

Edge Computing Software

iQ Edgecross

CC-Link IE Field Network Data Collector (MELIPC
MI5122-VW)
User's Manual

-SW1DNN-DCCCIEFM-M

SAFETY PRECAUTIONS

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product only. For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module used.

In this manual, the safety precautions are classified into two levels: "⚠️ WARNING" and "⚠️ CAUTION".

WARNING

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.

CAUTION

Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

Under some circumstances, failure to observe the precautions given under "⚠️ CAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

[Design Precautions]

WARNING

- To perform an operation, such as data change or operating status change, to running devices, such as a programmable controller, servo, robot, or server, from an industrial PC equipped with this product, configure an interlock circuit outside of the devices so that the entire system always operates to the safety side. Additionally, read this manual carefully and ensure the safety before operations. Especially, in the above mentioned operations that are performed from external devices through network, any problems on devices may not be dealt with promptly due to an abnormal data communication.
 - Configure a safety circuit outside of an industrial PC equipped with this product so that the entire system operates to the safely side even when a fault occurs in the PC. Failure to do so may result in an accident due to an incorrect output or malfunction.
-

[Design Precautions]

CAUTION

- During application of each setting, do not perform the operation that forcibly turns the industrial PC equipped with this product OFF. Otherwise, the data will be undefined and resetting and re-registering data will be required. Additionally, doing so may cause the malfunction of this product.
-

CONDITIONS OF USE FOR THE PRODUCT

- (1) This software shall be used under the following conditions:
 - i) that any failure occurred in this software, if any, shall not lead to any serious accident.
 - ii) that the backup and/or fail-safe functions are systematically performed outside the devices in the cases of any failure occurred in this software.
- (2) Mitsubishi assumes no responsibility and liability (including but not limited to, default liability, defect liability, quality assurance responsibility, tort liability, product liability) for the quality, performance, and safety of both this software and products using this software.

INTRODUCTION

Thank you for purchasing CC-Link IE Field Network Data Collector.

This manual describes the specifications, procedures before operation, and troubleshooting of this product.

Before using this product, please read this manual and the relevant manuals carefully, and develop familiarity with the functions and performance of this product to handle correctly.

Please make sure that the end users read this manual.

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RELEVANT MANUALS

Manual name [manual number]	Description	Available form
CC-Link IE Field Network Data Collector (MELIPC MI5122-VW) User's Manual [SH-081923ENG] (this manual)	Explains the specifications, procedure before operation, and troubleshooting of CC-Link IE Field Network Data Collector.	e-Manual PDF

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e-Manual refers to the Mitsubishi Electric FA electronic book manuals that can be browsed using a dedicated tool.

e-Manual has the following features:

- Required information can be cross-searched in multiple manuals.
- Other manuals can be accessed from the links in the manual.
- Hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.
- Sample programs can be copied to an engineering tool.

TERMS

Unless otherwise specified, this manual uses the following terms.


Term	Description
Cyclic transmission	A function to exchange data periodically between stations on network by using link devices.
Data model management	A function that abstracts devices, equipment, and lines in the production site and hierarchically manages them.
Edge application	Software that performs various processing for data utilization in production sites using the functions provided by Edgexross in the edge computing area.
Edge computing	An information processing method and area, for not only collecting and analyzing data in production sites in real-time, and feed backing the data, but summarizing the production site data and sharing information with IT systems efficiently with the hardware and software in production sites.
Edgexross	A software platform that implements specifications and concepts for realizing manufacturing solutions by the FA-IT collaboration centering on the edge computing.
Edgexross Basic Software	The name of the software product that implements the Edgexross function.
Industrial PC	A PC specialized for industrial use with features such as high reliability, environmental resistance, and long-term supply.
Link device	A device (RX, RY, RWr, and RWw) in modules on CC-Link IE Field Network.
Management Shell	The name of the Windows version product that implements the model management function.
Management Shell Explorer	Software that sets and refers to data models managed by Management Shell.
MI Configurator	A product name for SWnDNN-MICONF. ("n" indicates its version.)
Real-time data processing	A function that realizes the real-time diagnosis and feedback of the production site data.
Real-time Flow Designer	The name of the software component that performs operation setting of Real-time Flow Manager.
Real-time Flow Manager	The name of the Windows version software component that implements the real-time data processing.

1 CC-Link IE Field Network Data Collector

CC-Link IE Field Network Data Collector (SW1DNN-DCCCIEFM-M) is a software component that performs the data collection, data reading, and data writing functions in cyclic transmission via CC-Link IE Field Network.

Data in a device can be collected and updated by using CC-Link IE Field Network Data Collector in combination with Edgecross Basic Software.

For details on Edgecross Basic Software, refer to the following manual.

 Edgecross Basic Software for Windows User's Manual

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CC-Link IE Field Network Data Collector (SW1DNN-DCCCIEFM-M) is designed for MI5122-VW.

For MI5122-VW, refer to the following manual.

 MELIPC MI5000 Series User's Manual (Startup)

Restriction

- CC-Link IE Field Network Data Collector runs by using a routine performed when a link scan of CC-Link IE Field Network is completed.
Therefore, do not use the function (CCPU_EntryLinkScanEndFunc function) used for registering the routine in a user program of MI5122-VW.
If the function is used, some problems such as data collection failure, no change in collected data, and no feedback will occur.
- When running CC-Link IE Field Network Data Collector and a user program of MI5122-VW at the same time, the data collection timing of the Data Collector will be unstable.
Lower the priority of the user program of MI5122-VW.
- CC-Link IE Field Network Data Collector may use up to 50 percent of the CPU for the interrupt processing.
This must be considered when including the interrupt processing in a user program of MI5122-VW to avoid a system WDT error.

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2 SPECIFICATIONS

This chapter shows the functional specifications, operational specifications, and accessible devices (locations) and range of CC-Link IE Field Network Data Collector.


2.1 Functional Specifications

This section shows the functional specifications of CC-Link IE Field Network Data Collector.


Item		Specification
Connectable route		CC-Link IE Field Network with built-in MI5122-VW (Cyclic transmission)
Supported type by a data collector		<ul style="list-style-type: none"> Data collection function Data reading function/Data writing function
Data collection function	Maximum number of flow settings	64 including the settings in Data reading function/Data writing function ^{*1}
	Maximum number of units of data for one flow	256
	Maximum collectible size for one flow	8192 (word)
	Collection interval	Cyclic transmission <ul style="list-style-type: none"> 5 to 999 (ms) 1 to 10 (s) Each link scan time
	Input data type ^{*2}	<ul style="list-style-type: none"> BOOL (Bit value) INT (Signed 16-bit integer value) UINT (Unsigned 16-bit integer value) DINT (Signed 32-bit integer value) UDINT (Unsigned 32-bit integer value) LINT (Signed 64-bit integer value) ULINT (Unsigned 64-bit integer value) REAL (32-bit real number value) LREAL (64-bit real number value) STRING (Character string: UTF-8 (1 to 32 characters)) WSTRING (Wide-character string: Unicode (UTF-16LE) (1 to 16 characters))
Accessible device (Location)	Cyclic transmission	RX, RY, RWr, RWw ^{*3}
Data reading function/ Data writing function	Maximum number of settings	64 including the settings in Data collection function ^{*1}
	Maximum number of units of data for one setting	256
	Maximum collectible size for one setting	8192 (word)
	Input and output data type ^{*2}	<ul style="list-style-type: none"> BOOL (Bit value) INT (Signed 16-bit integer value) UINT (Unsigned 16-bit integer value) DINT (Signed 32-bit integer value) UDINT (Unsigned 32-bit integer value) LINT (Signed 64-bit integer value) ULINT (Unsigned 64-bit integer value) REAL (32-bit real number value) LREAL (64-bit real number value) STRING (Character string: UTF-8 (1 to 32 characters)) WSTRING (Wide-character string: Unicode (UTF-16LE) (1 to 16 characters))
	Accessible device (Location)	Cyclic transmission

Item		Specification
Resource used for the VxWorks part	Number of tasks	3 ^{*5,*6} <ul style="list-style-type: none"> • Start-up monitor task (Priority: 120) Task for monitoring whether the Windows part of a data collector is started up • Periodic monitor task (Priority: 46) Task for monitoring the time interval to perform the periodic processing • Cyclic access task (Priority: 100) Task for a cyclic access
	Maximum number of settings for a data collector	64
	Routine called when a link scan of the CC-Link IE field Network is completed	Registered ^{*7}
	Buffer memory	1024 (point)
	Memory	RAM ROM

*1 For details, refer to the following:

 Edgecross Basic Software for Windows User's Manual

*2 For details on data types, refer to the following manual.

 Edgecross Basic Software for Windows User's Manual

*3 When MI5122-VW is set as the master station, RY and RWw cannot be accessed.

*4 When MI5122-VW is set as the master station and if the data reading function is performed, RY and RWw cannot be accessed.

*5 Before using CC-Link IE Field Network Data Collector, only the start-up monitor task is performed.

*6 When CC-Link IE Field Network Data Collector is not working, the priority of each task will be '255'.

*7 It is not registered when CC-Link IE Field Network Data Collector is not running.

2.2 Operational Specifications

This section shows the operational specifications of CC-Link IE Field Network Data Collector.

Operating status

The status of CC-Link IE Field Network Data Collector varies for each access target and is determined according to the communication status with the targets.

The communication status with access targets can be checked in Edgecross Basic Software.

Status of CC-Link IE Field Network Data Collector	Description	Communication status with an access target
Data is being read from or written to an access target.	Data Collector and the access target are connected normally. (It will be in this state when the connection processing succeeds.)	Connected
Data is not read from or written to an access target. (Reconnection is being performed.)	Data Collector and the access target is disconnected. (It will be in this state when the connection processing fails.)	Disconnected

Behavior when an error occurs

When CC-Link IE Field Network Data Collector detects an error, it performs the following operations depending on the error type.

Error type	Status of CC-Link IE Field Network Data Collector	Behavior of CC-Link IE Field Network Data Collector
Data collector operation stop error	<ul style="list-style-type: none"> Operations according to the specifications cannot be guaranteed due to a hard disk error in MI5122-VW of the installation destination or a failure of resource securing. A error cannot be corrected even by changing the network configuration due to an incorrect parameter setting (device type out of range, for example). 	<ul style="list-style-type: none"> Discards collected data when this error occurs during data collection. Stops the data collection, data reading, or data writing function and reports this error to Edgecross Basic Software.
Data collector operation continuation error	<ul style="list-style-type: none"> Operations such as a program execution or data communication cannot be continued due to temporary network failure. An error may be corrected by changing the network configuration even though there is no communication due to a mismatch between the parameter settings and the network configuration. 	<ul style="list-style-type: none"> Discards collected data when this error occurs during data collection. Continues the data collection, data reading, or data writing function even after reporting this error to Edgecross Basic Software.



The type of errors reported to Edgecross Basic Software are as follows:

- Data collector operation stop error: Moderate error
- Data collector operation continuation error: Minor error

2.3 Accessible devices (locations) and range

This section shows the accessible devices (locations) and range.

Accessible devices (locations)

The following table shows the accessible devices (locations).

Cyclic transmission

○: Accessible

Device name (device)	Range	Accessibility
Remote input (RX)	0 to 3FFF	○
Remote output (RY)	0 to 3FFF	○
Remote register (RWw)	0 to 1FFF	○
Remote register (RWr)	0 to 1FFF	○

3 PROCEDURE BEFORE OPERATION

This chapter shows the procedure from start-up to operation of CC-Link IE Field Network Data Collector.

Operating procedure

1. Set the setting of a device and wire and connect it to MI5122-VW.

For the setting, wiring, and connection methods, refer to the manuals of the device and MI5122-VW to use.

📖 Manual of the MELSEC device to use

📖 MELIPC MI5000 Series User's Manual (Startup)

2. Set the parameters of CC-Link IE Field Network necessary for the Data Collector.

For the setting method of parameters, refer to the following manual.

📖 MI Configurator Operating Manual

3. Set parameters of the Data Collector.

📖 Page 23 PARAMETER SETTING

Precautions

When running a data collector on an industrial PC where an antivirus software is installed, an exceeded collection cycle or data missing may occur due to an operation of the antivirus software. Exclude the following folders from the monitoring targets in the antivirus software settings. For the setting methods, refer to the manual for each antivirus software.

- Installation destination folder of a data collector
- Following files and folders of Windows

Pagefile.sys

*.pst

%systemroot%\System32\Spool

%systemroot%\SoftwareDistribution\Datastore

%windir%\Security\Database

%allusersprofile%\NTUser.pol

%systemroot%\system32\GroupPolicy\Machine\registry.pol

%systemroot%\system32\GroupPolicy\User\registry.pol

MEMO

4 FUNCTIONS

This chapter shows the functions of CC-Link IE Field Network Data Collector.

4.1 Data Collection Function

This function collects data in the interval of the set collection cycle.

Data can be collected in the following transmission method:

- Cyclic transmission ( Page 15 Cyclic transmission)

Cyclic transmission

This is the method for collecting the link devices, RX, RY, RWr, and RWw, which are sent from a device connected via CC-Link IE Field Network in cyclic transmission.

The collection methods which can be set for the cyclic transmission are as follows:

Collection method	Overview	Reference
Collection at a time interval	This method is for collecting data by accessing link devices periodically every set interval. Data is collected at the specific intervals, so the collected data is suitable for waveform analysis.	Page 16 Collection at a time interval
Collection for each link scan	This method is for collecting data by synchronizing with the link scan and accessing to link devices. Data is collected for each link scan, so data will be collected without missing a data change even in the cyclic transmission in which data is transmitted and received at high speed.	Page 17 Collection for each link scan

Collection at a time interval

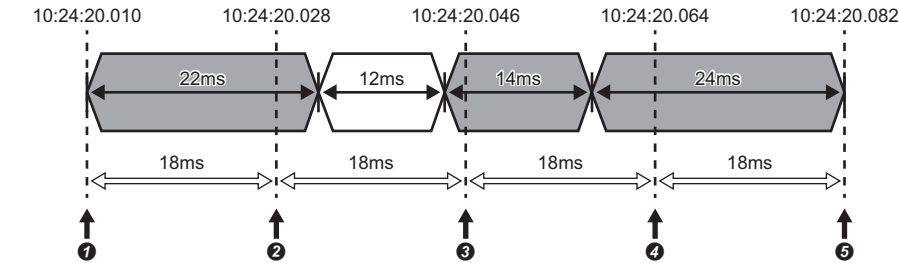
This is the method for collecting data of link devices at the set interval.

Time information added to collected data is the time of the VxWorks part when accessing to link devices.

Ex.

The following shows the timing of a data collection by collection at a time interval.

Time interval: 18 milliseconds



▭: Link scan in which data is collected

▭: Link scan in which data is not collected

↔: Link scan time

↔: Collection interval

① Data is collected at 10:24:20.010.

② Data is collected at 10: 24: 20.028 - 18 milliseconds later.

③ Data is collected at 10:24:20.046 - 18 milliseconds later.

④ Data is collected at 10:24:20.064 - 18 milliseconds later.

⑤ Data is collected at 10:24:20.082 - 18 milliseconds later.

Setting for MI5122-VW

Set the following parameters of MI5122-VW in MI Configurator.

Item					Setting content
Basic Parameter	Operation Related Setting	Time Setting	Clock Data Synchronization Settings	To Use or Not to Clock Data Synchronization Settings	Select "Enable".
				Synchronous Source	Select "VxWorks part".
		Clock Related Setting	Time Zone	Setting to Adjust Clock for Daylight Saving Time	Set the same contents as the clock setting in the Windows part.

For MI Configurator, refer to the following manual.

📖 MI Configurator Operating Manual

Data missing

If data collection is not started even after the allowable collection processing delay time (the set collection cycle × 2) elapses, an exceeded collection cycle is detected and the data for which data collection is not started will be missing.

Effects of time change

When changing the time of MI5122-VW, collection time interval added to collected data is not fixed but the collection cycle is fixed.

Collection for each link scan

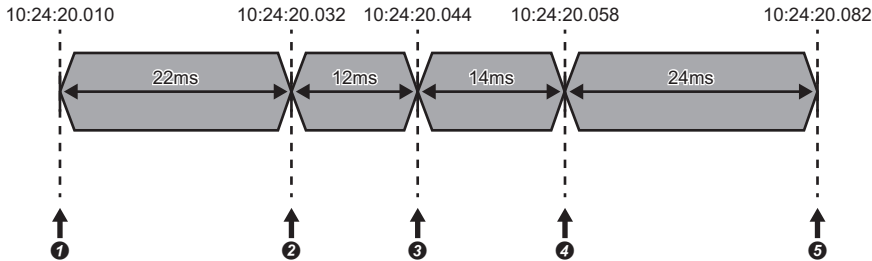
This is the method for collecting data of link devices for each link scan.

The features of the data collection for each link scan are as follows:

- Data can be collected for each link scan if the link scan time differs every time.
- Data can be collected in a single link scan without spanning multiple link scans.

Ex.

The following shows the timing of a data collection by collection for each link scan.



▭: Link scan in which data is collected

↔: Link scan time

- 1 Data is collected at 10:24:20.010.
- 2 Data is collected at 10:24:20.032 - 22 milliseconds later.
- 3 Data is collected at 10:24:20.044 - 12 milliseconds later.
- 4 Data is collected at 10:24:20.058 - 14 milliseconds later.
- 5 Data is collected at 10:24:20.082 - 24 milliseconds later.

■Data missing

Data missing occurs when a data collection is not completed within the set collection cycle. (It is registered as an event.)

■Cyclic transmission cancellation

When MI5122-VW is set as a local station, data is not collected when cyclic transmission is not performed.

Whether cyclic transmission is being performed can be checked according to any of the following methods.

- Check the status of 'D LINK LED' on the front of MI5122-VW.

For details on MI5122-VW, refer to the following manual.

📖 MELIPC MI5000 Series User's Manual (Startup)

- Perform a CC-Link IE Field diagnosis of MI Configurator.

For details on MI Configurator, refer to the following manual.

📖 MI Configurator Operating Manual

Collection processing time report

When an enable data collection setting is included in Edgecross Basic Software and the operating status of the software is changed from RUN to STOP, the maximum and minimum collection processing times when the software was in the RUN state are reported to the software.

The collection processing time is reported according to the following.

- Unit: Microsecond
- Range: 0 to 4294967295

Point

- When no data is collected while Edgecross Basic Software is in the RUN state, the maximum and minimum collection processing times are reported as '0'.
- In a report, the unit is changed to millisecond (three decimal places).

Precautions

The operations when collecting the WSTRING type data are as follows:

- For non-surrogate characters, one word is collected from a target device.
- For surrogate characters, two words are collected from a target device.

Ex.

Setting of data to be collected

WSTRING type data [Number of characters = 4] (D0-D7)

Setting of a value to be collected

D0: 'A'

D1: 'B'

D2-D3: '□'

D4: 'C'

D5: 'D'

D6: 'E'

D7: 'F'

Collection result

"AB□C"

□ indicates a surrogate character.

Features

The following shows the features of the data collection function in cyclic transmission.

■High-speed data collection

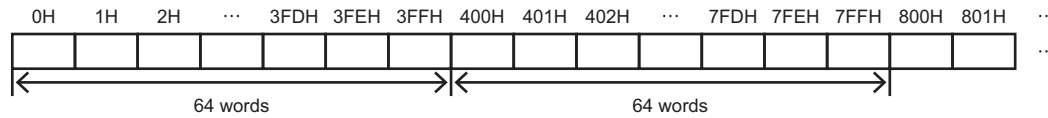
Data can be collected at high-speed by using the VxWorks part of MI5122-VW to collect data from link devices in cyclic transmission.

■Unit (block) of data collection

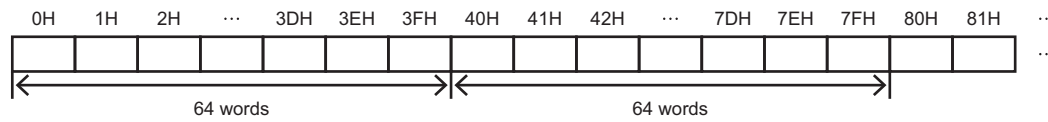
In cyclic transmission, the link device area is divided for each block^{*1} for collecting data efficiently and collect data from blocks in use.

*1 The unit divided by 64 words from the start device memory number in each device type is referred to "block".

• Bit device (RX/RX)



• Word device (RWr/RWw)



If one device in a block is used, the block is considered to be used.

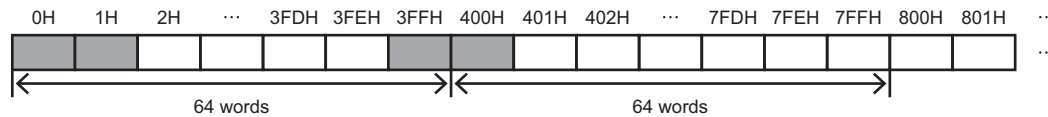
Ex.

The number of used blocks is two when data is collected from RX0, RX1, RX3FF, and RX400.

■: Used device

□: Unused device

• Bit device (RX)



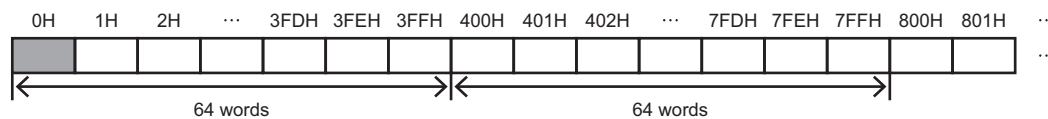
Ex.

The number of used blocks is three when data is collected from RX0, RY0, and RWr0.

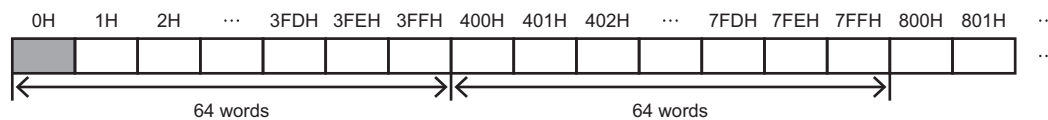
■: Used device

□: Unused device

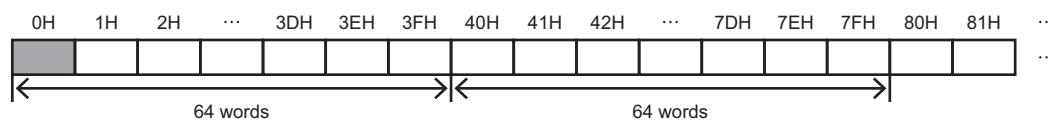
• Bit device (RX)



• Bit device (RY)



• Word device (RWr)



Considerations

The following shows the considerations for the data collection function in cyclic transmission.

■Data transmission delay

Transmission delay occurs in cyclic transmission, so the collected values are ones that has been sent from the collection destination before the collection time added in the collected data.

■Data inconsistency

In cyclic transmission, it is guaranteed by CC-Link IE Field Network that data inconsistency will not occur in 32-bit data.

However, data inconsistency may occur in collected data exceeding 32-bits if a link scan occurs during data copy.

By using the data inconsistency prevention function, data inconsistency in cyclic transmission can be prevented.

For using the function, enable the setting of the block data assurance per station in the master station.

For the setting, refer to the manual of a device used as a master station.

■Setting change during data collection

When the collection setting is changed and updated from Edgecross Basic Software during data collection, the data collection being performed is stopped and it is restarted according to the new setting.

4.2 Data Reading Function

This function sends a data reading request to a device according to a request from Edgecross Basic Software and reads data.

Cyclic transmission

It reads data of link devices according to a request from Edgecross Basic Software.

Read processing time report

When reconnecting to an access target device in Edgecross Basic Software, the maximum and minimum read processing times during the operation are reported to the software.

- Unit: Microsecond
- Range: 0 to 4294967295

Point

- When no data is read during the operation, the maximum and minimum read processing times are reported as '0'.
- In a report, the unit is changed to millisecond (three decimal places).

4

Precautions

The operations when reading the WSTRING type data are as follows:

- For non-surrogate characters, one word is read from a target device.
- For surrogate characters, two words are read from a target device.

Ex.

Setting of data to be read

WSTRING type data [Number of characters = 4] (D0-D7)

Setting of a value to be read

D0: 'A'

D1: 'B'

D2-D3: '□'

D4: 'C'

D5: 'D'

D6: 'E'

D7: 'F'

Reading result

"AB□C"

□ indicates a surrogate character.

4.3 Data Writing Function

This function sends a data writing request to a device according to a request from Edgecross Basic Software and writes data.

Cyclic transmission

It writes data to link devices according to a request from Edgecross Basic Software.

Precautions

The operations when writing the WSTRING type data are as follows:

- For non-surrogate characters, one word is written to a target device.
- For surrogate characters, two words are written to a target device.

Ex.

Setting of data to be written

WSTRING type data [number of characters = 4] (RWw0-RWw7)

Setting of a value to be written

ABC□

□ indicates a surrogate character.

Writing result

RWw0: 'A'

RWw1: 'B'

RWw2: 'C'

RWw3-RWw4: '□'

RWw5-RWw7: '\0'

4.4 Considerations

The following shows the considerations for the functions of CC-Link IE Field Network Data Collector.

Cyclic data assurance

During cyclic data assurance, the update of the input and output status of link devices is stopped.

Therefore, during that time, collected data will not be changed and also the feedback will not be provided.

Consider these above when using the following functions for assuring data in a user program.

- CCPU_StartLinkDeviceAssurance
- CCPU_EndLinkDeviceAssurance

For details on functions, refer to the following manual.

📖 MELIPC MI5000 Series Programming Manual (VxWorks)

Operation when a data link error occurs in the own station

The following table shows the operations when a data link error occurs in the own station on CC-Link IE Field Network during the data collection, reading, or writing.

Function	Cycle System	Station type	Operational specification	Error registration content
Data collection	Specify Cycle	Master/local station	Collects data.	The error code '1007H' is registered in Edgecross Basic Software.
	Each Link Scan	Master station	Collects data.	The error code '1007H' is registered in Edgecross Basic Software.
		Local station	Does not collect data.	The error code '1007H' is registered in Edgecross Basic Software.
Data reading	—	Master/local station	Does not read data.	The error code '1007H' is registered in Edgecross Basic Software.
Data writing	—	Master/local station	Does not write data.	The error code '1008H' is registered in Edgecross Basic Software.

5 PARAMETER SETTING

The parameter settings for CC-Link IE Field Network Data Collector can be set in Edgecross Basic Software. For the display of the setting screens for each parameter, refer to Edgecross Basic Software User's Manual.

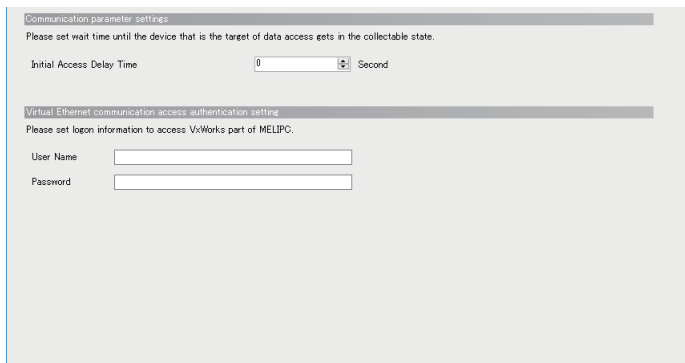
📖 Edgecross Basic Software for Windows User's Manual

5.1 Communication Parameter

Set the setting on the connection between CC-Link IE Field Network Data Collector and a device.

Window

- The "Target Device Setting" screen of Real-time Flow Designer
- The "Target Device Setting" screen of Management Shell Explorer



Displayed items

Item	Description
Initial Access Delay Time	Set the waiting time from when the initialization processing of an access target device is completed until data collection can be performed (0 to 255 seconds).
User Name	Set a user name registered in the user authentication setting of MI5122-VW.
Password	Set a password registered in the user authentication setting of MI5122-VW.

5.2 Collection Parameter

Set the setting on data collection in CC-Link IE Field Network Data Collector.

Window

- The [Collection Option] tab in the "Data Collection Setting" screen of Real-time Flow Designer



Displayed items

Item	Description
Cycle System	Select a cycle to collect data.
Collection Interval* ¹	Set an interval and the unit for collecting data.

*1 It cannot be set when "Each Link Scan" is selected for "Cycle System".

5.3 Location Parameter

In CC-Link IE Field Network Data Collector, a screen for setting location parameters is not included.

Enter accessible devices (locations) shown in the following section directly.



☞ Page 12 Accessible devices (locations)

6 TROUBLESHOOTING

This chapter explains the errors which may occur when using CC-Link IE Field Network Data Collector and the troubleshooting.

6.1 Checking Method for Error Descriptions

The following are the methods for checking error descriptions.

Checking method	Details
Real-time Flow Designer	Error codes can be checked in the "Real-time Flow Manager Diagnostics" screen of Real-time Flow Designer. For details, refer to the following:  Edgecross Basic Software for Windows User's Manual
Management Shell Explorer	Error codes can be checked in the "Error Information List" screen of Management Shell Explorer. For details, refer to the following:  Edgecross Basic Software for Windows User's Manual

Error type

There are two types of errors for CC-Link IE Field Network Data Collector; moderate error and minor error.

6.2 Troubleshooting by Symptom


If a function of CC-Link IE Field Network Data Collector does not perform properly, check the applicable items in the following and troubleshoot the error.

For the troubleshooting by symptom for MI5122-VW, refer to the following:


 MELIPC MI5000 Series User's Manual (Application)

Troubleshooting on data collection


Data collection cannot be performed.

Check point	Corrective action
Does the data link error occur on CC-Link IE Field Network?	Solve the data link error by performing a CC-Link IE Field diagnosis of MI Configurator. ( MI Configurator Operating Manual)
Is the station type of the network parameter in CC-Link IE Field Network set to a master station, the VX RDY LED on a MELIPC (MI5122-VW) turned OFF, and the MAIN ERR LED turned ON?	Delete the RY and RWw devices in the collection data setting.

There is no change in collected data.

Check point	Corrective action
Does the data link error occur on CC-Link IE Field Network?	Solve the data link error by performing a CC-Link IE Field diagnosis of MI Configurator. ( MI Configurator Operating Manual)
Is a slave station on CC-Link IE Field Network disconnected?	Restore the connection with the slave station on CC-Link IE Field Network.
Is a value other than '0' set for the number of times of the un-executed interrupt processing in the buffer memory?	Review the number of collection points and the processing contents to lower the load.

Data inconsistency occurs in collected data.

Check point	Corrective action
Is "Disable" set for "Station-based Block Data Assurance" in the network parameter of CC-Link IE Field Network?	Change the network parameter of CC-Link IE Field Network and set "Enable" for "Station-based Block Data Assurance" in MI Configurator. ( MI Configurator Operating Manual)


Data missing has occurred in collected data.

Check point	Corrective action
Is the event code '8000H' registered and "Cycle System" of the collection parameter set to "Specify Cycle"?	<ul style="list-style-type: none"> • Review the collection interval of the collection parameter. • Restart the MELIPC running this product. • Lower the load on the Windows part. • Lower the load of the VxWorks part.*1 • Review the number of collection points and the processing contents to lower the load.
Is the event code '8000H' registered and "Cycle System" of the collection parameter set to "Each Link Scan"?	<ul style="list-style-type: none"> • Change the setting for "Cycle System" of the collection parameter to "Specify Cycle". • Restart the MELIPC running this product. • Lower the load on the Windows part. • Lower the load of the VxWorks part.*1 • Review the number of collection points and the processing contents to lower the load. • Review the setting of CC-Link IE Field Network to increase the link scan time of the network.*2

*1 Perform the following to reduce the load.

- Review the user program processing to reduce the CPU usage rate and the load of file I/O.
- Reduce the frequency of file reading and writing from/to the VxWorks part using the file sharing function.
- Reduce the frequency of parameter reading and writing using MI Configurator.
- Reduce the frequency of event history acquisition using MI Configurator.
- Reduce the frequency of access to the VxWorks part using Telnet.
- Reduce the frequency of access to the VxWorks part using FTP.

*2 The link scan time of CC-Link IE Field Network can be checked by performing a CC-Link IE Field diagnosis of MI Configurator.

 MI Configurator Operating Manual

Troubleshooting on data reading

Data cannot be read.

Check point	Corrective action
Is the initial access delay time set?	<ul style="list-style-type: none"> • Wait until the set initial access delay time elapses. • Set the initial access delay time shorter.

Troubleshooting on data writing

Data cannot be written.

Check point	Corrective action
Is the initial access delay time set?	<ul style="list-style-type: none"> • Wait until the set initial access delay time elapses. • Set the initial access delay time shorter.

Troubleshooting on Edgecross Basic Software

An error caused by this product has been detected in Edgecross Basic Software.

Check item	Corrective action
Has a data collector startup error been detected in Edgecross Basic Software?	Reinstall this product since the file may have been moved or deleted.

6

Troubleshooting on screens

Contents in the screen may not be displayed properly.

Check item	Corrective action
Is a value other than 100% set for "Change the size of text, apps, and other items" in Windows?	<ul style="list-style-type: none"> • Change the value to 100% for "Change the size of text, apps, and other items". • For Windows 10 (version 1703 or later)^{*1}, the display of a screen can be enlarged with high DPI scaling by using a Windows 10 function^{*2}. <ol style="list-style-type: none"> 1 Select 'ProcessDesigner.exe'^{*3}, then select [Properties] on the right-click menu. 2 Select the checkbox of "Override high DPI scaling behavior. Scaling performed by:" in the [Compatibility] tab, then select "System" from the pull-down list. 3 Click the [OK] button.

*1 The Windows version can be checked by the following procedure.

- 1 Press Windows key + **[R]**, or select [Windows System] ⇨ [Run] from Windows Start.
- 2 Enter 'winver' in the "Run" screen.
- 3 Check the version in the displayed screen.

*2 The display will be blurred by enlarging.

The following lists the setting values for "Change the size of text, apps, and other items" and the recommended display resolution for each setting value in Windows 10.

- Setting value: 100%, display resolution: 1024 × 768 dots or more
- Setting value: 125%, display resolution: 1900 × 1200 dots or more
- Setting value: 150%, display resolution: 1900 × 1200 dots or more
- Setting value: 175%, display resolution: 2880 × 1620 dots or more
- Setting value: 200%, display resolution: 2880 × 1620 dots or more
- Setting value: 225%, display resolution: 3840 × 2160 dots or more
- Setting value: 250%, display resolution: 3840 × 2160 dots or more

*3 'ProcessDesigner.exe' is stored in the folder in which Edgecross Basic Software is installed.

The following is an example of a storage location.

(Example) When the installation destination folder is set as the default:

C:\Edgecross\Edgecross Basic Software\Real-timeFlowDesigner\ProcessDesigner.exe

6.3 Error Code List

This section shows the codes for errors that occur in CC-Link IE Field Network Data Collector.

Error code	Error name	Error description	Corrective action
1000H	Communication parameter setting error	There is an error in the communication parameter.	Please review the communication parameter because there is an error.
1001H	Collection parameter setting error	There is an error in the collection parameter.	Please review the collection parameter because there is an error.
1002H	Location parameter setting error	There is an error in the location parameter.	Please review the location parameter because there is an error.
1003H	Device memory No. error	A device memory No. which does not exist is specified.	Please review the device memory No. specified in the location parameter.
1004H	Insufficient memory error	There is not enough memory available to running the Windows part.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary Windows applications and lower the load on the Windows part.
1005H	Data Collector internal error	An unexpected error caused by the Windows part occurred inside this product.	<ul style="list-style-type: none"> • If Real-time Flow Manager is used, please write the Real-time Flow Manager parameter again. • Please restart the MELIPC running this product. • Please reinstall this product. • Please consult your local Mitsubishi representative if the same error occurs again.
1006H	Data Collector internal error	Communication between tasks inside the VxWorks part failed.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please reinstall this product.
1007H	Data reading error	Reading of data failed because data link is stopped.	<ul style="list-style-type: none"> • Please check if there is any device which is disconnected from the CC-Link IE field network. • Please check if there is any problem of the CC-Link IE field network with the CC-Link IE field diagnosis by MI Configurator. • Please review the network parameter of the CC-Link IE field network.
1008H	Data writing error	Writing of data failed because data link is stopped.	<ul style="list-style-type: none"> • Please check if there is any device which is disconnected from the CC-Link IE field network. • Please check if there is any problem of the CC-Link IE field network with the CC-Link IE field diagnosis by MI Configurator. • Please review the network parameter of the CC-Link IE field network.
1700H	Communication error between Windows and VxWorks operating system	The data received from VxWorks part is incorrect.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please reinstall this product.
1701H	Number of Data Collector configurations is exceeded	The number of Data Collector configurations using VxWorks part has exceeded its maximum number.	Please review the number of Data Collector configurations using VxWorks part.
1702H	System error	An unexpected error caused by common functions of the MELIPC occurred inside this product.	<ul style="list-style-type: none"> • If Real-time Flow Manager is used, please write the Real-time Flow Manager parameter again. • Please restart the MELIPC running this product. • Please reinstall this product. • Please consult your local Mitsubishi representative if the same error occurs again.
1703H	Data Collector (Windows part) stop error	Data Collector (Windows part) is stopped.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please reinstall this product.
1705H	Resource contention error	Resource contention has occurred between this product and other applications.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please reinstall this product.

Error code	Error name	Error description	Corrective action
1706H	Insufficient memory error	There is not enough memory available to common functions of the MELIPC.	<ul style="list-style-type: none"> • If Real-time Flow Manager is used, please write the Real-time Flow Manager parameter again. • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please review the collection cycle, number of collected data, and processing contents to lower the load. • Please reinstall this product.
1707H ¹	Data buffer overflow	Data buffering has overflowed. Data cannot be transmitted fast enough from the VxWorks part to Windows part.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please review the collection cycle, number of collected data, and processing contents to lower the load.
170AH	Data Collector (VxWorks part) stop error	Data Collector (VxWorks part) is stopped.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please reinstall this product.
170BH	Communication error between Windows and VxWorks operating system	The data received from Windows part is incorrect.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please reinstall this product.
170CH ¹	Data buffer overflow	Data buffering has overflowed. Data cannot be transmitted fast enough from Windows part to the VxWorks part.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please review the collection cycle, number of collected data, and processing contents to lower the load.
170DH	VxWorks part file access error	The /ROM/MELAPP folder of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please check if the /ROM/MELAPP folder is accessible. • Please set the user access level of MELIPC to Administrators. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
170EH	VxWorks part FTP access error	The FTP server of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please set the FTP server setting of the VxWorks part to use. • Please set the user name or the password correctly in the communication parameter. • If it is locked out, please re-execute after the lockout time. • Please set the user access level of MELIPC to Administrators. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
170FH	VxWorks part file access error	The /ROM/MELAPP/DATACollector folder of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please check if the /ROM/MELAPP/DATACollector folder is accessible. • Please set the user access level of MELIPC to Administrators. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
1710H	VxWorks part file access error	A file transfer to the VxWorks part failed.	<ul style="list-style-type: none"> • Please set the user name or the password correctly in the communication parameter. • Please set the user access level of MELIPC to Administrators. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings. • Please reinstall this product.
1711H	Environment variable reference error	Reference to the environment variable failed.	<ul style="list-style-type: none"> • Please restart the MELIPC running this product. • Please reinstall this product.
1712H	VxWorks part Telnet access error	The Telnet server of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please disconnect the client connected to the Telnet server of the VxWorks part. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.

Error code	Error name	Error description	Corrective action
1713H	VxWorks part Telnet access error	The Telnet server of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please set the Telnet server setting of the VxWorks part to use. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
1715H	VxWorks part Telnet access error	The Telnet server of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please set the user name or the password correctly in the communication parameter. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
1716H	VxWorks part file access error	The /ROM folder of the VxWorks part cannot be accessed.	<ul style="list-style-type: none"> • Please check if the /ROM folder exists. • Please set the user access level of MELIPC to Administrators. • Please restart the MELIPC running this product. • Please reset the virtual Ethernet to the factory settings.
1717H	Communication error between Windows and VxWorks operating system	Communication between Windows and VxWorks operating system failed.	<ul style="list-style-type: none"> • If Real-time Flow Manager is used, please write the Real-time Flow Manager parameter again. • Please restart the MELIPC running this product. • Please close the unnecessary VxWorks applications and lower the load on the VxWorks part. • Please close the unnecessary Windows applications and lower the load on the Windows part. • Please review the collection cycle, number of collected data, and processing contents to lower the load. • Please reinstall this product. • Please consult your local Mitsubishi representative if the same error occurs again.
F001H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F002H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F003H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F004H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F005H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F006H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F007H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F008H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F009H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F00AH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.

Error code	Error name	Error description	Corrective action
F00BH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F00CH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F00DH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F00EH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F00FH	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Carry out review to lower the load caused by collection cycle, number of collections, and contents of processing. • Lower the load on Windows by closing other applications or by other means. • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F010H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F011H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F012H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F013H	Data Collector I/F error	An error occurred during the access to Edgecross Basic Software.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F100H	Error in the initialization process of Data Collector	An error occurred in the initialization process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F104H	Error in the initialization process of Data Collector	An error occurred in the initialization process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F105H	Error in the initialization process of Data Collector	An error occurred in the initialization process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F106H	Error in the collection process of Data Collector	An error occurred in the collection process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F107H	Error in the read process of Data Collector	An error occurred in the read process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F108H	Error in the write process of Data Collector	An error occurred in the write process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.


Error code	Error name	Error description	Corrective action
F109H	Error in the read process of Data Collector	An error occurred in the read process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F10AH	Error in the write process of Data Collector	An error occurred in the write process.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F200H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F205H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F207H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20AH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20BH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20CH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20DH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20EH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F20FH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F212H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F217H	Error in module reference	An error occurred when the module (JSON parser) was referenced.	<ul style="list-style-type: none"> • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F218H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F219H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F21AH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.

Error code	Error name	Error description	Corrective action
F242H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F244H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F245H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F247H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F248H	Data reference error in Data Collector	An error occurred when the argument of the communication parameter acquisition was referenced.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F249H	Data reference error in Data Collector	An error occurred when the argument of the collection parameter acquisition was referenced.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F24AH	Data reference error in Data Collector	An error occurred when the argument of the data parameter acquisition was referenced.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F24CH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F24DH	Process data buffer overflow in Data Collector	Data buffering has overflowed.	<ul style="list-style-type: none"> • Carry out review to lower the load caused by collection cycle, number of collections, and contents of processing. • Lower the load on Windows by closing other applications or by other means.
F24EH	Process data buffer overflow in Data Collector	Data buffering has overflowed.	<ul style="list-style-type: none"> • Carry out review to lower the load caused by collection cycle, number of collections, and contents of processing. • Lower the load on Windows by closing other applications or by other means.
F260H	Error: Character is out of range	The character string acquired from the Data Collector contains characters out of range.	Please do not set characters out of range to collected STRING type character string.
F261H	Error: Character is out of range	The character string acquired from the Data Collector contains characters out of range.	Please do not set characters out of range to read STRING type character string.
F262H	Error: Number of characters exceeded	It exceeds the maximum number of character string acquired from the Data Collector.	<ul style="list-style-type: none"> • Please review the location parameter so that the number of characters in the collected STRING type character string does not exceed the maximum number. • Please review the target device value so that the number of characters in the collected STRING type character STRING does not exceed the maximum number.
F263H	Error: Number of characters exceeded	It exceeds the maximum number of character string acquired from the Data Collector.	<ul style="list-style-type: none"> • Please review the location parameter so that the number of characters in the read STRING type character string does not exceed the maximum number. • Please review the target device value so that the number of characters in the read STRING type character STRING does not exceed the maximum number.
F264H	Error: Character is out of range	The character string acquired from the Data Collector contains characters out of range.	Please do not set characters out of range to collected WSTRING type character string.

Error code	Error name	Error description	Corrective action
F265H	Error: Character is out of range	The character string acquired from the Data Collector contains characters out of range.	Please do not set characters out of range to read WSTRING type character string.
F266H	Error: Number of characters exceeded	It exceeds the maximum number of character string acquired from the Data Collector.	<ul style="list-style-type: none"> • Please review the location parameter so that the number of characters in the collected WSTRING type character string does not exceed the maximum number. • Please review the target device value so that the number of characters in the collected WSTRING type character STRING does not exceed the maximum number.
F267H	Error: Number of characters exceeded	It exceeds the maximum number of character string acquired from the Data Collector.	<ul style="list-style-type: none"> • Please review the location parameter so that the number of characters in the read WSTRING type character string does not exceed the maximum number. • Please review the target device value so that the number of characters in the read WSTRING type character STRING does not exceed the maximum number.
F268H	Invalid real number data	The real number acquired from the Data Collector is invalid(NaN, $\pm\infty$).	Please do not set invalid value(NaN, $\pm\infty$) to read REAL type real number.
F269H	Invalid real number data	The real number acquired from the Data Collector is invalid(NaN, $\pm\infty$).	Please do not set invalid value(NaN, $\pm\infty$) to read LREAL type real number.
F280H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F281H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F282H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F283H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F284H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F2C5H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F2C6H	Process data buffer overflow in Data Collector	Data buffering has overflowed.	<ul style="list-style-type: none"> • Carry out review to lower the load caused by collection cycle, number of collections, and contents of processing. • Lower the load on Windows by closing other applications or by other means.
F300H	Error: Not enough memory	There is not enough memory available to execute this operation.	<ul style="list-style-type: none"> • Please close other applications. • Please restart the Industrial PC.
F303H	Error: Not enough memory	There is not enough memory available to execute this operation.	<ul style="list-style-type: none"> • Please close other applications. • Please restart the Industrial PC.
F306H	Error: Not enough memory	There is not enough memory available to execute this operation.	<ul style="list-style-type: none"> • Please close other applications. • Please restart the Industrial PC.
F30EH	Error: Not enough memory	There is not enough memory available to execute this operation.	<ul style="list-style-type: none"> • Please close other applications. • Please restart the Industrial PC.
F380H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.

Error code	Error name	Error description	Corrective action
F382H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F383H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F386H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F387H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F388H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F389H	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F38AH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F38BH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F38DH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.
F38FH	Data Collector internal error	An unexpected error occurred inside this product.	<ul style="list-style-type: none"> • Please restart the Industrial PC. • Please reinstall Data Collector. • Please consult your local Mitsubishi representative if the same error occurs again.

*1 For details on the number of points, refer to the following:

 Page 41 Number of points for data assignment

6.4 Event Code List

This section shows the codes for events that occur in CC-Link IE Field Network Data Collector.

Event code	Event status	Event name	Event description
8000H	Warning	Exceeded collection cycle	Collection process was not completed within the collection cycle. ☞ Page 26 Data missing has occurred in collected data.
8001H	Information	Collection processing time	Measurement of collection processing time has been completed.
8002H	Information	Read processing time	Measurement of Read processing time has been completed.
F800H	Warning	Exceeded collection cycle	Collection process was not completed within the collection cycle. ☞ Page 26 Data missing has occurred in collected data.

APPENDIX

Appendix 1 Processing Performance and Processing Time

This section shows the processing performance and processing time in data collection by cyclic transmission of CC-Link IE Field Network Data Collector.

The processing performance refers the performance that can be collected all data at the set collection cycle.

Point

- The processing performance is the same regardless of the station type (master station or local station).
- The processing performance is the same regardless of the cyclic transmission mode (normal mode or high speed mode).

Processing performance in data collection

Measurement conditions

■Parameters of Real-time Flow Manager

Parameter type	Setting item	Setting content
File saving setting	File format	CSV file
	Output data	All collected data
	Output name of the date/time column	TIME
	Data row output format	YYYY/MM/DD hh:mm:ss.sss
	Save destination folder	Local path
	File name prefix	LOG
	Number of record rows for switching	1000
	Maximum number of files to be saved	100

■Parameters of a data collector

The following table shows the setting values of parameters affecting to the processing performance among the parameters of a data collector used for measurement.

Parameter type	Setting item	Setting content
Collection parameter	Cycle system	Specify Cycle
	Collection interval	100 (ms)

■Parameters of MI5122-VW

Parameter type	Setting item	Setting content
CC-Link IE Field Network parameter	Required setting	Station type
		Local station

Processing performance

The following table shows the processing performance capable of collecting all data in a specified cycle per collection processing time (single collection cycle).

Number of word device collection points	Performance value [ms]
16	0.111
32	0.121
64	0.132
128	0.138
256	0.147
512	0.165
1024	0.188
2048	0.220

Precautions

Processing of CC-Link IE Field Network Data Collector may be delayed if interrupted by processing of other software or an operating system of Windows®.

Processing performance in read processing

Measurement conditions

■Parameters of Real-time Flow Manager

Setting item	Setting content
Current Value Update Interval	1 second
Access target device	Initial Access Delay Time
	0
Registration target for data tag resource monitoring	Device setting according to the number of word device read points (all INT type)

■Parameters of MI5122-VW

Parameter item	Setting item	Setting content
CC-Link IE Field Network parameter	Required item	Station type
		Local station

Processing performance

The following table shows the read processing performance of CC-Link IE Field Network Data Collector.

Number of word device read points	Performance value
256	63
512	78
1024	188
2560	390
5120	766

Appendix 2 Data Assignment

This section shows the assignment availability and the number of points for data assignment.

Data assignment availability

The following table shows the assignment availability of data for each data type.

○: Available, ×: Not available

Setting value	Data type										
	BOOL	UINT	UDINT	ULINT	INT	DINT	LINT	REAL	LREAL	STRING	WSTRING
Bit device	○	×	×	×	×	×	×	×	×	×	×
Word device	×	○	○	○	○	○	○	○	○	○	○

Number of points for data assignment

The following table shows the number of points for data assignment for each data type.

Number: Fixed number of points for data assignment, ○: calculation formula, × Not available

Setting value	Data type										
	1 bit	16 bit		32 bit			64 bit			Character string	
	BOOL	UINT	INT	UDINT	DINT	REAL	ULINT	LINT	LREAL	STRING	WSTRING
Bit device	1	×	×	×	×	×	×	×	×	×	×
Word device	×	1	1	2	2	2	4	4	4	○ (Number of characters ÷ 2) ^{*1}	○ ((Number of characters × 4) ÷ 2) ^{*1}

*1 Round up digits after a decimal points of a value obtained by division.

Appendix 3 Buffer Memory

This section shows the buffer memory of CC-Link IE Field Network Data Collector.

Buffer memory list

This section shows the list of the buffer memory of CC-Link IE Field Network Data Collector.

Address in decimal (hexadecimal)	Purpose	Name	Initialization timing*1	Reading or writing
90000 (15F90H)	Task status	Task priority	When the power of a MELIPC is turned OFF and ON	Reading
90001 (15F91H)		Free-run counter for task operation check	When the power of a MELIPC is turned OFF and ON	Reading
90002 to 90063 (15F92H to 15FCFH)	System area			
90064 (15FD0H)	Task operation status	Periodic monitoring task priority	When the power of a MELIPC is turned OFF and ON	Reading
90065 (15FD1H)		Free-run counter for periodic monitoring task operation check	When the power of a MELIPC is turned OFF and ON	Reading
90066 (15FD2H)		Cyclic access task priority	When the power of a MELIPC is turned OFF and ON	Reading
90067 (15FD3H)		Free-run counter for cyclic access task operation check	When the power of a MELIPC is turned OFF and ON	Reading
90068 to 90071 (15FD4H to 15FD7H)	System area			
90072 to 90073 (15FD8H to 15FD9H)	Processing time	Maximum	When the power of a MELIPC is turned OFF and ON	Reading
90074 to 90075 (15FDAH to 15FDBH)		Minimum	When the power of a MELIPC is turned OFF and ON	Reading
90076 to 90077 (15FDCH to 15FDDH)		Latest	When the power of a MELIPC is turned OFF and ON	Reading
90078 (15FDEH)	Number of times of the unperformed interrupt processing	Number of times of the unperformed interrupt processing	When the power of a MELIPC is turned OFF and ON	Reading
90079 to 91023 (15FDFH to 1638FH)	System area			

*1 Initialized to '0'.

Buffer memory details

The following shows the details of the buffer memory of CC-Link IE Field Network Data Collector.

Task status (90000 to 90001)

Address	Name	Description
90000	Task priority	0 to 255 0: No task is started.
90001	Free-run counter for task operation check	0 to 65535 When it reaches the upper limit of a numerical value, it is counted from '0' again.

Task operation status (90064 to 90067)

Address	Name	Description
90064	Periodic monitoring task priority	0 to 255 0: No task is started.
90065	Free-run counter for periodic monitoring task operation check	0 to 65535 When it reaches the upper limit of a numerical value, it is counted from '0' again.
90066	Cyclic access task priority	0 to 255 0: No task is started.
90067	Free-run counter for cyclic access task operation check	0 to 65535 When it reaches the upper limit of a numerical value, it is counted from '0' again.

Processing time (90072 to 90077)

Address	Name	Description
90072 to 90073	Maximum	The maximum processing time is stored (in microseconds, 32 bit).
90074 to 90075	Minimum	The minimum processing time is stored (in microseconds, 32 bit).
90076 to 90077	Latest	The latest processing time is stored (in microseconds, 32 bit).

Number of times of the unperformed interrupt processing (90078)

Address	Name	Description
90078	Number of times of the unperformed interrupt processing	0 to 65535 The number of times of the interrupt processing which is not performed due to high-load is incremented to the upper limit. If CC-Link IE Field Network Data Collector is restarted, the number is incremented from '0' again.

A

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Appendix 5 Version Specifications


The following table shows the version specifications of CC-Link IE Field Network Data Collector.

CC-Link IE Field Network Data Collector version ^{*1,*2}	Data collector Version ^{*3}	Data collector specifications version ^{*3}	Supporting Edgecross Basic Software version ^{*3}
1.00A	1	1.00	1.00 or later
1.01B	2		
1.02C	3		
1.03D	4		

*1 It can be checked in the screen displayed by selecting [Windows System] ⇒ [Control Panel] ⇒ [Programs] ⇒ [Programs and Features] from Windows Start.

*2 The version 1.03D is recommended when using this product in Management Shell.

*3 For the checking method, refer to the following:

 Edgecross Basic Software for Windows User's Manual

Appendix 6 Added and Changed Functions

This section shows the added and changed function of CC-Link IE Field Network Data Collector.

Added/changed contents	Version	Reference
Management Shell added in Edgecross Basic Software Ver.1.10 is supported.	1.02C	—

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*The manual number is given on the bottom left of the back cover.

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