

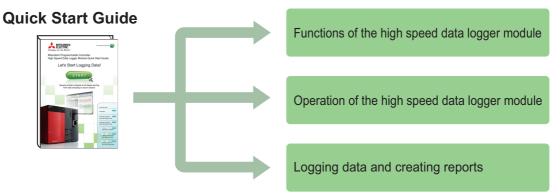
Programmable Controller High Speed Data Logger Module Quick Start Guide

Let's Start Logging Data!



Introduction

This Quick Start Guide explains the basic procedures for first-time users of the high speed data logger module.



Precautions

Thoroughly read "SAFETY PRECAUTIONS" found in the QCPU User's Manual before using programmable controllers. Please pay careful attention to safety and handle the products properly.

Related manuals

The following manuals are related to the products introduced in this guide.

| High Speed Data Logger Module User's Manual | SH-080818ENG |
|--|--------------|
| GX LogViewer Version1 Operating Manual | SH-080915ENG |
| QCPU User's Manual (Hardware Design, Maintenance and Inspection) | SH-080483ENG |
| GX Developer Version8 Operating Manual | SH-080373E |
| GX Works2 Version1 Operating Manual (Common) | SH-080779ENG |

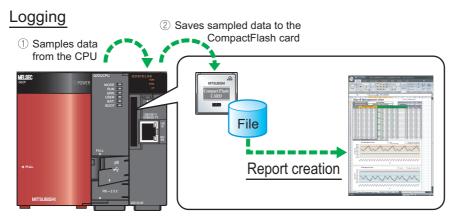
How to read this guide

The following table shows the symbols used in this guide with descriptions and examples.

| Symbol | Description | Example |
|--------|---|---|
| Remark | Remarks | When using the report creation function, the data logging file format must be set to "Binary file". |
| [] | Menu names on the menu bar ([] \rightarrow [] indicates drop-down menus.) | Select [Online] \rightarrow [Transfer Setup]. |
| | Buttons on the screen | Click the OK button. |

Functions of the high speed data logger module

The high speed data logger module is a module that logs (records and saves) sampled programmable controller CPU data and saves them to a CompactFlash card as a file. Reports can be created from the logged file in Excel format.



Functions

'Data logging', 'Event logging', and 'Report' are the three major functions of the high speed data logger module.

| Data logging | : | A function to log programmable controller CPU data at the specified data sampling interval. |
|---------------|---|--|
| Event logging | : | A function to monitor data sampled from the programmable controller CPU and log occurred events. |
| Report | : | A function to create reports with values and graphs obtained from data logging files and data sampled by the programmable controller CPU. The Excel layout for the report needs to be configured in advance. |

The following are the two data logging methods:

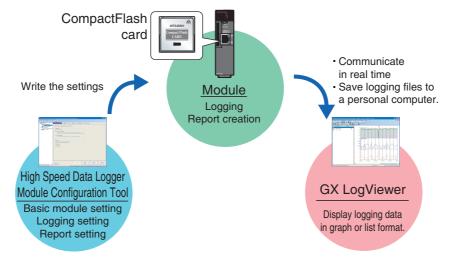
 Continuous logging
 :
 Continuously logs data at the specified data sampling interval, and creates data logging files.

 Trigger logging
 :
 Logs data before and after the trigger occurrence (establishment of specified condition), and creates data logging files.

High speed data logger module and relevant tools

The following are the relevant tools of high speed data logger module.

- 'High Speed Data Logger Module Configuration Tool' to configure settings of high speed data logger module.
- 'GX LogViewer' to display logged data.



Operation of the Operating high speed data logger module

Use this guide to understand the operation of the high speed data logger module by actually configuring the 'trigger logging', 'continuous logging', and 'report' settings.

Descriptions in this guide

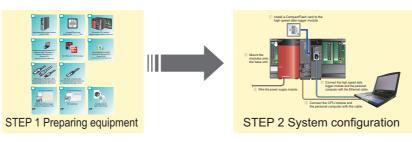




| Page | Introduced function | Description |
|--------|---------------------|--|
| CASE 1 | | Logging data before and after trigger occurrence |
| P7- | Trigger logging | This section uses an example to explain the trigger logging function and how to confirm logged data. |
| | | |
| CASE 2 | Continuous | Creating reports from continuously logged data |
| P16- | logging report | This section uses an example to explain the continuous logging function and report creation. |
| | | logging function and report creation. |

Preparation **Preparing for operation**

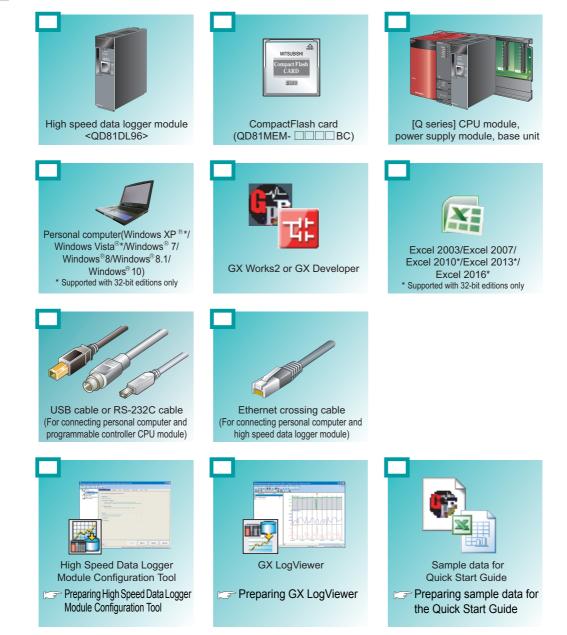
This section describes the preparation for operations instructed in CASE 1 and CASE 2.



STEP(1) Preparing equipment

Prepare the equipment and software needed in CASE 1 and CASE 2.

Items to prepare



In this guide, Excel 2003 or Excel 2007 is used in explanations.

Preparing High Speed Data Logger Module Configuration Tool

For the acquisition of High Speed Data Logger Module Configuration Tool, contact your local Mitsubishi representative.

Please install the acquired tool.

Preparing GX LogViewer

For the acquisition of GX LogViewer, contact your local Mitsubishi representative.

Please install the acquired tool.

Preparing sample data for the Quick Start Guide

To obtain the sample data used in CASE 1 and CASE 2 in this guide, contact your local Mitsubishi representative.

Files included in sample data

- Sequence program (I08147eng-program_a): A GX Developer project file to be used in CASE 1 and CASE 2.
- Layout file (I08147eng-layout_a.xls): An Excel format file for report to be used in CASE 2.
- Logging result file (I08147eng-CASE1_a.CSV): A CSV file whose data are logged according to the procedure in CASE 1.

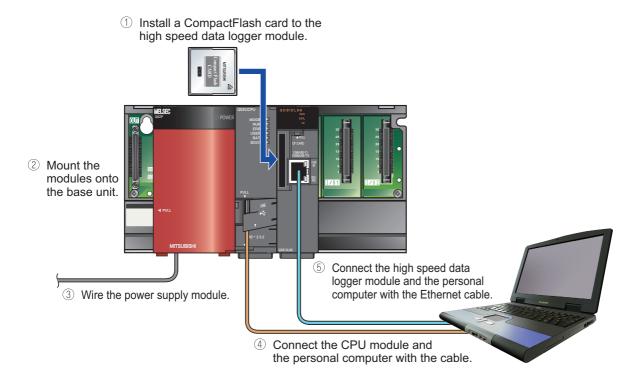
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STEP 2 System configuration

Configure the programmable controller system used in CASE 1 and CASE 2.

STEP 2-1 Mounting and wiring modules

Follow the instructions in order from 1 to 5 .



STEP 2-2 Activating the system

- ① Power ON the power supply module.
- ② Write the sequence program (I08147eng-program_a) to the CPU module using GX Developer or GX Works2.
- ③ Switch the mode of the CPU module to 'RUN'.

Precautions

The instructions in this guide are described according to the above programmable controller system configuration.

When designing and operating an actual system, read the manuals listed on the following page.

Related manuals (P. 1)

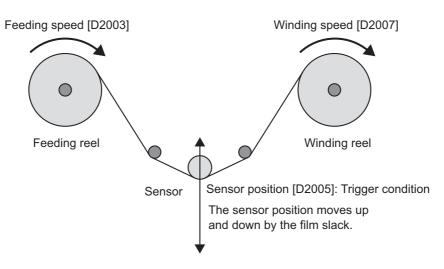
CASE 1 Logging data before and after trigger occurrence

This section explains how to perform the 'trigger logging' function using the equipment shown in the figure below as an example.

Figure

The following equipment is a winder for packaging film.

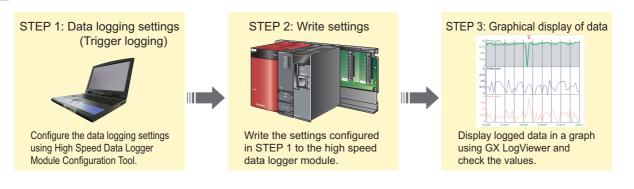
The sensor position moves up and down according to variation in the feeding reel speed, and a trigger (error) occurs when the allowable range is exceeded 100 lines (records) of data before and after the trigger occurrence are saved in a file.



Data logging settings

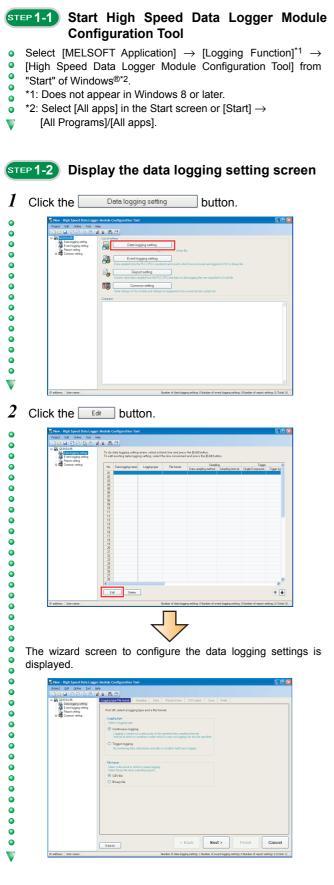
| Target data | : | Feeding speed [D2003 (word [signed])], Winding speed [D2007 (word [signed])], |
|-------------------------|---|---|
| | | Sensor position [D2005 (word [signed])] |
| Trigger condition | : | Sensor position $>$ 5, sensor position $<$ -5 |
| Data sampling interval | : | 0.1 second |
| Number of logging lines | : | 100 lines before trigger occurrence, 100 lines after trigger occurrence |
| Saved file format | : | CSV file |
| | | |

Operation flow



STEP Data logging settings (Trigger logging)

Configure the settings to log the programmable controller CPU data before and after the establishment of a trigger condition.



STEP 1-3 Select the logging type and the file format

I Select "Trigger logging" for the logging type, and "CSV file" for the file format.

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STEP 1-4 Select the data sampling method

1 Select "General sampling", and enter "0.1" for "Time specification".

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2 Click the Next> button.

| ST | ^{⊑ℙ} 1-5 Se | et the target data |
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| 0 | Default valu | es are automatically displayed for "Device" (Last), |
| ▼ | "Access targ | get CPU", "Data type", and "Output Format". |
| 2 | Click the | Next > button. |
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| ЯΤ | [⊑] ₽ 1-6) Co | onfigure the trigger settings |
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| | Period Cancel |
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| IP address: User name: | Namber of data logging setting: 1 Namber of event logging setting: 0 Namber of report setting: 0 (Total: 1) |

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| | AND combine Trices is constitute hold tas. | |
| | O Number of times | |
| | Trigger is generated by monitoring the number of times a condition has held true. | |
| | O Order | |
| | Trigger is generated by monitoing the order in which a condition has held true. | |
| | - List of conditions | |
| | No. Type Content | |
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| | Setting a period of time No cetting | |
| | Specify a period of time during which to carry out trigger monitoring. | |
| | S Back Next > Finish (| an |
| | Data list Caller | an |
| | Number of data logging setting: 1 Number of event logging setting: 0 Number of report setting | |
| IP address: User name: | | |

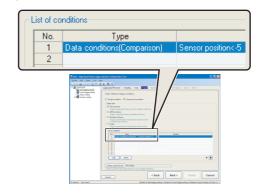
The <u>OR combine (No.1)</u> dialog box for specifying conditions is displayed.

3 Specify the first trigger condition.

Enter data as shown in the screen below.

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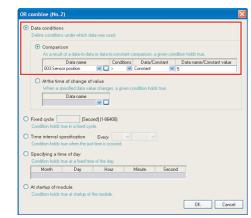
The specified condition is added to the list of conditions.



the state button. • • 68 8.0 setting rent logging sport setting Edk Delete ***** Settin of time No settin < Back Next > Cancel Data list

Select the second line in the list of conditions, and click

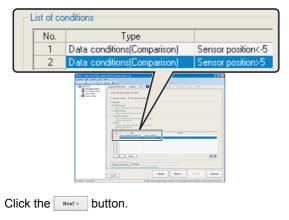
Specify the second trigger condition. Enter data as shown in the screen below.



Click the ____ button.



The specified condition is added to the list of conditions.



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STEP 1-7 Set the number of logging lines

1 Enter "100" for "Before trigger", and "100" for "After trigger".

| Log data before an Log data before trip | | |
|---|---|---|
| Before trigger After trigger Total number of lines | 100 | Line] (0-65534) Line] (1-65535) Line] (1-65535) |
| Concernence Concernen | And a fee two of higgeringing ignitingers in tion, which is non-observation holds true, and alterninger and (2000) | |

2 Click the Next > button.

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STEP 1-8 Configure the CSV output settings

Use the default settings for the CSV output settings. •

| Bootect Edit Graines Icol | |
|--|--|
| DB10L96 Data logging setting Event logging setting Papati setting Papati setting | Logging type/File format. Sampling Data Trigger Number of logging lines CSV output Save Finish Define the contents of output to CSV/Res. |
| in 📫 Common setting | Duite column Output date column Output index column |
| | Carry out the logging with a time stamp attached to data. Index numbers for checking the centrally of logging Bpscily date format |
| | Data name line string Data line supprisonmet |
| | Example of surput |
| | Tigger information column Output tigger information column Diata line on which a tigger cocurred in logged after attached with a note. |
| | Data neme line string Tegge When tigger condition rives |
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| | Sack Next > Finish Can |

1 Click the Next > button.

STEP 1-9 Configure the save settings

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1 Enter "Trigger_LOG" for the file save destination.

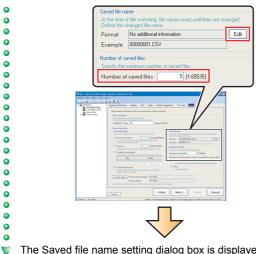


A folder with the name specified above is created on the CompactFlash card.

2 Select "Trigger logging unit" for the file switching timing.

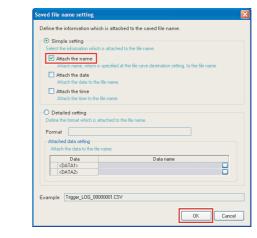
| | 👔 🗱 🛱 Logging type/File format - Sampling - Data - Trigger - Number of Ic | opping lines CSV output Save Finish |
|--|--|--|
| Even Kopping setting Even Kopping setting Papert setting Common setting | Make settings frait pertain to file save destination and file switching File save destination Data by a solid seguritized set of the formed Data by a solid seguritized set of the following files: 2.006/NEV Tripper_UCG | |
| | File witching tetring | Saved lie core |
| | Define the tining on which to racke a switch to new files. | At the time of the switching, the names used until then are changed. Define the changed the name. |
| | O Number of records [Line] (100-69535) | Format No additional information Edit |
| | File switching is effected when a specified number of lines (number of necessir) is reached. | Example 00000001.CSV |
| | File size [88] [10-16384] File xvidding is effected when a specified file size is seached Orandition specification | Number of seved Bez Specify the mechanism manager of seved Res. Number of seved Res. 1 (189935) |
| | File solidaring is effected when the following conditions held true. Type Context Differences and the following conditions Cubic Context Cubic Context | Operation occurring when number of saved files is exceeds Operawite Files with lower numbers are deleted and logping continues. O Blog Logping is stopped. |
| | Transfer setting FTP transfer destination No setting E-mail address No setting | |
| | Saved files can be transferred over FTP or sent by e-mail at the time of file | switching |
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3 Enter "5" for the number of saved files and click the Edit button.



The Saved file name setting dialog box is displayed.

4 Check "Attach the name" and click the _____ button.



5 Click the Next> button.



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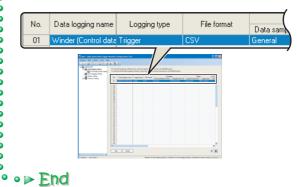
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STEP 1-10 Enter the data logging name

1 Enter "Winder (Control data)" for the data logging name.



The configured settings are added to the data logging setting list.



CASE .

STEP 2 Write settings

Write the data logging settings configured in STEP 1 to the high speed data logger module.

| Select [Online] \rightarrow [Transfer Setup]. | I Select [Online] \rightarrow [Write]. |
|--|---|
| Project Edit Tool Halp Image: Constraint of the second secon | Image: Second state of the second s |
| | 2 Click the ves button. |
| The <u>Transfer Setup</u> dialog box is displayed. Select "Direct connection" and click the <u>Connection test</u> button. | High Speed Data Logger Module Configuration Tool Writing onto High Speed Data Logger Module will be carried out. Do you want to continue? <attention> All the settings present in the High Speed Data Logger Module will be discarded Yes It could be the settings Click the Yes button.</attention> |
| Connection via hub IP address of connection target IP address Find High Speed Data Logger Module on network Direct connection Access authentication Connection in much hupperif time automatematication | High Speed Data Logger Madule Configuration Tool Writing is successfully completed. Do you want to update settings and have the new settings reflected immediately in the operation of t module? * Network settings are reflected after the resetting of PLC CPU. * Network settings are reflected after the resetting of PLC CPU. * OK button. |
| Connection is made by specifying a user name and password User name Password Connection test OK Cancel | High Speed Data Logger Module Configuration Tool |
| Click the or button. High Speed Data Logger Module Configuration Tool Succeeded in establishing the connection. | The data logging settings are written to the CompactFinistalled on the high speed data logger module. The data logging function starts immediately after the written because the CPU mode was set to 'RUN' at Prese (F) Activating the system (P. 6)). End |

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STEP 3 Graphical display of data

Display logged data in graphs using GX LogViewer.

STEP 3-1 Start GX LogViewer

Start GX LogViewer from the High Speed Data Logger Module Configuration Tool.

1 Select [Tool] \rightarrow [Start GX LogViewer].

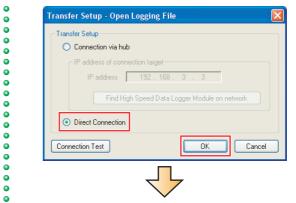




Specify the data to be displayed



2 Select "Direct Connection" and click the _____ button.



The Logging File dialog box is displayed. V

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3 Double-click each folder in the following order: "Trigger_LOG" → "00000001".

| Logging File | - Ethernet d | irect conne | tion | | | |
|--------------|--------------|-------------|--------|----------|-----------------|--------|
| Directory | /LOGGING | | | | | Move |
| Up | one level | | | | <u>R</u> efresh | |
| Nama | | Size | | Date Mo | dified | |
| 🗀 Trigger_L | .0G | | | 9/10/201 | 0 2:31 PM | 4 |
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| Open File | .) | | | | Г | Close |
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| k the | Refresh | | button | when | the | folder |
| | rionosii | | bullon | which | uic | loidei |

4 Select the displayed CSV file and click the _____ button.

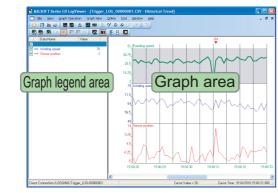
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|-----------------------------|-------------|-------------------|
| Up one level | | <u>R</u> efresh |
| Name | Size | Date Modified |
| Trigger_LOG_0000001.CSV | 7367 | 9/10/2010 2:42 PM |
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A list of data names and graphs are displayed behind the Assistant screen.



5 Click the close button on the Assistant screen.

The data specified as target data in the data logging settings are displayed in the graph legend area and the graph area.



0 Note that in this guide, the background color was changed to 0 white in graph properties ([Graph View] \rightarrow [Graph Properties]). • Colors of graph lines can be also changed in graph 0 properties.

STEP 3-3 Display multiple cursors

1 Select [Graph View] → [Multiple Cursor].

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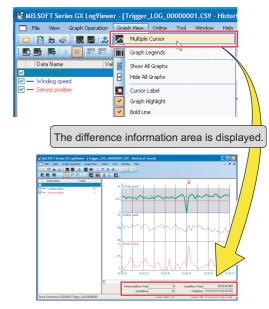
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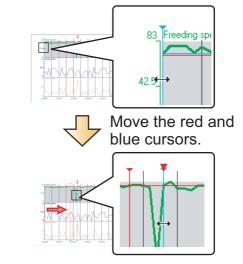
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STEP 3-4 Check data using the cursors

I Select a graph. Move the red and blue cursors, located at the left edge of the graph, to the desired positions and check their respective values.



For an easier operation, select "Move Red Cursor Here" or "Move Blue Cursor Here" from the menu displayed by rightclicking on a graph area.

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- 2 Check the cursor details displayed in the difference information area.
- The elapsed time and the value difference between the two • cursors (blue to red) are displayed.

In addition, the value and time of each cursor's position are also displayed.

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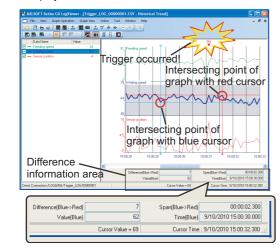
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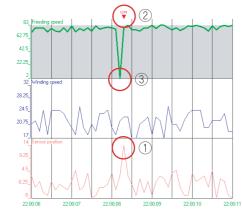
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${\it 3}$ Analyze the cause of error from the graphs

- The sensor position rose rapidly (1), and a trigger occurred (2).
- The feeding speed drastically decreased (③) immediately before the rise in sensor position, and thus, this could have caused the trigger.



Errors are primarily diagnosed by checking the data before and after the trigger occurrence.



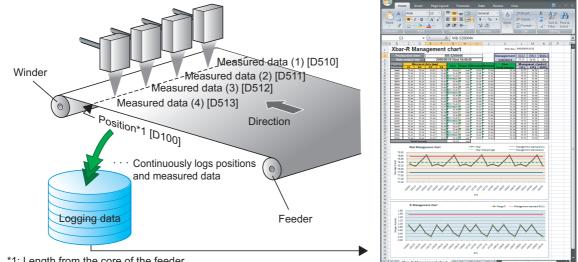
Creating reports from continuously logged data CASE 2

This section explains 'continuous logging function' and 'report creation' using Xbar-R management chart as an example.

Figure

The thickness of the film (measured data) is measured at four points, and recorded in the report named Xbar-R management chart (Excel format).

(Production item: MB-5Z6004K [D502])



*1: Length from the core of the feeder.

Data logging settings

| Target data | : | Position [D100 (Double word [signed])], |
|------------------------|---|---|
| | | Measured data (1) [D510 (Word [signed])], Measured data (2) [D511 (Word [signed])], |
| | | Measured data (3) [D512 (Word [signed])], Measured data (4) [D513 (Word [signed])] |
| Data sampling interval | : | 2 seconds |
| Saved file format | : | Binary file |

Report settings

| Report output data | : | Target data, production item [D502 (String)], creation time |
|-------------------------------------|---|---|
| Number of logging lines in a report | : | 25 |
| Report creation period | : | 50 seconds |

Operation flow

STEP 1: Data logging settings (Continuous logging)



Configure the data logging settings using High Speed Data Logger Module Configuration Tool. STEP 2: Report settings



Configure the report settings using High Speed Data Logger Module Configuration Tool.

STEP 3: Write settings



Write the data logging settings and report settings configured in STEP 1 and 2 to the high speed data logger module.

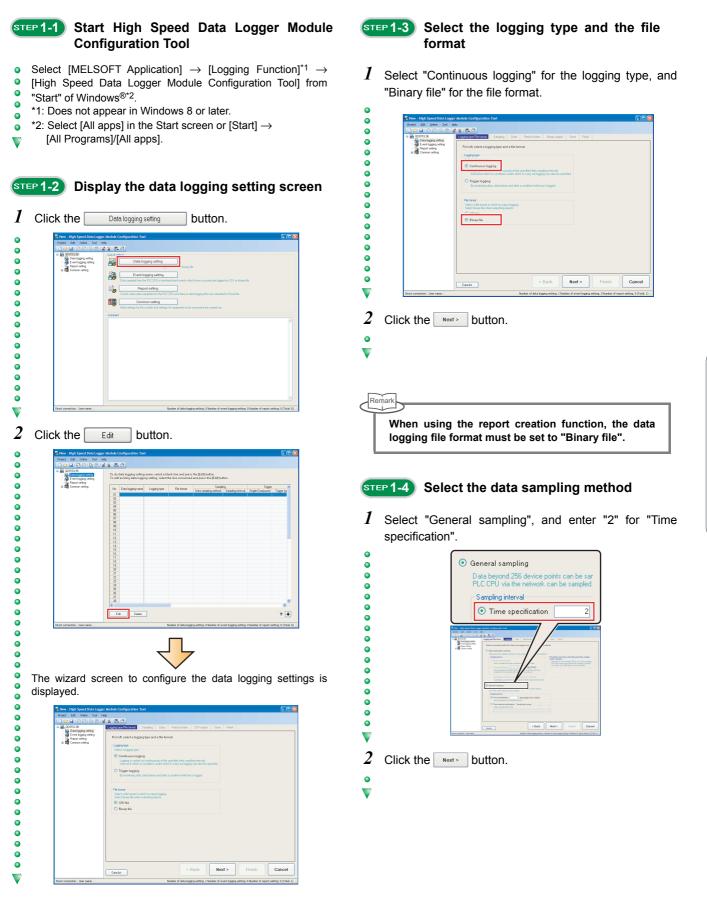




Check the report file created on the CompactFlash card of the high speed data logging module on Excel.

STEP Data logging settings (Continuous logging)

Configure the settings to log the programmable controller CPU data at the specified data sampling interval.



STEP 1-5 Set the target data

To set the target data, specify devices individually, or specify consecutive devices in batch.

1 Enter the target data. (Individual)

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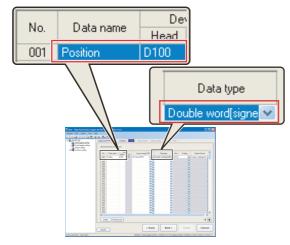
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Enter data as shown in the screen below. 0 0



Default values are automatically displayed for "Device" (Last), "Access target CPU", "Data type", and "Output Format".

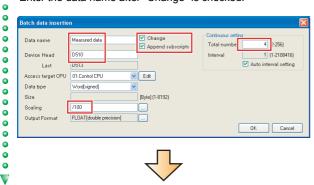
2 Click the Batchinset button. (Batch)

Set the consecutive devices in batch.

| Is: Decame The set of the set o | Speci | fy data to be lo | gged. | | | | | | |
|---|---------|------------------|----------|------|-------------------|---|----------------------|-------------|---------------|
| | No. | Data name | | | Access target CPL | | Data type | Size Scaing | Output Format |
| | | Position | D100 | D101 | | - 🗆 Di | suble word[signed] 🐱 | | |
| | | | | | | × 🔾 🗌 | ~ | | 2 |
| | | | | | | | ~ | 0 | 3 |
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| | De | lete Batc | h incert | | | | | | |
| Delete Batch inset | Data is | | | | < 6 | Back | Next > | Finis | h Car |

The Batch data insertion dialog box is displayed.

- 3 Enter the information regarding the target data, and click the <u>k</u> button.
 - Specify data as shown in the screen below.
 - Enter the data name after "Change" is checked.



The specified data are added to the list. •

| No. | Data name | | evice | Access t | arget CPU | Data type |
|-----|------------------|--|--|---|---------------------------------------|-----------------|
| | | Head | Last | | - | |
| 001 | Position | D100 | D101 | 01:Control CPL | | Double word[sig |
| 002 | Measured data[1] | | D510 | 01:Control CPL | | Word[signed] |
| 003 | Measured data[2] | | D511 | 01:Control CPL | | Word[signed] |
| 004 | Measured data[3] | | D512 | 01:Control CPL | | Word[signed] |
| 005 | Measured data[4] | D513 | D513 | 01:Control CPL | J 🛛 🔽 🛄 | Word[signed] |
| | | amant deg (10) 991 heart deg (10) 991 heart deg (10) 991 heart deg (10) 991 heart deg (10) 991 | C Carel (9) (0) (0) (0) (0) (0) (0) (0) (0) (0) (0 | 000000000000000000000000000000000000000 | a a a a a a a a a a a a a a a a a a a | |

STEP 1-6 Set the logging period

| Use the default settings for the logging period | od. |
|---|-----|
|---|-----|

| Data logging cating | K K K L2 Logging type / File format Sampling I | Data Period of time Binary output Save Finish |
|---|---|--|
| Data logging setting Event logging setting Report setting Common setting | Define period during which to carry o Need not be defined if logging is set to tai | nt logging. Ke place at all times. Press the [Next] button. |
| | Specify a period of time | |
| | | |
| | No. Type of condition | Content |
| | 2 3 | |
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| | Data int | < Back Next > Finish |
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- Click the Next > button.
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STEP 1-7 Configure the binary output settings

Use the default settings for the binary output settings.

| DD810L96 D0810L96 D081069ping setting Event logging setting Propost setting event logging setting Common setting | Logging type File format Sampley Data Period drave Encars output Define the contents of data to be outputted to binary files. |
|--|--|
| | Clear electromico Copy of the logge grant times area affacted to data. Copy of the logge grant times area affacted to data. O in secondad electronic dout area. Orado accondade affacted out area. Orado accondade affacted out area. |
| | Output the title in nonconcid as well as in noroscit follow follo |
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| | Data int Car |
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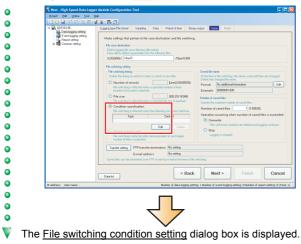
STEP 1-8 Configure the save settings

1 Enter "Xbar-R" for the file save destination.



A folder with the name specified above is created on the
 CompactFlash card.

2 Select "Condition specification" for the file switching timing, and click the **Edit** button.



3 Select "Fixed cycle", enter "50", and click the button.

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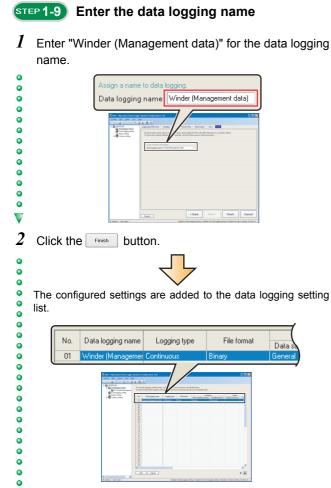
| Single conditio | | | | |
|---|--|---------------------------|---------------------|--------------------------|
| | nditions anditions under which data w | have | | |
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| | mparison a result of a data-to-data or : | | | N |
| As | Data name | Conditions | Data/Constant | Data name/Constant va |
| | | | Datarconstant | Data nalite/curistant va |
| • Fixed cyc | | hanges, a given co e 🗖 | ndition holds true. | |
| Fixed gat Time inter Condition | Data name De 50 jecondj cycle. erval specification E holds true when the just tim | (1-86400) | ndition holds true. | |
| Fixed ov Time inter Condition Specifyin | Data name | (1-86400) ivery | | |
| Fixed ov Time inter Condition Specifyin | Data name Data name le 50 iecond) iecond i | (1-86400) Every | | × |

4 Enter "5" for the number of saved files and click the Edit button.

| Format | No additional information Edit |
|--|---|
| Example | 00000001.BIN |
| Number of sa | aved files |
| Specify the | maximum number of saved files. |
| Number of | f saved files 5 -65535) |
| A concurrence of the concurrence | |
| Padres (server) | Ount Stank Kent > Finish Cancel Looke of dashages unless 1 looke of ever lagge unless 1 looke of ever lagg |

- The <u>Saved file name setting</u> dialog box is displayed.
- 5 Check "Attach the name" and click the use button.

| Define the information which is atta | ached to the saved file name. |
|--|---|
| Simple setting | |
| Select the information which is attack | hed to the file name |
| | |
| Attach the name | d at the file save destination setting, to the file name. |
| | o at the ne save destination setting, to the ne name. |
| Attach the date | |
| | B. |
| Attach the time | |
| Attach the time to the file name | £ |
| O Detailed setting | |
| Define the format which is attached t | to the file name |
| | |
| Format | |
| Attached data setting | |
| Attach the data to the file name. | |
| Data | Data name |
| <data1></data1> | |
| <data2></data2> | |
| | |
| | |
| Example Xbar-R_00000001.BIN | |
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Operation of the high speed data logger module

STEP 2 **Report settings**

STEP 2-1 Display the report setting screen

Configure the settings to create a report (Excel format) using data sampled by the high speed data logger module.

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|---|--|--|---|---|--|--------------------|--|--|-------------------------------|---------------------------------|
| Controlling to the figure of the set of | | | Image: Contract of the contra | GD81DL96 Gate logging setting | To do | report setting ane | w, select a blank line and press t | ve (Edil) button. nd mean the (Edil) button | | |
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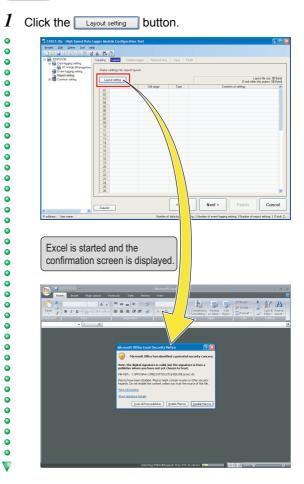
Data list

STEP 2-2 Select the data sampling method

Use the default settings for the data sampling method.

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|--------------------|---|--|---|---|--------------------------------------|---|-----------------|----------------|
| kiress: User name: | Data list | | | < Bao | * | Next > | Finish | Cancel |

STEP 2-3 Display the "Layout setting" screen



CASE 2

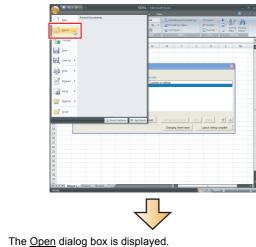
21



The <u>Layout setting</u> dialog box is displayed.

STEP 2-4 Load a layout file

In this guide, the layout is set by using the provided layout file (l08147eng-layout_a.xls). ($\overbrace{\colored off}^{\colored off}$ Preparation (P. 5)) Copy the layout sheet to the sheet used for layout setting.



2 Select the acquired "I08147eng-layout_a.xls" file and click the _____ button.

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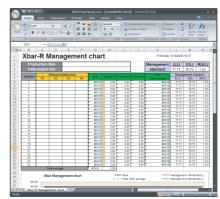
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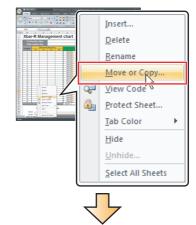
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| C My Documents | | | | | | | | | |
| My Computer | | | | | | | | | |
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| | File pame: Files of type: | All Excel Files | | | | | | * * | |
| Took • | | All Excel Files | ; | | | | Qpe | | |

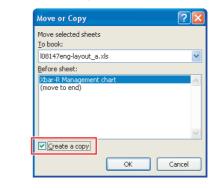
The "Xbar-R Management chart" sheet is displayed with tables and graphs.



3 Right-click on the sheet tab and select "Move or Copy".



- The Move or Copy dialog box is displayed.
- 4 Check "Create a copy".



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| | Move or Copy |
|--------------|--|
| ĕ | Move selected sheets To book: |
| • | l08147eng-layout_a.xls |
| • | 1/2000 book QD81DL9620090610143641703.xls |
| • | III/814/eng-layout_a.xis |
| • | <u></u> |
| • | |
| ō | Create a copy |
| - | OK Cancel |
| | |
| 6 | Select "Sheet1" from the list of "Before sheet", and click |
| | the 🔜 button. |
| • | Move or Copy |
| • | Move selected sheets |
| • | To book: QD81DL9620090610143641703.xls |
| • | Before sheet: |
| • | Sheet1 |
| ŏ | (move to end) |
| • | |
| • | Create a copy |
| • | OK Cancel |
| • | |
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| ŏ | The "Xbar-R Management chart" sheet is copied to the file |
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Select "QD81DL96YYYYMMDDxls" from the list of

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STEP 2-5 Specify the production item

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Designate a cell in the report file to display the production item code (current data stored in D502).

1 Select "Current value" for "Adding a new layout", and click the Add button.

| Specify and add a layor No. Sheet name | Cell range | Style | Contents of | settings | _ | | |
|---|---------------|----------------|-------------|---------------------|------|---------------|------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Adding a new lays | | _ | | | | | |
| C Data logging | Current value | C Creation tim | Add | Adding reproduction | Edit | Delete | 1 |
| _ | | | | Changing sheet name | L | ayout setting | comp |

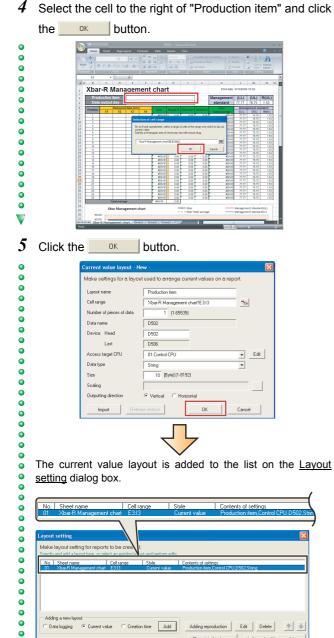
- The Current value layout dialog box is displayed.
- 2 Specify the data for "Production item" (except for the cell range).
 - Enter data as shown in the screen below.

| Make settings for a layo | ut used to arrange current values on a report. |
|--------------------------|--|
| Layout name | Production item |
| Cell range | Xbar-R Management chart1D25 |
| Number of pieces of data | 1 (1-65535) |
| Data name | D502 |
| Device Head | D502 |
| Last | D506 |
| Access target CPU | 01:Control CPU - Ed |
| Data type | String |
| Size | 10 [Byte] (1-8192) |
| Scaling | |
| Outputting direction | Vertical C Horizontal |
| Import Rele | ase relation OK Cancel |

3 Click the selection of cell range) button.

| Make settings for a layo | ut used to arrange current values on a report. |
|--------------------------|--|
| Layout name | Production item |
| Cell range | Xbar-R Management chart"1D25 |
| Number of pieces of data | 1 (1-65535) |
| Data name | D502 |
| Device Head | D502 |
| Last | D506 |
| Access target CPU | 01:Control CPU Edit |
| Data type | String |
| Size | 10 [Byte] (1-8192) |
| Scaling | |
| Outputting direction | Vertical C Horizontal |
| Import | ase relation OK Cancel |
| | |

The <u>Selection of cell range</u> dialog box is displayed.



STEP 2-6 Specify the data output day

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Changing sheet name Layout setting complete

Designate a cell in the report file to display the report creation time.

1 Select "Creation time" and click the Add button.

| No. Sheet name 01 Xbar-R Management cha | Cell range | Style Current value | Contents of settings Production item Control CPU D502.String |
|--|----------------|------------------------|---|
| Adding a new layout | | | _ |
| C Data logging C Current | value 🛈 Creati | on time Add | Adding reproduction Edit Delete |
| | | | Changing sheet name Layout setting |

٠ The Creation time layout dialog box is displayed. V

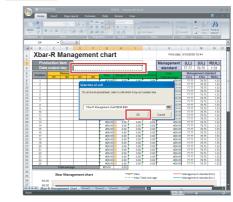
2 Enter "Data output day" for the layout name.

| Make settings | for a layout used to arrange creation | on time on a report. |
|---------------|---------------------------------------|----------------------|
| Layout name | Data output day | |
| Cell | Xbar-R Management chart1E3 | ** |

3 Click the selection of cell) button.

| Creation time la Make settings fo | r a layout used to arrange creation time on a | report. |
|--------------------------------------|---|---------|
| Layout name Cell | Date output day %Dar-R Management charTE3 DK | Cance |
| | $\overline{\mathbf{V}}$ | |

- V The Selection of cell dialog box is displayed.
- 4 Select the cell to the right of "Data output day" and click ок button. the



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| Cli | ick the | ок | button | | | | |
|------------|----------------------------------|--|--|------------------------|------------------|-------------------------------|----------|
| | | Creation time I | ayout - New - | | | | |
| | | Make settings | for a layout used to arra | inge creation time | on a report. | | |
| | | Lavout name | Data output day | | _ | | |
| | | Cell | Xbar-R Management ch | art'IE 4 | | | |
| | | | | | | | |
| | | | | OK. | Ca | incel | |
| | | | ſ | | | | |
| | | | \prec | 4 | | | |
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| The | e creat | tion time | a layout is | added to | the lis | t on th | e Lavo |
| | | alog box. | • | | | | <u> </u> |
| 0011 | <u>ing</u> aic | liog box. | | | | | |
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| <u>No.</u> | | ame Management cha | Cell range art E3:13 | Style Current value | | of settings n item.Control | CPU.D502 |
| 02 | | lanagement cha | | Creation time | Data outp | | |
| _ | | | | | | | |
| Layou | it setting | | | | | | |
| | | ng for reports to b | | | | | |
| Specif | y and add a lay | | existing layout and perform e range Style | Contents of settin | | | |
| 01 | Xbar-R Mana | agement chart E3:1 agement chart E4 | | Production item,0 | Control CPU,D502 | String | |
| Ļ | | | | e ene ompan døy | | | |
| | | | | | | | |
| | | | | | | | |
| - | fan a nam l | | | | | | |
| | ding a new layo.)ata logging | C Current value | Creation time Add | Adding repro | duction Edi | it Delete | ★ |
| | | | | Changing s | heet name | Layout setting | complete |
| | | | | changing s | iou nume | monoil setting | comprose |

STEP 2-7 Specify the logging data

Designate the cells labelled 'position' and 'measured data' in the report file to display the logging data (D100, D510 to D513).

| 1 | Select "Data logging" and click the | Add | button. |
|---|-------------------------------------|-----|---------|
| ٠ | Layout setting | | |

| No. | Sheet name | Cell range | Style | Contents of settings |
|-----|---|----------------|--------------------------------|--|
| 01 | Xbar-R Management chart Xbar-R Management chart | E3:13 E4 | Current value Creation time | Production item,Control CPU,D502,String Data output day |
| | - Abar Fridar agement en at | | creation one | bota otapor day |
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| | at a second s | | | |
| • D | ata logging C Current val | lue C Creation | time Add | Adding reproduction Edit Delete 🛧 |
| | | | | |
| | | | | Changing sheet name Layout setting complete |
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The Data logging layout dialog box is displayed.

- 2 Specify the data used for data logging (except for the leading cell and output data).
- Enter data as shown in the screen below. • 0

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| | g for outputting data logging file record to each re | |
|----------------------|---|----------------------------------|
| Layout name | Management data | Sheet name: |
| Leading cell | Xbar-R Management chart1E4 36 | Cell range: |
| Number of records | 25 | |
| Data logging name | 01:Winder (Management data) | Edit |
| Source file | C (Saved file) Output the data in the file which | h has stored |
| | C Storing file Output the data in the file which | |
| | Both Output the data in the both file: | |
| 0 | Vertical (top > bottom) C Horizontal (left > r | 110 |
| Outputting direction | | |
| Outputting order | Chronological order (old -> new) C Reverse in | chronological order (new -> old) |
| Output data | Select data names to be outputted and add them to the | e output data |
| | Logging data | Output data |
| | No. Data name Contents | No. Data name Contents |
| | | |
| | INDEX Index TIME Logging output date 001 Position D100[Double world; 002 Messured data[] D510[FL0AT[double 003 Messured data] D511[FL0AT[double 004 Messured data] D512[FL0AT[double 005 Messured data] D513[FL0AT[double | 4 |

3 Click the solution of leading cell) button.

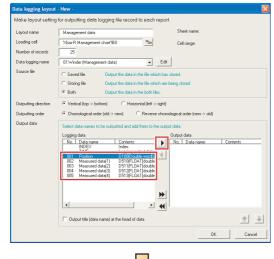
| , | for outputting data logging file record to each report | |
|----------------------|--|----------------------------|
| Layout name | Management data | Sheet name: |
| Leading cell | Xbar-R Management chart1E4 | Cell range: |
| Number of records | 25 | |
| Data logging name | 01:Winder (Management data) | |
| Source file | Storing file Output the data in the file which has: Storing file Output the data in the file which are to Both Output the data in the both files. | |
| Outputting direction | | |
| Outputting order | Chronological order (old -> new) C Reverse chronological | logical order (new -> old) |
| | Na. Data nome Content: INDE Index INDE Loogra output des OPErion OPErion OPERION | Na Data name Contents |
| | Culput title (data name) at the head of data | DK Cancel |
| | | |

- The Selection of leading cell dialog box is displayed.
- 4 Select the cell under "Position" and click the ΟK button.



5 Select the logging data from No. 001 to 005 one by one and click) (repeat the operation for each data).

Add the logging data No. 001 to 005 to the field of "Output ۰ • data".





6 Click the _____ button on the Data logging layout dialog box.



The data logging layout is added to the list on the Layout setting dialog box.

| No. Sheet name | Cell range | Style | Contents of settings |
|--|-------------|---|---|
| 01 Xbar-R Management chart 02 Xbar-R Management chart | E3:13 E4 | Current value Creation time | Production item,Control CPU,D502,String Data output day |
| 03 Xbar-R Management chart | 88:F32 | Data logging | Management data, Winder (Management data), Both, V |
| | | | |
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| ayout setting | | | |
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| Make layout setting for reports | | | V |
| for the second second | | 1 C C C C C C C C C C C C C C C C C C C | v. |
| | Cell range | Style | Contents of settings |
| 01 Xbar-R Management chart 02 Xbar-R Management chart | E3:13 E4 | Current value | Production item, Control CPU, D502, String |
| 02 Xbar-R Management chart 03 Xbar-R Management chart | | Creation time Data locging | Data output day Management data,Winder (Management data),Both,Vertic |
| oo naanninanaganan anar | 00.102 | D did logging | nanogenerik dola, w noer (nanogenerik dala), ben, vere |
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| 4 | | | |
| Adding a new layout | | | |
| Data logging Current value | e C Creatio | n time Add | Adding reproduction Edit Delete 1 |
| | | - Hud | |
| | | | Changing sheet name Lavout setting com |
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STEP 2-8 Finish the layout settings

1 Click the Layout setting complete button.

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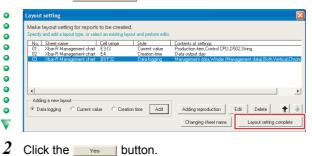
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| 2 | eed Data Logger Module Configuration Tool Excel layout setting process is finished. Do you want to save your settings? When you save and ext, cell values allocating layout setting are cleared. |
|---|--|
| | [Yes]: Save and close. [No]: Discard and close. [Cancel]: Do not close. |
| | Yes No Cancel |

Three layout settings are added to the layout setting list.

| No. | Sheet name | Cell range | Тур | e | | | Contents |
|-----|----------------------|------------|--|------|----------------|---------------|-----------|
| 01 | Xbar-R Management ch | E3:13 | Current v | alue | Production ite | em,Control CF | PU,D502,S |
| 02 | Xbar-R Management ch | E4 | Creation | time | Data output o | lay | |
| 03 | Xbar-R Management ch | B8:F32 | Data logg | jing | Management | data,Winder | (Manage |
| | | | Tope Construction Construction (Construction Construction (Construction (Construction))) in the Paralaction state (Construction) (Constructi | | | | |
| | Palites Denser | 0 mill | < Back Next > | | Cancel | | |
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Click the Next > button.

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| Click the | Edit button. |
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| | |
| The <u>Trigge</u> | r condition setting dialog box is displayed. |
| Select "F | ixed cycle", enter "50", and click the 💷 |
| button. | |
| 0 0 | pr condition setting Data conditions Data conditions Data conditions |
| | Compartison As a result of a data-to-data or data-to-constant comparison, a given condition holds true. |
| | Data name Conditions Data name/Constant value At the time of change of value |
| | When a specified data value changes, a given condition holds true. Data name |
| • F | Fixed cycle 50 [Second] (1+86400) |
| | Time interval specification Condition holds towe when the just time is crossed |
| | Concluden holds two at a lixed time of the day. Month Day Hour Minute Second |
| | It startup of module Canditon holds true at startup of the module. |
| | It the time of the data logging life is switched when the file of the specification logging setting is witched, the condition turns true. |
| | Carcel |
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| | ed condition is applied to the wizard screen. |
| Excase 2. dip - High Broket Edit Gele | |
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STEP 2-10 Set the report creation periods

• Use the default settings for the report creation periods.

| Broject Edit Online Icol | 94 |
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| 😑 🚟 QD81DL96 🛞 🌄 Data logging setting | Sampling Layout Creation tigger Period of Enviro |
| Report setting Common setting | Period of time for which to execute report creation is specified. Need not be defined if setting in such as to create specified at all free. Press the (Need button |
| | Specify a period of time |
| | Carry out report creation during the period of time which corresponds to prescribed conditions |
| | O Don't carry out report creation during the period of time which corresponds to prescribed conditions |
| | No. Type of condition Content |
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| | Stack Next > Finish Car |

- 1 Click the Next> button.
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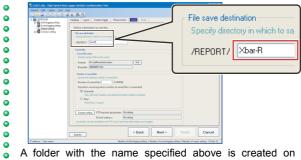
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STEP 2-11 Configure the save settings

1 Enter "Xbar-R" for the file save destination.



A folder with the name specified above is created on the CompactFlash card.

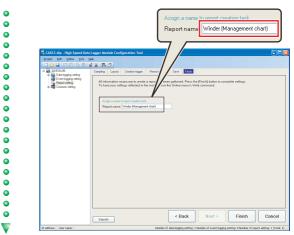
Enter "5" for the number of saved files and click the

- <complex-block>
- The <u>Saved file name setting</u> dialog box is displayed.

| 3 | Check "Attach the name" and click the | outton. |
|----------------------------|---|---------|
| • | Saved file name setting | |
| 0 0 0 0 0 0 | Define the information which is attached to the saved file name. Simple setting Select the information which is attached to the file name. Attach the name Attach the date Attach the date to the file name. Attach the date to the file name. Attach the time the file name. | |
| | Attach the stime to me have. O Dataled cetting Define the format which is attached to the file name. Format Attach the data to the file name. Attach the data to the file name. | |
| 0 0 0 | Data Data name ObtAtAt> ObtAtAt> ObtAtAt> ObtAtAt> ObtAtAt> | |
| • | Example MarrA_0000001XLS | |
| 4 | Click the vert button. | |
| • | | |

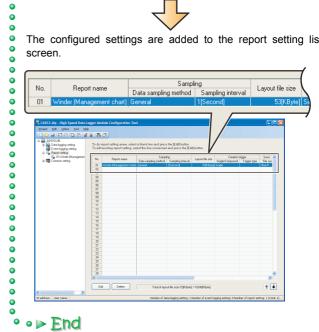
STEP 2-12 Enter the report name

1 Enter "Winder (Management chart)" for the report name.



2 Click the Finish button.

The configured settings are added to the report setting list screen.

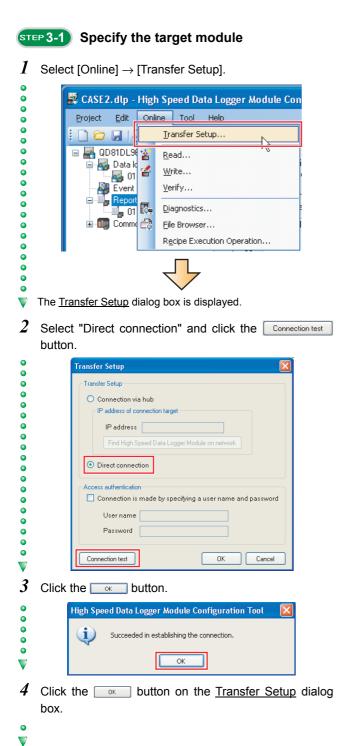


Operation of the high speed data logger module

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STEP 3 Write settings

Write the data logging and report settings configured in STEP 1 and 2 to the high speed data logger module.



- STEP 3-2 Write the settings
- 1 Select [Online] \rightarrow [Write].

| • | |
|----|--|
| • | CASE2.dlp - High Speed Data Logger Module Con Project Edit Online Tool Help |
| • | i Commo Politica Poli |
| ŏ | 🖃 🚟 QD81DL9 🗽 Read |
| 0 | 🗃 🛃 Data I 🌃 Write |
| ŏ | Event Verify |
| 0 | Diagnostics |
| ŏ | 🗄 💷 Comm 😂 File Browser |
| | Recipe Execution Operation |
| 2 | Click the ves button. |
| • | |
| ŏ | High Speed Data Logger Module Configuration Tool |
| • | Writing onto High Speed Data Logger Module will be carried out. Do you want to continue? |
| ŏ | |
| • | All the settings present in the High Speed Data Logger Module will be discarded. |
| Υ. | <u>Y</u> es <u>N</u> o |
| 3 | Click the Yes button. |
| • | High Speed Data Logger Module Configuration Tool |
| 0 | Writing is successfully completed. Do you want to update settings and have the new settings reflected immediately in the operation of the |
| 0 | module? * Network settings are reflected after the resetting of PLC CPU. |
| - | Wetwork settings are reneated a dream resetting on PLC GPU. |
| Υ. | |
| 4 | Click the button. |
| • | High Speed Data Logger Module Configuration Tool 🛛 🔀 |
| 0 | |
| • | Updating of the settings is completed. |
| 0 | OK |
| 0 | |
| • | The data logging and report settings are written to |
| ŏ | CompactFlash card installed on the high speed data lo |
| • | module |

CompactFlash card installed on the high speed data logger module. The data logging function and the report creation start immediately after the data are written because the CPU mode was set to 'RUN'

at Preparation. (Activating the system (P. 6))



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STEP 4 Checking created report

Use Excel to check the report created in STEP 3.

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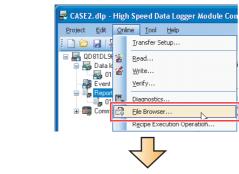
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Save the report file to a personal computer

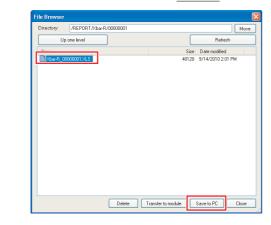
1 Select [Online] \rightarrow [File Browser].



- The File Browser dialog box is displayed.
- 2 Double-click each folder in the following order: "REPORT" → "Xbar-R" → "00000001".

| Directory: | / | | | | | Mov |
|--------------|--------------|--------|----------------|------|-------------------|-------|
| U | lp one level | | | | Refresh | |
| Name | | | | Size | Date modified | |
| EVENT | | | | | 9/14/2010 7:00 At | |
| | | | | | 9/14/2010 2:00 Pt | |
| BEPORT | | | | | 9/14/2010 2:00 Pt | |
| STRIEM | 1 | | | | 9/14/2010 2:00 Pt | м |
| | | | | | | |
| | | | | | | |
| | | Delete | Transfer to mo | dule | Save to PC | Close |

- displayed in the list.
- 3 Select the XLS file and click the Save to PC button.



4 Specify the save destination (option) on the <u>Save As</u> dialog box, and click the <u>Save</u> button.

| Save in: | C Report | | ~ (|) 🗊 📂 | ····- |
|---------------|------------|-----------------|-----|-------|-------|
| | | | | | _ |
| | | | | | |
| My Recent | | | | | |
| Documents | | | | | |
| | | | | | |
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| My Computer | | | | | |
| | L | | | | |
| | File name: | Xbar-R_00000001 | | * | |
| | | | | | |

5 Click the Deefe button on the <u>File Browser</u> dialog box.

STEP 4-2 Check the report on EXCEL

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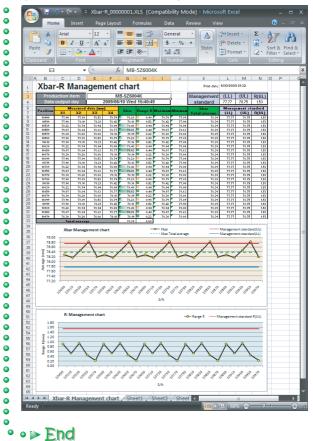
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- *1* Open the XLS file saved in a personal computer.
- 2 Check that the logged data are applied to the table and graphs on the "Xbar-R Management chart" sheet.





This concludes the Quick Start Guide on the high speed data logger module.

The high speed data logger module supports a number of functions in addition to the logging function and report function introduced in this guide.

For details on the functions, refer to the following manual:

F High Speed Data Logger Module User's Manual SH-080818ENG

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Programmable Controller High Speed Data Logger Module

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