

MITSUBISHI Programmable Controller

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|------------------------|--|
| <u>Model</u> | MELSEC-Q High Speed Data Logger Module (QD81DL96) |
| <u>Title</u> | Instructions for High Speed Data Logger Module Sample Files |
| <u>Outline</u> | <p>This document explains the usage and setting procedures of the following sample files (Excel format files) that are used for configuring the layout settings of the report function of High Speed Data Logger Module (QD81DL96).</p> <ul style="list-style-type: none">• Daily Report• Cause Analysis of Equipment Shutoff• Daily Electric Power Report• Quality Control-Xbar-R Control Diagram• Quality Control-Correlation Diagram <p>The setting Contents described in the setting procedures are compatible with the specifications of "Sequence program for data generation" which can be downloaded along with this document.</p> |
| <u>contents</u> | Listed on page 3. |

Mitsubishi Electric Corp.

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|----------|------------------------|
| Revision | Refer to the next page |
|----------|------------------------|

| | |
|--------|-------------|
| Number | BCN-P5735-A |
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REVISIONS

| Ver. | Date | Revision Content |
|------|---------|------------------|
| A | 2011/10 | First Edition |
| | | |

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1. Daily Production Report

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|---------|---|
| Outline | Create a Daily Production Report contains the production quantity, number of nondefective products, yield, ion quantity, plan accomplishment rate, etc. The energy consumption unit is calculated from the amount of electric power used. |
|---------|---|

(1) Output Example

Assembly Line Daily Production Report

| | |
|--------------|-------------------------|
| Product Name | MB-5Z6004A |
| Logging Date | 2011/11/16 Wed 18:10:53 |

| | | |
|-------------|---------------|-----------|
| Approved by | Authorized by | Issued by |
| | | |

| | |
|----------------------------------|---------------|
| Planned Production Quantity | 2,000 units |
| Total Production Quantity | 1,877 units |
| Number of Nondefective Products | 1,850 units |
| Number of Defective Products | 22 units |
| Number of Re-inspection Products | 5 units |
| Yield | 98.56 % |
| Plan Accomplishment Rate | 92.50 % |
| Electric Power Used by Equipment | 12,450 kWh |
| Energy Consumption Unit | 6.63 kWh/unit |

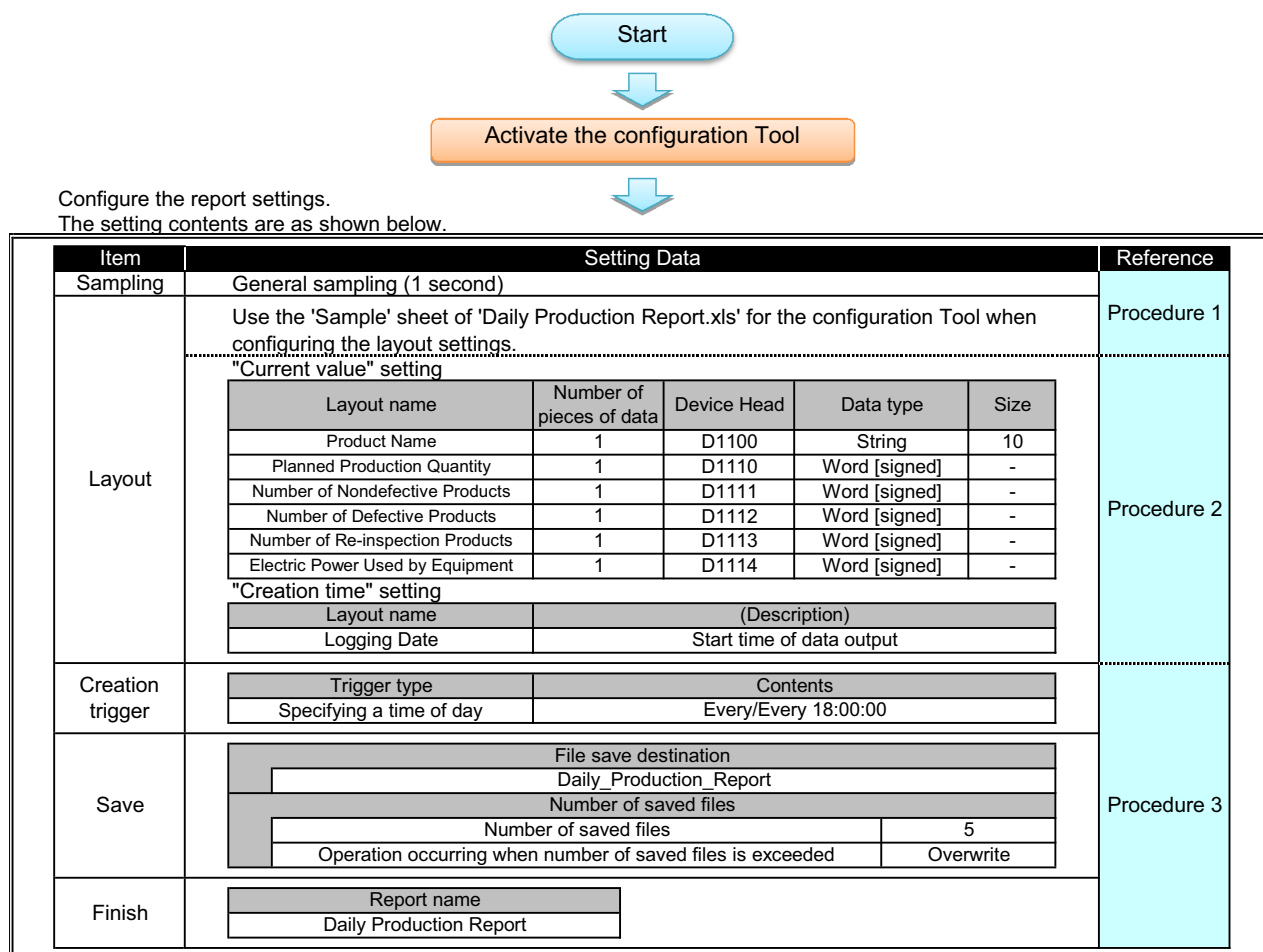
| |
|---|
| Error Points • Near-Miss Incidents |
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| Solution Strategy • Improvement Request |
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| Other Comments |
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Assembly Line Daily Production Report

7

(3) Setting Procedure

1



* Set the default to the settings which are not mentioned above.

* The data logging setting and the event logging setting are not configured for 'Daily Production Report'.



Procedure 1

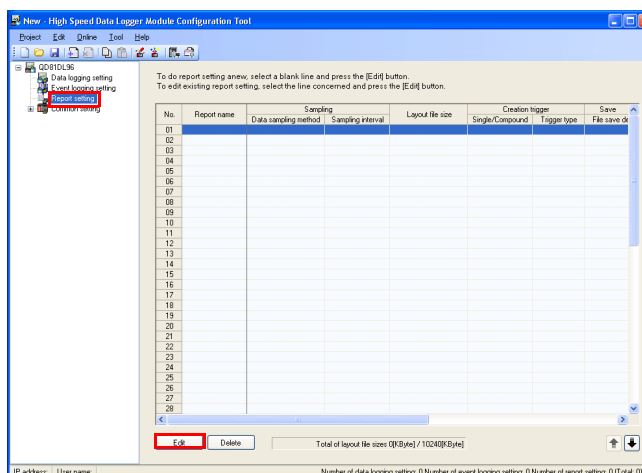
1

* For details of operating procedure of the configuration Tool, refer to High Speed Data Logger Module User's Manual.

1. Starting the report setting

Click "Report setting" in the project tree.

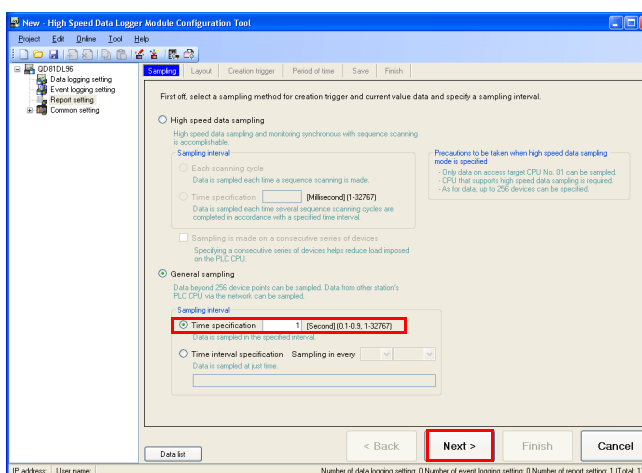
After the report setting list screen is displayed, click the [Edit] button.



2. Selecting the sampling method

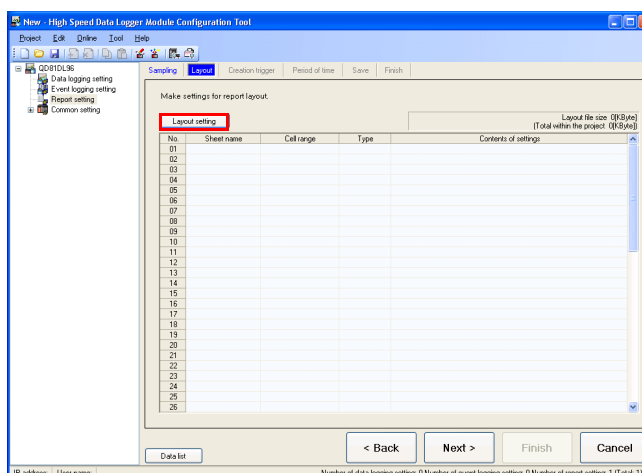
Select "General sampling" and set the Time Specification to 1 second.

Click the [Next] button.



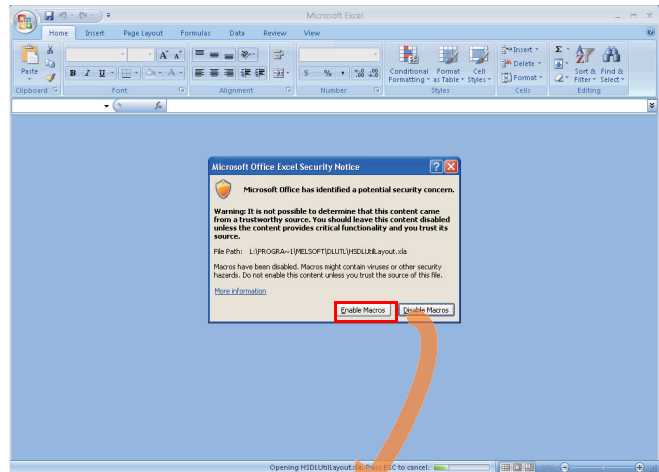
3. Configuring the layout settings

Click the [Layout setting] button.

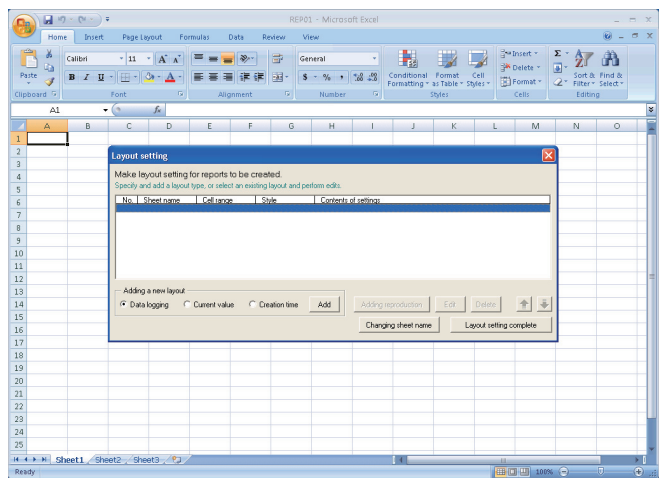


4. Displaying the Excel screen for layout settings

Click the [Enable Macros] button.

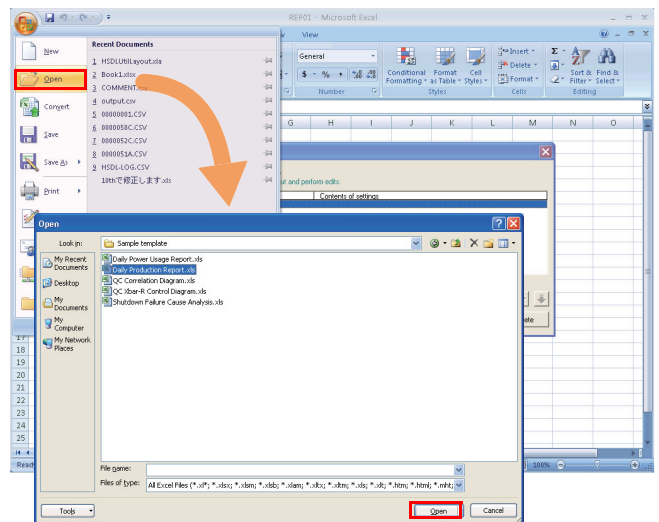


Layout setting screen shown on the right is displayed.

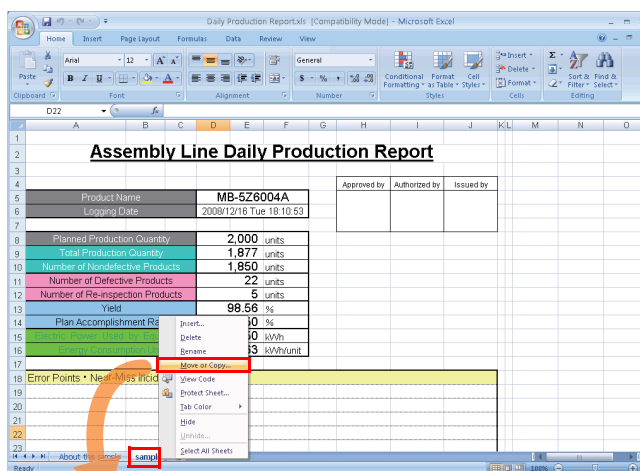


5. Copying 'Sample' sheet

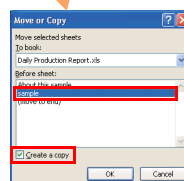
Open 'Daily Production Report.xls' on the Excel file for which the layout settings are configured.



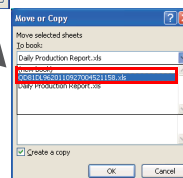
Right-click on the tab of 'Sample' sheet in the opened file, and select "Move or Copy".



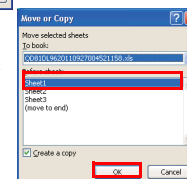
Check "Create a copy", and select 'Sample' from the list.



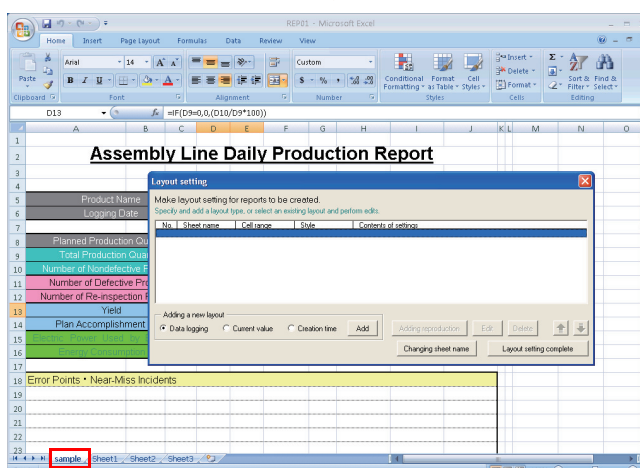
Select 'QD81DL96YYYYMMDD*****.xls' from the list of "To book".



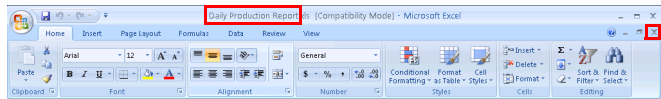
Select 'Sheet1' from the list of "Before sheet", and click the [OK] button.



The 'Sample' sheet is copied to the Excel file for which the layout settings are configured.



6. Close the original copied 'Daily Production Report.xls'.

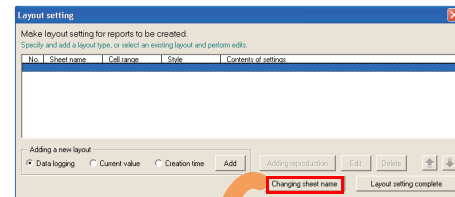


7. Change the sheet name.

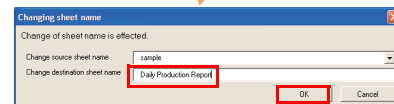
* Use the [Changing sheet name] button on the Layout setting screen to change the sheet name.

If the sheet name is changed by using a method other than the above method, the layout setting cannot be configured properly.

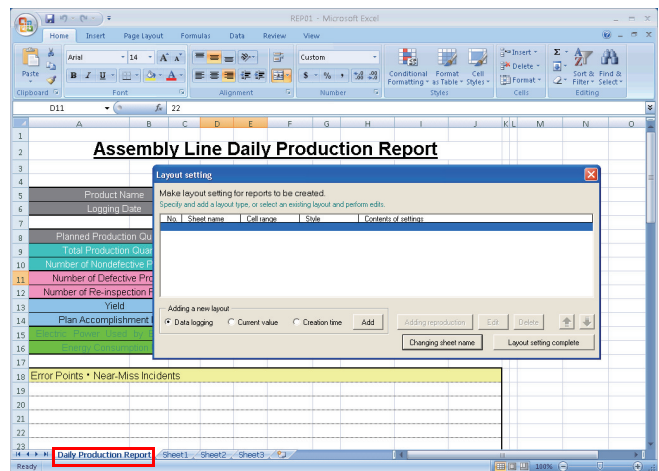
Click the [Changing sheet name] button.



Enter 'Daily Production Report' for "Change destination sheet name", and click the [OK] button.



The sheet name is changed.



Continue on to procedure 2

Procedure 2

1

1. Setting the layout for Production Name

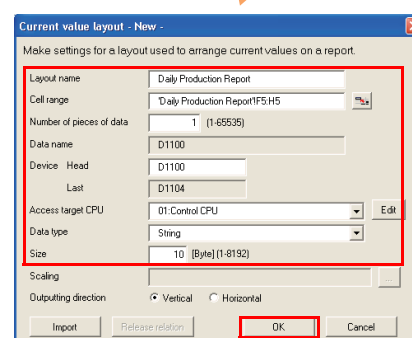
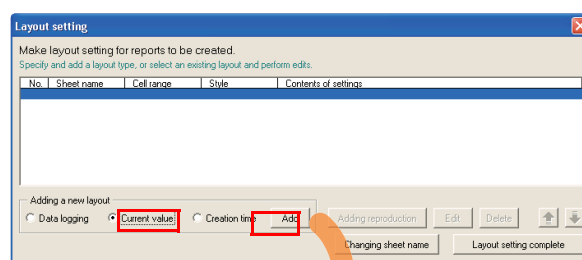
Select "Current value" under "Adding a new layout", and click the [Add] button.

Specify the following data on the Current value layout screen.

| Item | Setting Data |
|--------------------------|---------------------------------|
| Layout name | Product Name |
| Cell range | 'Daily Production Report'!F5:H5 |
| Number of pieces of data | 1 |
| Device Head | D1100 |
| Access target CPU | 01:Control CPU |
| Data type | String |
| Size | 10 |

After specifying the data, click the [OK] button on the Current value layout screen.

The configured current value layout is registered.



Specify the following five data in the same manner.

| Item | Setting Data | | | | |
|--------------------------|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| No. | 1 | 2 | 3 | 4 | 5 |
| Layout name | Planned Production Quantity | Number of Nondefective Products | Number of Defective Products | Number of Re-inspection Products | Electric Power Used by Equipment |
| Cell range | 'Daily Production Report'!F8:G8 | 'Daily Production Report'!F10:G10 | 'Daily Production Report'!F11:G11 | 'Daily Production Report'!F12:G12 | 'Daily Production Report'!F15:G15 |
| Number of pieces of data | 1 | 1 | 1 | 1 | 1 |
| Device Head | D1110 | D1111 | D1112 | D1113 | D1114 |
| Access target CPU | 01:Control CPU | 01:Control CPU | 01:Control CPU | 01:Control CPU | 01:Control CPU |
| Data type | Word [signed] | Word [signed] | Word [signed] | Word [signed] | Word [signed] |

2. Setting the layout for Logging Date

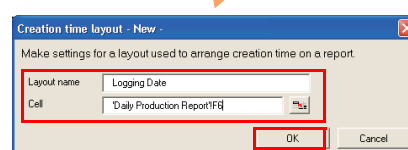
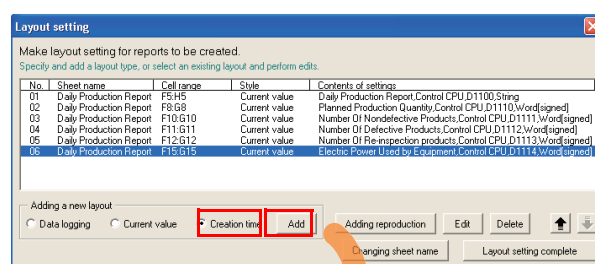
Select "Creation time" under "Adding a new layout", and click the [Add] button.

Specify the following data on the Creation time layout screen.

| Item | Setting Data |
|-------------|----------------------------|
| Layout name | Logging Date |
| Cell | Daily Production Report!F6 |

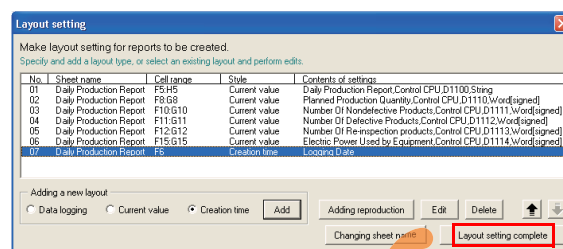
After specifying the data, click the [OK] button on the Creation time layout screen.

The configured creation time layout is registered.

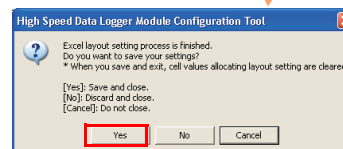


3. Confirming the layout settings

Click the [Layout setting complete] button.



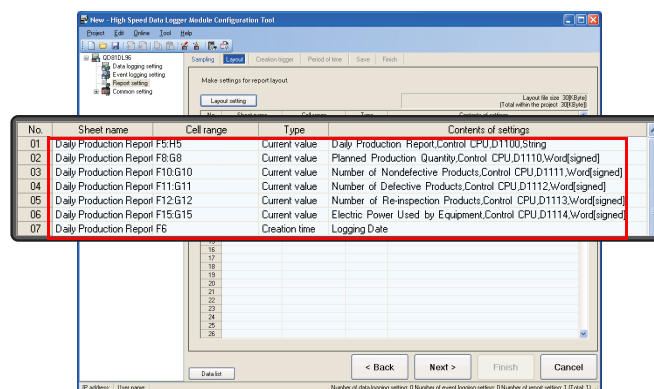
Click the [Yes] button.



4. Checking the settings

The created layout settings are added to the setting list.

This completes the layout settings for "Daily Production Report".

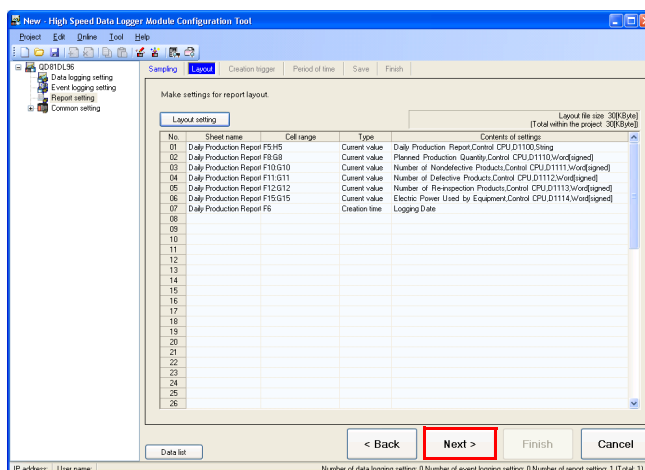


Continue on to procedure 3

Procedure 3

1

1. After the layout settings, click the [Next] button.

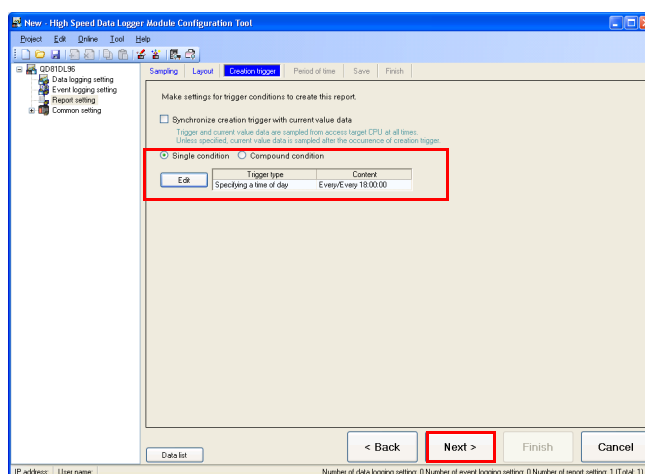


2. Setting the creation trigger

Click the [Edit] button, and specify the following conditions.

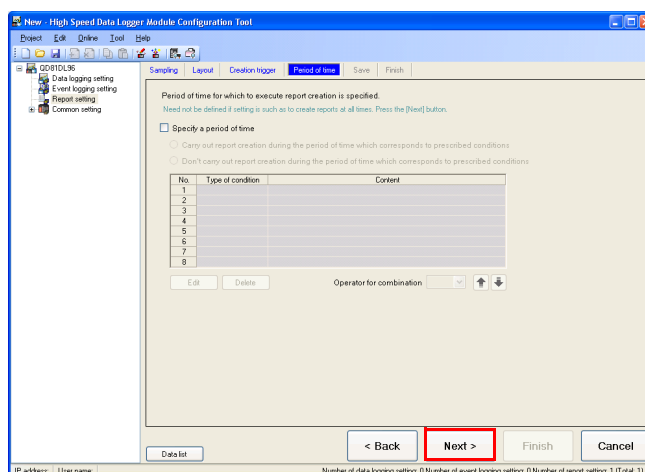
| Item | Setting Data |
|--------------|--------------------------|
| Trigger type | Specifying a time of day |
| Contents | Every/Every 18:00:00 |

After specifying the conditions, click the [Next] button.



3. Setting the period of time (No specification)

Click the [Next] button.



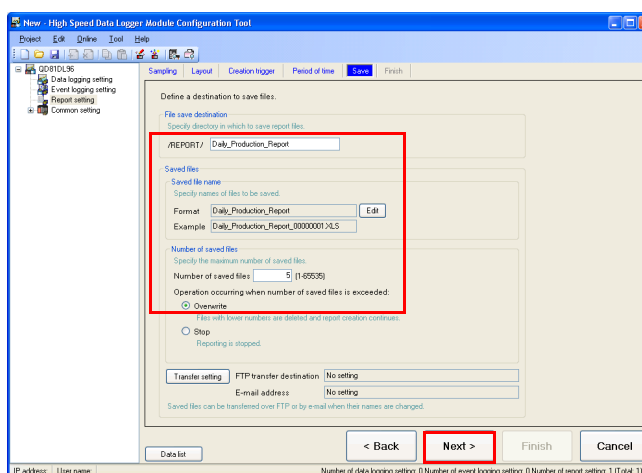
4. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-----------------------|-------------------------|
| File save destination | Daily_Production_Report |
| Number of saved files | 5 |
| | Overwrite |

Click the [Edit] button, check "Attach the name" on the Saved file name setting screen, and click the [OK] button.

After specifying the settings, click the [Next] button.

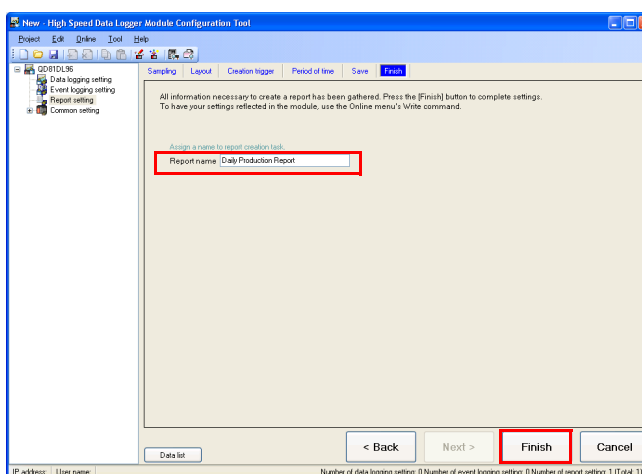


5. Completing the setting

Set the report name.

('Daily Production Report' for this example)

After entering the report name, click the [Finish] button.

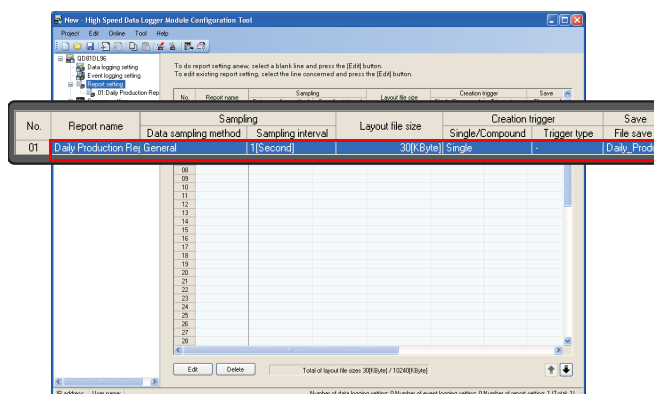


6. Checking the settings

The created report setting is added to the setting list.

This completes the report setting for 'Daily Production Report'.

Save the project.



This completes the setting

2. Shutdown Failure Cause Analysis

| | |
|---------|---|
| Outline | Create a report to show the occurrence conditions of equipment shutdown (down time and occurrence rate) as graphs, sorted by the cause of shutdown failure. |
|---------|---|

(1) Output Example

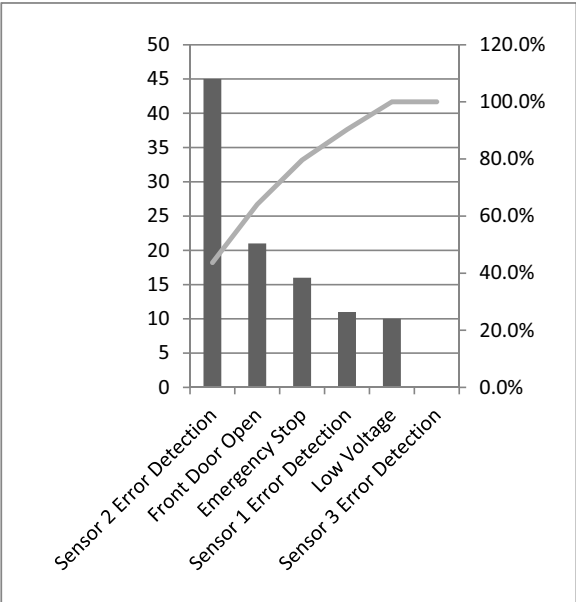
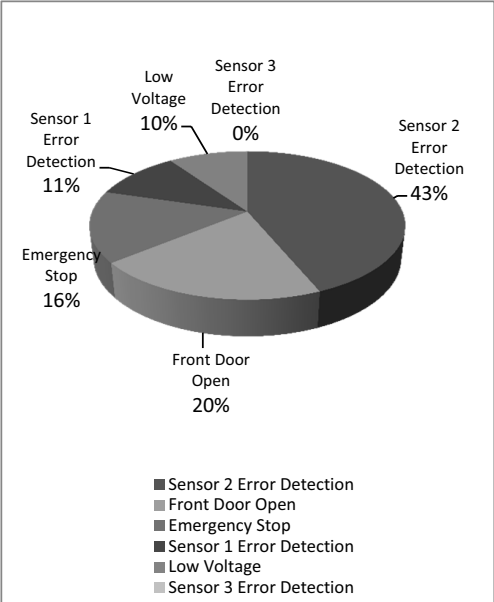
2

Shutdown Failure Cause Analysis

| | |
|-----------------|-------------------------|
| Production Line | Assembly A |
| Logging Date | 2011/10/04 Tue 18:20:00 |

| | |
|-----------|---------|
| Down Time | 88 min. |
|-----------|---------|

| Type of Error | Down Time | Cumulative Rate |
|--------------------------|-----------|-----------------|
| Sensor 2 Error Detection | 45 min. | 43.7% |
| Front Door Open | 21 min. | 64.1% |
| Emergency Stop | 16 min. | 79.6% |
| Sensor 1 Error Detection | 11 min. | 90.3% |
| Low Voltage | 10 min. | 100.0% |
| Sensor 3 Error Detection | 0 min. | 100.0% |



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(2) Layout Setting Out

2

Shutdown Failure Cause Analysis

| | |
|-----------------|-------------------------|
| Production Line | Assembly A |
| Logging Date | 2008/10/04 Sat 18:20:00 |

| | |
|-----------|---------|
| Down Time | 88 min. |
|-----------|---------|

| Type of Error | Down Time | Cumulative Rate |
|--------------------------|-----------|-----------------|
| Sensor 2 Error Detection | 45 min. | 43.7% |
| Front Door Open | 21 min. | 64.1% |
| Emergency Stop | 16 min. | 79.6% |
| Sensor 1 Error Detection | 11 min. | 90.5% |
| Low Voltage | 10 min. | 100.0% |
| Sensor 3 Error Detection | 0 min. | 100.0% |

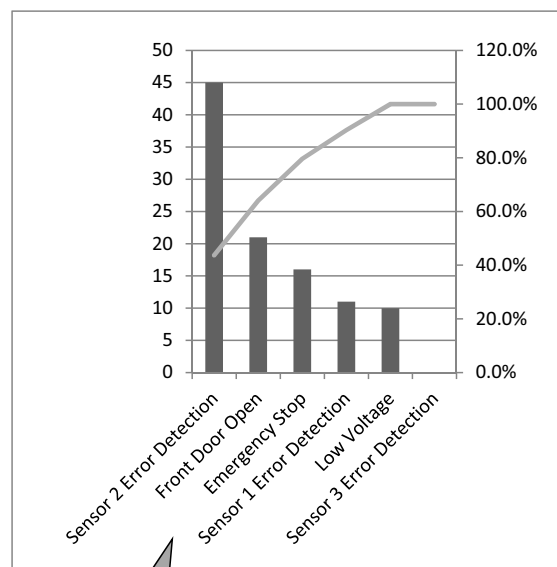
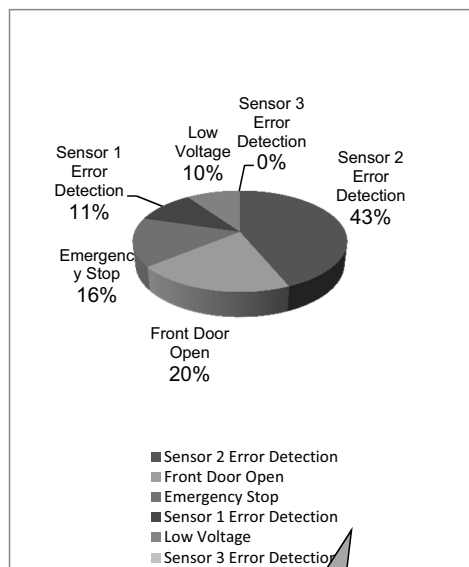
Set the "Current value" in this cell.
The data at the creation of report is entered. (Procedure 3)

Set the "Creation time" in this cell.
The time at the creation of report is entered. (Procedure 3)

The Excel calculation function is previously set to calculate the total of down time collected from the 'Logging Data' sheet.

Cumulative rates of down time sorted by the type of error.

The total of down time for each type of error collected from the 'Logging Data' sheet.



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The Excel function is previously set to create a circle graph based on the data in the above table.

The Excel function is previously set to create a Pareto chart based on the data in the above table.

(3) Setting Procedure

Activate the configuration Tool

Configure the data logging settings.
The setting contents are as shown below.

The setting contents are as shown below.

| Item | Setting Data | Reference | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-----------------------|---------------------------------|-----------------------|-------------|--------------------------|----------------------|-----------------------|-------------|-----------------------|----------------|--|-------------|-----|-------------|------|-------------|-----|--------------------------|------|-------------|-----|--------------------------|------|-------------|-----|--------------------------|------|-------------|-----|
| Logging type/ File format | <table><tr><td>Logging type</td><td>File format</td></tr><tr><td>Continuous logging</td><td>Binary file</td></tr></table> | Logging type | File format | Continuous logging | Binary file | Procedure 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| Logging type | File format | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Continuous logging | Binary file | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling | General sampling (60 seconds) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data | <p>Set the following data.</p> <table><tr><td>Data name</td><td>Device</td><td>Access target CPU</td><td>Data type</td></tr><tr><td>Front Door Open</td><td>M500</td><td>Control CPU</td><td>Bit</td></tr><tr><td>Emergency Stop</td><td>M501</td><td>Control CPU</td><td>Bit</td></tr><tr><td>Low Voltage</td><td>M502</td><td>Control CPU</td><td>Bit</td></tr><tr><td>Sensor 1 Error Detection</td><td>M503</td><td>Control CPU</td><td>Bit</td></tr><tr><td>Sensor 2 Error Detection</td><td>M504</td><td>Control CPU</td><td>Bit</td></tr><tr><td>Sensor 3 Error Detection</td><td>M505</td><td>Control CPU</td><td>Bit</td></tr></table> | Data name | Device | Access target CPU | Data type | | Front Door Open | M500 | Control CPU | Bit | Emergency Stop | M501 | Control CPU | Bit | Low Voltage | M502 | Control CPU | Bit | Sensor 1 Error Detection | M503 | Control CPU | Bit | Sensor 2 Error Detection | M504 | Control CPU | Bit | Sensor 3 Error Detection | M505 | Control CPU | Bit |
| Data name | Device | Access target CPU | Data type | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Door Open | M500 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Emergency Stop | M501 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Voltage | M502 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sensor 1 Error Detection | M503 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sensor 2 Error Detection | M504 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sensor 3 Error Detection | M505 | Control CPU | Bit | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Binary output | Specify "Output date information (In nanosecond)". | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Save | <table><tr><td>File save destination</td><td>Shutdown_Failure_Cause_Analysis</td></tr><tr><td colspan="2">File switching timing</td></tr><tr><td>Specifying a time of day</td><td>Every/Every 08:00:00</td></tr><tr><td colspan="2">Number of saved files</td></tr><tr><td>Number of saved files</td><td>2</td></tr><tr><td>Operation occurring when number of saved files is exceeded</td><td>Overwrite</td></tr></table> | File save destination | Shutdown_Failure_Cause_Analysis | File switching timing | | Specifying a time of day | Every/Every 08:00:00 | Number of saved files | | Number of saved files | 2 | Operation occurring when number of saved files is exceeded | Overwrite | | | | | | | | | | | | | | | | | |
| File save destination | Shutdown_Failure_Cause_Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| File switching timing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Specifying a time of day | Every/Every 08:00:00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of saved files | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of saved files | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operation occurring when number of saved files is exceeded | Overwrite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Finish | <table><tr><td>Data logging name</td></tr><tr><td>Shutdown Failure Cause Analysis</td></tr></table> | Data logging name | Shutdown Failure Cause Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data logging name | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shutdown Failure Cause Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Configure the report settings.
The setting contents are as shown below.

The setting contents are as shown below.

| Item | Setting Data | Reference | | | | | | | | | | | |
|---|---|--------------------------|---------------------------------|---------------------------------|---------------------------|-------------|-----------------------|---|-----------------------|--------|--|-------------|-----------|
| Sampling | General sampling (1 second) | | | | | | | | | | | | |
| Layout | Use the 'Sample' sheet of 'Shutdown Failure Cause Analysis.xls' for the configuration Tool when configuring | Procedure 2 | | | | | | | | | | | |
| | "Current value" setting | | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>Number of pieces of data</th><th>Device Head</th><th>Data type</th><th>Size</th></tr><tr><td>Production Line</td><td>1</td><td>D5</td><td>String</td><td>10</td></tr></table> | Layout name | Number of pieces of data | Device Head | Data type | Size | Production Line | 1 | D5 | String | 10 | Procedure 3 | |
| | Layout name | Number of pieces of data | Device Head | Data type | Size | | | | | | | | |
| | Production Line | 1 | D5 | String | 10 | | | | | | | | |
| | "Creation time" setting | | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>(Description)</th></tr><tr><td>Logging Date</td><td>Start time of data output</td></tr></table> | Layout name | (Description) | Logging Date | Start time of data output | | | | | | | | |
| Layout name | (Description) | | | | | | | | | | | | |
| Logging Date | Start time of data output | | | | | | | | | | | | |
| "Data logging" setting | | | | | | | | | | | | | |
| <table><tr><th>Layout name</th><th>Data logging name</th></tr><tr><td>Shutdown Failure Cause Analysis</td><td>Shutdown Failure Cause Analysis</td></tr></table> | Layout name | Data logging name | Shutdown Failure Cause Analysis | Shutdown Failure Cause Analysis | | | | | | | | | |
| Layout name | Data logging name | | | | | | | | | | | | |
| Shutdown Failure Cause Analysis | Shutdown Failure Cause Analysis | | | | | | | | | | | | |
| Creation trigger | <table><tr><th>Trigger type</th><th>Contents</th></tr><tr><td>Specifying a time of day</td><td>Every/Every 18:00:00</td></tr></table> | Trigger type | Contents | Specifying a time of day | Every/Every 18:00:00 | Procedure 4 | | | | | | | |
| Trigger type | Contents | | | | | | | | | | | | |
| Specifying a time of day | Every/Every 18:00:00 | | | | | | | | | | | | |
| Save | <table><tr><th colspan="2">File save destination</th></tr><tr><td colspan="2">Shutdown_Failure_Cause_Analysis</td></tr><tr><th colspan="2">Number of saved files</th></tr><tr><td>Number of saved files</td><td>5</td></tr><tr><td colspan="2">Operation occurring when number of saved files is exceeded</td><td>Overwrite</td></tr></table> | File save destination | | Shutdown_Failure_Cause_Analysis | | | Number of saved files | | Number of saved files | 5 | Operation occurring when number of saved files is exceeded | | Overwrite |
| | File save destination | | | | | | | | | | | | |
| | Shutdown_Failure_Cause_Analysis | | | | | | | | | | | | |
| | Number of saved files | | | | | | | | | | | | |
| Number of saved files | 5 | | | | | | | | | | | | |
| Operation occurring when number of saved files is exceeded | | Overwrite | | | | | | | | | | | |
| Finish | <table><tr><th>Report name</th></tr><tr><td>Shutdown Failure Cause Analysis</td></tr></table> | Report name | Shutdown Failure Cause Analysis | | | | | | | | | | |
| Report name | | | | | | | | | | | | | |
| Shutdown Failure Cause Analysis | | | | | | | | | | | | | |

* Set the default to the settings which are not mentioned above

Complete

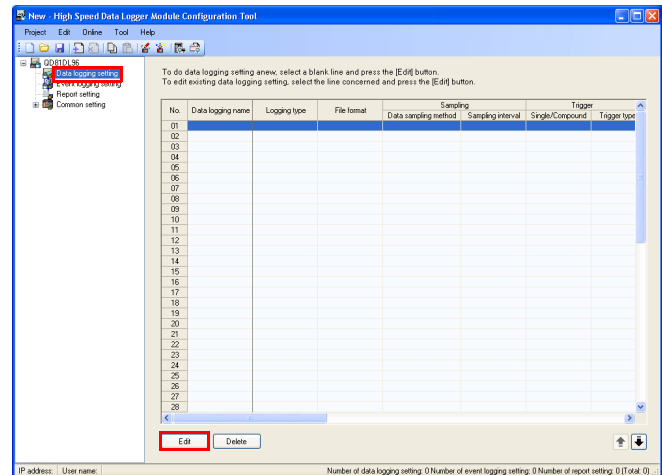
Procedure 1

* For details of operating procedure of the configuration Tool, refer to High Speed Data Logger Module User's Manual.

1. Starting the data logging setting

Click "Data logging setting" in the project tree.

After the data logging setting list screen is displayed, click the [Edit] button.



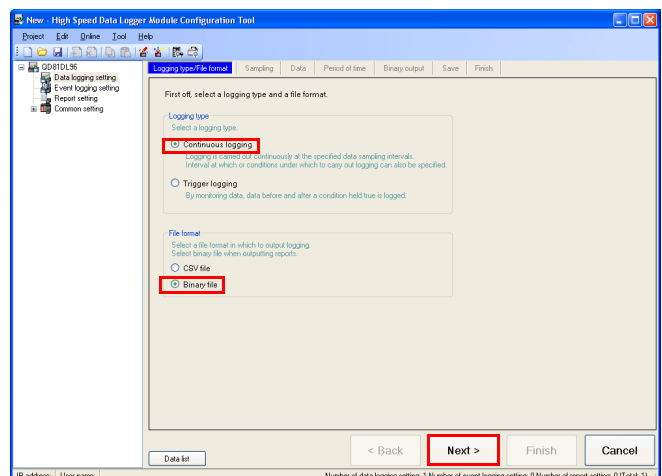
2. Selecting the logging type and file format

Select the following settings.

Logging type: Continuous logging

File format: Binary file

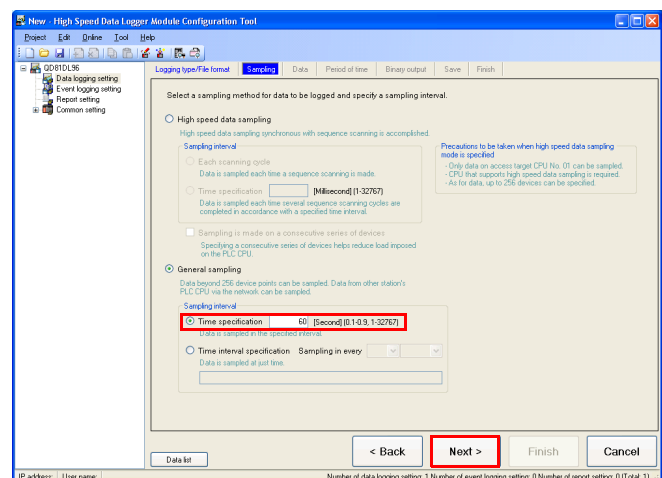
Click the [Next] button.



3. Selecting the sampling method

Select "General sampling" and set the Time specification to 60 seconds.

Click the [Next] button.

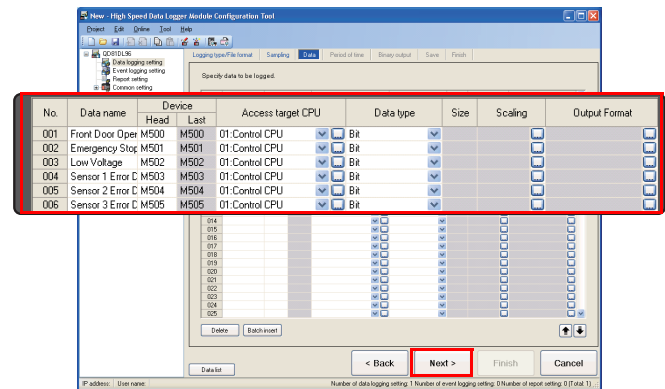


4. Specifying data to be logged

Specify the following data.

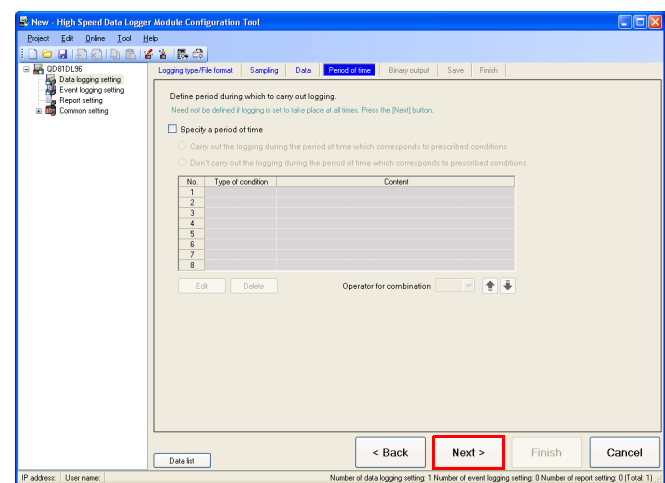
| Data name | Device Head | Data type |
|--------------------------|-------------|-----------|
| Front Door Open | M500 | Bit |
| Emergency Stop | M501 | Bit |
| Low Voltage | M502 | Bit |
| Sensor 1 Error Detection | M503 | Bit |
| Sensor 2 Error Detection | M504 | Bit |
| Sensor 3 Error Detection | M505 | Bit |

After specifying the data, click the [Next] button.



5. Setting the period of time (No specification)

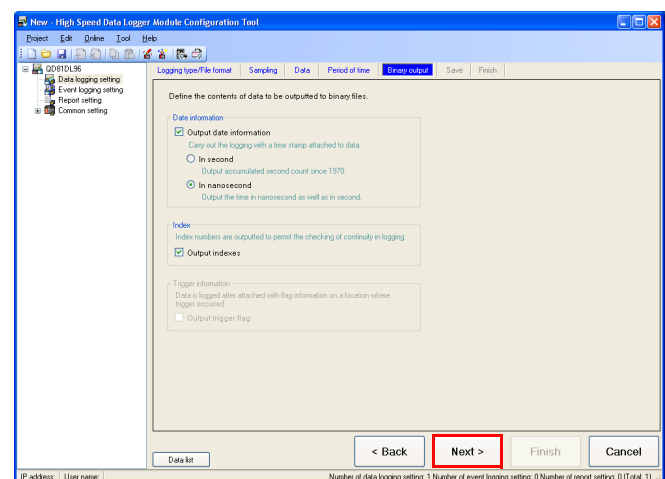
Click the [Next] button.



6. Setting the binary output (No change)

Click the [Next] button.

(The output contents to the binary file do not change from the default settings.)

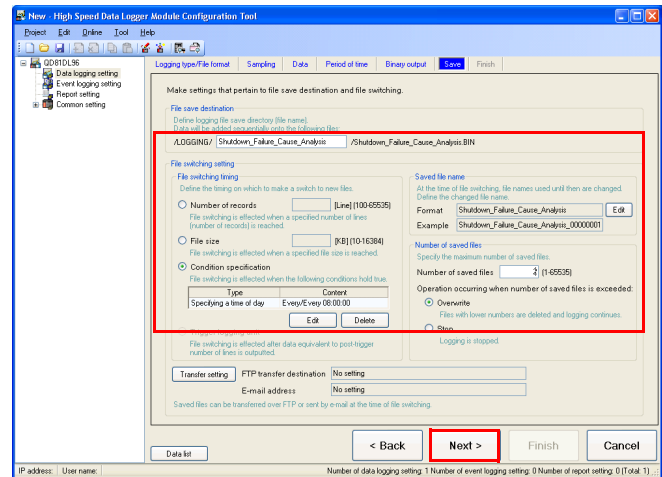


7. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-------------------------|---------------------------------|
| File save destination | Shutdown_Failure_Cause_Analysis |
| File switching setting | |
| File switching timing | |
| Condition specification | |
| Type | Specifying a time of day |
| Contents | Every/Every 08:00:00 |
| Number of saved files | 2 |
| | Overwrite |

Click the [Next] button.

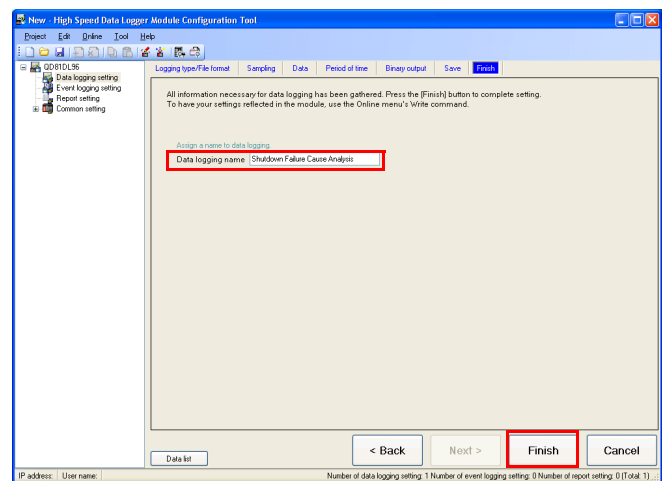


8. Completing the setting

Set the data logging name.

('Shutdown Failure Cause Analysis' for this example)

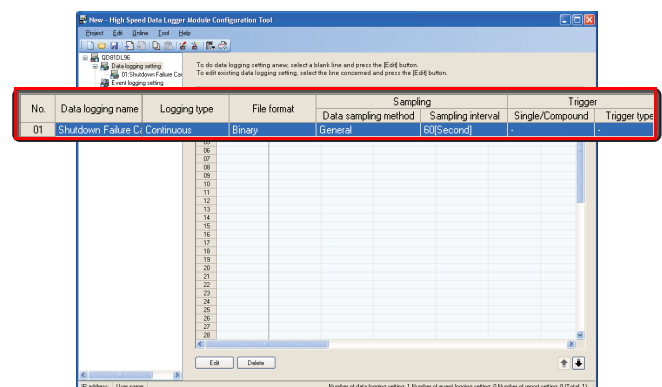
After entering the data logging name, click the [Finish] button.



9. Checking the settings

The created data logging setting is added to the setting list.

This completes the data logging setting for 'Shutdown Failure Cause Analysis'.
Save the project.



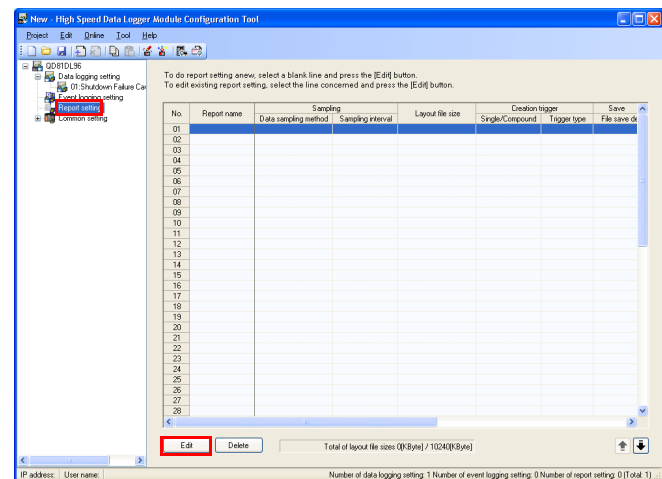
Continue on to procedure 2

Procedure 2

1. Starting the report setting

Click "Report setting" in the project tree.

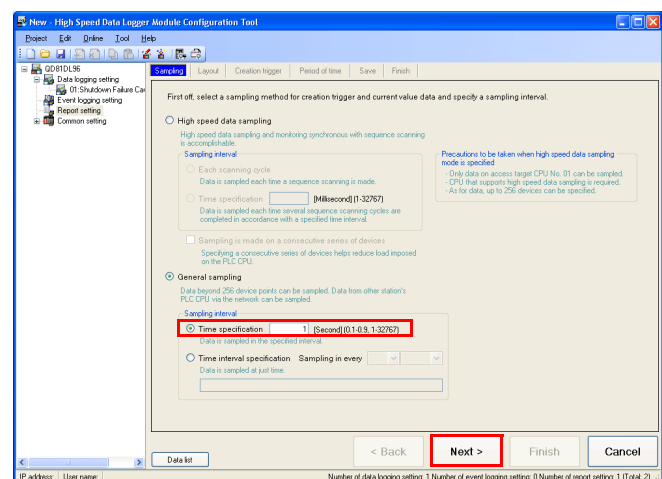
After the report setting list screen is displayed, click the [Edit] button.



2. Selecting the sampling method

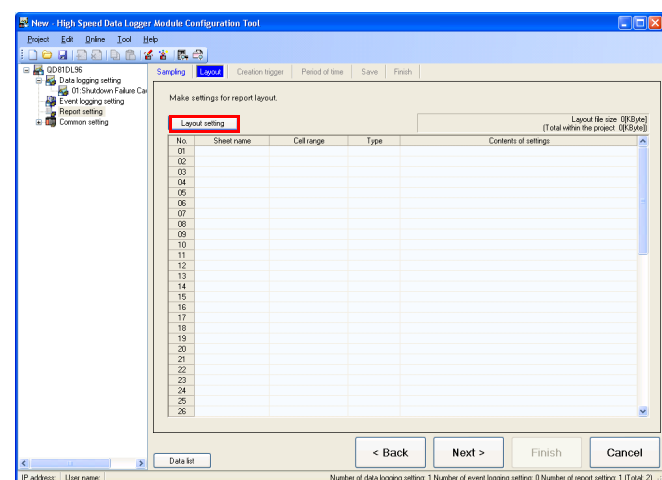
Select "General sampling" and set the Time Specification to 1 second .

Click the [Next] button.

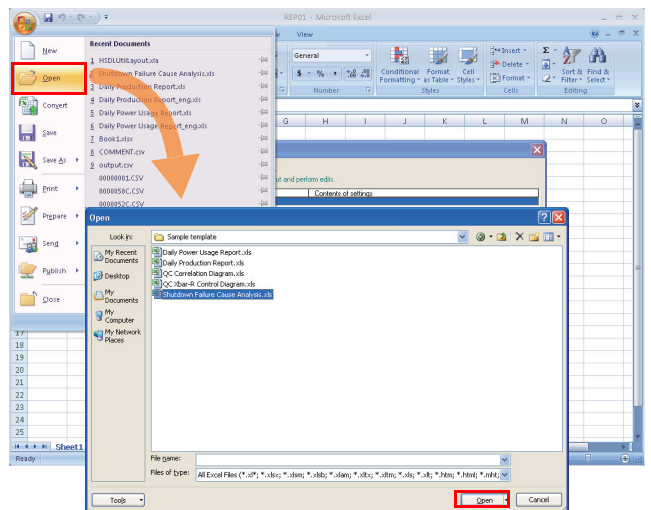
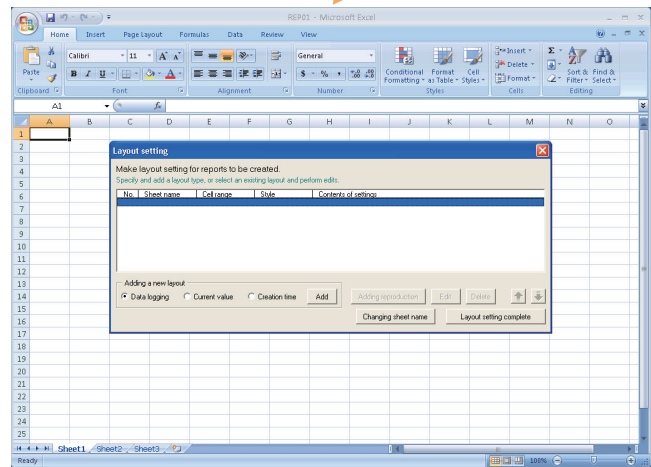
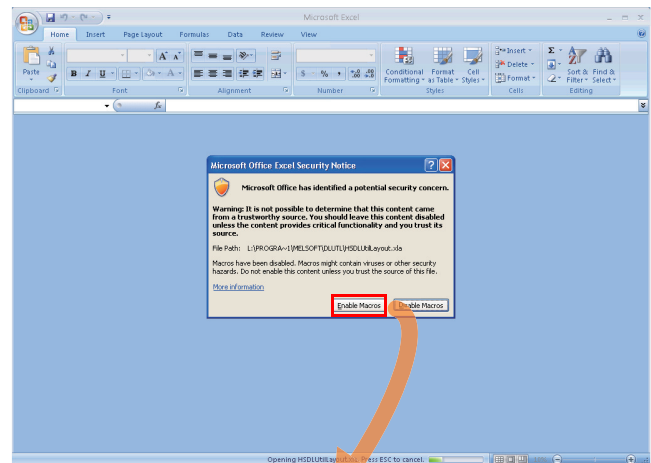


3. Configuring the layout settings

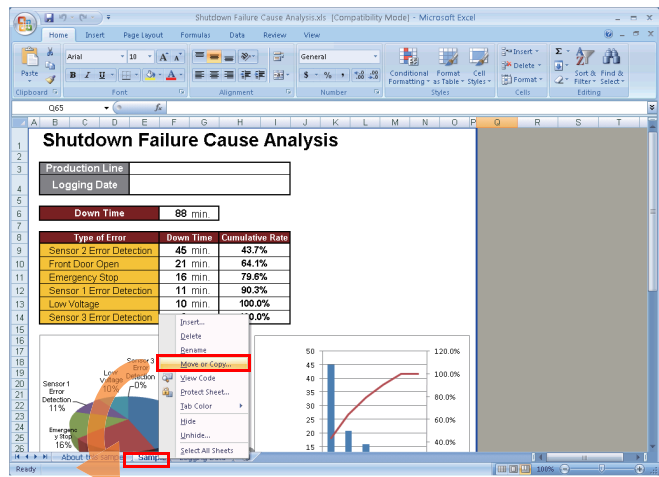
Click the [Layout setting] button.



Click the [Enable Macros] button.

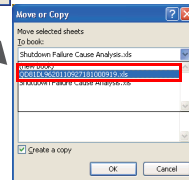
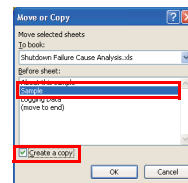


Right-click on the tab of 'Sample' sheet in the opened file, and select "Move or Copy".

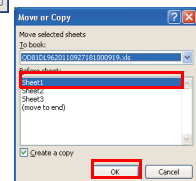


Check "Create a copy" and select 'Sample' from the list.

Select 'QD81DL96YYYYMMDD*****.xls' from the list of "To book".

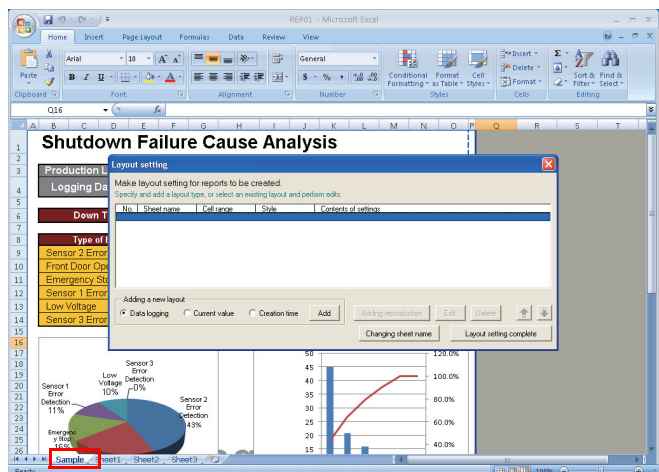


Select 'Sheet1' from the list of "Before sheet", and click the [OK] button.



6. Copying the 'Sample' sheet

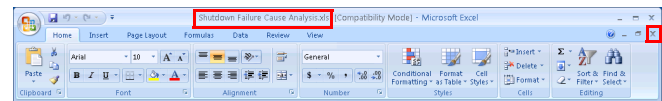
The 'Sample' sheet is copied to the Excel file for which the layout settings are configured.



7. Copying the 'Logging Data' sheet

Copy the 'Logging Data' sheet in the same procedure as that of step 6.

8. Close the original copied 'Shutdown Failure Cause Analysis.xls'.



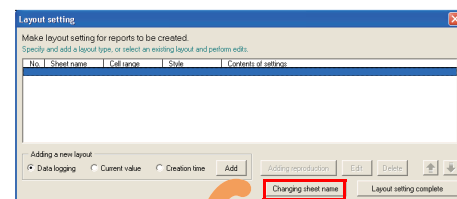
9. Change the sheet name.

* Use the [Changing sheet name] button on the Layout setting screen to change the sheet name.

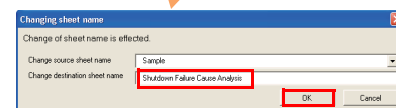
If the sheet name is changed by using a method other than the above method, the layout setting cannot be configured properly.

* Do not change the name of the 'Logging Data' sheet.

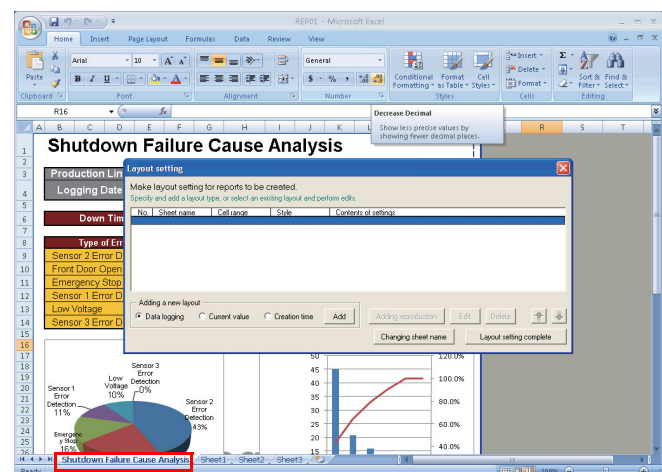
Click the [Changing sheet name] button.



Enter 'Shutdown Failure Cause Analysis' for "Change destination sheet name", and click the [OK] button.



The sheet name is changed.



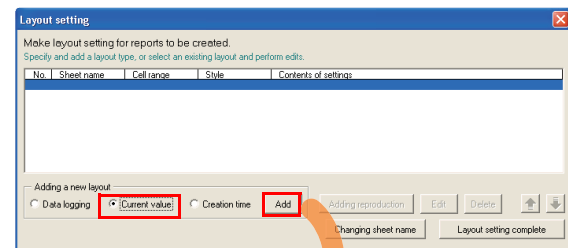
Continue on to procedure 3

Procedure 3

2

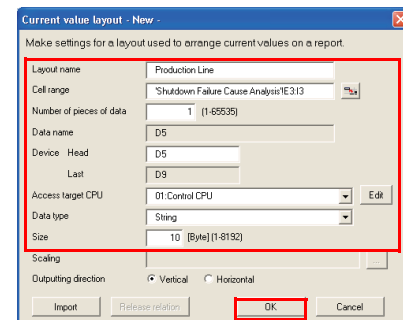
1. Setting the layout for Production Line

Select "Current value" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Current value layout screen.

| Item | Setting Data |
|--------------------------|------------------------------------|
| Layout name | Production Line |
| Cell range | Shutdown Failure Cause Analysis!E3 |
| Number of pieces of data | 1 |
| Device Head | D5 |
| Access target CPU | Control CPU |
| Data type | String |
| Size | 10 |

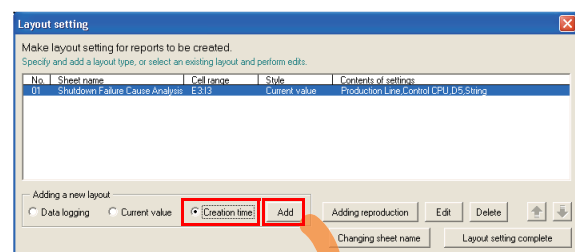


After specifying the data, click the [OK] button on the Current value layout screen.

The configured current value layout is registered.

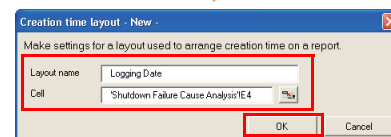
2. Setting the layout for Logging Date

Select "Creation time" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Creation time layout screen.

| Item | Setting Data |
|-------------|------------------------------------|
| Layout name | Logging Date |
| Cell | Shutdown Failure Cause Analysis!E4 |



After specifying the data, click the [OK] button on the Creation time layout screen.

The configured creation time layout is registered.

3. Setting the logging data

Select the 'Logging Data' sheet.

After switching the sheet, select "Data logging" under "Adding a new layout", and click the [Add] button.

Specify the following data on the Data logging layout screen.

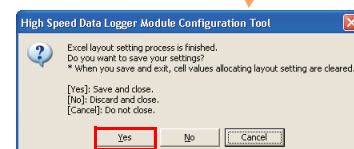
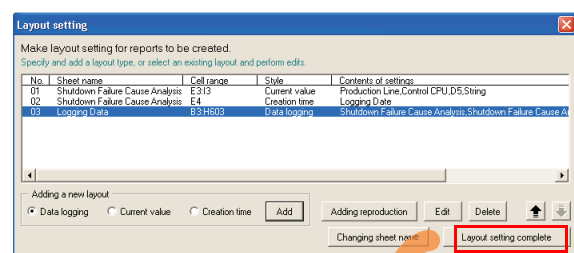
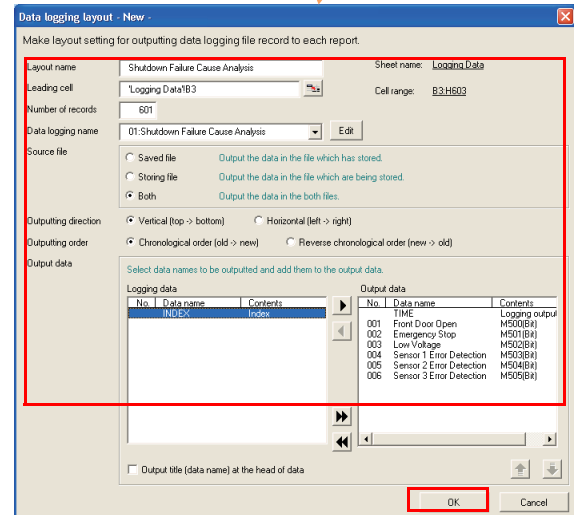
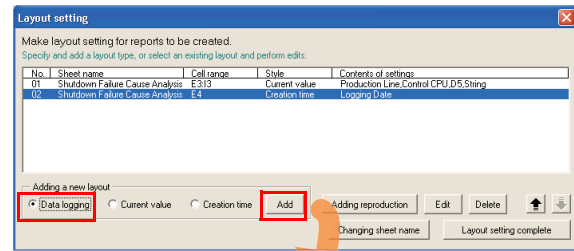
| Item | Setting Data |
|----------------------|------------------------------------|
| Layout name | Shutdown Failure Cause Analysis |
| Leading cell | Logging Data!B3 |
| Number of records | 601 |
| Data logging name | 01:Shutdown Failure Cause Analysis |
| Source file | Both |
| Outputting direction | Vertical [top -> bottom] |
| Outputting order | Chronological order [old -> new] |
| Output data | TIME |
| | Front Door Open |
| | Emergency Stop |
| | Low Voltage |
| | Sensor 1 Error Detection |
| | Sensor 2 Error Detection |
| | Sensor 3 Error Detection |

After specifying the data, click the [OK] button on the Data logging layout screen.

4. Click the [Layout setting complete] button.

Click the [Layout setting complete] button.

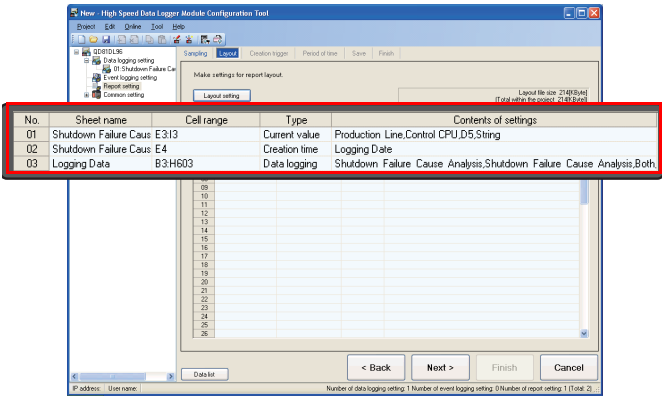
Click the [Yes] button.



5. Checking the settings

The created layout settings are added to the setting list.

This completes the layout settings for 'Shutdown Failure Cause Analysis'.



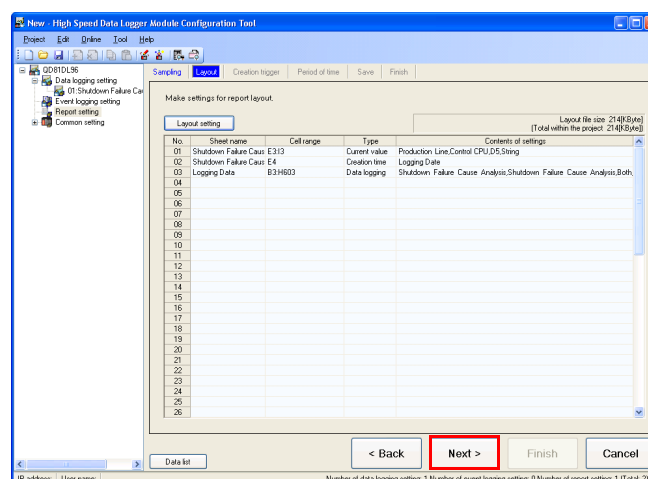
2



Continue on to procedure 4

Procedure 4

1. After the layout settings, click the [Next] button.

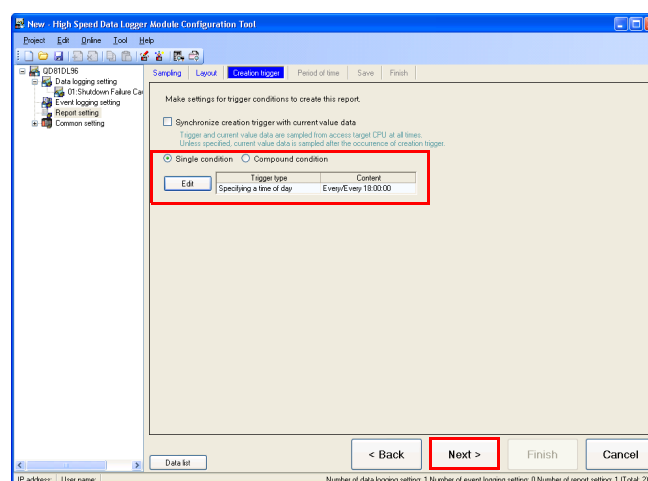


2. Setting the creation trigger

Click the [Edit] button, and specify the following conditions.

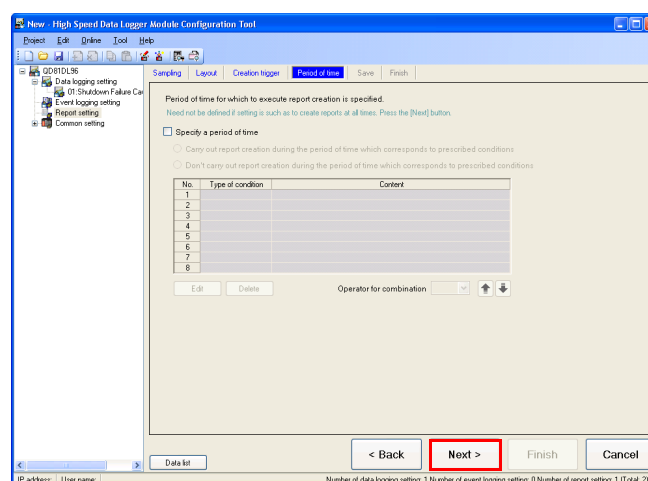
| Item | Setting Data |
|--------------|--------------------------|
| Trigger type | Specifying a time of day |
| Contents | Every/Every 18:00:00 |

After specifying the conditions, click the [Next] button.



3. Setting the period of time (No specification)

Click the [Next] button.



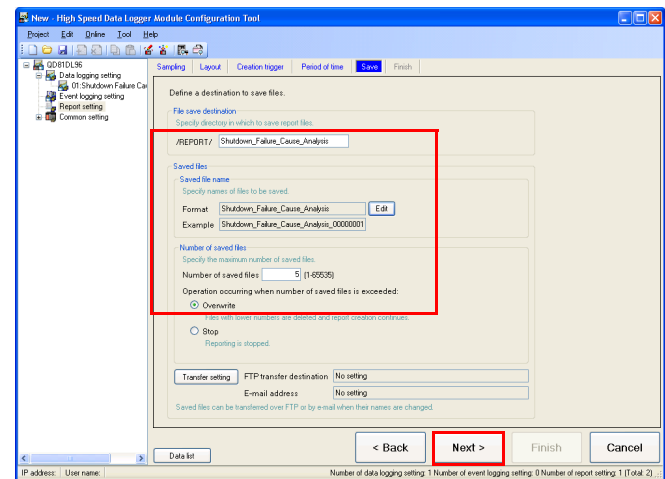
4. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-----------------------|---------------------------------|
| File save destination | Shutdown_Failure_Cause_Analysis |
| Number of saved files | 5 |
| | Overwrite |

Click the [Edit] button, check "Attach the name" on the Saved file name setting screen, and click the [OK] button.

After specifying the settings, click the [Next] button.

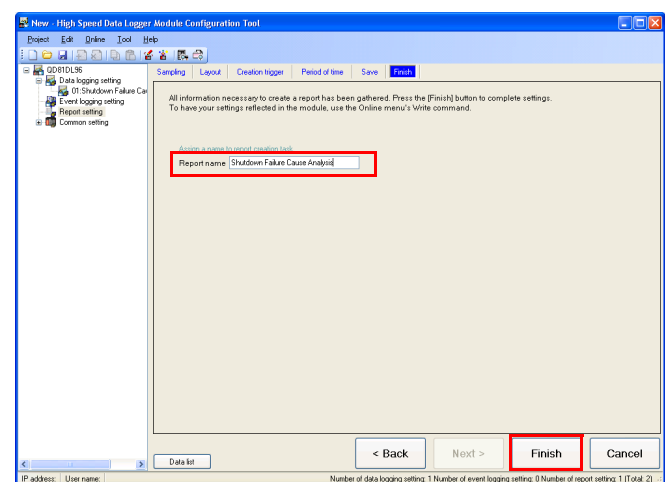


5. Completing the setting

Set the report name.

('Shutdown Failure Cause Analysis' for this example)

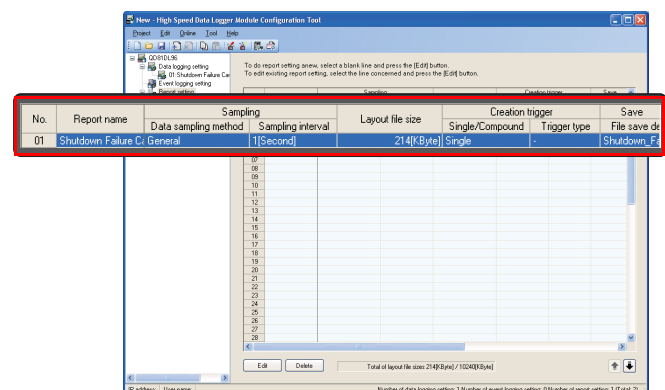
After entering the report name, click the [Finish] button.



6. Checking the settings

The created report setting is added to the setting list.

This completes the report setting for 'Shutdown Failure Cause Analysis'.
Save the project.



This completes the setting

3. Daily Power Usage Report

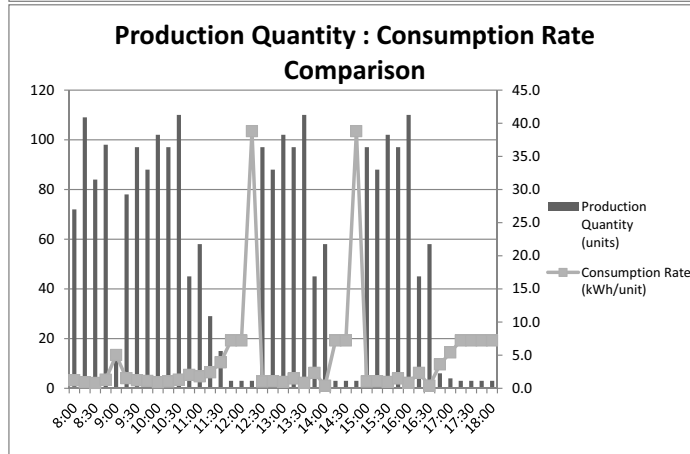
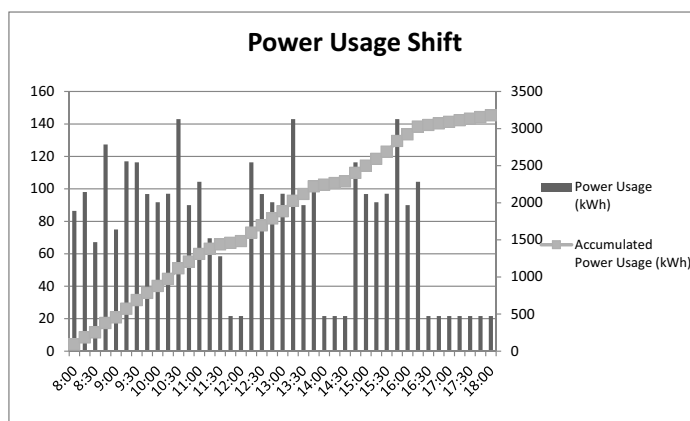
| | |
|---------|--|
| Outline | Create a daily report contains a graph which shows the power usage shifts, and a graph for comparing production quantity and consumption rate. |
|---------|--|

(1) Output Example

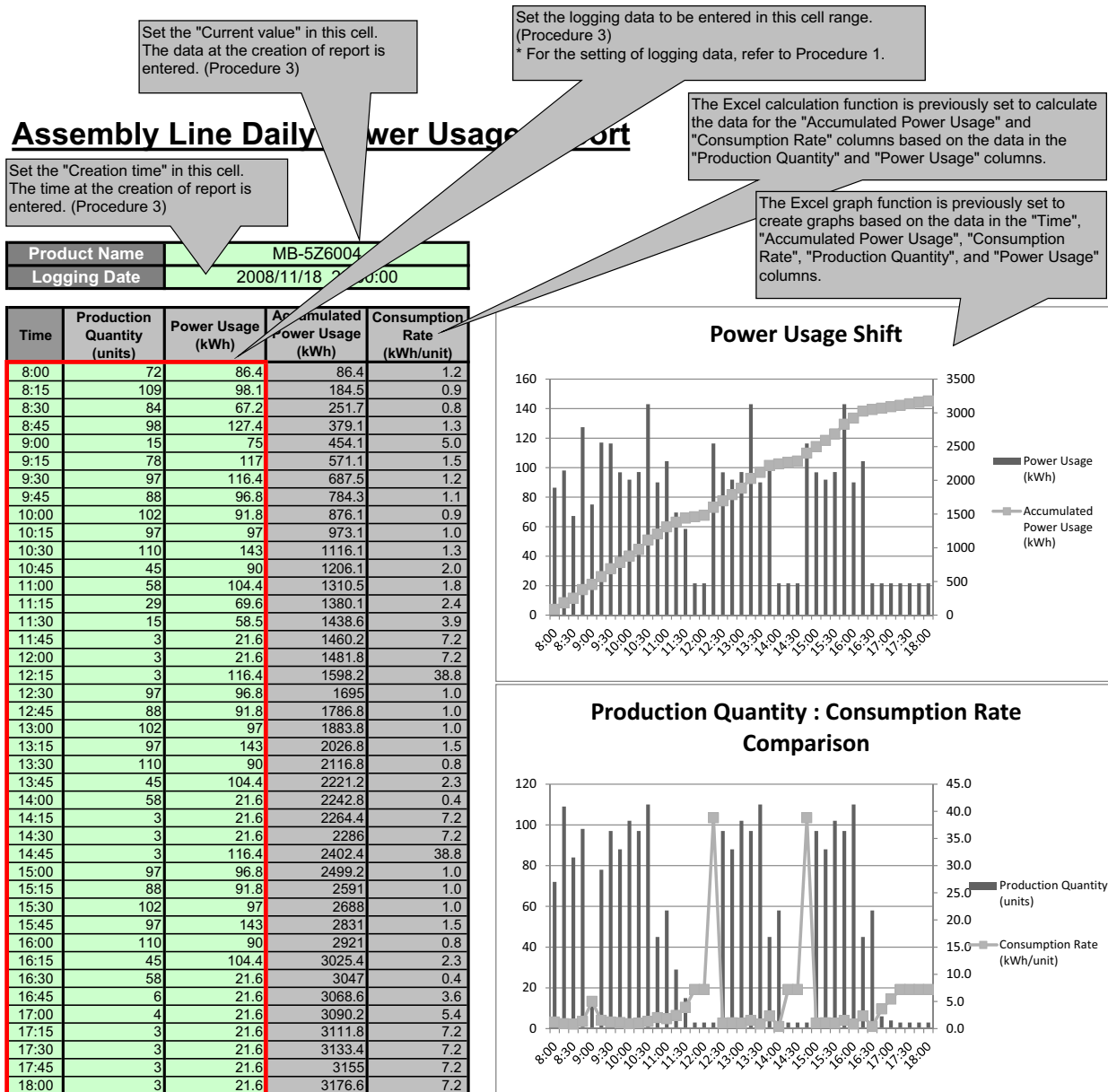
Assembly Line Daily Power Usage Report

| | |
|--------------|---------------------|
| Product Name | MB-5Z6004 |
| Logging Date | 2011/11/18 23:00:00 |

| Time | Production Quantity (units) | Power Usage (kWh) | Accumulated Power Usage (kWh) | Consumption Rate (kWh/unit) |
|-------|-----------------------------|-------------------|-------------------------------|-----------------------------|
| 8:00 | 72 | 86.4 | 86.4 | 1.2 |
| 8:15 | 109 | 98.1 | 184.5 | 0.9 |
| 8:30 | 84 | 67.2 | 251.7 | 0.8 |
| 8:45 | 98 | 127.4 | 379.1 | 1.3 |
| 9:00 | 15 | 75 | 454.1 | 5.0 |
| 9:15 | 78 | 117 | 571.1 | 1.5 |
| 9:30 | 97 | 116.4 | 687.5 | 1.2 |
| 9:45 | 88 | 96.8 | 784.3 | 1.1 |
| 10:00 | 102 | 91.8 | 876.1 | 0.9 |
| 10:15 | 97 | 97 | 973.1 | 1.0 |
| 10:30 | 110 | 143 | 1116.1 | 1.3 |
| 10:45 | 45 | 90 | 1206.1 | 2.0 |
| 11:00 | 58 | 104.4 | 1310.5 | 1.8 |
| 11:15 | 29 | 69.6 | 1380.1 | 2.4 |
| 11:30 | 15 | 58.5 | 1438.6 | 3.9 |
| 11:45 | 3 | 21.6 | 1460.2 | 7.2 |
| 12:00 | 3 | 21.6 | 1481.8 | 7.2 |
| 12:15 | 3 | 116.4 | 1598.2 | 38.8 |
| 12:30 | 97 | 96.8 | 1695 | 1.0 |
| 12:45 | 88 | 91.8 | 1786.8 | 1.0 |
| 13:00 | 102 | 97 | 1883.8 | 1.0 |
| 13:15 | 97 | 143 | 2026.8 | 1.5 |
| 13:30 | 110 | 90 | 2116.8 | 0.8 |
| 13:45 | 45 | 104.4 | 2221.2 | 2.3 |
| 14:00 | 58 | 21.6 | 2242.8 | 0.4 |
| 14:15 | 3 | 21.6 | 2264.4 | 7.2 |
| 14:30 | 3 | 21.6 | 2286 | 7.2 |
| 14:45 | 3 | 116.4 | 2402.4 | 38.8 |
| 15:00 | 97 | 96.8 | 2499.2 | 1.0 |
| 15:15 | 88 | 91.8 | 2591 | 1.0 |
| 15:30 | 102 | 97 | 2688 | 1.0 |
| 15:45 | 97 | 143 | 2831 | 1.5 |
| 16:00 | 110 | 90 | 2921 | 0.8 |
| 16:15 | 45 | 104.4 | 3025.4 | 2.3 |
| 16:30 | 58 | 21.6 | 3047 | 0.4 |
| 16:45 | 6 | 21.6 | 3068.6 | 3.6 |
| 17:00 | 4 | 21.6 | 3090.2 | 5.4 |
| 17:15 | 3 | 21.6 | 3111.8 | 7.2 |
| 17:30 | 3 | 21.6 | 3133.4 | 7.2 |
| 17:45 | 3 | 21.6 | 3155 | 7.2 |
| 18:00 | 3 | 21.6 | 3176.6 | 7.2 |



(2) Layout Setting Out



(3) Setting Procedure

3

Start

Activate the configuration Tool

Configure the data logging settings.
The setting contents are as shown below.

| The setting contents are as shown below. | | | | | | |
|--|--|--------|--------------------------|--------------------------|--------------------------|-------------|
| Item | Setting Data | | | | | Reference |
| Logging type/ File format | Logging type | | File format | | | Procedure 1 |
| | Continuous logging | | Binary file | | | |
| Sampling | General sampling (900 seconds) | | | | | |
| Data | Set the following data. | | | | | |
| | Data name | Device | Access target CPU | Data type | Output Format | |
| | Production Quantity | D1210 | Control CPU | FLOAT [single precision] | FLOAT [single precision] | |
| | Power Usage | D1212 | Control CPU | FLOAT [single precision] | FLOAT [single precision] | |
| Period of time | Specify "Specify a period of time". | | | | | |
| | Type of condition | | Contents | | | |
| | Time-of-the-day range | | 08:00:00-18:00:00 | | | |
| Binary output | Specify "Output date information (In nanosecond)". | | | | | |
| Save | File save destination | | Daily_Power_Usage_Report | | | |
| | File switching timing | | | | | |
| | Specifying a time of day | | Every/Every 08:00:00 | | | |
| | Number of saved files | | | | | |
| | Number of saved files | | 2 | | | |
| | Operation occurring when number of saved files is exceeded | | Overwrite | | | |
| Finish | Data logging name | | | | | |
| | Daily Power Usage Report | | | | | |

Configure the report settings.
The setting contents are as shown below.

The setting contents are as shown below.

| Item | Setting Data | Reference | | | | | | | | | | | | |
|---|---|---------------------------|--------------------------|--------------------------|---------------------------|-----------------------|--------------|-----------------------|-------|--|----|-----------|--|-------------|
| Sampling | General sampling (1 second) | | | | | | | | | | | | | |
| Layout | Use the 'Sample' sheet of 'Daily Power Usage Report.xls' for the configuration Tool when configuring the layout settings. | Procedure 2 | | | | | | | | | | | | |
| | "Current value" setting | | | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>Number of pieces of data</th><th>Device Head</th><th>Data type</th><th>Size</th></tr><tr><td>Product Name</td><td>1</td><td>D1100</td><td>String</td><td>10</td></tr></table> | Layout name | Number of pieces of data | Device Head | Data type | Size | Product Name | 1 | D1100 | String | 10 | | | |
| | Layout name | Number of pieces of data | Device Head | Data type | Size | | | | | | | | | |
| | Product Name | 1 | D1100 | String | 10 | | | | | | | | | |
| | "Creation time" setting | | Procedure 3 | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>(Description)</th></tr><tr><td>Logging Date</td><td>Start time of data output</td></tr></table> | Layout name | (Description) | Logging Date | Start time of data output | | | | | | | | | |
| | Layout name | (Description) | | | | | | | | | | | | |
| | Logging Date | Start time of data output | | | | | | | | | | | | |
| | "Data logging" setting | | | | | | | | | | | | | |
| <table><tr><th>Layout name</th><th>Data logging name</th></tr><tr><td>Daily Power Usage Report</td><td>Daily Power Usage Report</td></tr></table> | Layout name | Data logging name | Daily Power Usage Report | Daily Power Usage Report | | | | | | | | | | |
| Layout name | Data logging name | | | | | | | | | | | | | |
| Daily Power Usage Report | Daily Power Usage Report | | | | | | | | | | | | | |
| Creation trigger | <table><tr><th>Trigger type</th><th>Contents</th></tr><tr><td>Specifying a time of day</td><td>Every/Every 8:00:00</td></tr></table> | Trigger type | Contents | Specifying a time of day | Every/Every 8:00:00 | | | | | | | | | |
| Trigger type | Contents | | | | | | | | | | | | | |
| Specifying a time of day | Every/Every 8:00:00 | | | | | | | | | | | | | |
| Period of time | Uncheck "Specify a period of time". | | | | | | | | | | | | | |
| Save | <table><tr><th colspan="2">File save destination</th></tr><tr><td colspan="2">Daily_Power_Usage_Report</td></tr><tr><th colspan="2">Number of saved files</th></tr><tr><td>Number of saved files</td><td>5</td></tr><tr><td colspan="2">Operation occurring when number of saved files is exceeded</td></tr><tr><td colspan="2">Overwrite</td></tr></table> | File save destination | | Daily_Power_Usage_Report | | Number of saved files | | Number of saved files | 5 | Operation occurring when number of saved files is exceeded | | Overwrite | | Procedure 4 |
| File save destination | | | | | | | | | | | | | | |
| Daily_Power_Usage_Report | | | | | | | | | | | | | | |
| Number of saved files | | | | | | | | | | | | | | |
| Number of saved files | 5 | | | | | | | | | | | | | |
| Operation occurring when number of saved files is exceeded | | | | | | | | | | | | | | |
| Overwrite | | | | | | | | | | | | | | |
| Finish | <table><tr><th>Report name</th></tr><tr><td>Daily Power Usage Report</td></tr></table> | Report name | Daily Power Usage Report | | | | | | | | | | | |
| Report name | | | | | | | | | | | | | | |
| Daily Power Usage Report | | | | | | | | | | | | | | |

* Set the default to the settings which are not mentioned above.

Complete

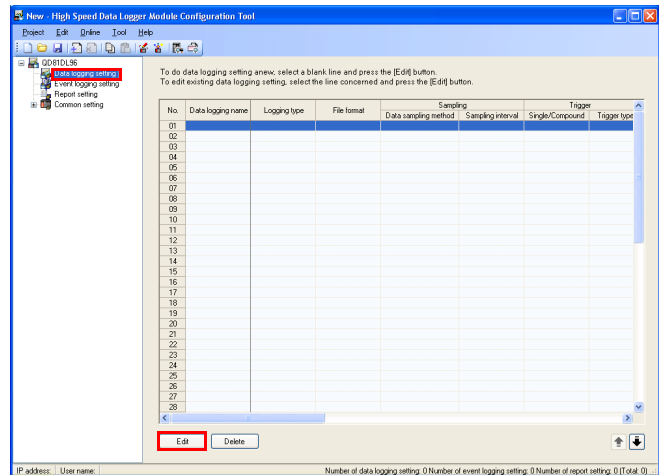
Procedure 1

* For details of operating procedure of the configuration Tool, refer to High Speed Data Logger Module User's Manual.

1. Starting the data logging setting

Click "Data logging setting" in the project tree.

After the data logging setting list screen is displayed, click the [Edit] button.



3

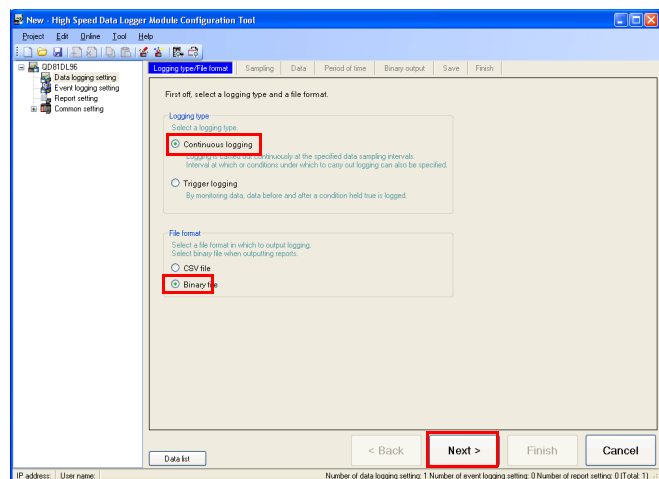
2. Selecting the logging type and file format

Select the following settings.

Logging type: Continuous logging

File format: Binary file

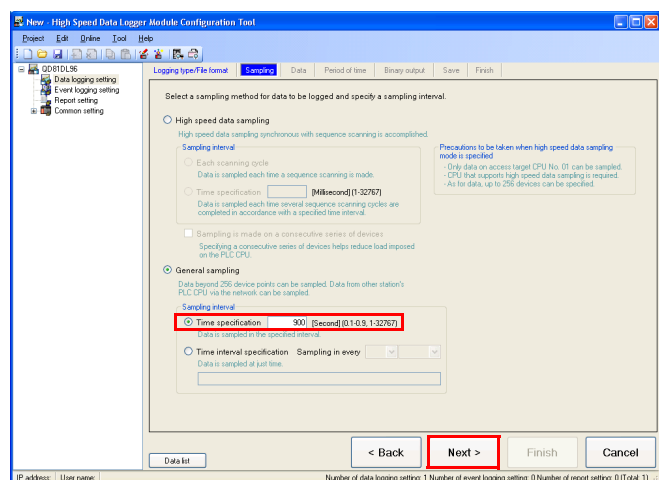
Click the [Next] button.



3. Selecting the sampling method

Select "General sampling" and set the Time specification to 900 seconds.

Click the [Next] button.

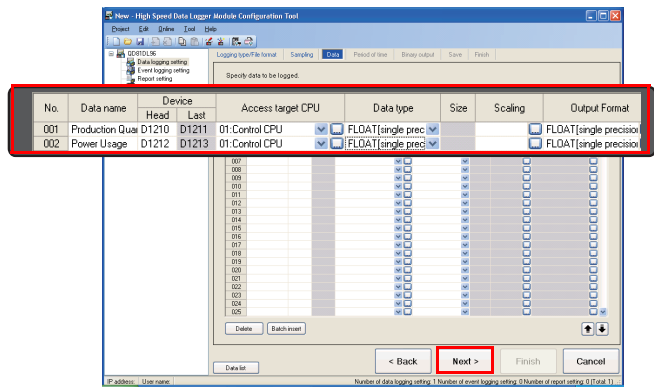


4. Specifying data to be logged

Specify the following data.

| Data name | Device Head | Data type | Output format |
|---------------------|-------------|--------------------------|--------------------------|
| Production Quantity | D1210 | FLOAT [single precision] | FLOAT [single precision] |
| Power Usage | D1212 | FLOAT [single precision] | FLOAT [single precision] |

After specifying the data, click the [Next] button.



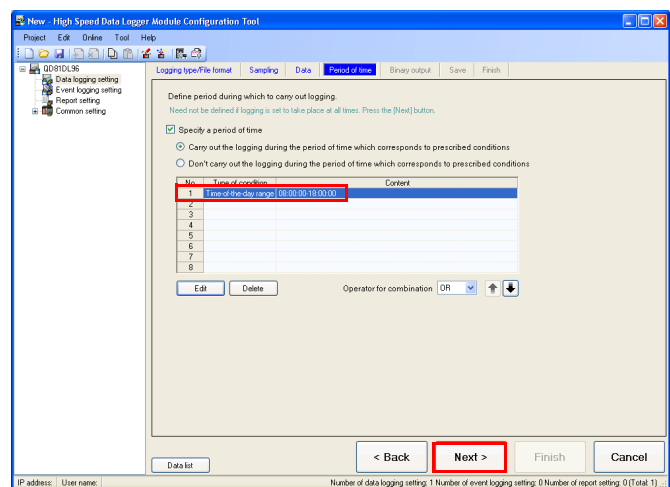
5. Setting the period of time

Select "Carry out the logging during the period of time which corresponds to prescribed conditions".

Click the [Edit] button and specify the following condition.

| Type of condition | Contents |
|-----------------------|-------------------|
| Time-of-the-day range | 08:00:00-18:00:00 |

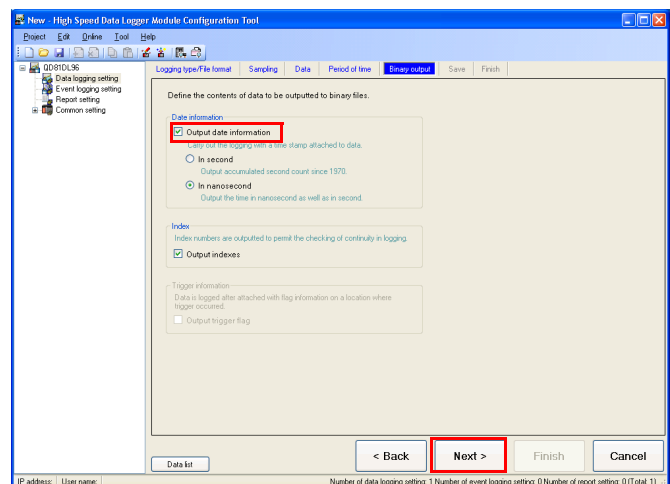
After specifying the condition, click the [Next] button.



6. Setting the binary output

Check "Output date information".

Click the [Next] button.

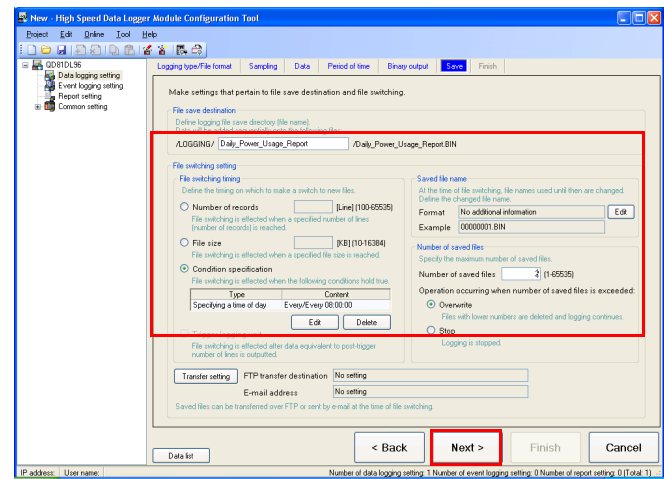


7. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-------------------------|---------------------------|
| File save destination | Daily_Power_Usage_Report |
| File switching setting | |
| File switching timing | |
| Condition specification | |
| Type | Specifying of time of day |
| Content | Every/Every 08:00:00 |
| Number of saved files | 2 |
| | Overwrite |

After specifying the settings, click the [Next] button.

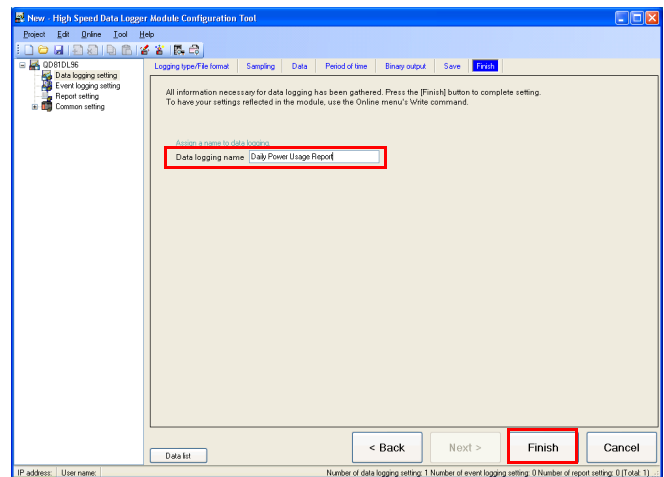


8. Completing the setting

Set the data logging name.

('Daily Power Usage Report' for this example)

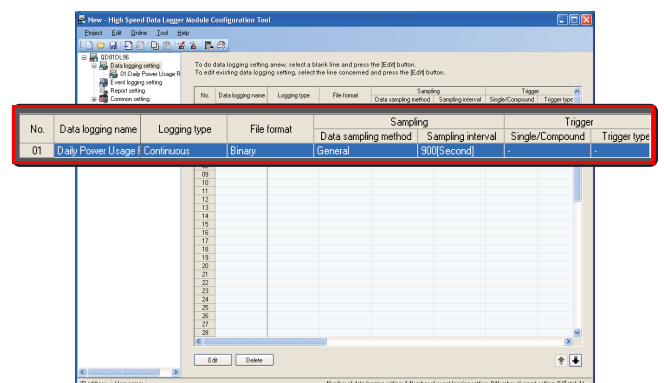
After entering the data logging name, click the [Finish] button.



9. Checking the settings

The created data logging setting is added to the setting list.

This completes the data logging setting for 'Daily Power Usage Report'.
Save the project.



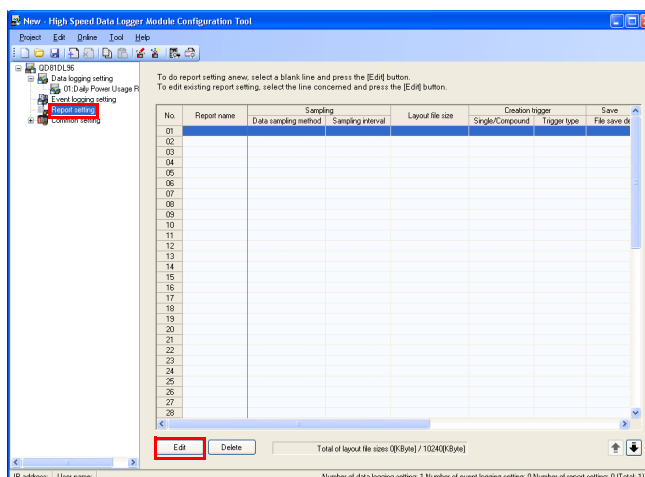
Continue on to procedure 2

Procedure 2

1. Starting the report setting

Click "Report setting" in the project tree.

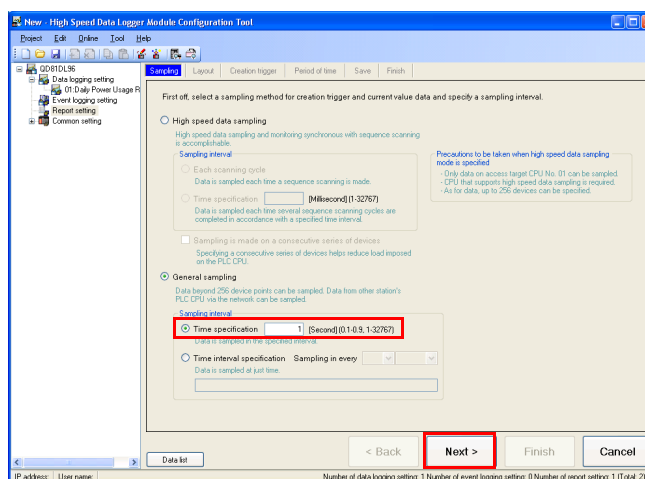
After the report setting list screen is displayed, click the [Edit] button.



2. Selecting the sampling method

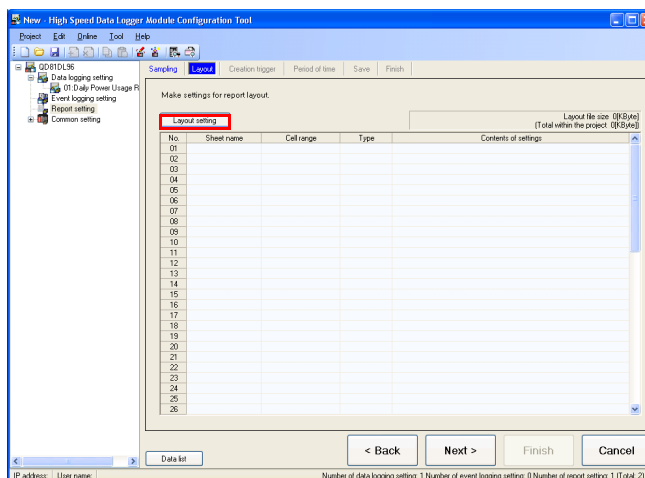
Select "General sampling" and set the Time specification to 1 second.

Click the [Next] button.



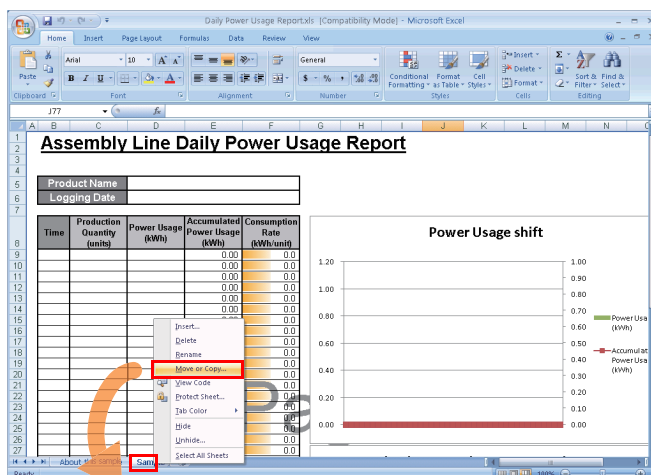
3. Configuring the layout settings

Click the [Layout setting] button.

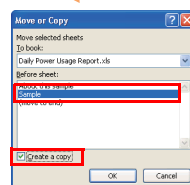


3

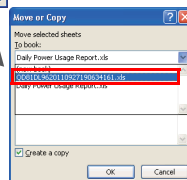
Right-click on the tab of 'Sample' sheet in the opened file, and select "Move or Copy".



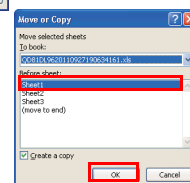
Check "Create a copy" and select 'Sample' from the list.



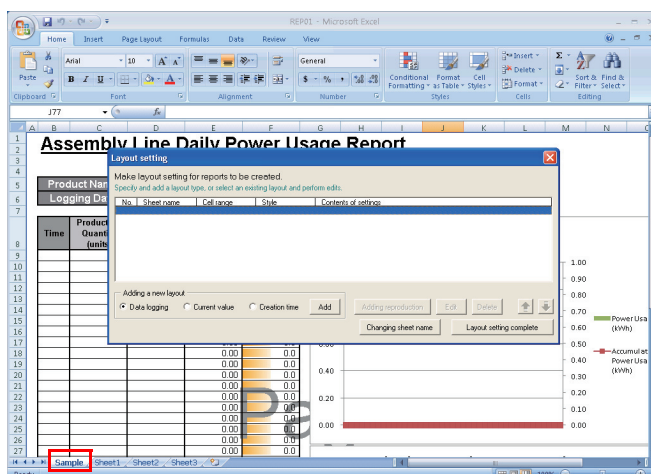
Select 'QD81DL96YYYYMMDD*****.xls' from the list of "To book".



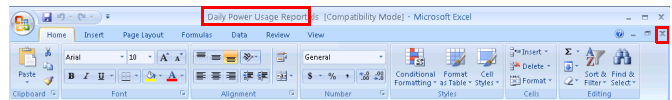
Select 'Sheet1' from the list of "Before sheet", and click the [OK] button.



The 'Sample' sheet is copied to the Excel file for which the layout settings are configured.



6. Close the original copied 'Daily Power Usage Report.xls'.

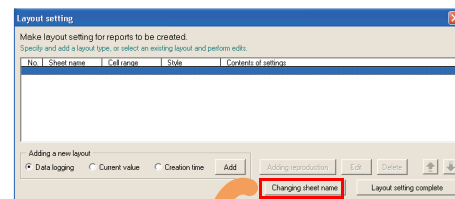


7. Change the sheet name.

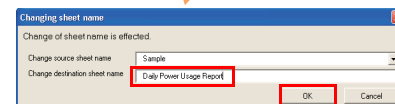
* Use the [Changing sheet name] button on the Layout setting screen to change the sheet name.

If the sheet name is changed by using a method other than the above method, the layout setting cannot be configured properly.

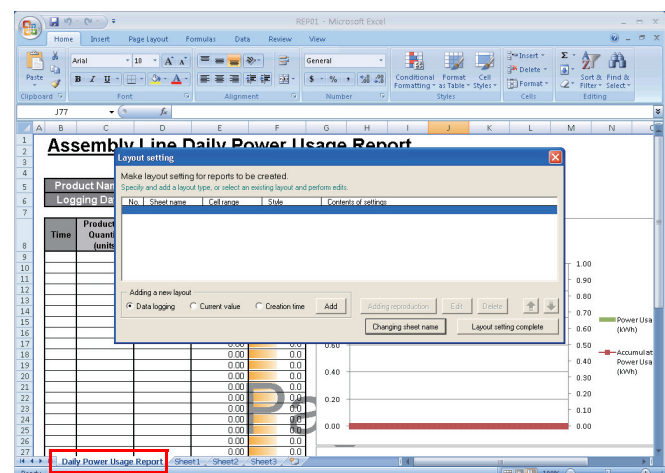
Click the [Changing sheet name] button.



Enter 'Daily Power Usage Report' for "Change destination sheet name", and click the [OK] button.



The sheet name is changed.



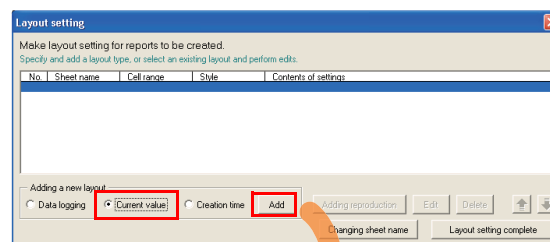
Continue on to procedure 3

Procedure 3

3

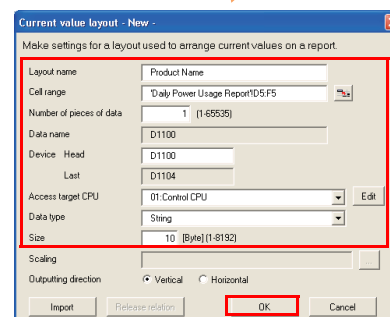
1. Setting the layout for Product Name

Select "Current value" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Current value layout screen.

| Item | Setting Data |
|--------------------------|-----------------------------|
| Layout name | Product Name |
| Cell range | Daily Power Usage Report!D5 |
| Number of pieces of data | 1 |
| Device Head | D1100 |
| Access target CPU | 01:Control CPU |
| Data type | String |
| Size | 10 |

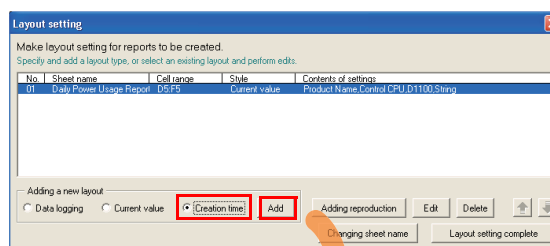


After specifying the data, click the [OK] button on the Current value layout screen.

The configured current value layout is registered.

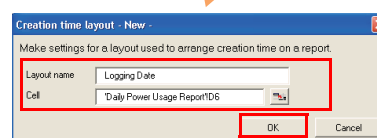
2. Setting the layout for Logging Date

Select "Creation time" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Creation time layout screen.

| Item | Setting Data |
|-------------|-----------------------------|
| Layout name | Logging Date |
| Cell | Daily Power Usage Report!D6 |

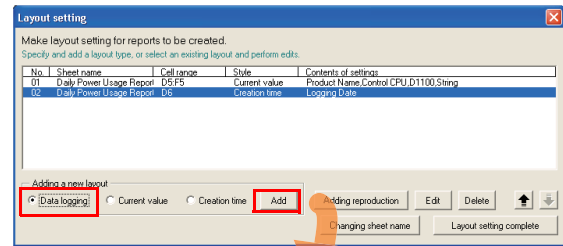


After specifying the data, click the [OK] button on the Creation time layout screen.

The configured creation time layout is registered.

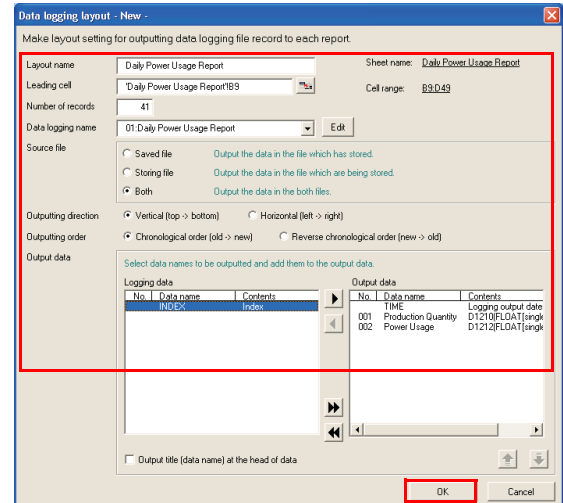
3. Setting the logging data

Select "Data logging" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Data logging layout screen.

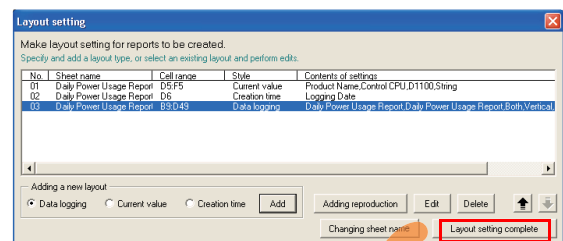
| Item | Setting Data |
|----------------------|----------------------------------|
| Layout name | Daily Power Usage Report |
| Leading cell | Daily Power Usage Report!B9 |
| Number of records | 41 |
| Data logging name | 01:Daily Power Usage Report |
| Source file | Both |
| Outputting direction | Vertical [top -> bottom] |
| Outputting order | Chronological order [old -> new] |
| Output data | TIME |
| | Production Quantity |
| | Power Usage |



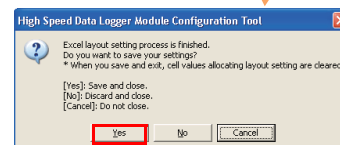
After specifying the data, click the [OK] button on the Data logging layout screen.

4. Confirming the layout settings

Click the [Layout setting complete] button.



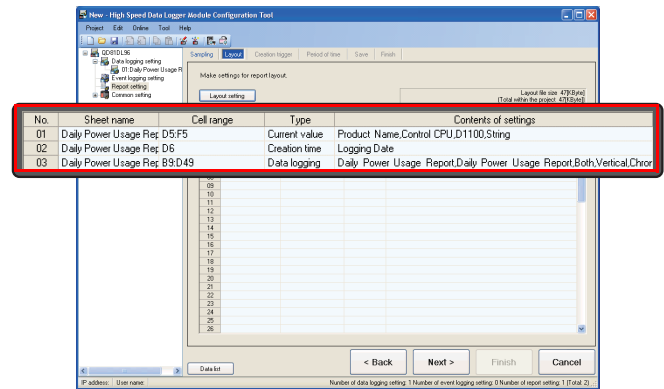
Click the [Yes] button.



5. Checking the settings

The created layout settings are added to the setting list.

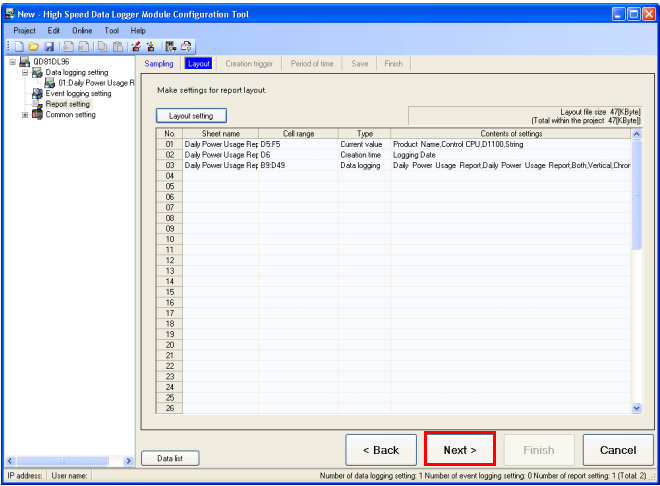
This completes the layout settings for 'Daily Power Usage Report'.



Continue on to procedure 4

Procedure 4

1. After the layout settings, click the [Next] button.

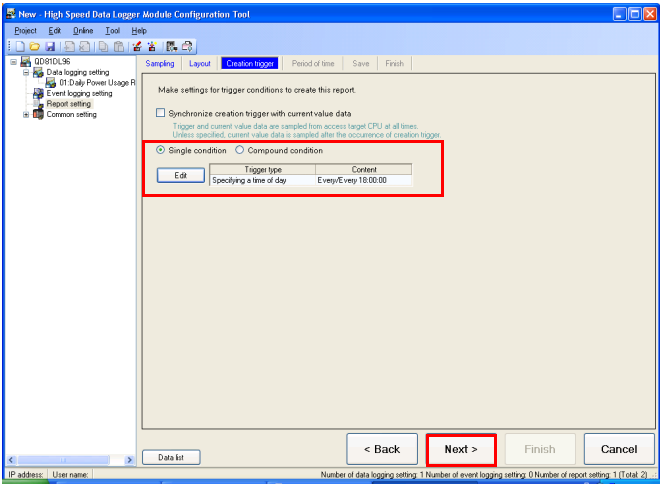


2. Setting the creation trigger

Click the [Edit] button, and specify the following conditions.

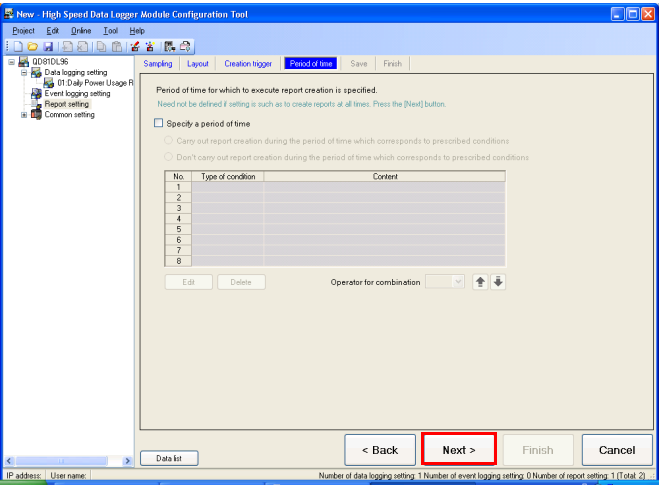
| Item | Setting Data |
|--------------|--------------------------|
| Trigger type | Specifying a time of day |
| Contents | Every/Every 18:00:00 |

After specifying the conditions, click the [Next] button.



3. Setting the period of time (No specification)

Click the [Next] button.



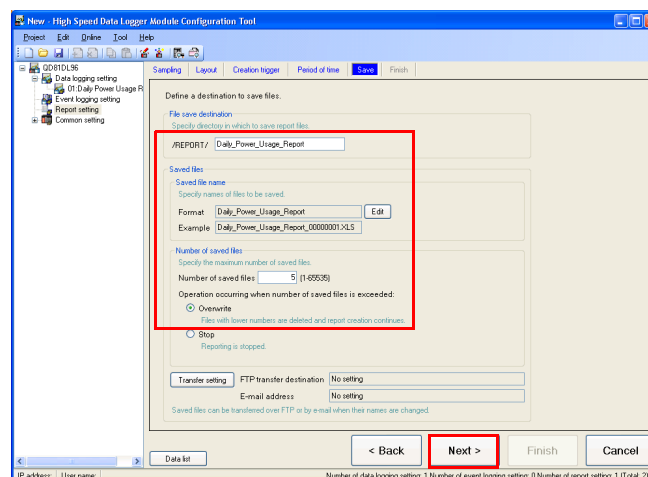
4. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-----------------------|--------------------------|
| File save destination | Daily_Power_Usage_Report |
| Number of saved files | 5 |
| | Overwrite |

Click the [Edit] button, check "Attach the name" on the Saved file name setting screen, and click the [OK] button.

After specifying the settings, click the [Next] button.



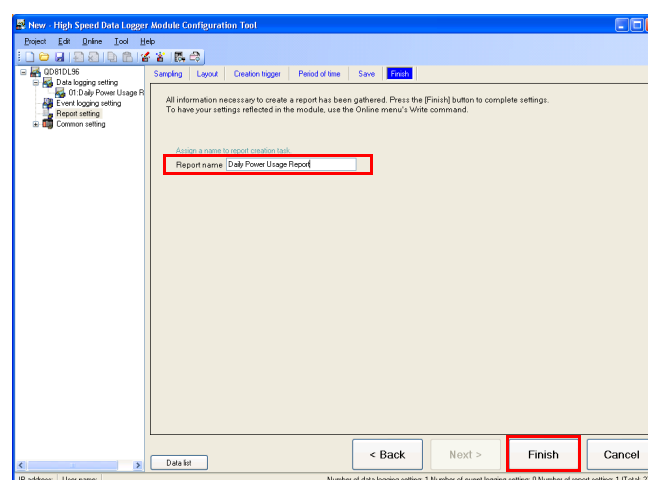
3

5. Completing the setting

Set the report name.

('Daily Power Usage Report' for this example)

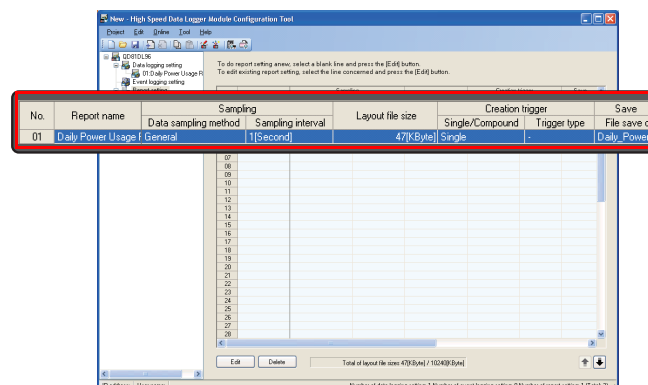
After entering the report name, click the [Finish] button.



6. Checking the settings

The created report setting is added to the setting list.

This completes the report setting for 'Daily Power Usage Report'.
Save the project.



This completes the setting

4. Quality Control - Xbar-R Control Diagram

| | |
|---------|--|
| Outline | Create a Xbar-R control diagram to check whether if the average value and range of the measured value are within the range of the management standard. |
|---------|--|

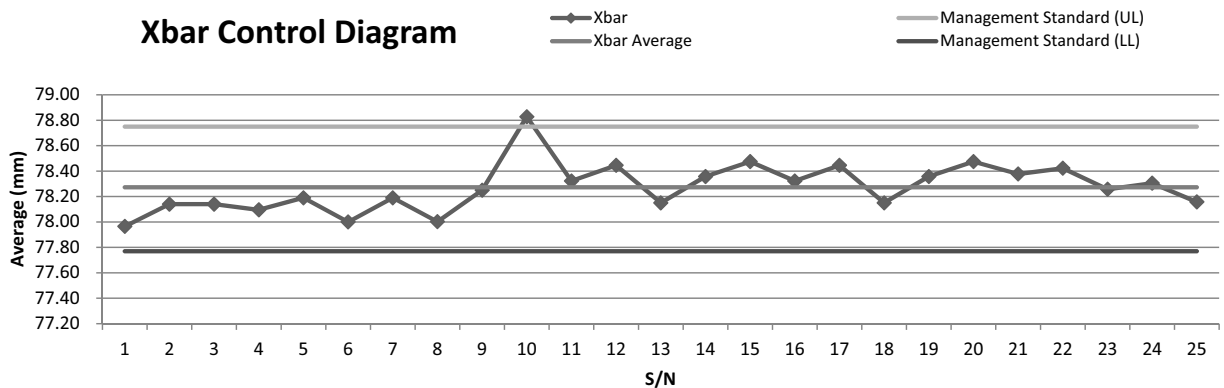
(1) Output Example

Xbar-R Control Diagram

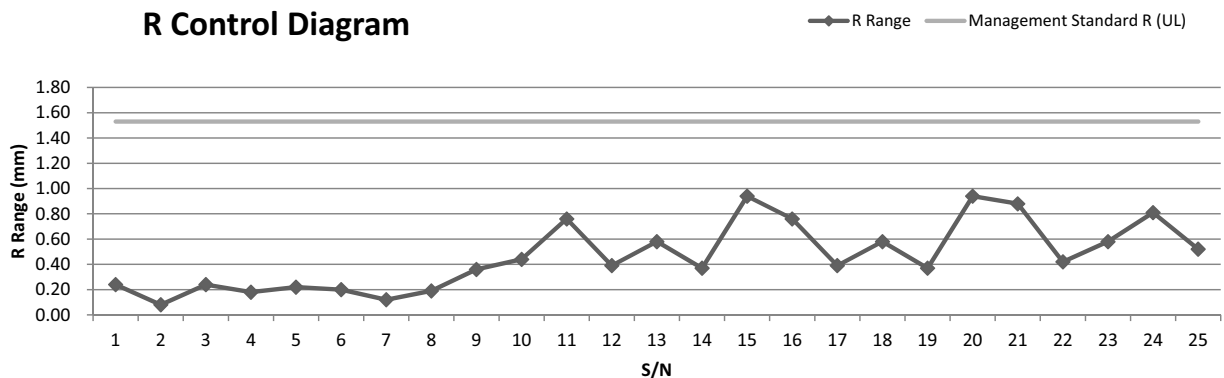
Print Date: 2011/11/3 10:37

| Product Name | | MB-5Z6004 | | | | | | | | Management Standard | (LL) | (UL) | R(UL) |
|--------------|--------------------|-------------------------|-------|-------|-------|------------------|-----------|-----------|--------------|---------------------|-------|-------|-------|
| Logging Date | | 2011/10/04 Tue 18:20:00 | | | | | | | | | 77.77 | 78.75 | 1.53 |
| S/N | Measured Data (mm) | | | | Xbar | R Range | Max Value | Min Value | Xbar Average | Management Standard | | | |
| | X1 | X2 | X3 | X4 | | | | | | (LL) | (UL) | R(UL) | |
| 1 | 77.84 | 78.04 | 78.08 | 77.90 | 77.97 | <div></div> 0.24 | 78.08 | 77.84 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 2 | 78.18 | 78.16 | 78.12 | 78.10 | 78.14 | <div></div> 0.08 | 78.18 | 78.10 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 3 | 78.10 | 78.28 | 78.14 | 78.04 | 78.14 | <div></div> 0.24 | 78.28 | 78.04 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 4 | 78.16 | 78.12 | 77.98 | 78.12 | 78.10 | <div></div> 0.18 | 78.16 | 77.98 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 5 | 78.30 | 78.20 | 78.08 | 78.18 | 78.19 | <div></div> 0.22 | 78.30 | 78.08 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 6 | 78.08 | 78.00 | 77.88 | 78.04 | 78.00 | <div></div> 0.20 | 78.08 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 7 | 78.26 | 78.20 | 78.14 | 78.16 | 78.19 | <div></div> 0.12 | 78.26 | 78.14 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 8 | 77.89 | 77.99 | 78.08 | 78.05 | 78.00 | <div></div> 0.19 | 78.08 | 77.89 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 9 | 78.18 | 78.42 | 78.06 | 78.34 | 78.25 | <div></div> 0.36 | 78.42 | 78.06 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 10 | 79.07 | 78.84 | 78.63 | 78.77 | 78.83 | <div></div> 0.44 | 79.07 | 78.63 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 11 | 77.87 | 78.31 | 78.63 | 78.48 | 78.32 | <div></div> 0.76 | 78.63 | 77.87 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 12 | 78.24 | 78.63 | 78.34 | 78.57 | 78.45 | <div></div> 0.39 | 78.63 | 78.24 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 13 | 78.33 | 77.88 | 77.93 | 78.46 | 78.15 | <div></div> 0.58 | 78.46 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 14 | 78.27 | 78.18 | 78.43 | 78.55 | 78.36 | <div></div> 0.37 | 78.55 | 78.18 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 15 | 78.22 | 78.74 | 78.94 | 78.00 | 78.48 | <div></div> 0.94 | 78.94 | 78.00 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 16 | 77.87 | 78.31 | 78.63 | 78.48 | 78.32 | <div></div> 0.76 | 78.63 | 77.87 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 17 | 78.24 | 78.63 | 78.34 | 78.57 | 78.45 | <div></div> 0.39 | 78.63 | 78.24 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 18 | 78.33 | 77.88 | 77.93 | 78.46 | 78.15 | <div></div> 0.58 | 78.46 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 19 | 78.27 | 78.18 | 78.43 | 78.55 | 78.36 | <div></div> 0.37 | 78.55 | 78.18 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 20 | 78.22 | 78.74 | 78.94 | 78.00 | 78.48 | <div></div> 0.94 | 78.94 | 78.00 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 21 | 78.77 | 78.39 | 77.89 | 78.46 | 78.38 | <div></div> 0.88 | 78.77 | 77.89 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 22 | 78.71 | 78.36 | 78.29 | 78.33 | 78.42 | <div></div> 0.42 | 78.71 | 78.29 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 23 | 78.39 | 77.99 | 78.08 | 78.57 | 78.26 | <div></div> 0.58 | 78.57 | 77.99 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 24 | 78.82 | 78.07 | 78.32 | 78.01 | 78.31 | <div></div> 0.81 | 78.82 | 78.01 | 78.27 | 77.77 | 78.75 | 1.53 | |
| 25 | 77.90 | 78.10 | 78.21 | 78.42 | 78.16 | <div></div> 0.52 | 78.42 | 77.90 | 78.27 | 77.77 | 78.75 | 1.53 | |
| Average | | | | | 78.27 | 0.46 | | | | | | | |

Xbar Control Diagram



R Control Diagram



(2) Layout Setting Out

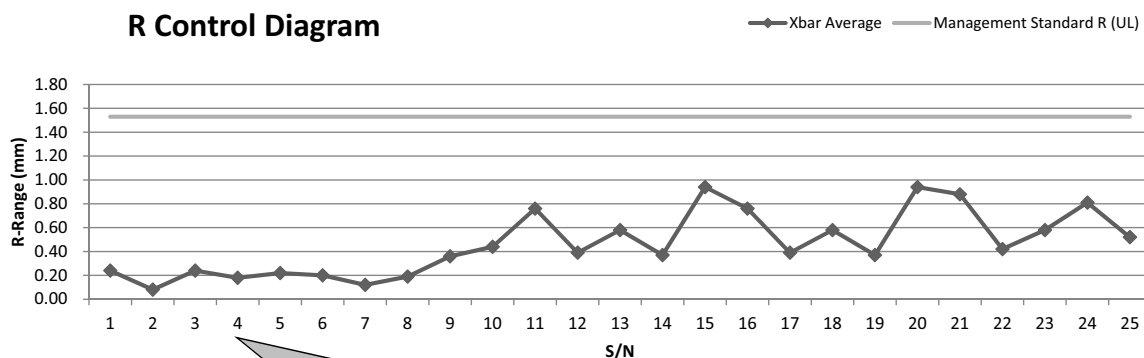
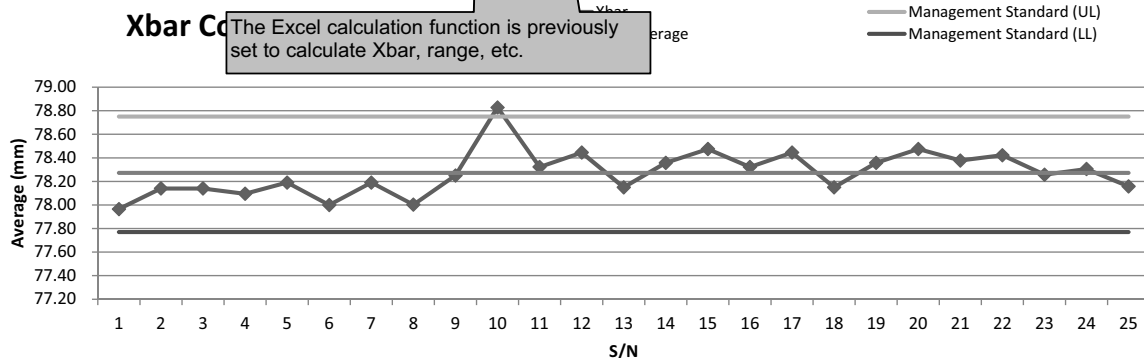
Set the "Current value" in this cell.
The data at the creation of report is entered.
(Procedure 3)

Set the "Creation time" in this cell.
The time at the creation of report is entered.
(Procedure 3)

Xbar-R Control Diagram

Print Date: 2011/11/10 16:09

| Product Name | | MB-5Z6004 | | | | Management Standard | | | | | | |
|--------------|--------------------|-------------------------|-------|-------|-------|---------------------|-----------|-----------|--------------|---------------------|-------|-------|
| Logging Data | | 2011/10/04 Tue 18:20:00 | | | | (LL) | (UL) | R(UL) | | | | |
| | | | | | | 77.77 | 78.75 | 1.53 | | | | |
| S/N | Measured Data (mm) | | | | Xbar | R Range | Max Value | Min Value | Xbar Average | Management Standard | | |
| | X1 | X2 | X3 | X4 | | | | | | (LL) | (UL) | R(UL) |
| 1 | 77.84 | 78.04 | 78.08 | 77.90 | 77.97 | 0.24 | 78.08 | 77.84 | 78.27 | 77.77 | 78.75 | 1.53 |
| 2 | 78.18 | 78.16 | 78.12 | 78.10 | 78.14 | 0.08 | 78.18 | 78.10 | 78.27 | 77.77 | 78.75 | 1.53 |
| 3 | 78.10 | 78.28 | 78.14 | 78.04 | 78.14 | 0.24 | 78.28 | 78.04 | 78.27 | 77.77 | 78.75 | 1.53 |
| 4 | 78.16 | 78.12 | 77.98 | 78.12 | 78.10 | 0.18 | 78.16 | 77.98 | 78.27 | 77.77 | 78.75 | 1.53 |
| 5 | 78.30 | 78.20 | 78.08 | 78.18 | 78.19 | 0.22 | 78.30 | 78.08 | 78.27 | 77.77 | 78.75 | 1.53 |
| 6 | 78.08 | 78.00 | 77.88 | 78.04 | 78.00 | 0.20 | 78.08 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 |
| 7 | 78.26 | 78.20 | 78.14 | 78.16 | 78.19 | 0.12 | 78.26 | 78.14 | 78.27 | 77.77 | 78.75 | 1.53 |
| 8 | 77.89 | 77.99 | 78.08 | 78.05 | 78.00 | 0.19 | 78.08 | 77.89 | 78.27 | 77.77 | 78.75 | 1.53 |
| 9 | 78.18 | 78.42 | 78.06 | 78.34 | 78.25 | 0.36 | 78.42 | 78.06 | 78.27 | 77.77 | 78.75 | 1.53 |
| 10 | 78.17 | 78.84 | 78.63 | 78.77 | 78.83 | 0.44 | 79.07 | 78.63 | 78.27 | 77.77 | 78.75 | 1.53 |
| 11 | 78.31 | 78.63 | 78.63 | 78.48 | 78.32 | 0.76 | 78.63 | 77.87 | 78.27 | 77.77 | 78.75 | 1.53 |
| 12 | 78.63 | 78.34 | 78.34 | 78.57 | 78.45 | 0.39 | 78.63 | 78.24 | 78.27 | 77.77 | 78.75 | 1.53 |
| 13 | 78.46 | 78.15 | 78.15 | 78.15 | 78.15 | 0.58 | 78.46 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 |
| 14 | 78.55 | 78.34 | 78.34 | 78.34 | 78.34 | 0.37 | 78.55 | 78.18 | 78.27 | 77.77 | 78.75 | 1.53 |
| 15 | 78.00 | 78.44 | 78.44 | 78.44 | 78.44 | 0.94 | 78.94 | 78.00 | 78.27 | 77.77 | 78.75 | 1.53 |
| 16 | 78.48 | 78.34 | 78.34 | 78.34 | 78.34 | 0.76 | 78.63 | 77.87 | 78.27 | 77.77 | 78.75 | 1.53 |
| 17 | 78.57 | 78.44 | 78.44 | 78.44 | 78.44 | 0.39 | 78.63 | 78.24 | 78.27 | 77.77 | 78.75 | 1.53 |
| 18 | 78.46 | 78.11 | 78.11 | 78.11 | 78.11 | 0.58 | 78.46 | 77.88 | 78.27 | 77.77 | 78.75 | 1.53 |
| 19 | 78.27 | 78.18 | 78.43 | 78.33 | 78.33 | 0.37 | 78.55 | 78.18 | 78.27 | 77.77 | 78.75 | 1.53 |
| 20 | 78.22 | 78.74 | 78.94 | 78.00 | 78.44 | 0.94 | 78.94 | 78.00 | 78.27 | 77.77 | 78.75 | 1.53 |
| 21 | 78.77 | 78.39 | 77.89 | 78.46 | 78.33 | 0.88 | 78.77 | 77.89 | 78.27 | 77.77 | 78.75 | 1.53 |
| 22 | 78.71 | 78.36 | 78.29 | 78.33 | 78.44 | 0.42 | 78.71 | 78.29 | 78.27 | 77.77 | 78.75 | 1.53 |
| 23 | 78.39 | 77.99 | 78.08 | 78.57 | 78.22 | 0.88 | 78.57 | 77.99 | 78.27 | 77.77 | 78.75 | 1.53 |
| 24 | 78.82 | 78.07 | 78.32 | 78.01 | 78.33 | 0.88 | 78.82 | 78.01 | 78.27 | 77.77 | 78.75 | 1.53 |
| 25 | 77.90 | 78.10 | 78.21 | 78.42 | 78.11 | 0.88 | 78.42 | 77.90 | 78.27 | 77.77 | 78.75 | 1.53 |
| Average | | | | | 78.27 | | | | 78.27 | 77.77 | 78.75 | 1.53 |



The Excel graph function is previously set to create an Xbar control diagram and a R control diagram.

(3) Setting Procedure

4

Start

Activate the configuration Tool

Configure the data logging settings.
The setting contents are as shown below.

The setting contents are as shown below.

| Item | Setting Data | Reference | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----------------------|---------------------------|-----------------------|--------------------------|-------------|-------------|-----------------------|-----------------------|-----------------------|-------------|--|-----------|----------------------|-----------------|------|-------------|---------------|------|--------------------------|-----------------|------|-------------|---------------|------|--------------------------|-----------------|------|-------------|---------------|------|--------------------------|-----------------|------|-------------|---------------|------|--------------------------|
| Logging type/ File format | <table><tr><td>Logging type</td><td>File format</td></tr><tr><td>Continuous logging</td><td>Binary file</td></tr></table> | Logging type | File format | Continuous logging | Binary file | Procedure 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Logging type | File format | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Continuous logging | Binary file | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling | General sampling (0.1 seconds) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data | <p>Set the following data.</p> <table><tr><td>Data name</td><td>Device</td><td>Access target CPU</td><td>Data type</td><td>Scaling</td><td>Output Format</td></tr><tr><td>Product Serial Number</td><td>D100</td><td>Control CPU</td><td>Double word [signed]</td><td></td><td>Double word [signed]</td></tr><tr><td>Measured Data 1</td><td>D510</td><td>Control CPU</td><td>Word [signed]</td><td>/100</td><td>FLOAT [single precision]</td></tr><tr><td>Measured Data 2</td><td>D511</td><td>Control CPU</td><td>Word [signed]</td><td>/100</td><td>FLOAT [single precision]</td></tr><tr><td>Measured Data 3</td><td>D512</td><td>Control CPU</td><td>Word [signed]</td><td>/100</td><td>FLOAT [single precision]</td></tr><tr><td>Measured Data 4</td><td>D513</td><td>Control CPU</td><td>Word [signed]</td><td>/100</td><td>FLOAT [single precision]</td></tr></table> | Data name | Device | Access target CPU | Data type | | Scaling | Output Format | Product Serial Number | D100 | Control CPU | Double word [signed] | | Double word [signed] | Measured Data 1 | D510 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | Measured Data 2 | D511 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | Measured Data 3 | D512 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | Measured Data 4 | D513 | Control CPU | Word [signed] | /100 | FLOAT [single precision] |
| Data name | Device | Access target CPU | Data type | Scaling | Output Format | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Serial Number | D100 | Control CPU | Double word [signed] | | Double word [signed] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Data 1 | D510 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Data 2 | D511 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Data 3 | D512 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Measured Data 4 | D513 | Control CPU | Word [signed] | /100 | FLOAT [single precision] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Binary output | Specify "Output date information (In nanosecond)". | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Save | <table><tr><td>File save destination</td><td>QC_Xbar-R_Control_Diagram</td></tr><tr><td colspan="2">File switching timing</td></tr><tr><td>Fixed cycle</td><td>660 seconds</td></tr><tr><td colspan="2">Number of saved files</td></tr><tr><td>Number of saved files</td><td>5</td></tr><tr><td>Operation occurring when number of saved files is exceeded</td><td>Overwrite</td></tr></table> | File save destination | QC_Xbar-R_Control_Diagram | File switching timing | | Fixed cycle | 660 seconds | Number of saved files | | Number of saved files | 5 | Operation occurring when number of saved files is exceeded | Overwrite | | | | | | | | | | | | | | | | | | | | | | | | | |
| File save destination | QC_Xbar-R_Control_Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| File switching timing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed cycle | 660 seconds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of saved files | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of saved files | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operation occurring when number of saved files is exceeded | Overwrite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Finish | <table><tr><td>Data logging name</td></tr><tr><td>QC Xbar-R Control Diagram</td></tr></table> | Data logging name | QC Xbar-R Control Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data logging name | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| QC Xbar-R Control Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Configure the report settings.
The setting contents are as shown below.

The setting contents are as shown below.

| Item | Setting Data | Reference | | | | | | | | | | | | |
|---|--|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------|--------------|-----------------------|------|--|----|-----------|--|-------------|
| Sampling | General sampling (1 second) | | | | | | | | | | | | | |
| Layout | Use the 'Sample' sheet of 'QC Xbar-R Control Diagram.xls' for the configuration Tool when configuring | Procedure 2 | | | | | | | | | | | | |
| | "Current value" setting | | | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>Number of pieces of data</th><th>Device Head</th><th>Data type</th><th>Size</th></tr><tr><td>Product Name</td><td>1</td><td>D502</td><td>String</td><td>10</td></tr></table> | Layout name | Number of pieces of data | Device Head | Data type | Size | Product Name | 1 | D502 | String | 10 | | | |
| | Layout name | Number of pieces of data | Device Head | Data type | Size | | | | | | | | | |
| | Product Name | 1 | D502 | String | 10 | | | | | | | | | |
| | "Creation time" setting | | Procedure 3 | | | | | | | | | | | |
| | <table><tr><th>Layout name</th><th>(Description)</th></tr><tr><td>Logging Date</td><td>Start time of data output</td></tr></table> | Layout name | (Description) | Logging Date | Start time of data output | | | | | | | | | |
| | Layout name | (Description) | | | | | | | | | | | | |
| | Logging Date | Start time of data output | | | | | | | | | | | | |
| | "Data logging" setting | | | | | | | | | | | | | |
| <table><tr><th>Layout name</th><th>Data logging name</th></tr><tr><td>Measured Data</td><td>QC Xbar-R Control Diagram</td></tr></table> | Layout name | Data logging name | Measured Data | QC Xbar-R Control Diagram | | | | | | | | | | |
| Layout name | Data logging name | | | | | | | | | | | | | |
| Measured Data | QC Xbar-R Control Diagram | | | | | | | | | | | | | |
| Creation trigger | <table><tr><th>Trigger type</th><th>Contents</th></tr><tr><td>Fixed cycle</td><td>120 seconds</td></tr></table> | Trigger type | Contents | Fixed cycle | 120 seconds | | | | | | | | | |
| Trigger type | Contents | | | | | | | | | | | | | |
| Fixed cycle | 120 seconds | | | | | | | | | | | | | |
| Save | <table><tr><th colspan="2">File save destination</th></tr><tr><td colspan="2">QC_Xbar-R_Control_Diagram</td></tr><tr><th colspan="2">Number of saved files</th></tr><tr><td>Number of saved files</td><td>5</td></tr><tr><td colspan="2">Operation occurring when number of saved files is exceeded</td></tr><tr><td colspan="2">Overwrite</td></tr></table> | File save destination | | QC_Xbar-R_Control_Diagram | | Number of saved files | | Number of saved files | 5 | Operation occurring when number of saved files is exceeded | | Overwrite | | Procedure 4 |
| File save destination | | | | | | | | | | | | | | |
| QC_Xbar-R_Control_Diagram | | | | | | | | | | | | | | |
| Number of saved files | | | | | | | | | | | | | | |
| Number of saved files | 5 | | | | | | | | | | | | | |
| Operation occurring when number of saved files is exceeded | | | | | | | | | | | | | | |
| Overwrite | | | | | | | | | | | | | | |
| Finish | <table><tr><th>Report name</th></tr><tr><td>QC Xbar-R Control Diagram</td></tr></table> | Report name | QC Xbar-R Control Diagram | | | | | | | | | | | |
| Report name | | | | | | | | | | | | | | |
| QC Xbar-R Control Diagram | | | | | | | | | | | | | | |

* Set the default to the settings which are not mentioned above.

Complete

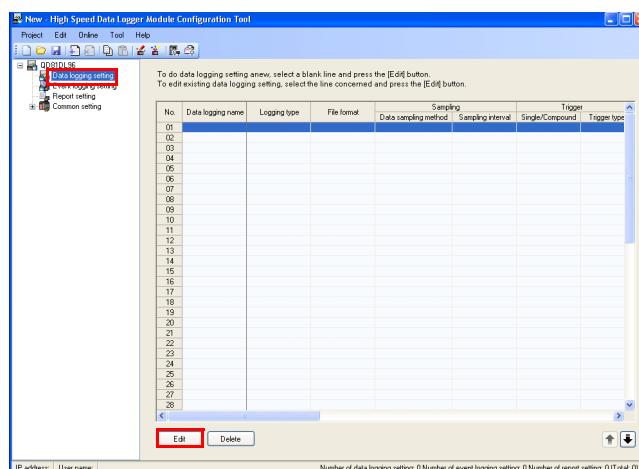
Procedure 1

* For details of operating procedure of the configuration utility, refer to High Speed Data Logger Module User's Manual.

1. Starting the data logging setting

Click "Data logging setting" in the project tree.

After the data logging setting list screen is displayed, click the [Edit] button.



4

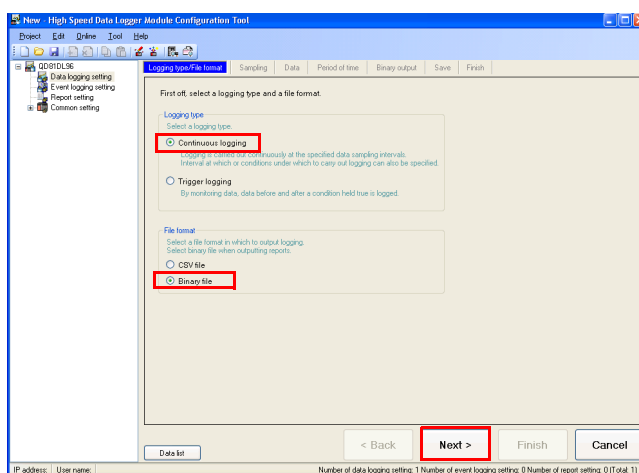
2. Selecting the logging type and file format

Select the following settings.

Logging type: Continuous logging

File format: Binary file

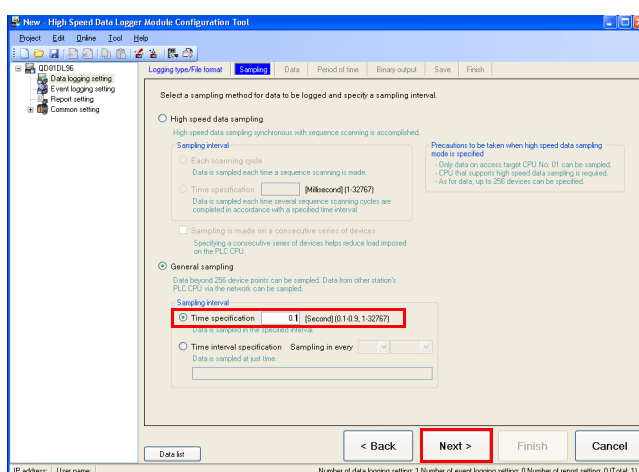
Click the [Next] button.



3. Selecting the sampling method

Select "General sampling" and set the Time specification to 0.1 second.

Click the [Next] button.

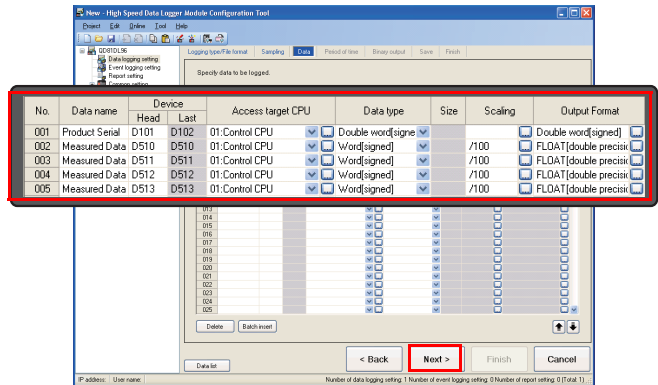


4. Specifying data to be logged

Specify the following data.

| Data name | Device Head | Data Type | Scaling | Output Format |
|-----------------|-------------|----------------------|---------|--------------------------|
| Product Serial | D101 | Double word [signed] | | Double word [signed] |
| Measured Data 1 | D510 | Word [signed] | /100 | FLOAT [double precision] |
| Measured Data 2 | D511 | Word [signed] | /100 | FLOAT [double precision] |
| Measured Data 3 | D512 | Word [signed] | /100 | FLOAT [double precision] |
| Measured Data 4 | D513 | Word [signed] | /100 | FLOAT [double precision] |

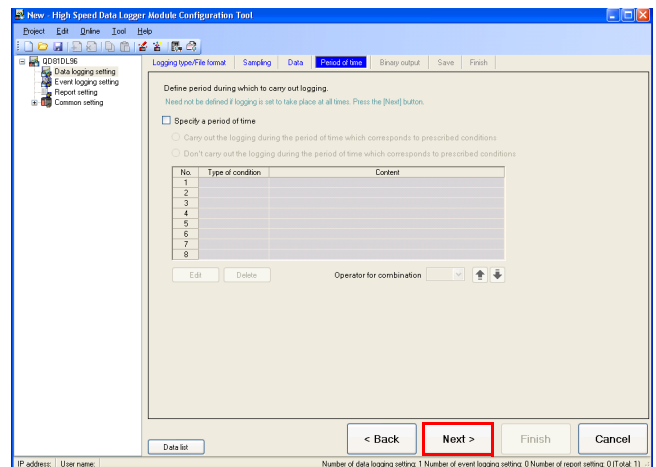
After specifying the data, click the [Next] button.



4

5. Setting the period of time (No specification)

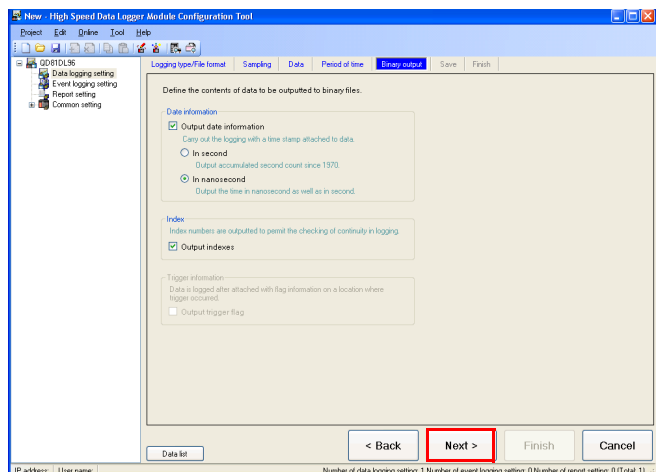
Click the [Next] button.



6. Setting the binary output (No change)

Click the [Next] button.

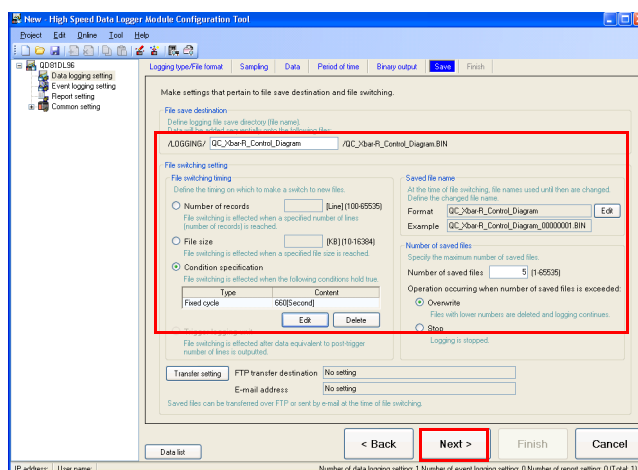
(The output contents to the binary file do not change from the default settings.)



7. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-------------------------|--------------------------|
| File save destination | QC_XbarR_Control_Diagram |
| File switching setting | |
| File switching timing | |
| Condition specification | |
| Type | Fixed cycle |
| Content | 660 [second] |
| Number of saved files | 5 |
| | Overwrite |

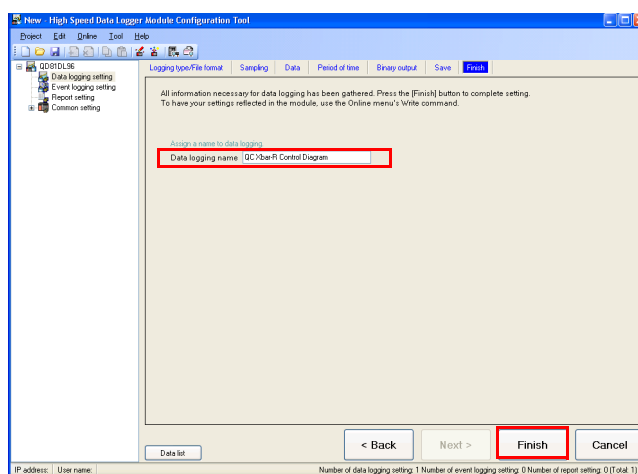


8. Completing the setting

Set the data logging name.

('QC Xbar-R Control Diagram' for this example)

After entering the data logging name, click the [Finish] button.

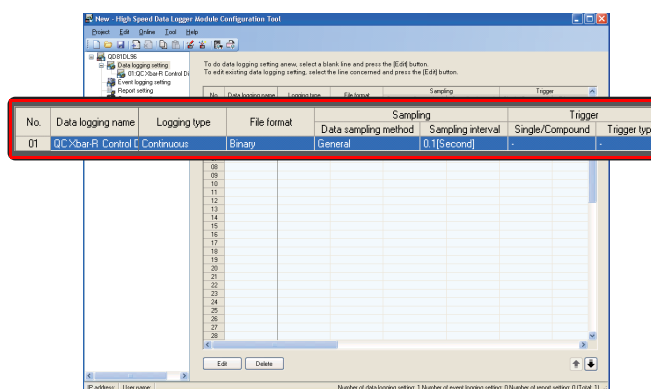


9. Checking the settings

The created data logging setting is added to the setting list.

This completes the data logging setting for 'QC Xbar-R Control Diagram'.

Save the project.



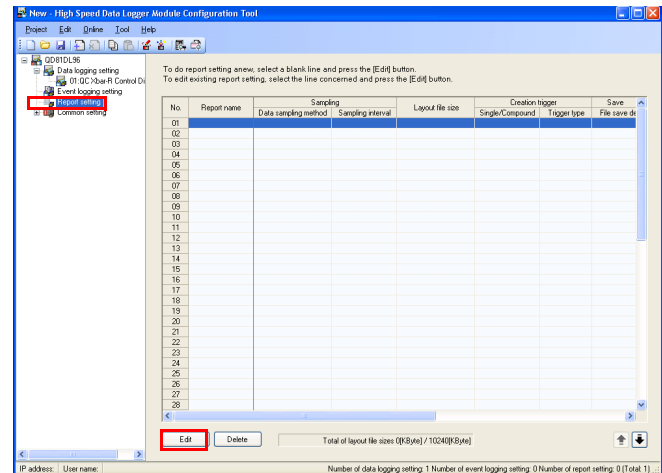
Continue on to procedure 2

Procedure 2

1. Starting the report setting

Click "Report setting" in the project tree.

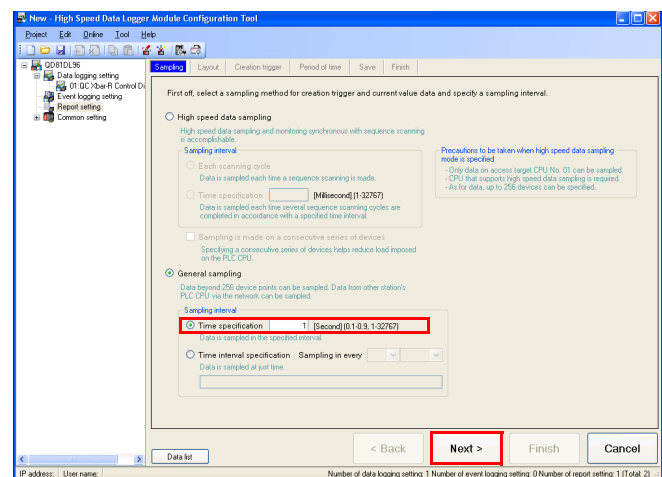
After the report setting list screen is displayed, click the [Edit] button.



2. Selecting the sampling method

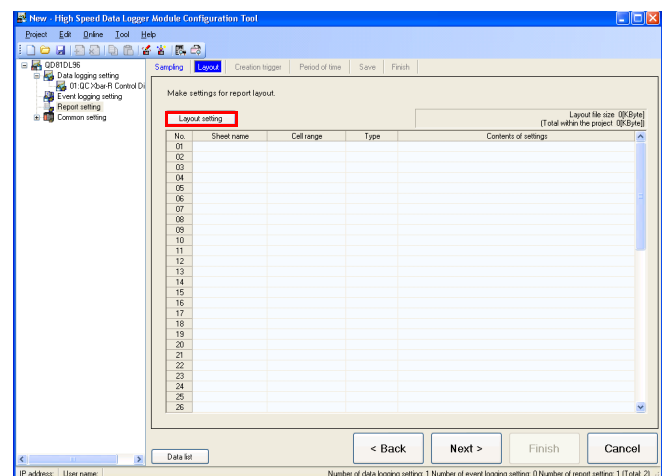
Select "General sampling" and set the Time specification to 1 second.

Click the [Next] button.

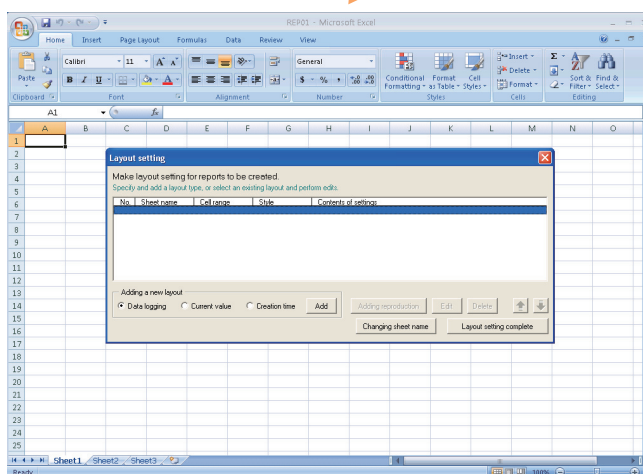
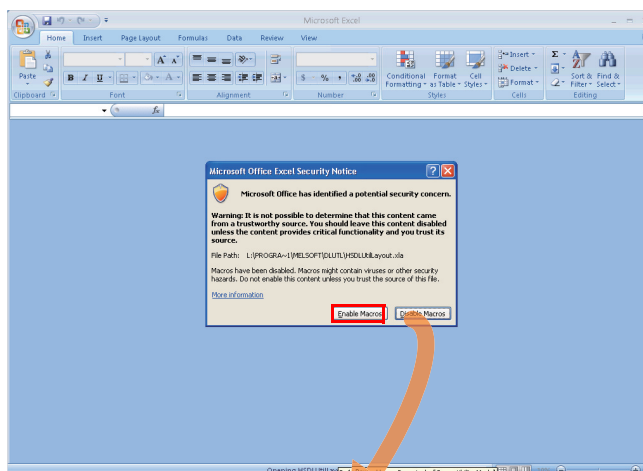


3. Configuring the layout settings

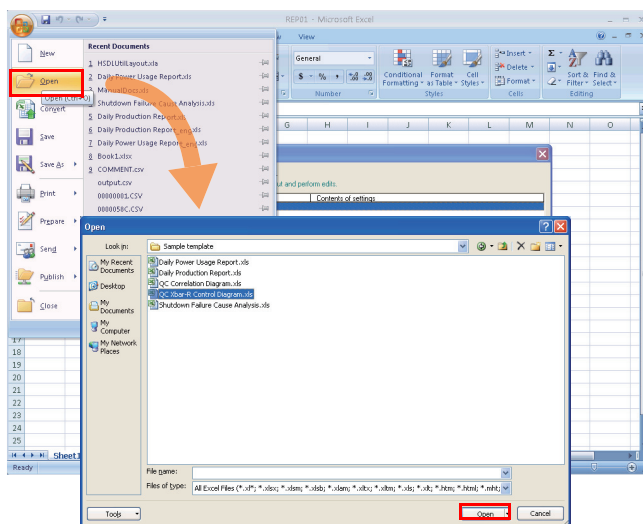
Click the [Layout setting] button.



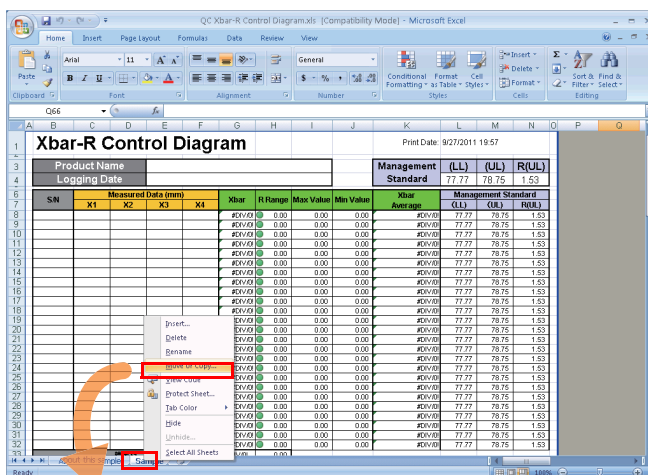
Click the [Enable Macros] button.



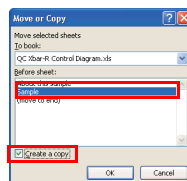
Open 'QC Xbar-R Control Diagram.xls' on the Excel file for which the layout settings are configured.



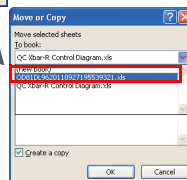
Right-click on the tab of 'Sample' sheet in the opened file, and select "Move or Copy".



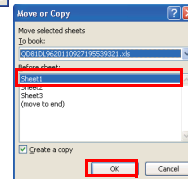
Check "Create a copy" and select 'Sample' from the list.



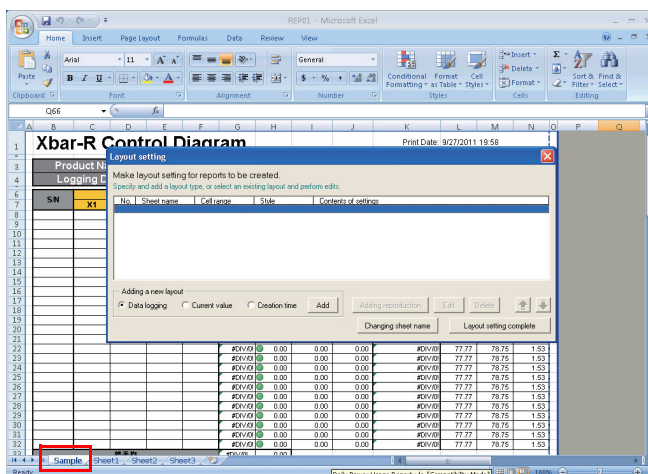
Select 'QD81DL96YYYYMMDD*****.xls' from the list of "To book".



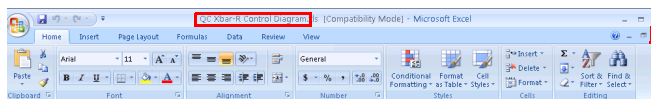
Select 'Sheet1' from the list of "Before sheet", and click the [OK] button.



The 'Sample' sheet is copied to the Excel file for which the layout settings are configured.



6. Close the original copied 'QC Xbar-R Control Diagram.xls'.

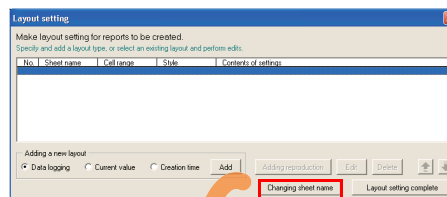


7. Change the sheet name.

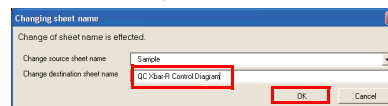
* Use the [Changing sheet name] button on the Layout setting screen to change the sheet name.

If the sheet name is changed by using a method other than the above method, the layout setting cannot be configured properly.

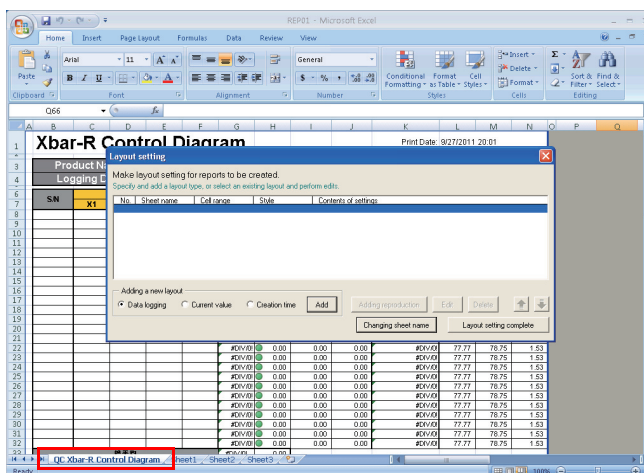
Click the [Changing sheet name] button.



Enter 'QC Xbar-R Control Diagram' for "Change destination sheet name", and click the [OK] button.



The sheet name is changed.

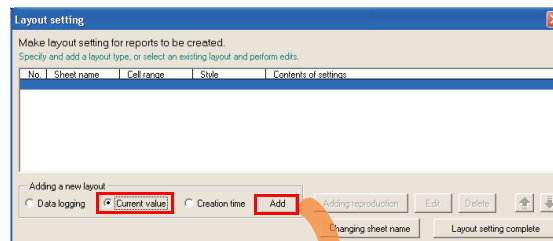


Continue on to procedure 3

Procedure 3

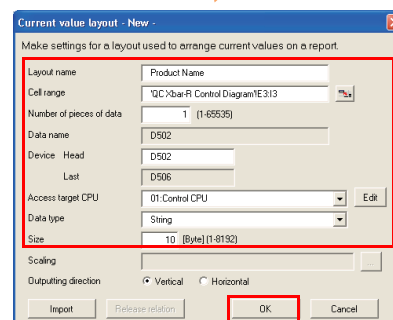
1. Setting the layout for Product Name

Select "Current value" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Current value layout screen.

| Item | Setting Data |
|--------------------------|------------------------------|
| Layout name | Product Name |
| Cell range | QC Xbar-R Control Diagram!E3 |
| Number of pieces of data | 1 |
| Device Head | D502 |
| Access target CPU | 01:Control CPU |
| Data type | String |
| Size | 10 |

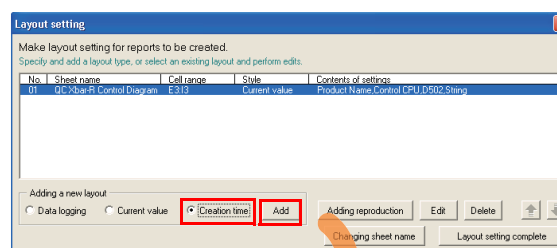


After specifying the data, click the [OK] button on the Current value layout screen.

The configured current value layout is registered.

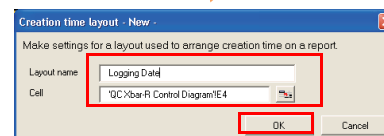
2. Setting the layout for Logging Date

Select "Creation time" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Creation time layout screen.

| Item | Setting Data |
|-------------|------------------------------|
| Layout name | Logging Date |
| Cell | QC Xbar-R Control Diagram!E4 |

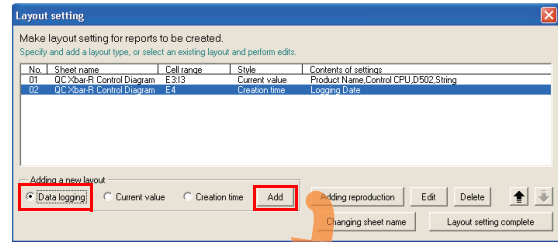


After specifying the data, click the [OK] button on the Creation time layout screen.

The configured creation time layout is registered.

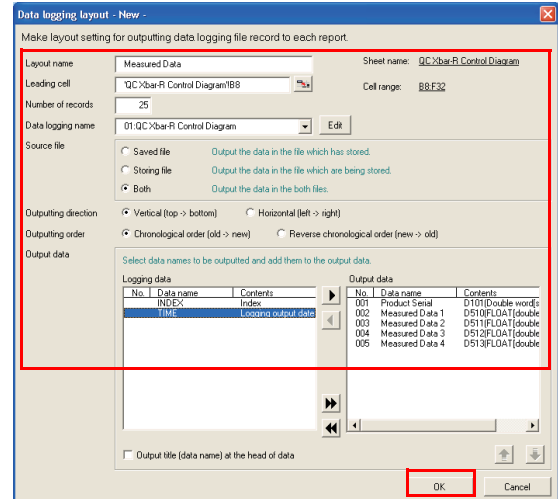
3. Setting the logging data

Select "Data logging" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Data logging layout screen.

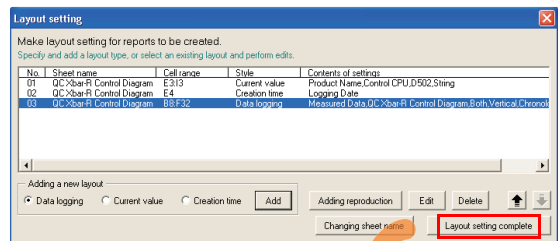
| Item | Setting Data |
|----------------------|----------------------------------|
| Layout name | Measured Data |
| Leading cell | QC Xbar-R Control Diagram!B8 |
| Number of records | 25 |
| Data logging name | 01:QC Xbar-R Control Diagram |
| Source file | Both |
| Outputting direction | Vertical [top -> bottom] |
| Outputting order | Chronological order [old -> new] |
| Output data | Product Serial Number |
| | Measured Data 1 |
| | Measured Data 2 |
| | Measured Data 3 |



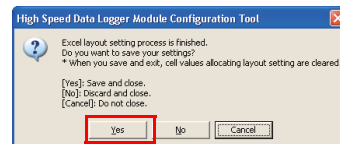
After specifying the data, click the [OK] button on the Data logging layout screen.

4. Confirming the layout settings

Click the [Layout setting complete] button.



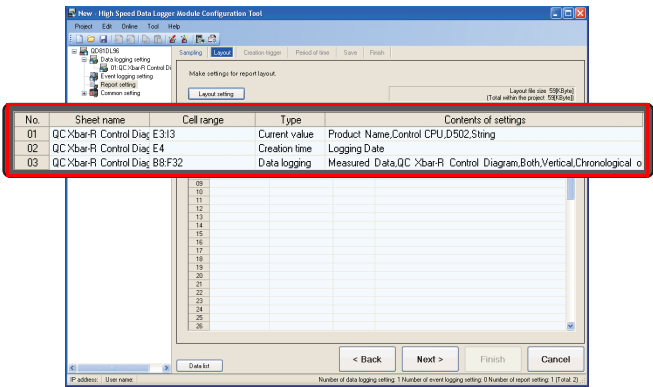
Click the [Yes] button.



5. Checking the settings

The created layout settings are added to the setting list.

This completes the layout settings for 'QC Xbar-R Control Diagram'.

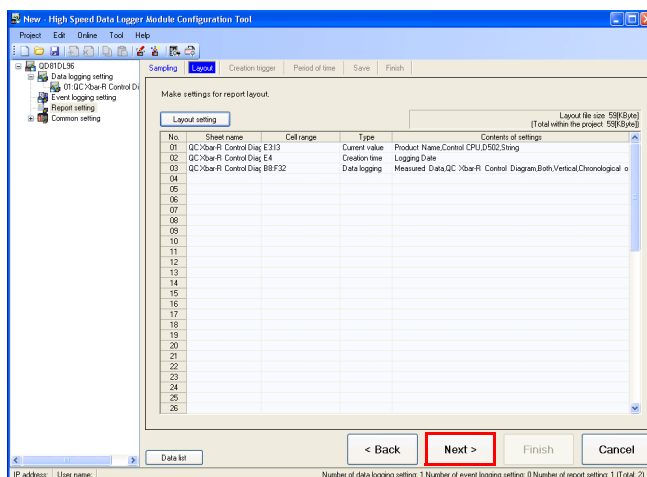


Continue on to procedure 4

Procedure 4

4

1. After the layout settings, click the [Next] button.

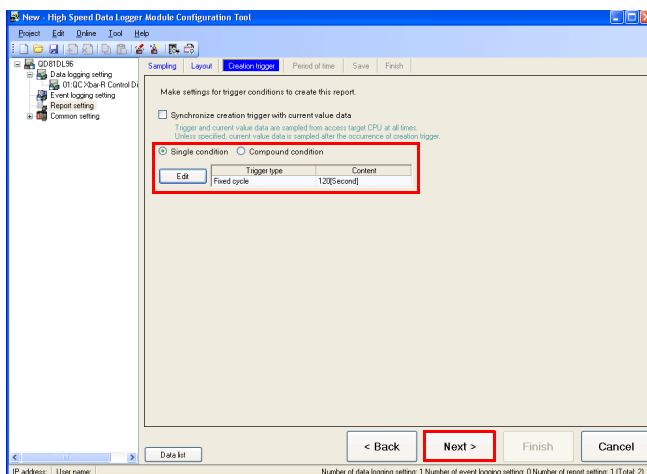


2. Setting the creation trigger

Click the [Edit] button, and specify the following conditions.

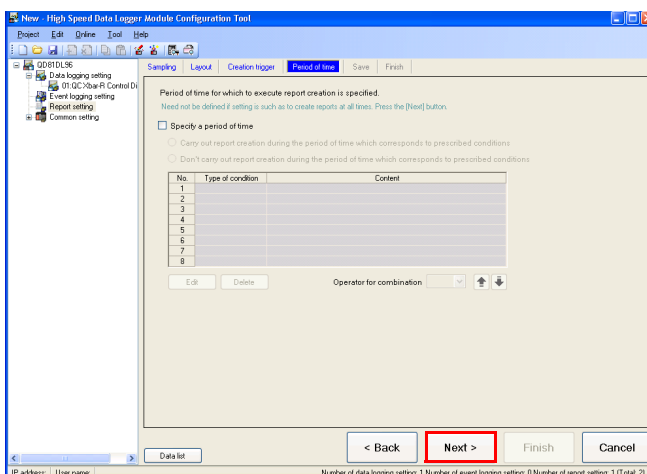
| Item | Setting Data |
|--------------|--------------|
| Trigger type | Fixed cycle |
| Contents | 120 [second] |

After specifying the conditions, click the [Next] button.



3. Setting the period of time (No specification)

Click the [Next] button.



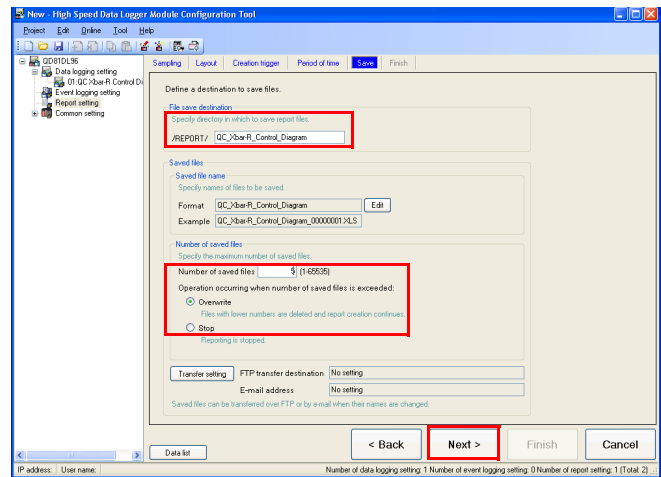
4. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-----------------------|---------------------------|
| File save destination | QC_Xbar-R_Control_Diagram |
| Number of saved files | 5 Overwrite |

Click the [Edit] button, check "Attach the name" on the Saved file name setting screen, and click the [OK] button.

After specifying the settings, click the [Next] button.

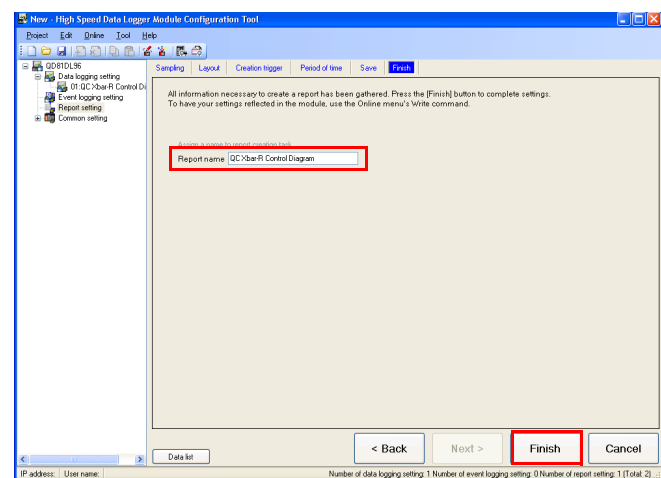


5. Completing the setting

Set the report name.

('QC Xbar-R Control Diagram' for this example)

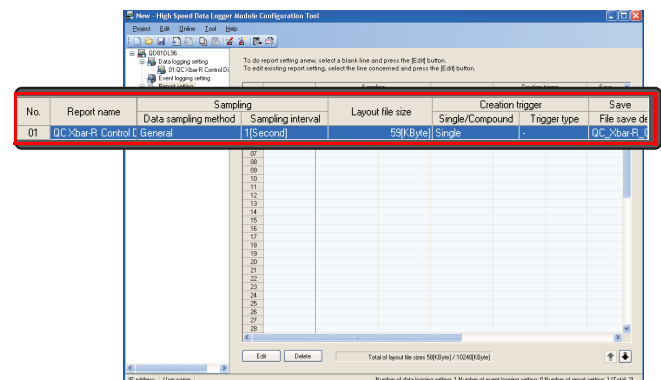
After entering the report name, click the [Finish] button.



6. Checking the settings

The created report setting is added to the setting list.

This completes the report setting for 'QC Xbar-R Control Diagram'.
Save the project.



This completes the setting

5. Quality Control - Correlation Diagram

| | |
|---------|---|
| Outline | Create a correlation diagram to show a relationship among multiple measured values. |
|---------|---|

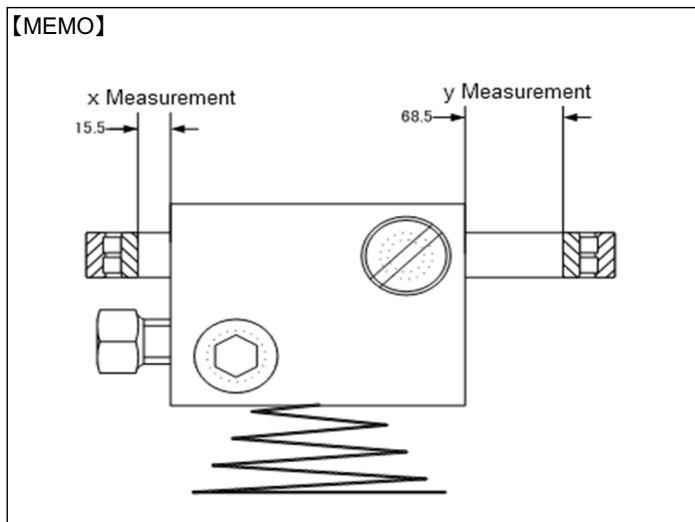
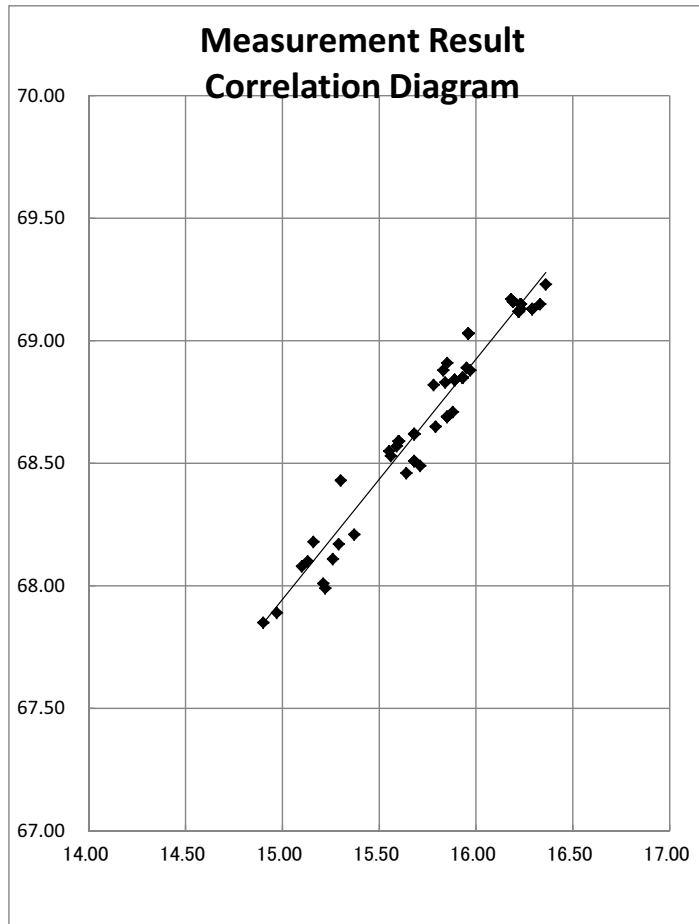
(1) Output Example

Measurement Result Correlation Diagram

| | |
|--------------|-------------------------|
| Product Name | MB-5Z6004 |
| Logging Date | 2011/10/04 Tue 18:20:00 |

| | x Standard (mm) | y Standard (mm) |
|---------------------|-----------------|-----------------|
| Standard Value (UL) | 17.00 | 70.00 |
| Standard Value (LL) | 14.00 | 67.00 |

| S/N | x Measured Value (mm) | y Measured Value (mm) |
|--------------------|-----------------------|-----------------------|
| 1 | 15.21 | 68.01 |
| 2 | 14.90 | 67.85 |
| 3 | 15.26 | 68.11 |
| 4 | 15.64 | 68.46 |
| 5 | 15.56 | 68.53 |
| 6 | 15.37 | 68.21 |
| 7 | 15.22 | 67.99 |
| 8 | 14.97 | 67.89 |
| 9 | 15.16 | 68.18 |
| 10 | 15.71 | 68.49 |
| 11 | 15.59 | 68.57 |
| 12 | 15.29 | 68.17 |
| 13 | 15.10 | 68.08 |
| 14 | 15.13 | 68.10 |
| 15 | 15.84 | 68.83 |
| 16 | 16.33 | 69.15 |
| 17 | 16.23 | 69.13 |
| 18 | 15.95 | 68.89 |
| 19 | 15.88 | 68.71 |
| 20 | 15.68 | 68.51 |
| 21 | 15.83 | 68.88 |
| 22 | 16.36 | 69.23 |
| 23 | 16.18 | 69.17 |
| 24 | 15.97 | 68.88 |
| 25 | 15.79 | 68.65 |
| 26 | 15.55 | 68.55 |
| 27 | 15.85 | 68.91 |
| 28 | 16.22 | 69.12 |
| 29 | 16.19 | 69.16 |
| 30 | 15.93 | 68.85 |
| 31 | 15.85 | 68.69 |
| 32 | 15.68 | 68.62 |
| 33 | 15.89 | 68.84 |
| 34 | 16.29 | 69.13 |
| 35 | 16.23 | 69.15 |
| 36 | 15.96 | 69.03 |
| 37 | 15.60 | 68.59 |
| 38 | 16.22 | 69.12 |
| 39 | 16.19 | 69.16 |
| 40 | 15.93 | 68.85 |
| 41 | 15.85 | 68.69 |
| 42 | 15.68 | 68.62 |
| 43 | 15.89 | 68.84 |
| 44 | 16.29 | 69.13 |
| 45 | 16.23 | 69.15 |
| 46 | 15.96 | 69.03 |
| 47 | 15.60 | 68.59 |
| 48 | 16.22 | 69.12 |
| 49 | 16.19 | 69.16 |
| 50 | 15.93 | 68.85 |
| 51 | 15.85 | 68.69 |
| 52 | 15.68 | 68.62 |
| 53 | 15.89 | 68.84 |
| 54 | 16.29 | 69.13 |
| 55 | 16.23 | 69.15 |
| 56 | 15.96 | 69.03 |
| 57 | 15.60 | 68.59 |
| 58 | 16.22 | 69.12 |
| 59 | 16.19 | 69.16 |
| 60 | 15.93 | 68.85 |
| 61 | 15.85 | 68.69 |
| 62 | 15.68 | 68.62 |
| 63 | 15.89 | 68.84 |
| 64 | 16.29 | 69.13 |
| 65 | 16.23 | 69.15 |
| 66 | 15.96 | 69.03 |
| 67 | 15.60 | 68.59 |
| 68 | 15.30 | 68.43 |
| 69 | 15.78 | 68.82 |
| 70 | 15.68 | 68.51 |
| Average | 15.82 | 68.75 |
| Standard Deviation | 0.36389 | 0.36554 |



(2) Layout Setting Out

Set the "Current value" in this cell.
The data at the creation of report is entered.
(Procedure 3)

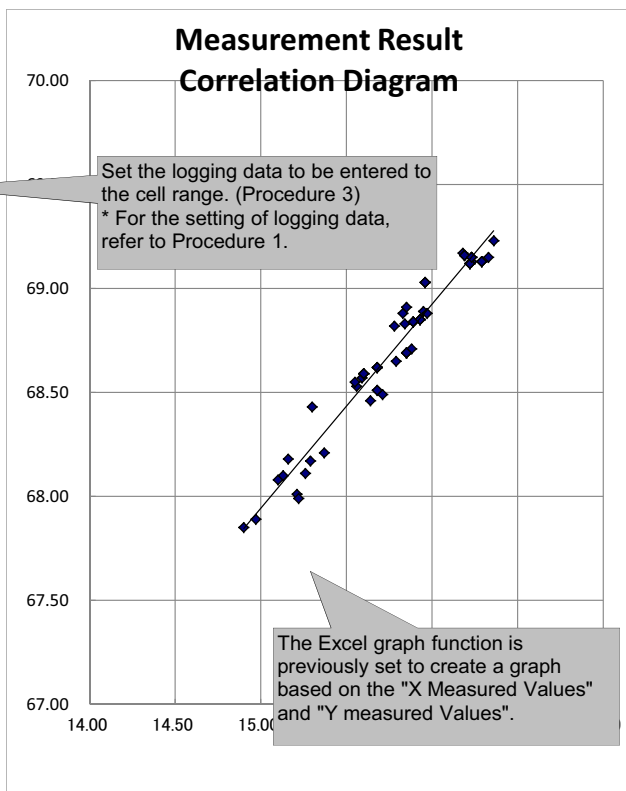
Set the "Creation time" in this cell.
The time at the creation of report is entered.
(Procedure 3)

Measurement Result Correlation Diagram

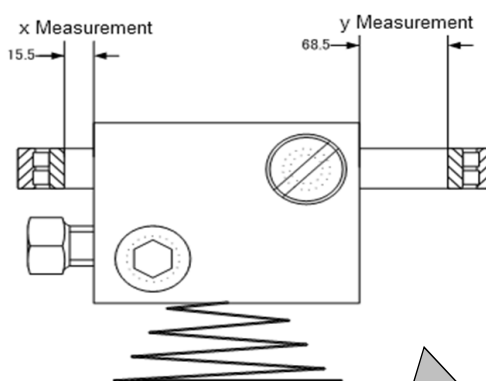
| | |
|--------------|-------------------------|
| Product Name | MB-5Z6004 |
| Logging Date | 2011/10/04 Tue 18:20:00 |

| | | |
|---------------------|-----------------|-----------------|
| | x Standard (mm) | y Standard (mm) |
| Standard Value (UL) | 17.00 | 70.00 |
| Standard Value (LL) | 14.00 | 67.00 |

| S/N | x Measured Value (mm) | y Measured Value (mm) |
|--------------------|-----------------------|-----------------------|
| 1 | 15.21 | 68.01 |
| 2 | 14.90 | 67.85 |
| 3 | 15.26 | 68.11 |
| 4 | 15.64 | 68.46 |
| 5 | 15.56 | 68.53 |
| 6 | 15.37 | 68.21 |
| 7 | 15.22 | 67.99 |
| 8 | 14.97 | 67.89 |
| 9 | 15.16 | 68.18 |
| 10 | 15.71 | 68.40 |
| 11 | 15.59 | 68.57 |
| 12 | 15.29 | 68.17 |
| 13 | 15.10 | 68.08 |
| 14 | 15.13 | 68.10 |
| 15 | 15.84 | 68.83 |
| 16 | 16.33 | 69.15 |
| 17 | 16.23 | 69.13 |
| 18 | 15.95 | 68.89 |
| 19 | 15.88 | 68.71 |
| 20 | 15.68 | 68.51 |
| 21 | 15.83 | 68.88 |
| 22 | 16.36 | 69.23 |
| 23 | 16.18 | 69.17 |
| 24 | 15.97 | 68.88 |
| 25 | 15.79 | 68.65 |
| 26 | 15.55 | 68.55 |
| 27 | 15.85 | 68.91 |
| 28 | 16.22 | 69.12 |
| 29 | 16.19 | 69.16 |
| 30 | 15.93 | 68.85 |
| 31 | 15.85 | 68.69 |
| 32 | 15.68 | 68.62 |
| 33 | 15.89 | 68.84 |
| 34 | 16.29 | 69.13 |
| 35 | 16.23 | 69.15 |
| 36 | 15.96 | 69.03 |
| 37 | 15.60 | 68.59 |
| 38 | 16.22 | 69.12 |
| 39 | 16.19 | 69.16 |
| 40 | 15.93 | 68.85 |
| 41 | 15.85 | 68.69 |
| 42 | 15.68 | 68.62 |
| 43 | 15.89 | 68.84 |
| 44 | 16.29 | 69.13 |
| 45 | 16.23 | 69.15 |
| 46 | 15.96 | 69.03 |
| 47 | 15.60 | 68.59 |
| 48 | 16.22 | 69.12 |
| 49 | 16.19 | 69.16 |
| 50 | 15.93 | 68.85 |
| 51 | 15.85 | 68.69 |
| 52 | 15.68 | 68.62 |
| 53 | 15.89 | 68.84 |
| 54 | 16.29 | 69.13 |
| 55 | 16.23 | 69.15 |
| 56 | 15.96 | 69.03 |
| 57 | 15.60 | 68.59 |
| 58 | 16.22 | 69.12 |
| 59 | 16.19 | 69.16 |
| 60 | 15.93 | 68.85 |
| 61 | 15.85 | 68.69 |
| 62 | 15.68 | 68.62 |
| 63 | 15.89 | 68.84 |
| 64 | 16.29 | 69.13 |
| 65 | 16.23 | 69.15 |
| 66 | 15.96 | 69.03 |
| 67 | 15.60 | 68.59 |
| 68 | 15.30 | 68.43 |
| 69 | 15.78 | 68.82 |
| 70 | 15.68 | 68.51 |
| Average | 15.82 | 68.75 |
| Standard Deviation | 0.36389 | 0.36554 |



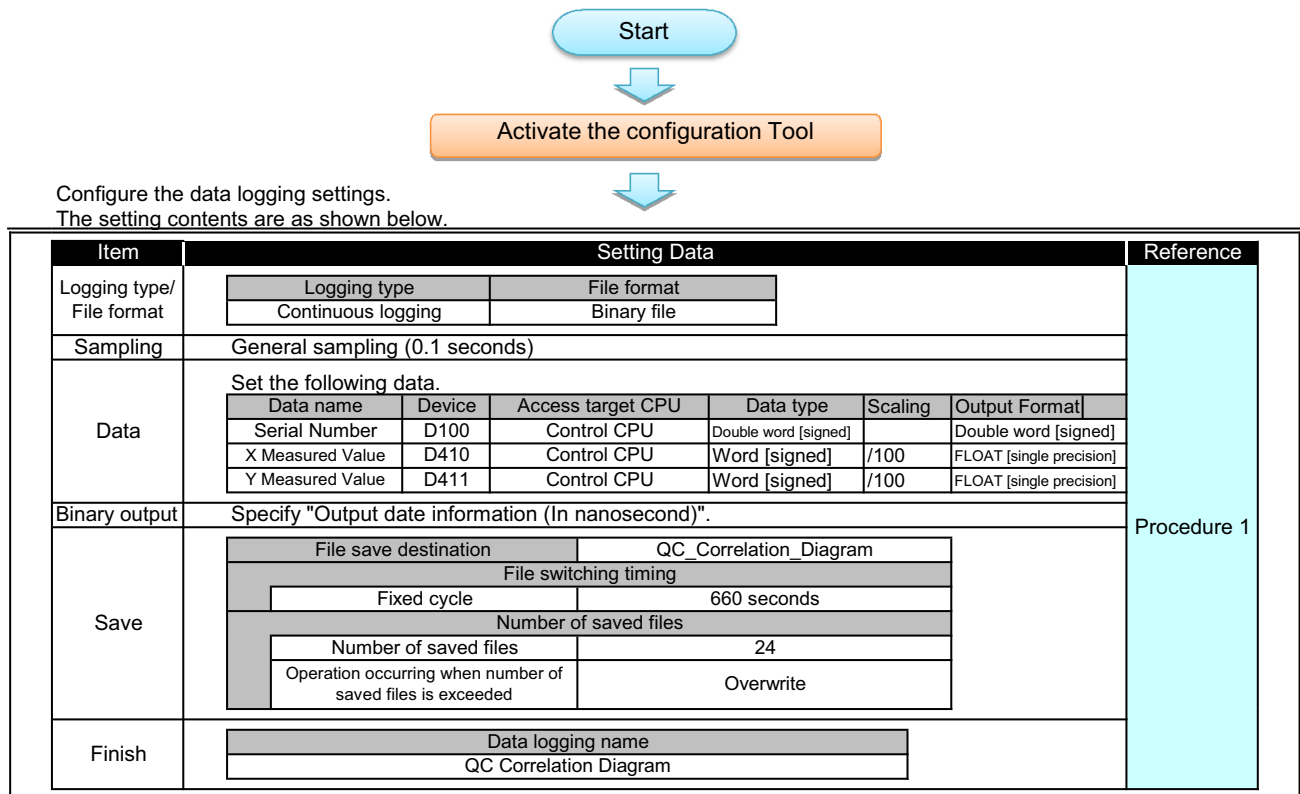
【MEMO】



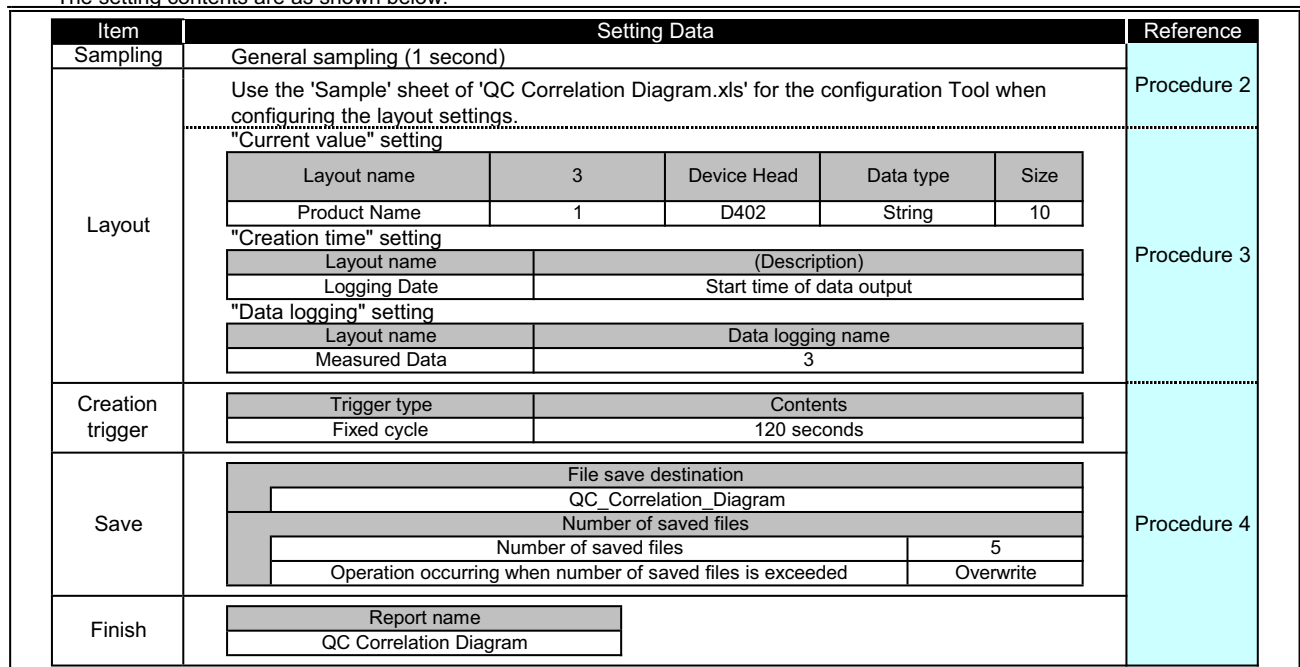
A measurement illustration of this sample

The Excel calculation function is previously set to calculate the "Average" and "Standard Deviation" of "X Measured Values" and "Y Measured Values".

(3) Setting Procedure



Configure the report settings.
The setting contents are as shown below.



* Set the default to the settings which are not mentioned above.



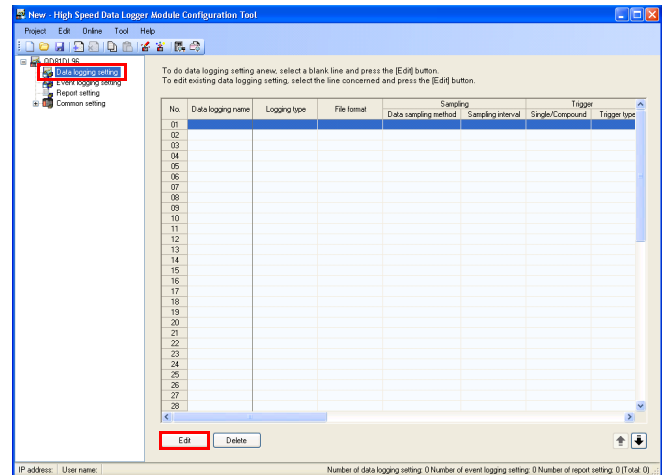
Procedure 1

* For details of operating procedure of the configuration Tool, refer to High Speed Data Logger Module User's Manual.

1. Starting the data logging setting

Click "Data logging setting" in the project tree.

After the data logging setting list screen is displayed, click the [Edit] button.



5

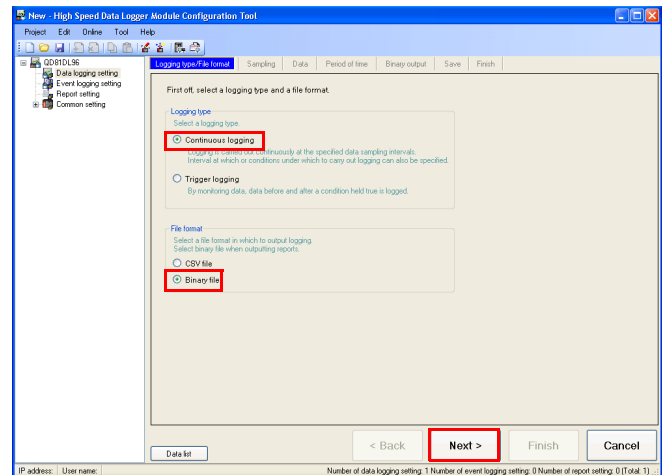
2. Selecting the logging type and file format

Select the following settings.

Logging type: Continuous logging

File format: Binary file

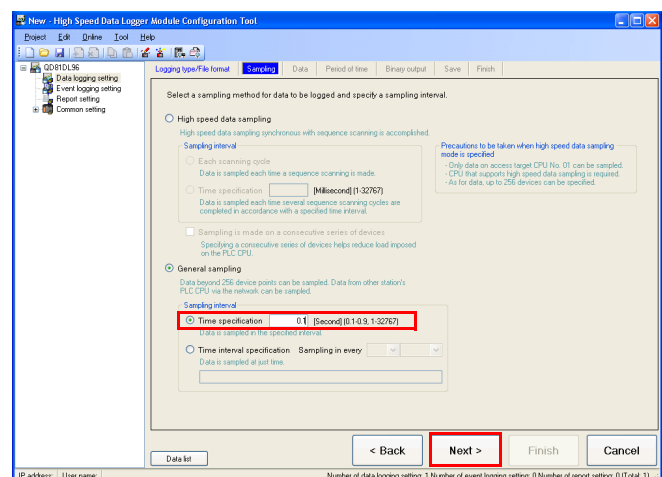
Click the [Next] button.



3. Selecting the sampling method

Select "General sampling" and set the Time specification to 0.1 second.

Click the [Next] button.

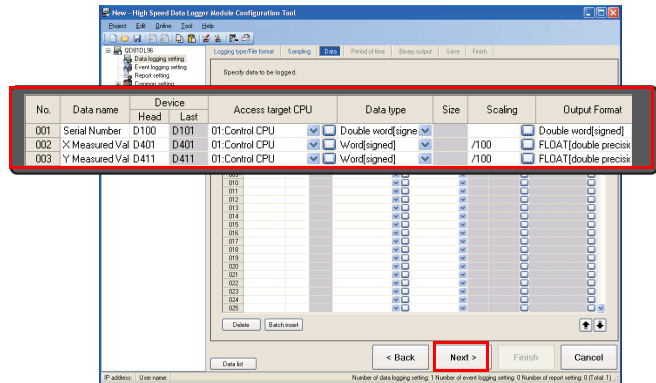


4. Specifying data to be logged

Specify the following data.

| Data name | Device Head | Data Type | Scaling | Output Format |
|------------------|-------------|----------------------|---------|--------------------------|
| Serial Number | D100 | Double word [signed] | | Double word [signed] |
| X Measured Value | D410 | Word [signed] | /100 | FLOAT [double precision] |
| Y Measured Value | D411 | Word [signed] | /100 | FLOAT [double precision] |

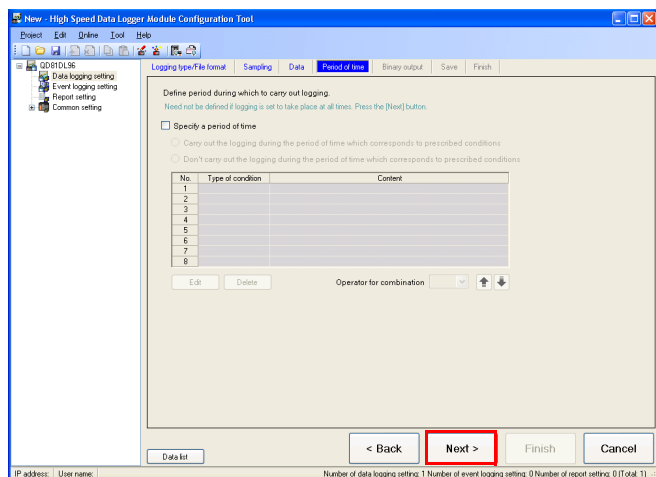
After specifying the data, click the [Next] button.



5

5. Setting the period of time (No specification)

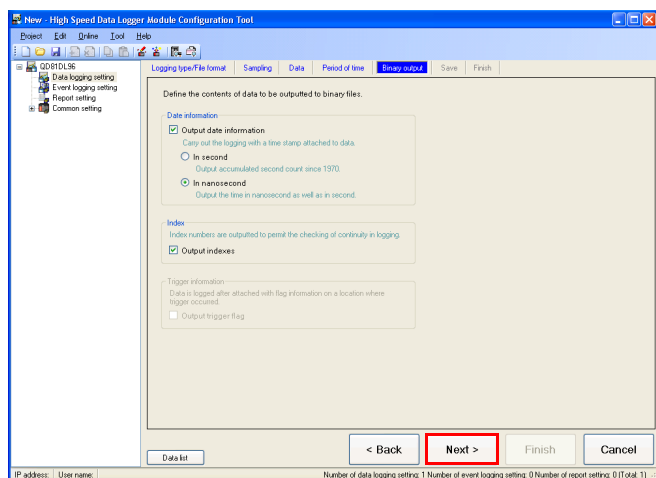
Click the [Next] button.



6. Setting the binary output (No change)

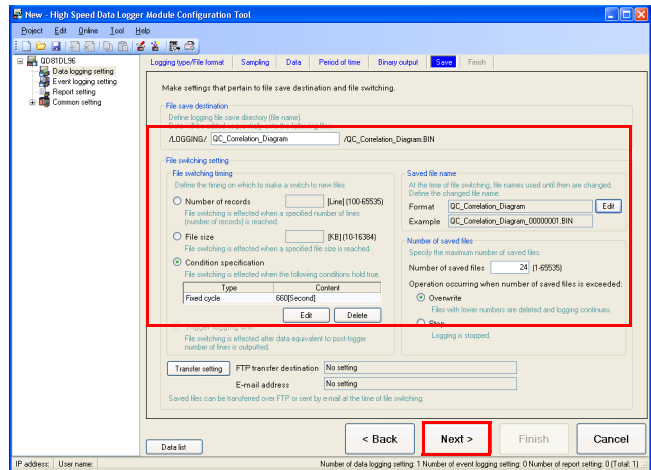
Click the [Next] button.

(The output contents to the binary file do not change from the default settings.)



7. Configuring the save setting

| Item | Setting Data |
|-------------------------|------------------------|
| File save destination | QC_Correlation_Diagram |
| File switching setting | |
| File switching timing | |
| Condition specification | |
| Type | Fixed cycle |
| Content | 660 [second] |
| Number of saved files | |
| | 24 |
| | Overwrite |

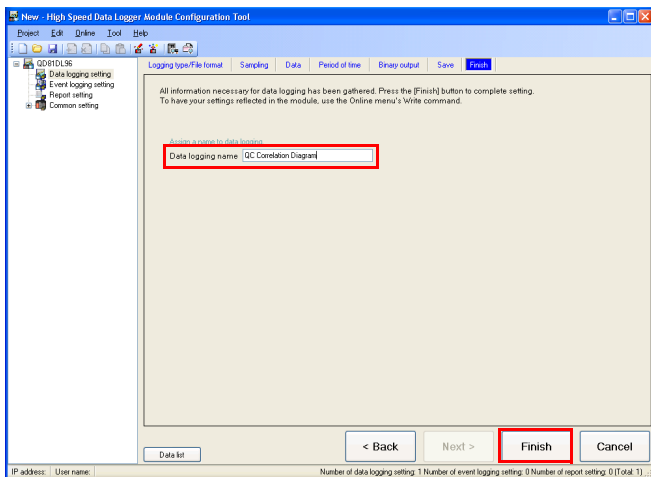


8. Completing the setting

Set the data logging name.

('QC Correlation Diagram' for this example)

After entering the data logging name, click the [Finish] button.

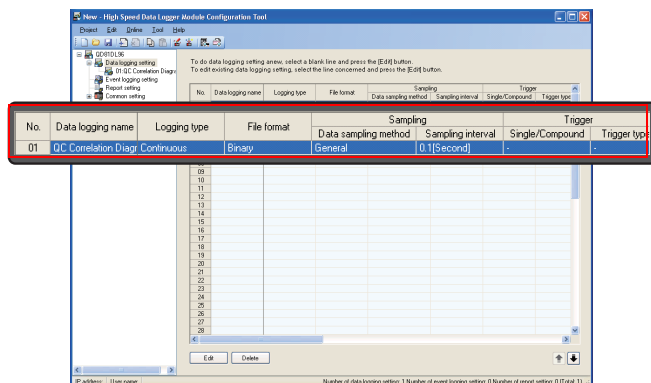


9. Checking the settings

The created data logging setting is added to the setting list.

This completes the data logging setting for 'QC Correlation Diagram'.

Save the project.



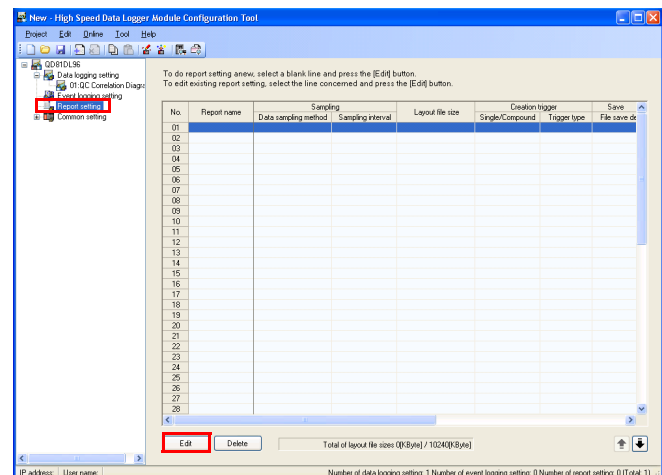
Continue on to procedure 2

Procedure 2

1. Starting the report setting

Click "Report setting" in the project tree.

After the report setting list screen is displayed, click the [Edit] button.

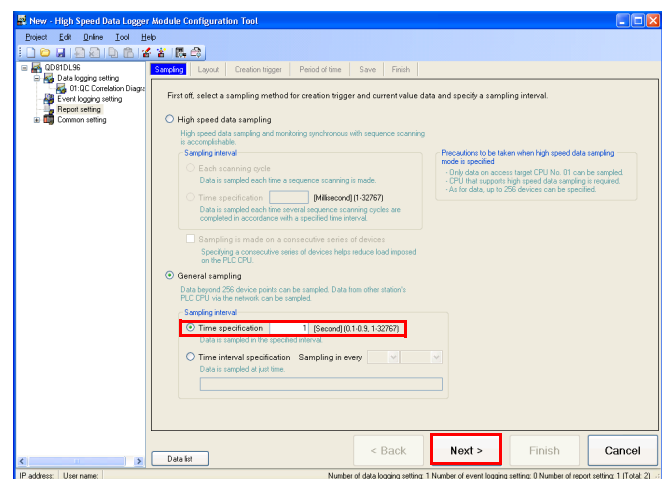


5

2. Selecting the sampling method

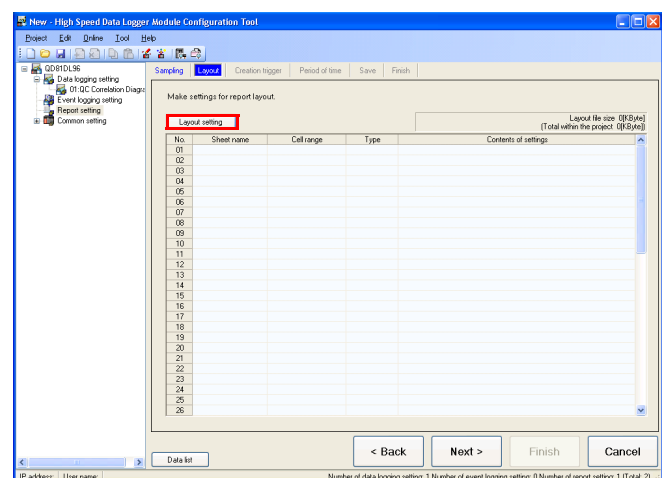
Select "General sampling" and set the Time specification to 1 second.

Click the [Next] button.

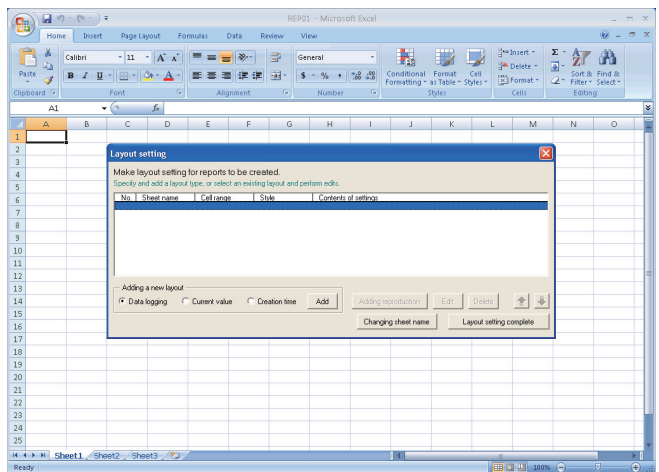
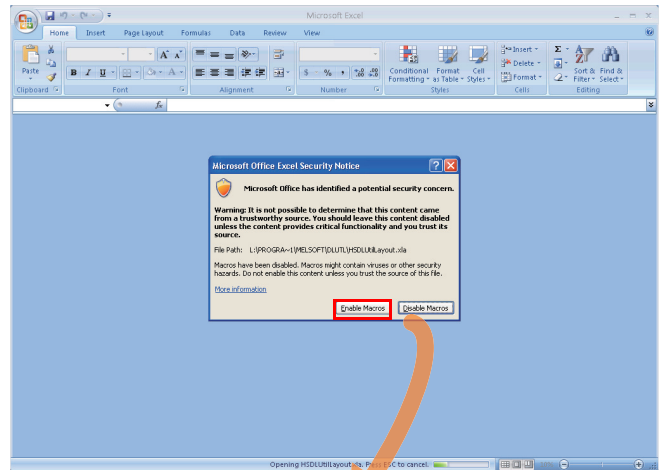


3. Configuring the layout settings

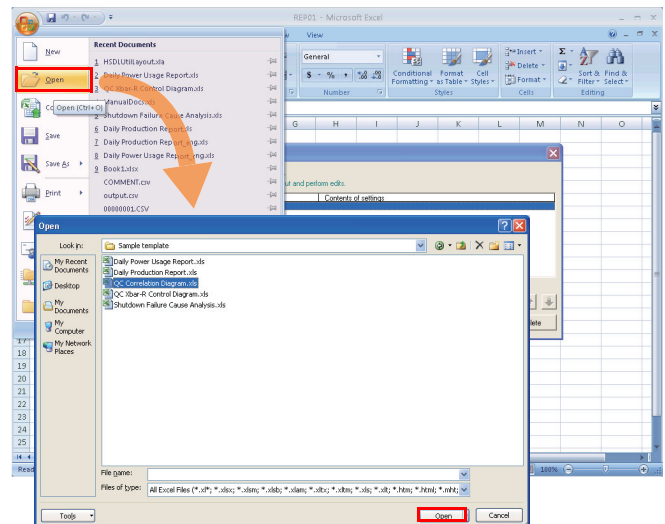
Click the [Layout setting] button.



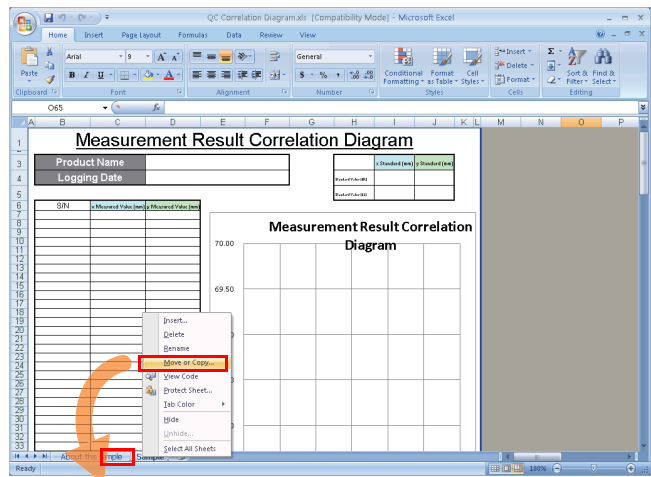
Click the [Enable Macros] button.



Open 'QC Correlation Diagram.xls' on the Excel file for which the layout settings are configured.

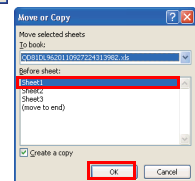
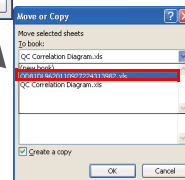
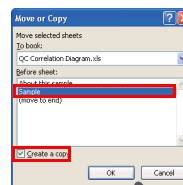


Right-click on the tab of 'Sample' sheet in the opened file, and select "Move or Copy".



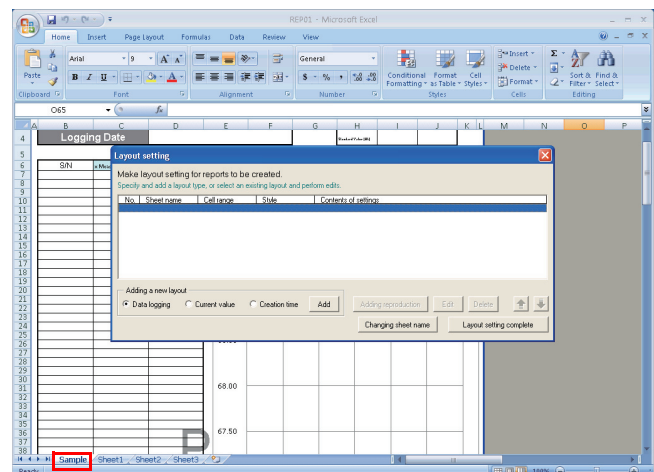
Check "Create a copy" and select 'Sample' from the list.

Select 'QD81DL96YYYYMMDD*****.xls' from the list of "To book".

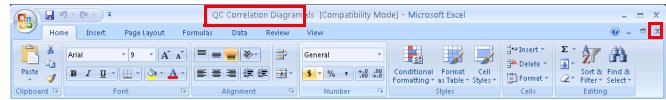


Select 'Sheet1' from the list of "Before sheet", and click the [OK] button.

The 'Sample' sheet is copied to the Excel file for which the layout settings are configured.



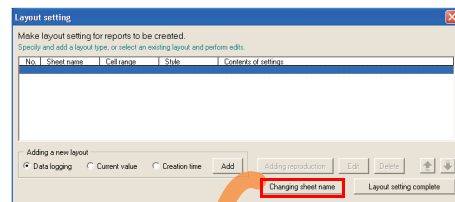
6. Close the original copied 'QC Correlation Diagram.xls'.



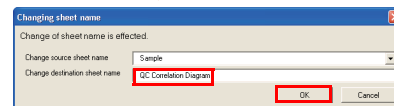
7. Change the sheet name.

* Use the [Changing sheet name] button on the Layout setting screen to change the sheet name.
If the sheet name is changed by using a method other than the above method, the layout setting cannot be configured properly.

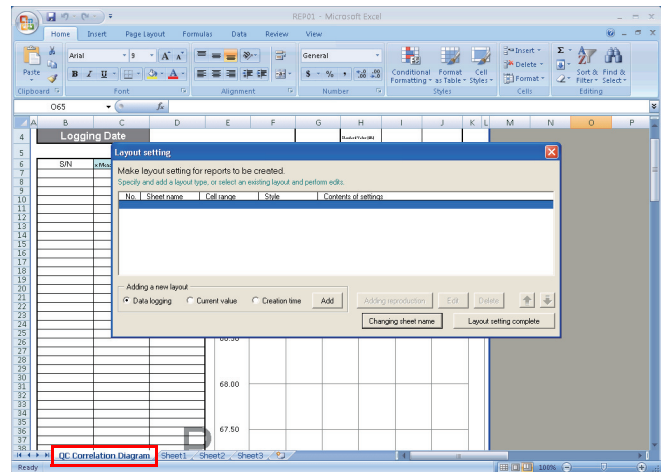
Click the [Changing sheet name] button.



Enter 'QC Correlation Diagram' for "Change destination sheet name", and click the [OK] button.



The sheet name is changed.



Continue on to procedure 3

Procedure 3

1. Setting the layout for Product Name

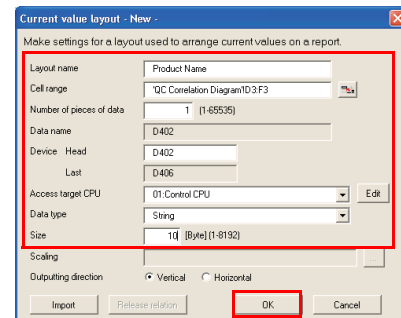
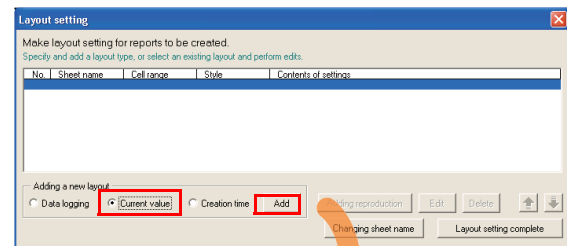
Select "Current value" under "Adding a new layout", and click the [Add] button.

Specify the following data on the Current value layout screen.

| Item | Setting Data |
|--------------------------|---------------------------|
| Layout name | Product Name |
| Cell range | QC Correlation Diagram!D3 |
| Number of pieces of data | 1 |
| Device Head | D402 |
| Access target CPU | 01:Control CPU |
| Data type | String |
| Size | 10 |

After specifying the data, click the [OK] button on the Current value layout screen.

The configured current value layout is registered.



5

2. Setting the layout for Logging Date

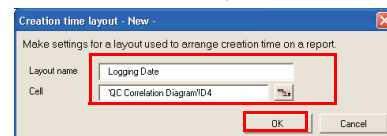
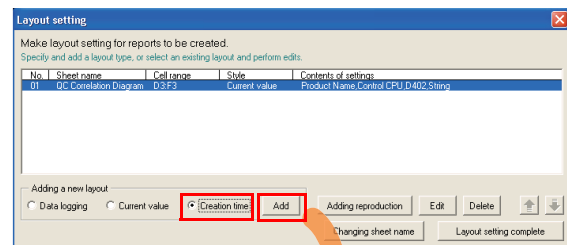
Select "Creation time" under "Adding a new layout", and click the [Add] button.

Specify the following data on the Creation time layout screen.

| Item | Setting Data |
|-------------|---------------------------|
| Layout name | Logging Date |
| Cell | QC Correlation Diagram!D4 |

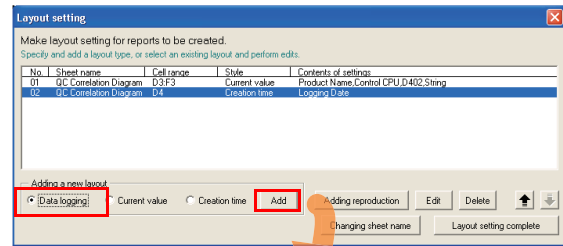
After specifying the data, click the [OK] button on the Creation time layout screen.

The configured creation time layout is registered.



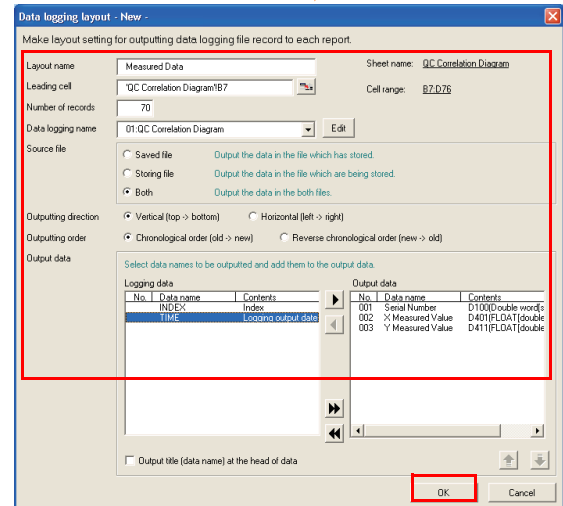
3. Setting the logging data

Select "Data logging" under "Adding a new layout", and click the [Add] button.



Specify the following data on the Data logging layout screen.

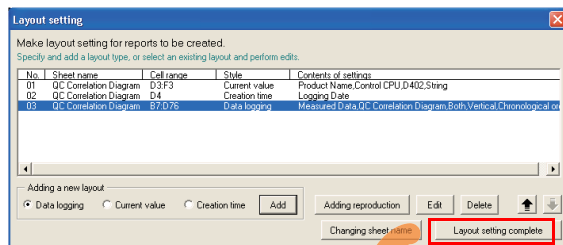
| Item | Setting Data |
|----------------------|-------------------------------------|
| Layout name | Measured Data |
| Leading cell | QC Correlation Diagram!B7 |
| Number of records | 70 |
| Data logging name | 01:QC Correlation Diagram |
| Source file | Both |
| Outputting direction | Vertical [top -> bottom] |
| Outputting order | Chronological order [old -> new] |
| Output data | Serial Number |
| | X Measured Value |
| | Y Measured Value |



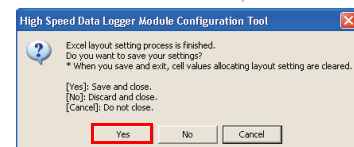
After specifying the data, click the [OK] button on the Data logging layout screen.

4. Confirming the layout settings

Click the [Layout setting complete] button.



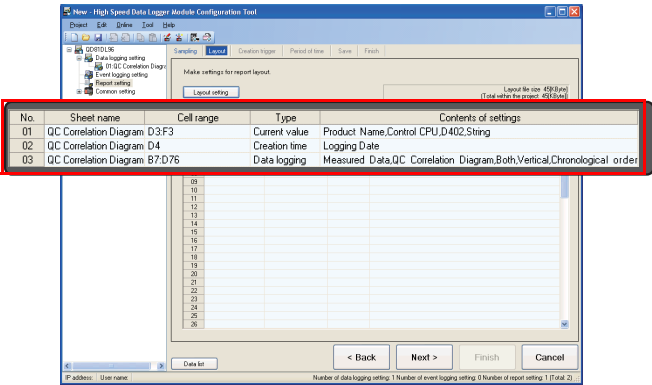
Click the [Yes] button.



5. Checking the settings

The created layout settings are added to the setting list.

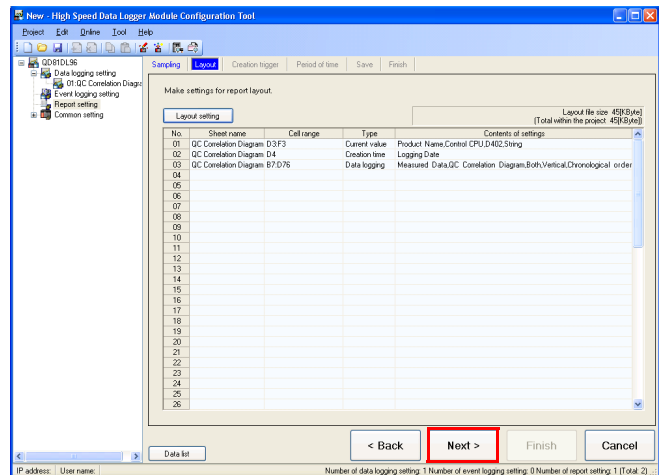
This completes the layout settings for 'QC Correlation Diagram'.



Continue on to procedure 4

Procedure 4

1. After the layout settings, click the [Next] button.



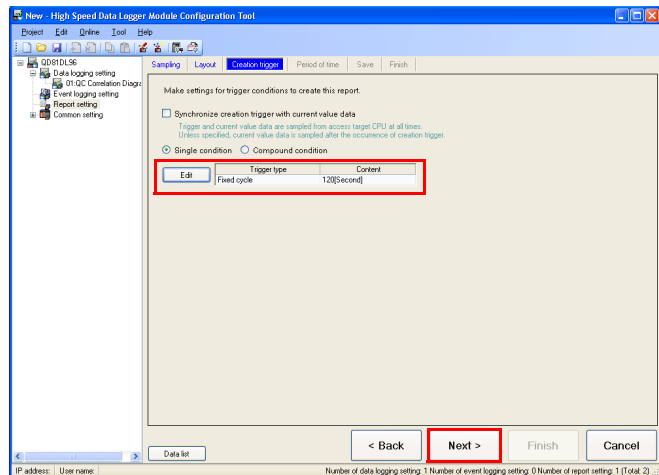
5

2. Setting the creation trigger

Click the [Edit] button, and specify the following conditions.

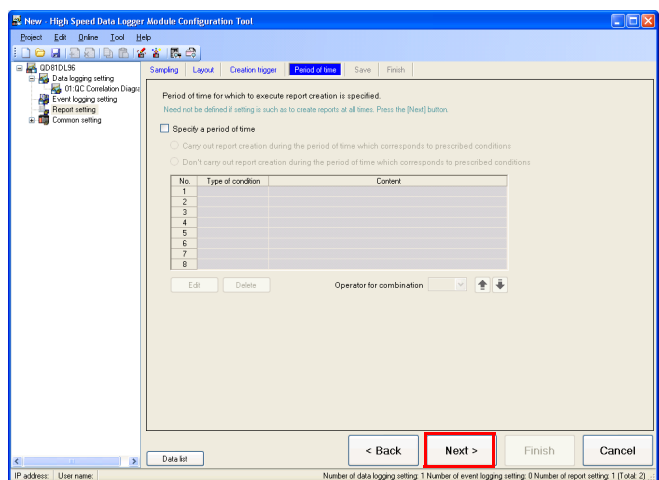
| Item | Setting Data |
|--------------|--------------|
| Trigger type | Fixed cycle |
| Contents | 120 [second] |

After specifying the conditions, click the [Next] button.



3. Setting the period of time (No specification)

Click the [Next] button.



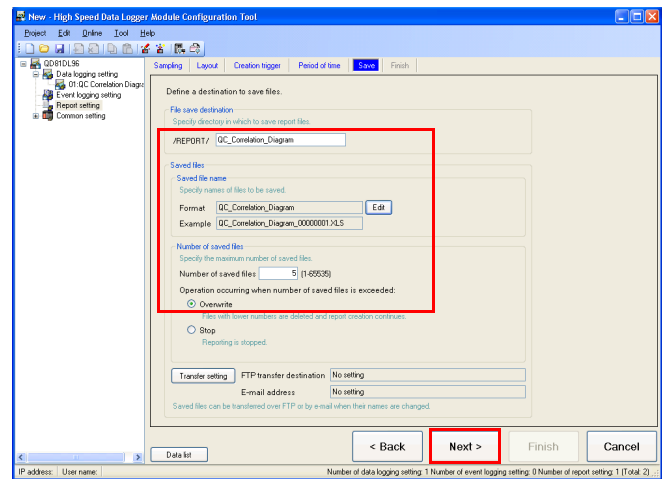
4. Configuring the save setting

Specify the following settings.

| Item | Setting Data |
|-----------------------|------------------------|
| File save destination | QC_Correlation_Diagram |
| Number of saved files | 5 |
| | Overwrite |

Click the [Edit] button, check "Attach the name" on the Saved file name setting screen, and click the [OK] button.

After specifying the settings, click the [Next] button.



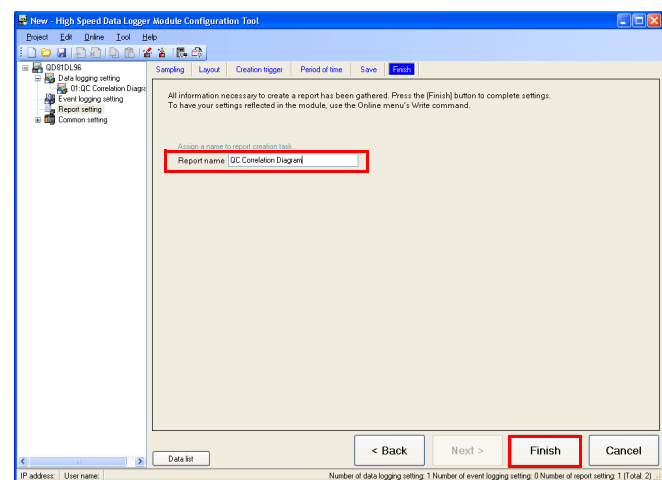
5

5. Completing the setting

Set the report name.

('QC Correlation Diagram' for this example)

After entering the report name, click the [Finish] button.

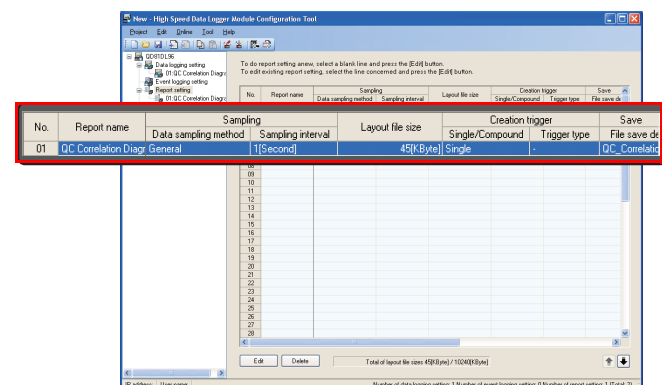


6. Checking the settings

The created report setting is added to the setting list.

This completes the report setting for 'QC Correlation Diagram'.

Save the project.



This completes the setting