auto refreshable", and "Element not accessible". For details on the description of the element, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.1 ACCESS conventions	Optional
11	WRITE_ORDER	Used as sequence information when writing parameters to the actual device. (Values are written in ascending order.)	Optional
12	ASSIGN	Used to analyze the address and code assigned to the element.	Optional
13	UI_ATTRIBUTE	For future expansion	Optional
14	REF	Used to identify the reference relationship.	Optional

Point

When the same item (NAME or ENG_UNIT) exists in both the COMM_IF_PARAMETER part and the BLOCK_PARAMETER part, the description in the COMM_IF_PARAMETER part is displayed on utility software.



4.5 COMM_IF_COMMAND Part

The COMM_IF_COMMAND part describes the information related to commands issued by the communication interface.
The information includes such as the error clear request of the analog-digital converter module (NZ2GN2B-60AD4).
Elements configuring the COMM_IF_COMMAND part are defined based on the communication functions of the target module.
The configuration of each element of the COMM_IF_COMMAND part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.5 COMM_IF_COMMAND part

1) Items to be described in the COMM_IF_COMMAND part
Table 4.5-1 lists the items to be described in each element of the COMM_IF_COMMAND part.

Table 4.5-1 List of Items to be Described in Each Element of the COMM_IF_COMMAND Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Optional
5	ARGUMENT	Describes the label corresponding to the COMMAND_ARGUMENT part for indicating the argument to be used by the element.	Optional
6	REF	Describes the reference to the BLOCK_COMMAND part from the element. *2	Optional
7	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*2 COMMAND_ARGUMENT
The COMMAND_ARGUMENT part (command argument list) describes the information related to arguments of the COMM_IF_COMMAND part.

Table 4.5-2 List of Items in the COMMAND_ARGUMENT Part

No.	Item	Description	Required/ Optional
1'	LABEL	Describes the label for identifying the element.	Required
2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3'	CATEGORY	Describes the category for grouping the elements.	Optional
4'	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5'	DATATYPE	Describes the data type of the element.	Required
6'	DEFAULT	Describes the default to be set for the element.	Optional
7'	RANGE	Describes the setting range of the element.	Optional
8'	MIN_INC	Describes the minimum increment applied to the value of the element in the command argument list along with ENG_UNIT.	Optional
9'	ENG_UNIT	Describes the engineering unit applied to the value of the element in the command argument list along with MIN_INC.	Optional
10	ACCESS	Describes the access attribute of the element.	Required
11	ASSIGN	Describes the address and code to be assigned to the element.	Optional
12	REF	Describes the reference to be referenced by the element. Use of this item is prohibited under the current specifications.	Optional
13	COMMENT	Describes the meaning of the element and usage precautions.	Optional

2) Reference specifications of the COMM_IF_COMMAND part

The specifications of parts related to the COMM_IF_COMMAND part and reference relationship between communication services are described below. The reference to the elements of the MESSAGE part and elements of the COMM_IF_COMMAND part which carries out the settings and execution using the elements to is described. The reference to the BLOCK_COMMAND part cannot be described directly from the MESSAGE part.

In the example of Figure 4.5-1, "Command A execution" and "Command B execution" are described as MESSAGE to execute commands A and B.

The reference from each MESSAGE part to the BLOCK_COMMAND part is described via the COMM_IF_COMMAND part.

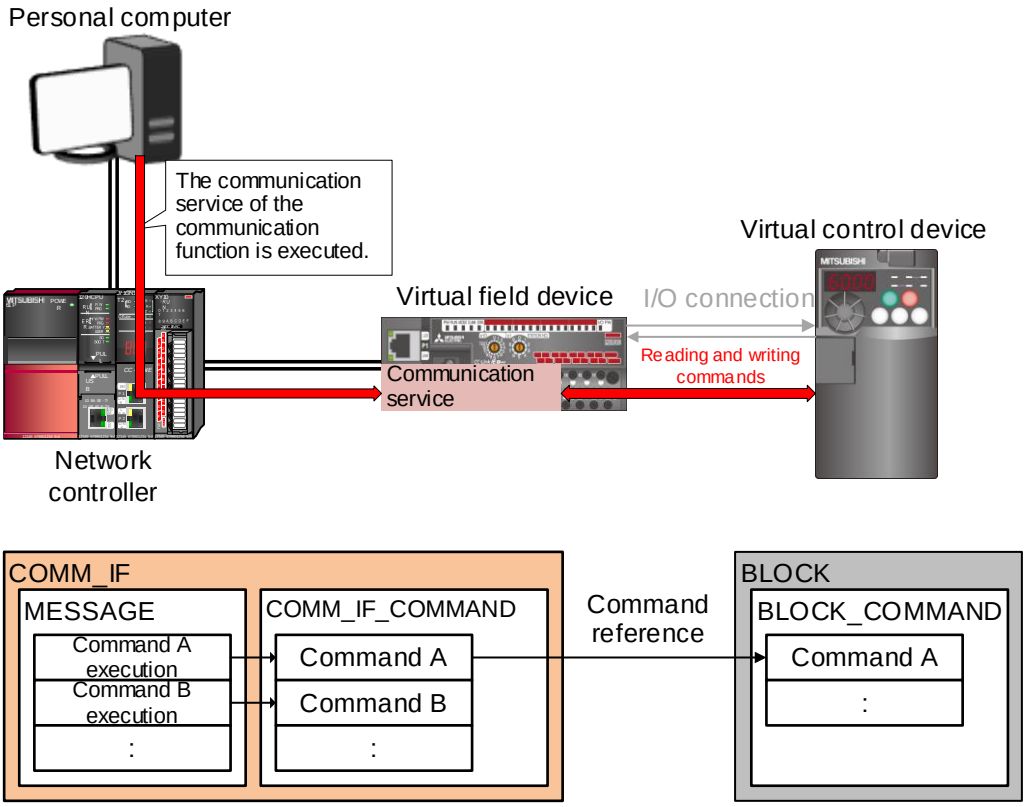


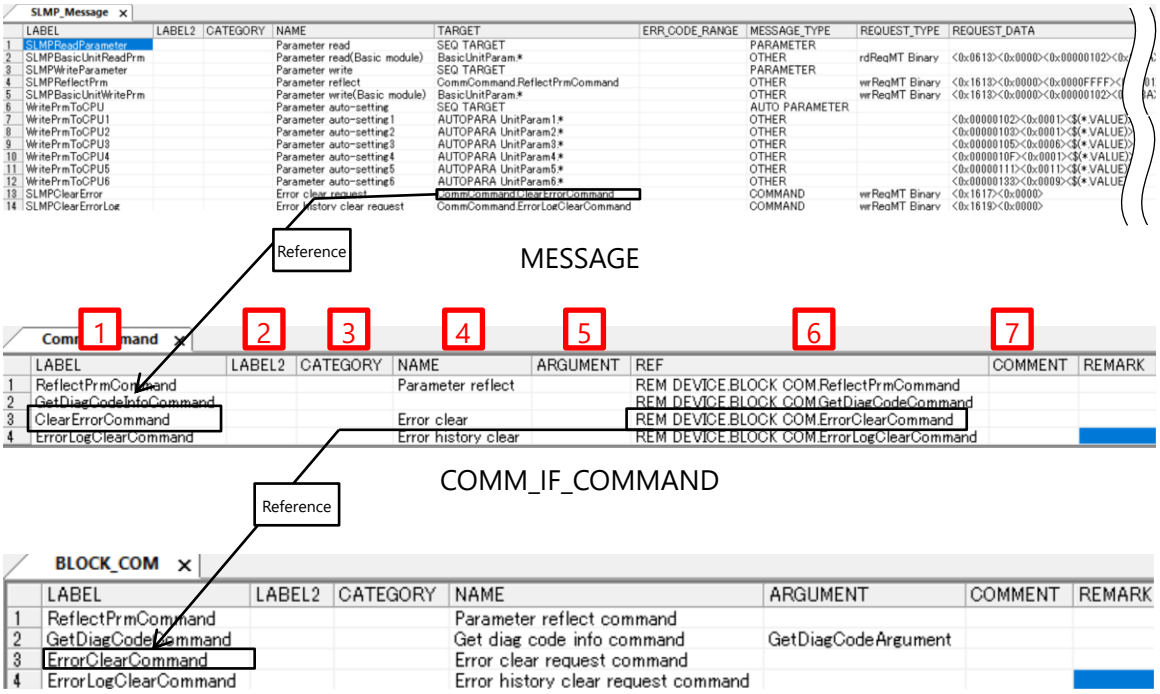
Figure 4.5-1 Example of Reference Specifications of the COMM_IF_COMMAND Part

(2) CSP+ descriptions

Parameters are referenced in the following order.

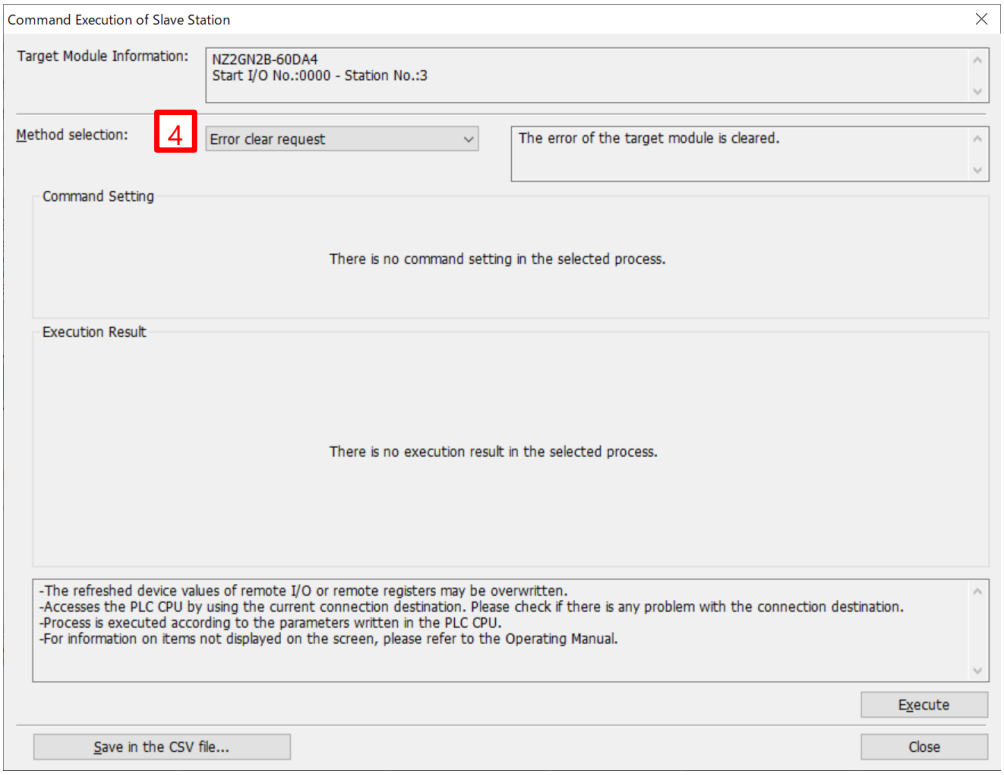
MESSAGE part (SLMP_Message) →
COMM_IF_COMMAND part (CommCommand) →
BLOCK_COMMAND part (BLOCK_COM)

The following shows a display example of the COMM_IF_COMMAND part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool. The following shows a reference example of error clear request in "NAME".



(3) Utility software - ("Command Execution of Slave Station" window)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. The following is a display example of utility software ("Command Execution of Slave Station" window).



(4) Items not being used on the utility software window despite being described in the CSP+ description specifications

Table 4.5-2 lists the items not being used on the utility software window despite being described in the CSP+ description specifications.

Table 4.5-2 Items Not Being Used on the Utility Software Window (COMM_IF_COMMAND, COMMAND_ARGUMENT)

No.	Item	Application	Required/ Optional
1 1'	LABEL	Used as an identifier.	Required
2 2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3 3'	CATEGORY	Reference information. This item is displayed in CSP+ profile creation support tool.	Optional
5	ARGUMENT	Used to identify the reference relationship to the COMMAND_ARGUMENT part.	Optional
6 12	REF	Used to identify the reference relationship.	Optional
7	COMMENT	Reference information. This item is displayed in CSP+ profile creation support tool.	Optional
8'	MIN_INC	Uses numerical values in which the user input value is multiplied by the value described in MIN_INC during internal processing.	Optional
10	ACCESS	Used to identify the access information of the target item: "Readable", "Writable", "Readable and writable", "Auto refreshable", and "Element not accessible". For details on the description of the element, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.1 ACCESS conventions	Required
11	ASSIGN	Used to analyze the address and code assigned to the element.	Optional

4.6 MESSAGE Part

The MESSAGE part describes the information related to commands issued by the communication interface and the parameter setting procedure in the same manner as the METHOD part.
The MESSAGE part describes commands that use transient commands and data format for the parameter setting.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.3.7 MESSAGE part

1) Items to be described in the MESSAGE part
Table 4.6-1 lists the items to be described in each element of the MESSAGE part.

Table 4.6-1 List of Items to be Described in Each Element of the MESSAGE Part

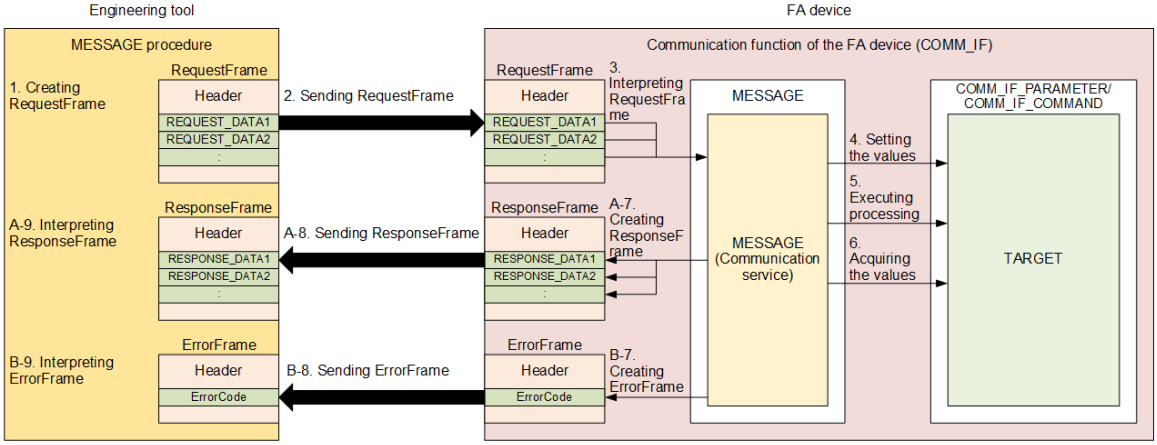
No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element. Add "SLMP" as a prefix for SLMP-based MESSAGE. Example: SLMPGetParam, SLMPInvReset	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5	TARGET	Describes the element processed by the corresponding MESSAGE part.	Required
6	MESSAGE_TYPE	Describes the MESSAGE type.	Required
7	REQUEST_TYPE	Describes the type of data format for request processing.	*1
8	REQUEST_DATA	Describes the values for request processing.	Optional
9	REQUEST_DATA_TYPE	Describes the data type of REQUEST_DATA.	Optional
10	RESPONSE_TYPE	Describes the data format type for response processing.	Optional
11	RESPONSE_DATA	Describes the values for response processing.	Optional
12	RESPONSE_DATA_TYPE	Describes the data type of REQUEST_DATA.	Optional
13	ERR_TYPE	Describes the type of data format to be used by the response processing when an error occurs.	Optional
14	ERR_CODE_RANGE	Indicates the error code range.	Optional
15	RELATED_ MESSAGE	Describes the reference to the elements of the MESSAGE part that indicates the pre-processing of the MESSAGE part.	Optional
16	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*1: Required when the item is described in SLMP MESSAGE.
In the case of MESSAGE other than SLMP, MESSAGE should be described according to each MESSAGE specifications. For details, refer to the following.
Control & Communication System Profile Specification (BAP-C2008ENG-001)
- 5.5.10.1 Parts and elements related to error related information
- 5.5.10.2 Convention related to MESSAGE for slave station parameter automatic setting

2) MESSAGE operation

When performing the communication service that specifies the data format, define and use the data format for the service request to FA devices (RequestFrame), data format for the service response from FA devices at normal end (ResponseFrame), and data format for the error response from FA devices when an error occurs (ErrorFrame).

The following figure shows the communication service procedures and data area information using above-mentioned items.



3) MESSAGE call and operation sequence

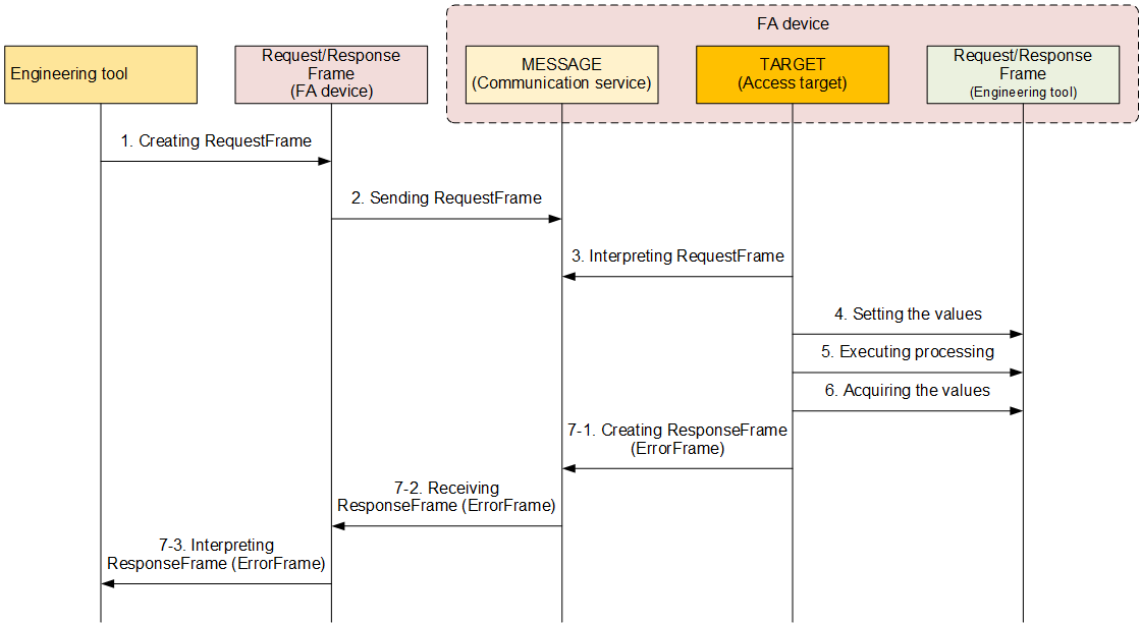
1. Create a RequestFrame in the data format determined by REQUEST_TYPE, and set REQUEST _DATA in the format.
2. Send the RequestFrame to the communication function in the FA device.
3. Upon receiving the RequestFrame, the communication function in the FA device parses the RequestFrame and reads the instruction code and setting values.
4. Specify the setting values to TARGET in accordance with the communication service and instruction code.
5. Execute processing of TARGET in accordance with the communication service and instruction code.
6. Acquire the acquisition values of TARGET in accordance with the communication service and instruction code.

[When processing completed successfully]

7-1. Set the acquisition values to the ResponseFrame in accordance with the communication service, instruction code, and data format corresponding to RESPONSE_TYPE.
7-2. Receive the ResponseFrame from the communication function in the FA device.
7-3. Interpret the ResponseFrame in the data format determined by RESPONSE_TYPE, and read RESPONSE_DATA.

[When processing completed with an error]

7-1. Set the acquisition values in the ErrorFrame in accordance with the communication service, command code, and data format corresponding to ERR_TYPE.
7-2. Receive the ErrorFrame from the communication function in the FA device.
7-3. Interpret the ErrorFrame in the data format determined by RESPONSE_TYPE, and read ErrorCode.

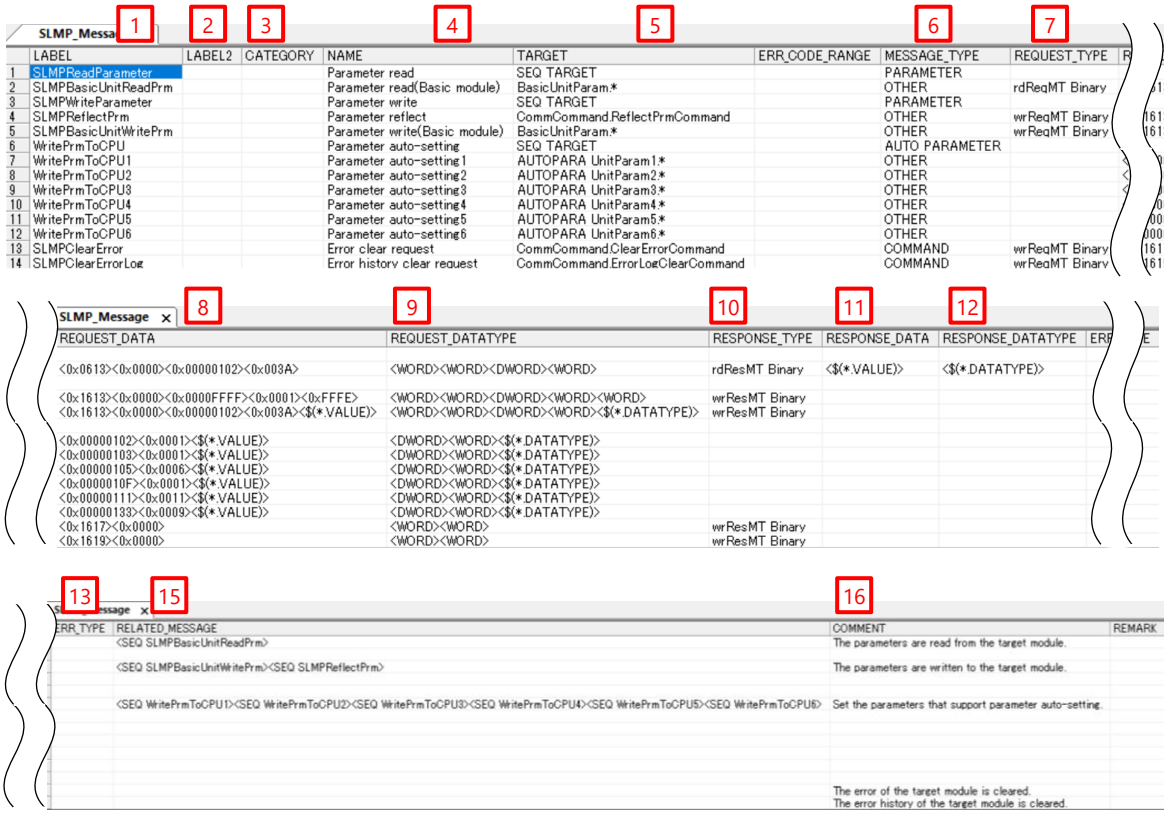


(2) CSP+ descriptions

Parameters are referenced in the following order.

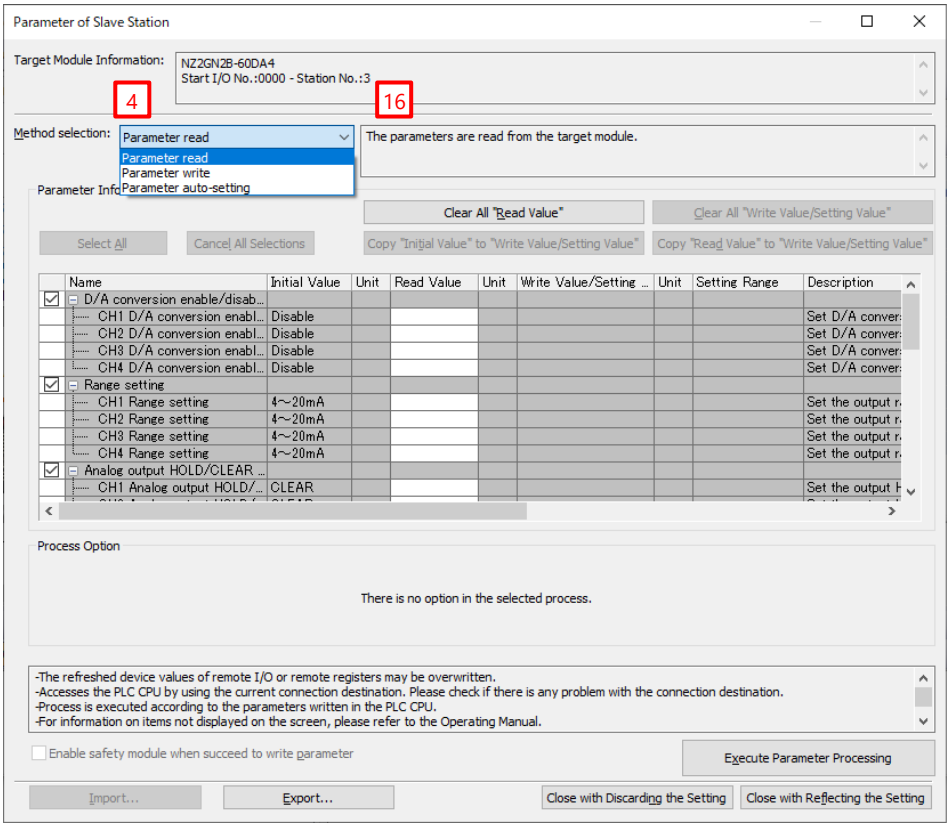
MESSAGE part (SLMP_Message) →
COMM_IF_PARAMETER part (BasicParam) →
BLOCK_PARAMETER part (BLOCK_PARA)

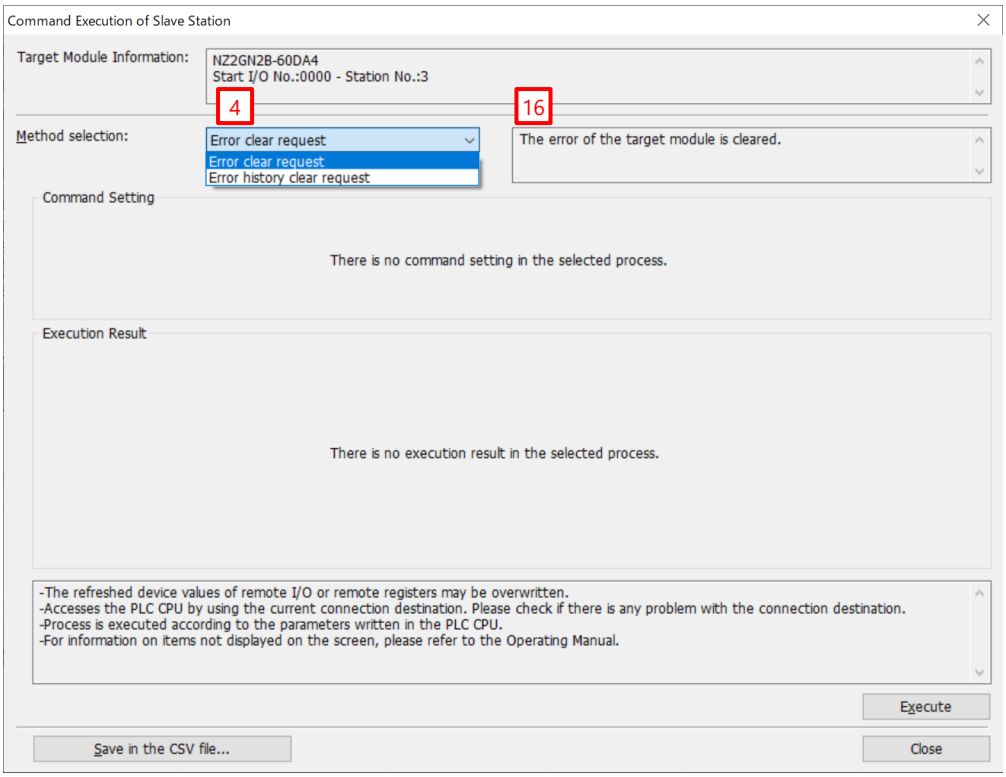
The following shows a display example of the MESSAGE part when the CSP+ for the analog -digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.



(3) Utility software - ("Parameter of Slave Station" window/"Command Execution of Slave Station" window)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. The following is a display example of utility software ("Parameter of Slave Station" window/"Command Execution of Slave Station" window).





(4) **Items not being used on the utility software window despite being described in the CSP+ description specifications**

Table 4.6-2 lists the items not being used on the utility software window despite being described in the CSP+ description specifications.

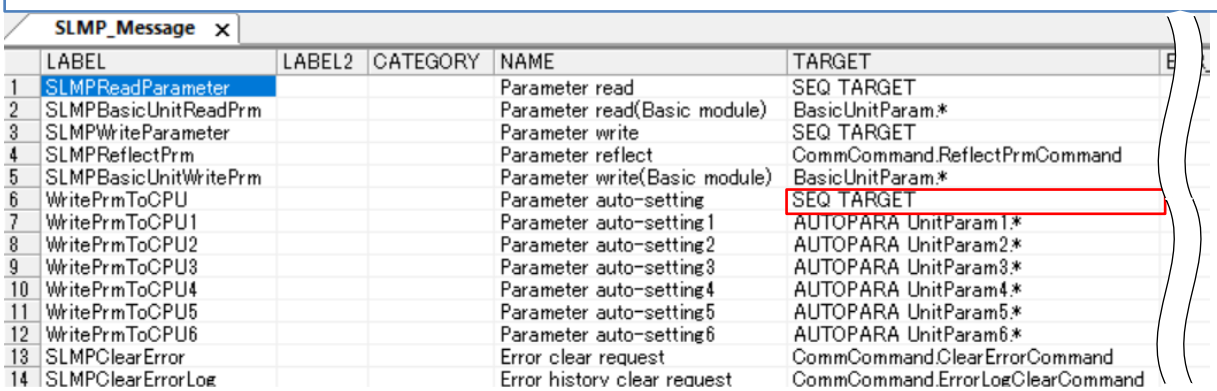
Table 4.6-2 Elements Not Being Used on the Utility Software Window (MESSAGE)

No.	Item	Application	Required/ Optional
1	LABEL	Used as an identifier.	Required
2	LABEL2	Used as the second identifier to support multiple languages.	Optional
3	CATEGORY	Reference information. This element is displayed in CSP+ profile creation support tool.	Optional
5	TARGET	Used as information for identifying the reference information. When SEQ_TARGET is described, refer to Point below.	Required
6	MESSAGE_TYPE	Used to determine whether the data is to be displayed in the parameter settings of utility software, displayed at command execution, or not displayed. For details on the description of the element, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.21 MESSAGE_TYPE conventions	Required
7	REQUEST_TYPE	Used to identify the data format type of the request frame.	*1
8	REQUEST_DATA	Used as the data value of the request frame.	Optional
9	REQUEST_DATATYPE	Used to identify the data type for all data in REQUEST_DATA.	Optional
10	RESPONSE_TYPE	Used to identify the frame type of the response frame.	Optional
11	RESPONSE_DATA	Used to identify the read data included in the response frame.	Optional
12	RESPONSE_DATA_TYPE	Used to identify the data type of the read data included in the response frame.	Optional
13	ERR_TYPE	Used to identify the data format included in the response frame when an error occurs.	Optional
14	ERR_CODE_RANGE	Used to compare an error code with an error code described in profile when an error occurs. When ENUM is used in ERR_CODE_RANGE, an error string corresponding the error code is displayed.	Optional
15	RELATED_MESSAGE	For details, refer to Point below.	Optional

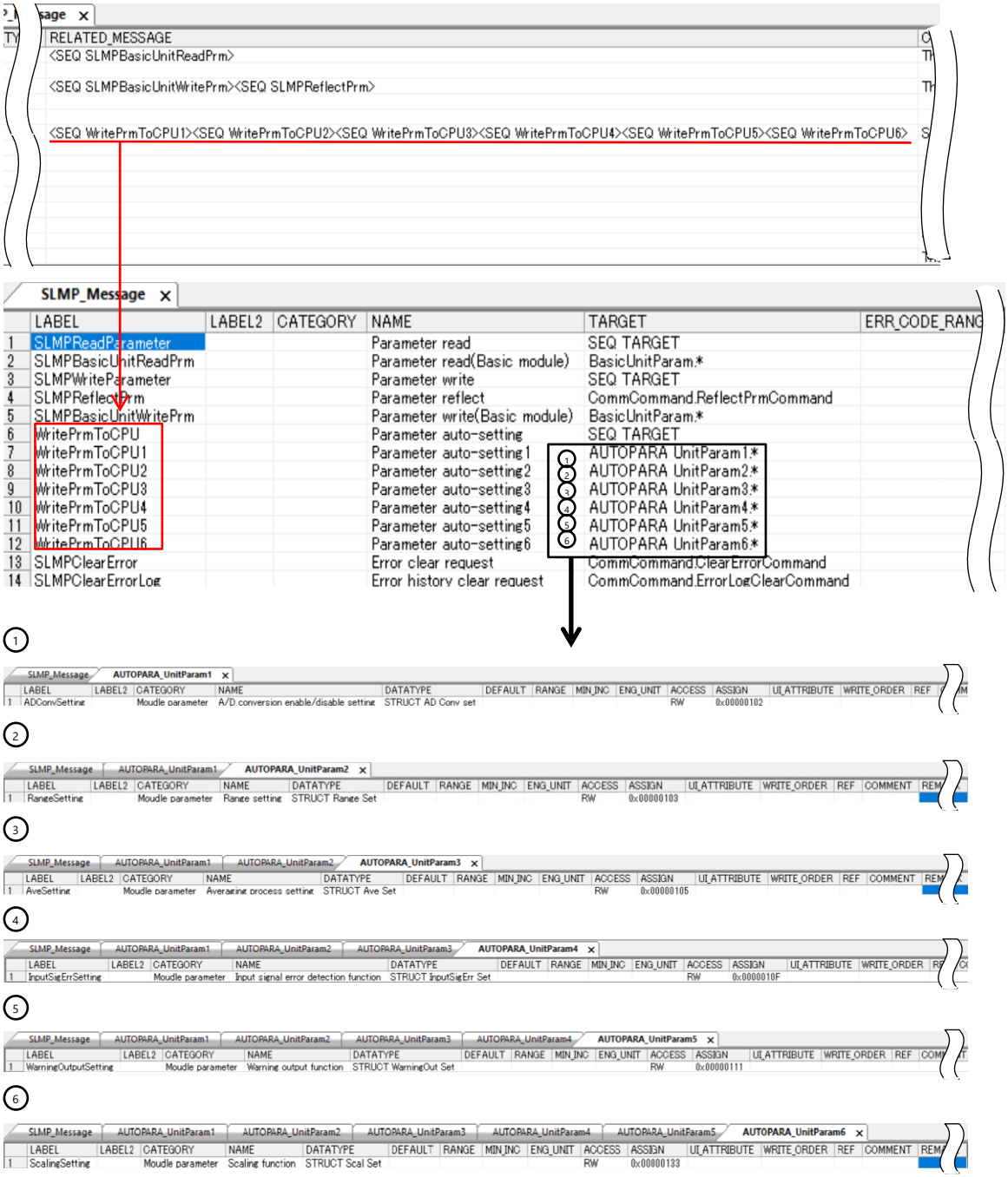
*1: Required when the item is described in SLMP MESSAGE.
In the case of MESSAGE other than SLMP, MESSAGE should be described according to each MESSAGE specifications. For details, refer to the following.
Control & Communication System Profile Specification (BAP-C2008ENG-001)
- 5.5.10.1 Parts and elements related to error related information
- 5.5.10.2 Convention related to MESSAGE for slave station parameter automatic setting

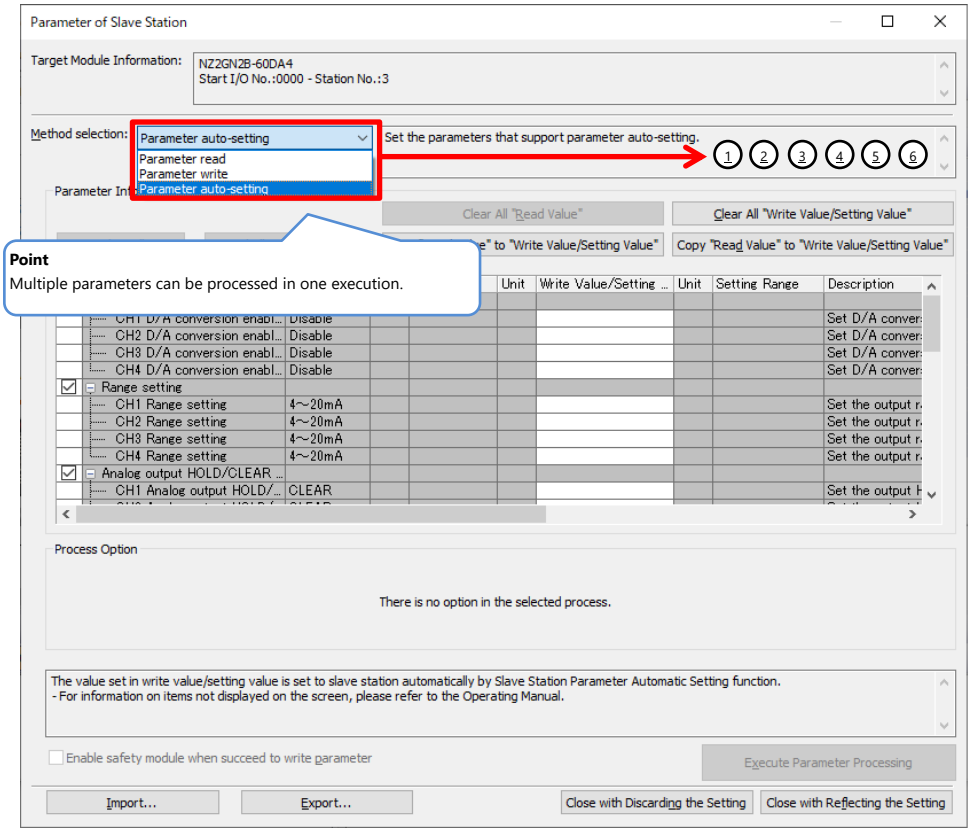
Point

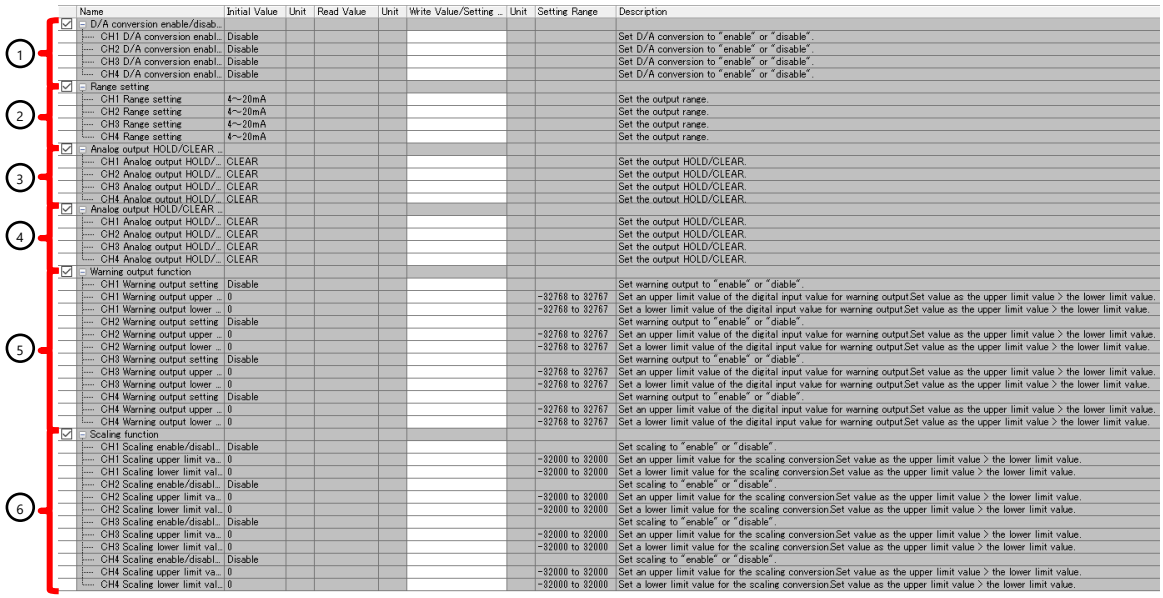
When summarizing parameters in increments of processing to be executed (example: parameter read, parameter write), describe SEQ_TARGET in this item.
Describe the part names, in which the listed parameters are defined, by bracketing off with "<", ">" in RELATED MESSAGE.


SLMP_Message

	LABEL	LABEL2	CATEGORY	NAME	TARGET
1	SLMPReadParameter			Parameter read	SEQ TARGET
2	SLMPBasicUnitReadPrm			Parameter read(Basic module)	BasicUnitParam:*
3	SLMPWriteParameter			Parameter write	SEQ TARGET
4	SLMPReflectPrm			Parameter reflect	CommCommand.ReflectPrmCommand
5	SLMPBasicUnitWritePrm			Parameter write(Basic module)	BasicUnitParam:*
6	WritePrmToCPU			Parameter auto-setting	SEQ TARGET
7	WritePrmToCPU1			Parameter auto-setting1	AUTOPARA UnitParam1:*
8	WritePrmToCPU2			Parameter auto-setting2	AUTOPARA UnitParam2:*
9	WritePrmToCPU3			Parameter auto-setting3	AUTOPARA UnitParam3:*
10	WritePrmToCPU4			Parameter auto-setting4	AUTOPARA UnitParam4:*
11	WritePrmToCPU5			Parameter auto-setting5	AUTOPARA UnitParam5:*
12	WritePrmToCPU6			Parameter auto-setting6	AUTOPARA UnitParam6:*
13	SLMPClearError			Error clear request	CommCommand.ClearErrorCommand
14	SLMPClearErrorLog			Error history clear request	CommCommand.ErrorLogClearCommand


RELATED_MESSAGE
<SEQ SLMPBasicUnitReadPrm>
<SEQ SLMPBasicUnitWritePrm><SEQ SLMPReflectPrm>
<SEQ WritePrmToCPU1><SEQ WritePrmToCPU2><SEQ WritePrmToCPU3><SEQ WritePrmToCPU4><SEQ WritePrmToCPU5><SEQ WritePrmToCPU6>
SLMP_Message
LABEL | LABEL2 | CATEGORY | NAME | TARGET | ERR_CODE_RANG
1 SLMPReadParameter | Parameter read | SEQ TARGET
2 SLMPBasicUnitReadPrm | Parameter read(Basic module) | BasicUnitParam.*
3 SLMPWriteParameter | Parameter write | SEQ TARGET
4 SLMPReflectPrm | Parameter reflect | CommCommand.ReflectPrmCommand
5 SLMPBasicUnitWritePrm | Parameter write(Basic module) | BasicUnitParam.*
6 WritePrmToCPU | Parameter auto-setting | SEQ TARGET
7 WritePrmToCPU1 | Parameter auto-setting1 | AUTOPARA UnitParam1.*
8 WritePrmToCPU2 | Parameter auto-setting2 | AUTOPARA UnitParam2.*
9 WritePrmToCPU3 | Parameter auto-setting3 | AUTOPARA UnitParam3.*
10 WritePrmToCPU4 | Parameter auto-setting4 | AUTOPARA UnitParam4.*
11 WritePrmToCPU5 | Parameter auto-setting5 | AUTOPARA UnitParam5.*
12 WritePrmToCPU6 | Parameter auto-setting6 | AUTOPARA UnitParam6.*
13 SLMPClearError | Error clear request | CommCommand.ClearErrorCommand
14 SLMPClearErrorLog | Error history clear request | CommCommand.ErrorLogClearCommand
1
2
3
4
5
6





Name	Initial Value	Unit	Read Value	Unit	Write Value/Setting ...	Unit	Setting Range	Description
D/A conversion enable/disab...								
CH1 D/A conversion enabl...	Disable							Set D/A conversion to "enable" or "disable".
CH2 D/A conversion enabl...	Disable							Set D/A conversion to "enable" or "disable".
CH3 D/A conversion enabl...	Disable							Set D/A conversion to "enable" or "disable".
CH4 D/A conversion enabl...	Disable							Set D/A conversion to "enable" or "disable".
Range setting								
CH1 Range setting	4~20mA							Set the output range.
CH2 Range setting	4~20mA							Set the output range.
CH3 Range setting	4~20mA							Set the output range.
CH4 Range setting	4~20mA							Set the output range.
Analog output HOLD/CLEAR ...								
CH1 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH2 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH3 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH4 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
Analog output HOLD/CLEAR ...								
CH1 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH2 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH3 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
CH4 Analog output HOLD/...	CLEAR							Set the output HOLD/CLEAR.
Warning output function								
CH1 Warning output setting	Disable							Set warning output to "enable" or "diable".
CH1 Warning output upper ...	0						-32768 to 32767	Set an upper limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH1 Warning output lower ...	0						-32768 to 32767	Set a lower limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH2 Warning output setting	Disable							Set warning output to "enable" or "diable".
CH2 Warning output upper ...	0						-32768 to 32767	Set an upper limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH2 Warning output lower ...	0						-32768 to 32767	Set a lower limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH3 Warning output setting	Disable							Set warning output to "enable" or "diable".
CH3 Warning output upper ...	0						-32768 to 32767	Set an upper limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH3 Warning output lower ...	0						-32768 to 32767	Set a lower limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH4 Warning output setting	Disable							Set warning output to "enable" or "diable".
CH4 Warning output upper ...	0						-32768 to 32767	Set an upper limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
CH4 Warning output lower ...	0						-32768 to 32767	Set a lower limit value of the digital input value for warning output.Set value as the upper limit value > the lower limit value.
Scaling function								
CH1 Scaling enable/disabl...	Disable							Set scaling to "enable" or "disable".
CH1 Scaling upper limit va...	0						-32000 to 32000	Set an upper limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH1 Scaling lower limit val...	0						-32000 to 32000	Set a lower limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH2 Scaling enable/disabl...	Disable							Set scaling to "enable" or "disable".
CH2 Scaling upper limit va...	0						-32000 to 32000	Set an upper limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH2 Scaling lower limit val...	0						-32000 to 32000	Set a lower limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH3 Scaling enable/disabl...	Disable							Set scaling to "enable" or "disable".
CH3 Scaling upper limit va...	0						-32000 to 32000	Set an upper limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH3 Scaling lower limit val...	0						-32000 to 32000	Set a lower limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH4 Scaling enable/disabl...	Disable							Set scaling to "enable" or "disable".
CH4 Scaling upper limit va...	0						-32000 to 32000	Set an upper limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.
CH4 Scaling lower limit val...	0						-32000 to 32000	Set a lower limit value for the scaling conversion.Set value as the upper limit value > the lower limit value.

5. BLOCK SECTION

The BLOCK section consists of multiple parts as shown in Figure 5-1.

BLOCK section	
BLOCK_INFO part	Describes the identification information of the function block.
BLOCK_INPUT part	Describes the input information of the function block.
BLOCK_OUTPUT part	Describes the output information of the function block.
BLOCK_PARAMETER part	Describes the parameter information of the function block.
BLOCK_COMMAND part	Describes the command to be executed in the function block.
STRUCT part	Describes the structure of the inputs and outputs of multiple elements.
ENUM part	Describes the options for values and return values to be set for the element.
COMMAND_ARGUMENT part	Describes the argument information of BLOCK_COMMAND.

Figure 5-1 Structure of the BLOCK Section

5.1 BLOCK_INFO Part

The BLOCK_INFO part describes the information related to the identification of the function block.
Basically, the elements described in the BLOCK_INFO part are not displayed on utility software. The configuration of each element of the BLOCK_INFO part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.4.1 BLOCK_INFO part

Table 5.1-1 lists elements which configure the BLOCK_INFO part.

Table 5.1-1 List of Elements which Configure the BLOCK_INFO Part

No.	Element	Description	Required/ Optional
1	VendorName	Describes the name of the vendor that manufactured the module.	Required
2	VendorCode	Describes the code of vendor that manufactured the module. The fifth to eighth digits of the membership number of the CC-Link Partner Association are described.	Required
3	Version	Firmware version. Describe the firmware version in a string.	Required

Table 5.1-2 lists the items to be described in each element of the BLOCK_INFO part.

Table 5.1-2 List of Items to be Described in Each Element of the BLOCK_INFO Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the element name or descriptions on utility software.	Optional
5	DATATYPE	Describes the data type of the information described in DATA.	Optional
6	DATA	Describes the element information.	Required

(2) CSP+ descriptions

Figure 5.1-1 shows a display example of the BLOCK_INFO part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.

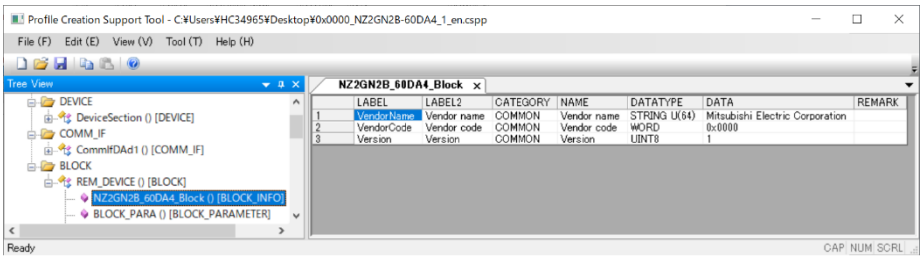


Figure 5.1-1 Display Example When CSP+ profile creation support tool is Used (BLOCK_INFO)

(3) Utility software

This section is omitted because the description in the BLOCK_INFO part is not displayed on utility software.

5.2 BLOCK_INPUT Part

The BLOCK_INPUT part describes the information related to the input of the function block. The information includes the remote output RY area and remote register RWw area of the remote station.
Elements configuring the BLOCK_INPUT part are defined based on the functions of the target module.
The configuration of each element of the BLOCK_INPUT part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.4.2 BLOCK_INPUT part

Table 5.2-1 lists the items to be described in each element of the BLOCK_INPUT part.

Table 5.2-1 List of Items to be Described in Each Element of the BLOCK_INPUT Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5	DATATYPE	Describes the data type of the element.	Required
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element.	Optional
8	MIN_INC	Describes the minimum increment applied to the value of the item along with ENG_UNIT. When ENG_UNIT is described, this item is required.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the value of the item along with MIN_INC.	Optional
10	ACCESS	Describes the access attribute of the element.	Optional
11	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
12	COMMENT	Describes the meaning of the element and usage precautions.	Optional

(2) CSP+ descriptions

Parameters are referenced in the following order.

COMM_IF_OUTPUT part (CommIfOutput) →
BLOCK_INPUT part (BlockInput)

Omitted because there is no item description example for CSP+ and utility software.

5.3 BLOCK_OUTPUT Part

The BLOCK_OUTPUT part describes the information related to the output of the function block. The information includes the remote input RX area and remote register RWr area of the remote station.
Elements configuring the BLOCK_OUTPUT part are defined based on the functions of the target module.
The configuration of each element of the BLOCK_OUTPUT part, that is, the items to be described in each element, is the same.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.4.3 BLOCK_OUTPUT part

Table 5.3-1 lists items which configure the BLOCK_OUTPUT part.

Table 5.3-1 List of Items which Configure the BLOCK_OUTPUT Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5	DATATYPE	Describes the data type of the element.	Required
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element.	Optional
8	MIN_INC	Describes the minimum increment applied to the value of the item along with ENG_UNIT. When ENG_UNIT is described, this item is required.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the value of the item along with MIN_INC.	Optional
10	ACCESS	Describes the access attribute of the element.	Optional
12	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
13	COMMENT	Describes the meaning of the element and usage precautions.	Optional

(2) CSP+ descriptions

Parameters are referenced in the following order.

COMM_IF_INPUT part (CommIfInput) →
BLOCK_OUTPUT part (BlockOutput)

Omitted because there is no item description example for CSP+ and utility software.

5.4 BLOCK_PARAMETER Part

The BLOCK_PARAMETER part describes the information related to the parameters used by the control functions of the target module.
Elements configuring the BLOCK_PARAMETER part are defined based on the communication functions of the target module.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.4.4 BLOCK_PARAMETER part

1) Items to be described in the BLOCK_PARAMETER part
Table 5.4-1 lists the items to be described in each element of the BLOCK_PARAMETER part.

Table 5.4-1 List of Items to be Described in Each Element of the BLOCK_PARAMETER Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5	DATATYPE	Describes the data type of the element.	Required
6	DEFAULT	Describes the default to be set for the element.	Optional
7	RANGE	Describes the setting range of the element. Options can be described by using the ENUM part. *3	Optional
8	MIN_INC	Describes the minimum increment applied to the value of the item along with ENG_UNIT. When ENG_UNIT is described, this item is required.	Optional
9	ENG_UNIT	Describes the engineering unit applied to the value of the item along with MIN_INC.	Optional
10	ACCESS	Describes the access attribute of the element.	Required
11	WRITE_ORDER	Describes the order in which the element is to be described to the module.	Optional
12	UI_ATTRIBUTE	Describes the display method when the element is displayed on utility software.	Optional
13	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*3 ENUM part

The ENUM part (option list) describes the information related to options of values and return values to be set to the element. To set options for elements using a list box or to display the meaning of each value of elements when they are read on utility software, refer to the ENUM part.

When referencing a description of the ENUM part from an element in the COMM_IF section, describe the ENUM part in the same COMM_IF section.

Elements configuring the ENUM part are defined based on the option of values to be used in the target module.

The configuration of each element of the ENUM part, that is, the items to be described in each element, is the same.

Table 5.4-2 List of Items to Be Defined in the ENUM Part

No.	Element	Description	Required/ Optional
1'	LABEL	Describes the label for identifying the element.	Required
2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3'	CATEGORY	Describes the category for grouping the elements.	Optional
4'	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5'	CODE	Describes the value for identifying the element. This item is cross-checked with the value indicated by the element of the reference source in order to select matching elements.	Required
6'	RELATED_ELE	Describes the element information by referencing the command argument list.	Optional
7'	COMMENT1	Describes the meaning of the element and usage precautions.	Optional
8'	COMMENT2	Describes the meaning of the element and usage precautions.	Optional

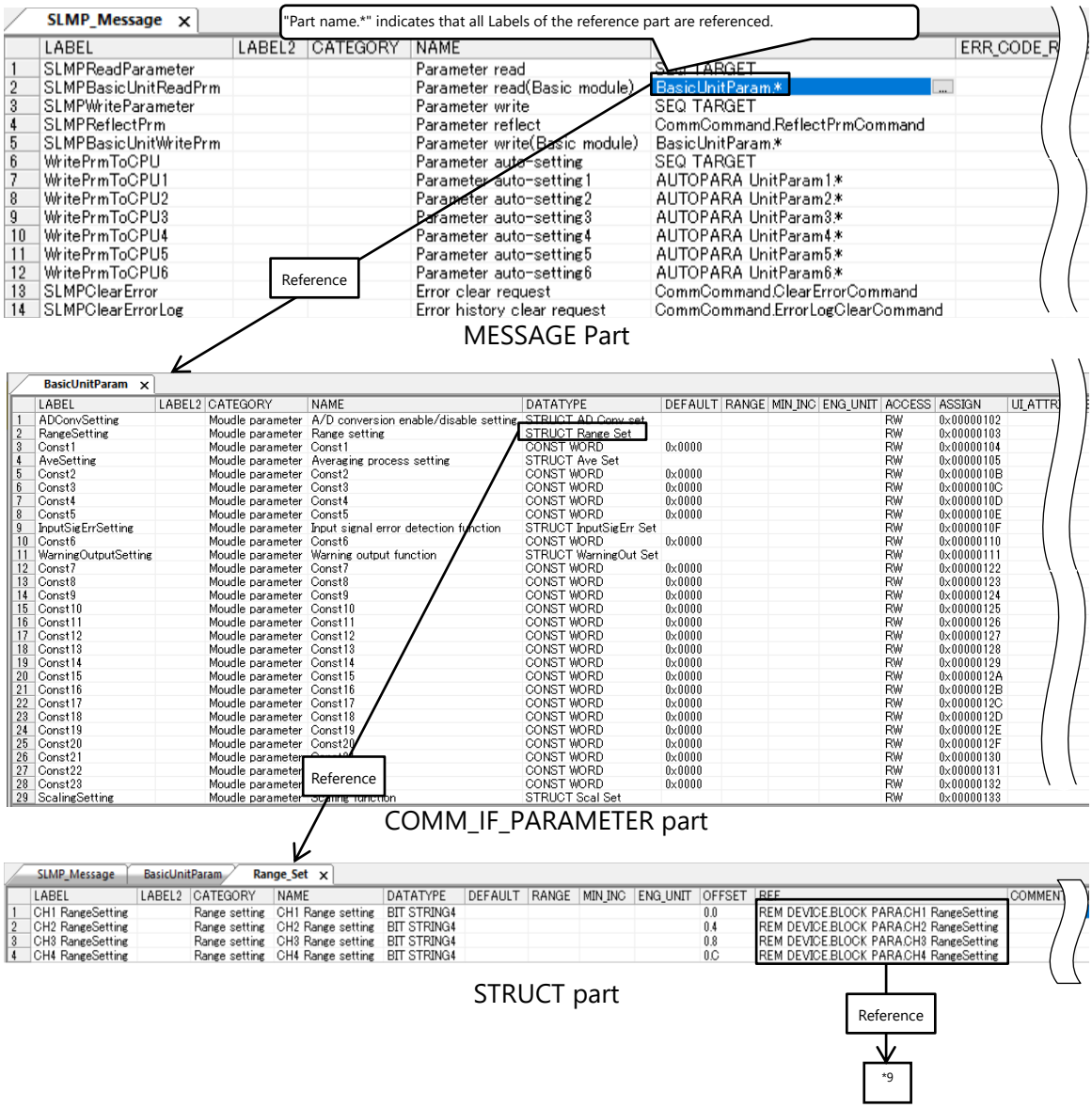
2) Reference specifications of the BLOCK_PARAMETER part

For specifications of the parts related to the BLOCK_PARAMETER part and reference relationship between communication services, refer to Section 4.4(1) 2).

(2) CSP+ descriptions

Parameters are referenced in the following order.
MESSAGE part (SLMP_Message) →
COMM_IF_PARAMETER part (BasicUnitParam) →
STRUCT part (Range_Set) →
BLOCK_PARAMETER part (BLOCK_PARA)

The following shows a display example of the BLOCK_PARAMETER part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.



*9

BLOCK_PARA

	1 LABEL	2 LABEL2	3 CATEGORY	4 NAME	5 DATATYPE	6 DEFAULT	7 RANGE	8 MIN_INC
1	CH1 ADConversinSetting		A/D conversion enable/disable setting	CH1 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON	
2	CH2 ADConversinSetting		A/D conversion enable/disable setting	CH2 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON	
3	CH3 ADConversinSetting		A/D conversion enable/disable setting	CH3 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON	
4	CH4 ADConversinSetting		A/D conversion enable/disable setting	CH4 A/D conversion enable/disable setting	BOOL	0	ENUM EnableOFF DisableON	
5	CH1 RangeSetting		Range setting	CH1 Range setting	BIT STRING4	0x0	ENUM RangeSet	
6	CH2 RangeSetting		Range setting	CH2 Range setting	BIT STRING4	0x0	ENUM RangeSet	
7	CH3 RangeSetting		Range setting	CH3 Range setting	BIT STRING4	0x0	ENUM RangeSet	
8	CH4 RangeSetting		Range setting	CH4 Range setting	BIT STRING4	0x0	ENUM RangeSet	
9	CH1 AveragingProcessSetting		Averaging process setting	CH1 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set	
10	CH2 AveragingProcessSetting		Averaging process setting	CH2 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set	
11	CH3 AveragingProcessSetting		Averaging process setting	CH3 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set	
12	CH4 AveragingProcessSetting		Averaging process setting	CH4 Averaging process setting	BIT STRING4	0x0	ENUM AveProcess Set	
13	CH1 AveragingProcessSettingValue		Averaging process setting	CH1 Time average/Count average/Moving average	UINT16	0	[0,65000]	
14	CH2 AveragingProcessSettingValue		Averaging process setting	CH2 Time average/Count average/Moving average	UINT16	0	[0,65000]	
15	CH3 AveragingProcessSettingValue		Averaging process setting	CH3 Time average/Count average/Moving average	UINT16	0	[0,65000]	
16	CH4 AveragingProcessSettingValue		Averaging process setting	CH4 Time average/Count average/Moving average	UINT16	0	[0,65000]	
17	CH1 InputSigErrorSignalSetting		Input signal error detection function	CH1 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set	
18	CH2 InputSigErrorSignalSetting		Input signal error detection function	CH2 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set	
19	CH3 InputSigErrorSignalSetting		Input signal error detection function	CH3 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set	
20	CH4 InputSigErrorSignalSetting		Input signal error detection function	CH4 Input signal error detection setting	BIT STRING4	0x0	ENUM InputSigErr Set	
21	CH1 WarningOutputSetting		Warning output function	CH1 Warning output setting	BOOL	1	ENUM EnableOFF DisableON	
22	CH2 WarningOutputSetting		Warning output function	CH2 Warning output setting	BOOL	1	ENUM EnableOFF DisableON	
23	CH3 WarningOutputSetting		Warning output function	CH3 Warning output setting	BOOL	1	ENUM EnableOFF DisableON	
24	CH4 WarningOutputSetting		Warning output function	CH4 Warning output setting	BOOL	1	ENUM EnableOFF DisableON	
25	CH1 ProcessAlarmLowLow		Warning output function	CH1 Process alarm lower lower limit value	INT16	0	[-32768,32767]	
26	CH1 ProcessAlarmLowUp		Warning output function	CH1 Process alarm lower upper limit value	INT16	0	[-32768,32767]	
27	CH1 ProcessAlarmUpLow		Warning output function	CH1 Process alarm upper lower limit value	INT16	0	[-32768,32767]	
28	CH1 ProcessAlarmUpUp		Warning output function	CH1 Process alarm upper upper limit value	INT16	0	[-32768,32767]	
29	CH2 ProcessAlarmLowLow		Warning output function	CH2 Process alarm lower lower limit value	INT16	0	[-32768,32767]	
30	CH2 ProcessAlarmLowUp		Warning output function	CH2 Process alarm lower upper limit value	INT16	0	[-32768,32767]	
31	CH2 ProcessAlarmUpLow		Warning output function	CH2 Process alarm upper lower limit value	INT16	0	[-32768,32767]	
32	CH2 ProcessAlarmUpUp		Warning output function	CH2 Process alarm upper upper limit value	INT16	0	[-32768,32767]	
33	CH3 ProcessAlarmLowLow		Warning output function	CH3 Process alarm lower lower limit value	INT16	0	[-32768,32767]	
34	CH3 ProcessAlarmLowUp		Warning output function	CH3 Process alarm lower upper limit value	INT16	0	[-32768,32767]	
35	CH3 ProcessAlarmUpLow		Warning output function	CH3 Process alarm upper lower limit value	INT16	0	[-32768,32767]	
36	CH3 ProcessAlarmUpUp		Warning output function	CH3 Process alarm upper upper limit value	INT16	0	[-32768,32767]	
37	CH4 ProcessAlarmLowLow		Warning output function	CH4 Process alarm lower lower limit value	INT16	0	[-32768,32767]	
38	CH4 ProcessAlarmLowUp		Warning output function	CH4 Process alarm lower upper limit value	INT16	0	[-32768,32767]	

BLOCK_PARAMETER part (1/2)

	9 ENG_UNIT	10 ACCESS	12 UI_ATTRIBUTE	11 WRITE_ORDER	13 COMMENT	REMARK
1		RW			Set A/D conversion to "enable" or "disable".	
2		RW			Set A/D conversion to "enable" or "disable".	
3		RW			Set A/D conversion to "enable" or "disable".	
4		RW			Set A/D conversion to "enable" or "disable".	
5		RW			Set the input range.	
6		RW			Set the input range.	
7		RW			Set the input range.	
8		RW			Set the input range.	
9		RW			Set "Sampling processing" or "Averaging processing".	
10		RW			Set "Sampling processing" or "Averaging processing".	
11		RW			Set "Sampling processing" or "Averaging processing".	
12		RW			Set "Sampling processing" or "Averaging processing".	
13		RW			Set the time average (ms), count average (times), moving average count (times).	
14		RW			Set the time average (ms), count average (times), moving average count (times).	
15		RW			Set the time average (ms), count average (times), moving average count (times).	
16		RW			Set the time average (ms), count average (times), moving average count (times).	
17		RW			Set a condition for detecting an error.	
18		RW			Set a condition for detecting an error.	
19		RW			Set a condition for detecting an error.	
20		RW			Set a condition for detecting an error.	
21		RW			Set warning output to "enable" or "diable".	
22		RW			Set warning output to "enable" or "diable".	
23		RW			Set warning output to "enable" or "diable".	
24		RW			Set warning output to "enable" or "diable".	
25		RW			Set a lower lower limit value of the digital operation value.	
26		RW			Set a lower upper limit value of the digital operation value.	
27		RW			Set an upper lower limit value of the digital operation value.	
28		RW			Set an upper upper limit value of the digital operation value.	
29		RW			Set a lower lower limit value of the digital operation value.	
30		RW			Set a lower upper limit value of the digital operation value.	
31		RW			Set an upper lower limit value of the digital operation value.	
32		RW			Set an upper upper limit value of the digital operation value.	
33		RW			Set a lower lower limit value of the digital operation value.	
34		RW			Set a lower upper limit value of the digital operation value.	
35		RW			Set an upper lower limit value of the digital operation value.	
36		RW			Set an upper upper limit value of the digital operation value.	
37		RW			Set a lower lower limit value of the digital operation value.	
38		RW			Set a lower upper limit value of the digital operation value.	

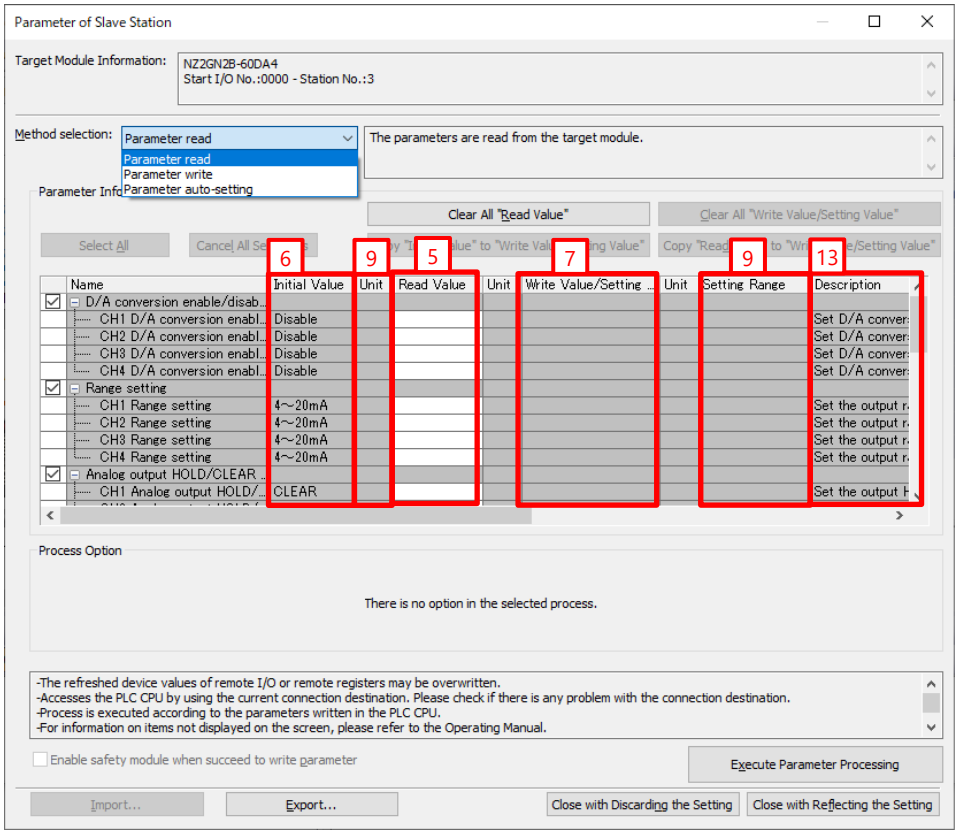
BLOCK_PARAMETER part (2/2)

	1' LABEL	2' LABEL2	3' CATEGORY	4' NAME	5' CODE	6' RELATED_ELE	7' COMMENT1	8' COMMENT2	REMARK
1	Range 4 20mA			4~20mA	0x0				
2	Range 0 20mA			0~20mA	0x1				
3	Range 1 5V			1~5V	0x2				
4	Range 0 5V			0~5V	0x3				
5	Range 10 10V			-10~10V	0x4				
6	Range 0 10V			0~10V	0x5				

ENUM part

(3) Utility software ("Parameter of Slave Station" window)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. The following is a display example of utility software ("Parameter of Slave Station" window).



(4) Elements not being used on the utility software window despite being described in the CSP+ description specifications

Table 5.4-3 lists the elements not being used on the utility software window despite being described in the CSP+ description specifications.

Table 5.4-3 Elements Not Being Used on the Utility Software Window (BLOCK_PARAMETER, ENUM)

No.	Element	Application	Required/ Optional
1 1'	LABEL	Used as an identifier.	Required
2 2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3 3'	CATEGORY	Reference information. This element is displayed only in CSP+ profile creation support tool.	Optional
8	MIN_INC	Uses the numerical value in which the user input value is multiplied by the value described in MIN_INC during internal processing.	Optional
10	ACCESS	Used to identify the access information of the target item: "Readable", "Writable", "Readable and writable", "Auto refreshable", and "Element not accessible". * For details on the description of the element, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.1 ACCESS conventions	Required
11	WRITE_ORDER	Used as sequence information when writing parameters to the actual device. (Values are written in ascending order.)	Optional
12	UI_ATTRIBUTE	For future expansion	Optional
5'	CODE	Used to identify the selected value.	Required

5.5 BLOCK_COMMAND Part

The BLOCK_COMMAND part describes the information related to the commands executed by the control functions of the target module.
Elements configuring the BLOCK_COMMAND part are defined based on the functions of the target module.

(1) Control & Communication System Profile Specification (BAP-C2008ENG-001) - 5.4.5 BLOCK_COMMAND part

1) Items to be described in the BLOCK_COMMAND part
Table 5.5-1 lists the items to be described in each element of the BLOCK_COMMAND part.

Table 5.5-1 List of Items to be Described in Each Element of the BLOCK_COMMAND Part

No.	Item	Description	Required/ Optional
1	LABEL	Describes the label for identifying the element.	Required
2	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3	CATEGORY	Describes the category for grouping the elements.	Optional
4	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5	ARGUMENT	Describes LABEL of the COMMAND_ARGUMENT part for indicating the argument to be used by the element. *4	Required
6	COMMENT	Describes the meaning of the element and usage precautions.	Optional

*4 COMMAND_ARGUMENT part

The COMMAND_ARGUMENT part (command argument list) describes the information related to command arguments.

Table 5.5-2 List of Elements to be Defined in the COMMAND_ARGUMENT Part

No.	Element	Description	Required/ Optional
1'	LABEL	Describes the label for identifying the element.	Required
2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3'	CATEGORY	Describes the category for grouping the elements.	Optional
4'	NAME	Describes the element name. This item is used when displaying the name or descriptions on utility software.	Required
5'	DATATYPE	Describes the data type of the element.	Required
6'	DEFAULT	Describes the default to be set for the element.	Optional
7'	RANGE	Describes the setting range of the element.	Optional
8'	MIN_INC	Describes the minimum increment applied to the value of the element in the command argument list along with ENG_UNIT.	Optional
9'	ENG_UNIT	Describes the engineering unit applied to the value of the element in the command argument list along with MIN_INC.	Optional
10'	ACCESS	Describes the access attribute of the element.	Required
11'	ASSIGN	Describes the address and code to be assigned to the element.	Optional
12'	REF	Describes the reference to be referenced by the element. Use of this item is prohibited under the current specifications.	Optional
13'	COMMENT	Describes the meaning of the element and usage precautions.	Optional

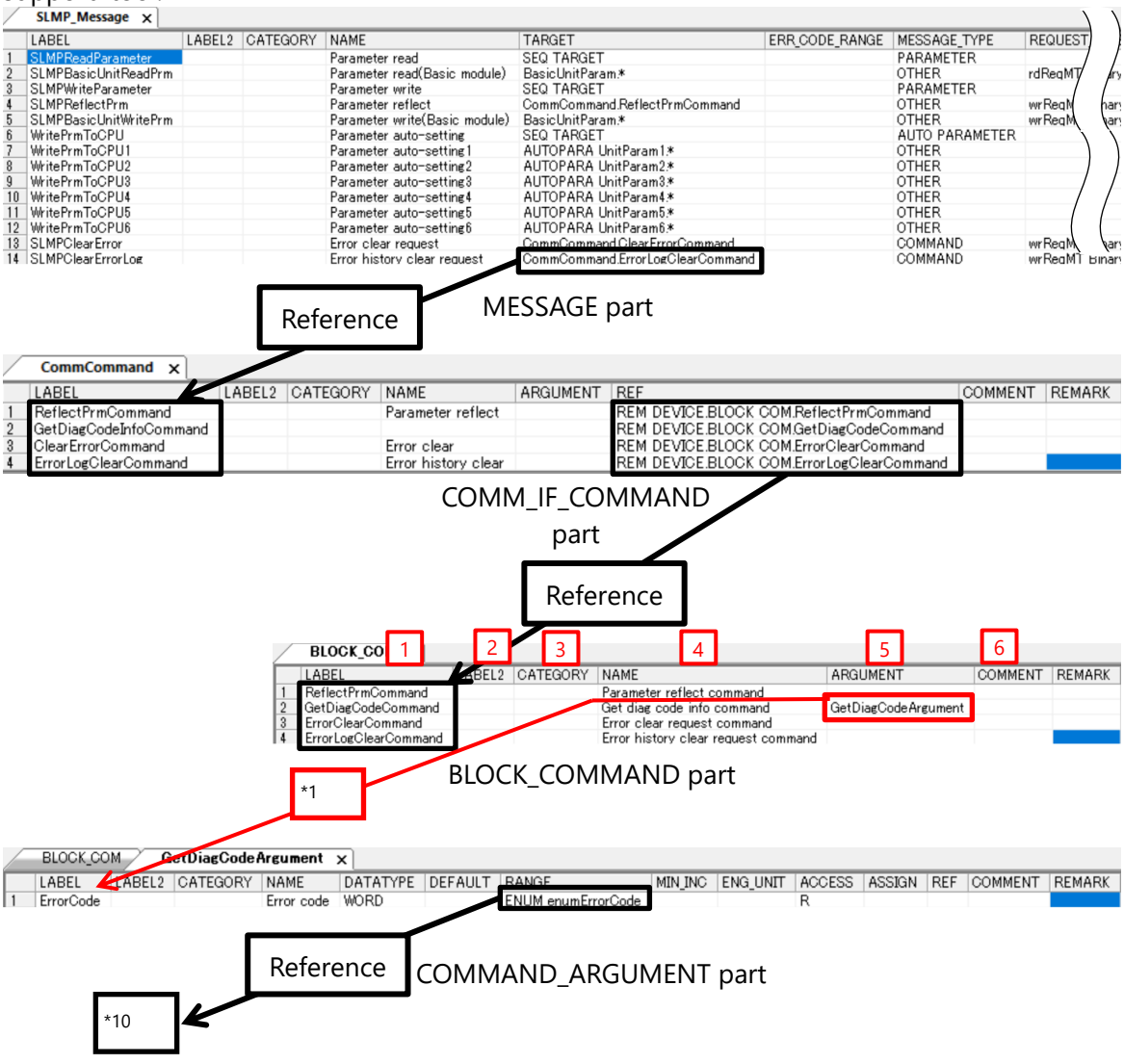
2) Reference specifications of the BLOCK_COMMAND part
For specifications of the parts related to the BLOCK_COMMAND part and reference relationship between communication services, refer to Section 4.5(1) 2).

(2) CSP+ descriptions

Parameters are referenced in the following order.

MESSAGE part (SLMP_Message) →
COMM_IF_PARAMETER part (CommCommand) →
BLOCK_COMMAND part (BLOCK_COM)
COMMAND_ARGUMENT part (GetDiagCodeArgument)
ENUM part (enumErrorCode)
COMMAND_ARGUMENT part (Error_1043)

The following shows a display example of the BLOCK_COMMAND part when the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) is opened in CSP+ profile creation support tool.



*10

enumErrorCode

	LABEL	LABEL2	CATEGORY	NAME	CODE	RELATED_ELE	COMMENT1
1	Err1020			Remote buffer memory access error	0x1020	Error_1020	A buffer memory area other than the remote buf
2	Err1030			IP address/station number setting switch changed error	0x1030	Error_1030	An IP address/station number setting switch ha
3	Err1041			Function setting switch 1 changed error	0x1041	Error_1041	The function setting switch 1 has been changed
4	Err1042			Function setting switch 2 changed error	0x1042	Error_1042	The function setting switch 2 has been changed
5	Err1043			Function setting switch 3 changed error	0x1043	Error_1043	The function setting switch 3 has been changed
6	Err1044			Function setting switch 4 changed error	0x1044	Error_1044	The function setting switch 4 has been changed
7	Err1045			Function setting switch 5 changed error	0x1045	Error_1045	The function setting switch 5 has been changed
8	Err1046			Function setting switch 6 changed error	0x1046	Error_1046	The function setting switch 6 has been changed
9	Err1047			Function setting switch 7 changed error	0x1047	Error_1047	The function setting switch 7 has been changed
10	Err1048			Function setting switch 8 changed error	0x1048	Error_1048	The function setting switch 8 has been changed
11	Err1049			Function setting switch 9 changed error	0x1049	Error_1049	The function setting switch 9 has been changed
12	Err104A			Function setting switch 10 changed error	0x104A	Error_104A	The function setting switch 10 has been ch
13	Err1050			Error of error history storage limitation	0x1050		The storage count of error history has reac
14	Err1051			Error of IP address storage limitation	0x1051		The storage count of IP address has reach
15	Err1052			Error of module parameter storage limitation	0x1052		The storage count of module parameter ha
16	Err1060			Non-volatile memory access error (error history)	0x1060		Error can not be stored because an error w
17	Err1061			Non-volatile memory access error (IP address)	0x1061		IP address can not be stored because an e
18	Err1062			Non-volatile memory access error (module parameter)	0x1062		Module parameter can not be stored becau
19	Err1080			Module power supply voltage drop error	0x1080		Module power supply voltage dropped.
20	Err1090			Remote reset not possible error	0x1090		The function setting switch 1 is set differen
21	Err2010			Non-volatile memory data error (parameter)	0x2010		The parameter data stored in the non-volatile
22	Err2011			Non-volatile memory data error (IP address)	0x2011		IP address and subnet mask stored in the non
23	Err2400			Outside IP address/station number setting switch range error (IP address)	0x2400		IP address/station number setting switch is se
24	Err3101			CH1 Range setting out of the range	0x3101	Error_3100	The value set in CH1 Range setting (address:
25	Err3102			CH2 Range setting out of the range	0x3102	Error_3100	The value set in CH2 Range setting (address:
26	Err3103			CH3 Range setting out of the range	0x3103	Error_3100	The value set in CH3 Range setting (address:
27	Err3104			CH4 Range setting out of the range	0x3104	Error_3100	The value set in CH4 Range setting (address:
28	Err3201			CH1 Time average setting out of the range	0x3201	Error_3200	- The averaging time value set in CH1 Time a
29	Err3202			CH2 Time average setting out of the range	0x3202	Error_3200	- The averaging time value set in CH2 Time a
30	Err3203			CH3 Time average setting out of the range	0x3203	Error_3200	- The averaging time value set in CH3 Time a
31	Err3204			CH4 Time average setting out of the range	0x3204	Error_3200	- The averaging time value set in CH4 Time
32	Err3211			CH1 Count average setting out of the range	0x3211	Error_3210	The averaging count value set in CH1 Time a
33	Err3212			CH2 Count average setting out of the range	0x3212	Error_3210	The averaging count value set in CH2 Time a
34	Err3213			CH3 Count average setting out of the range	0x3213	Error_3210	The averaging count value set in CH3 Time
35	Err3214			CH4 Count average setting out of the range	0x3214	Error_3210	The averaging count value set in CH4 Time
36	Err3221			CH1 Moving count setting out of the range	0x3221	Error_3220	The moving average count value set in CH1
37	Err3222			CH2 Moving count setting out of the range	0x3222	Error_3220	The moving average count value set in CH2
38	Err3223			CH3 Moving count setting out of the range	0x3223	Error_3220	The moving average count value set in CH3

ENUM part

Reference

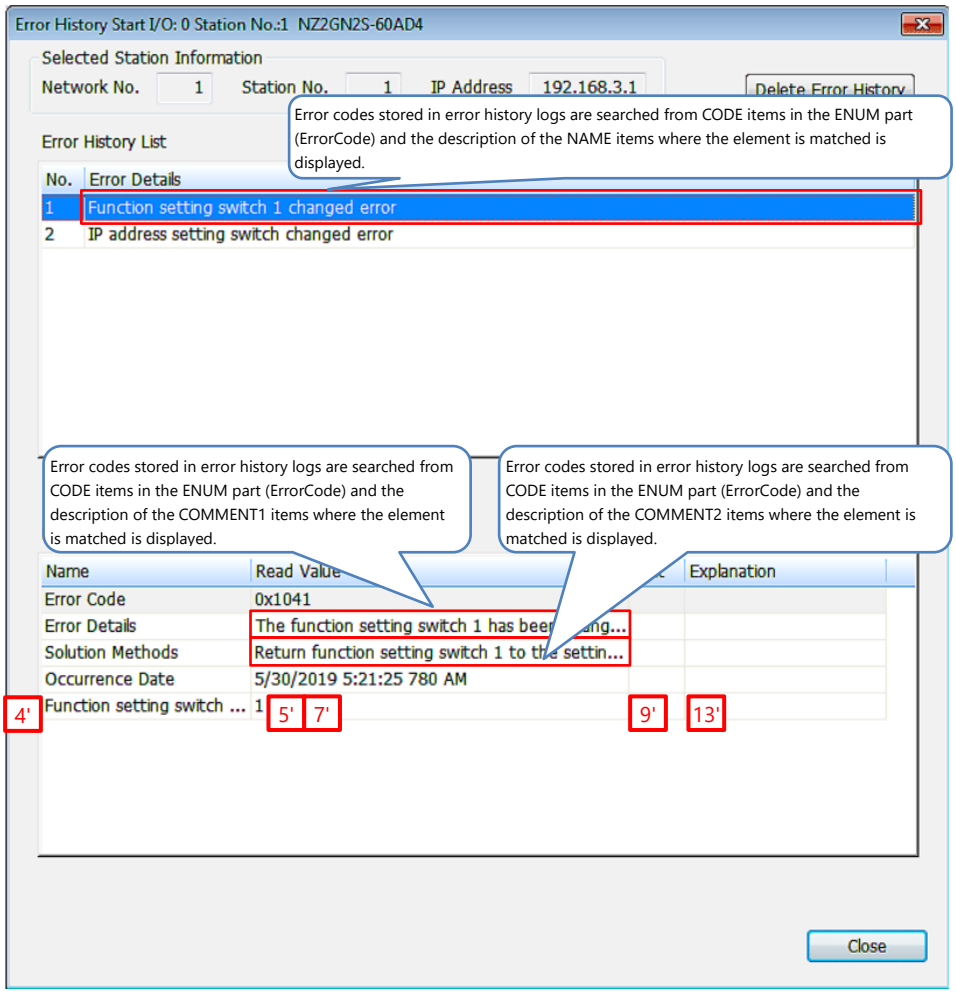
Error_1030

	1' LABEL	2' LABEL2	3' CATEGORY	4' NAME	5' DATATYPE	6' DEFAULT	7' RANGE	8' MIN_INC	9' ENG_UNIT	10' ACCESS	11' ASSIGN	12' REF	13' COMMENT	REMARK
1	detail1	Detailed Information 1		IP address/station number setting switch status	UINT16					R				

COMMAND_ARGUMENT part

(3) Utility software ("Error History" window)

The following shows how the descriptions in the CSP+ for the analog-digital converter module (NZ2GN2B-60AD4) are displayed on the utility software. The following is a display example of utility software ("Error History" window).



(4) Items not being used on the utility software window despite being described in the CSP+ description specifications

Table 5.5-3 lists the items not being used on the utility software window despite being described in the CSP+ description specifications.

Table 5.5-3 Items Not Being Used on the Utility Software Window (BLOCK_COMMAND, COMMAND_ARGUMENT)

No.	Item	Application	Required/ Optional
1 1'	LABEL	Used as an identifier.	Required
2 2'	LABEL2	Describes the label for identifying the element. (This item is used when the utility software supports other languages.)	Optional
3 3'	CATEGORY	Reference information. This item is displayed only in CSP+ profile creation support tool.	Optional
6	COMMENT	Reference information. This item is displayed only in CSP+ profile creation support tool.	Optional
8'	MIN_INC	Uses the numerical value in which the user input value is multiplied by the value described in MIN_INC during internal processing.	Optional
10'	ACCESS	Used to identify the access information of the target item: "Readable", "Writable", "Readable and writable", "Auto refreshable", and "Element not accessible". For details on the description of the element, refer to the following. Control & Communication System Profile Specification (BAP-C2008ENG-001) - 4.3.1.1 ACCESS conventions	Required
11'	ASSIGN	Used to analyze the address and code assigned to the element.	Optional
12'	REF	Used to identify the reference relationship.	Optional

BAP-C3001ENG-004

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