

Manual DSMC-100A Series Sampling moire camera Offline Analysis soft Operation

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Please read this instruction manual carefully and ask to using it habitually for a long time.
Please do not employ it by the method explained in the instruction manual.

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Thank you for purchasing sampling moire camera displacement measurement device offline analysis soft.

In this manual, we'll explain about a procedure to install application.

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2. Preparations for Offline Analysis software

IM-A-1332
2020.12

2-1. Preparation

Connect the dongle key to the Universal Serial Bus port before start of the Offline analysis software (the following, offline).

1. Connect the dongle key to the Universal Serial Bus port.



CAUTION

Offline cannot start when you do not connect the dongle key.(P.4)

When you remove it after start, you cannot analyze.(P.7)

In use, please do not remove the dongle key.

In addition, it is necessary to have you purchase it on the occasion of dongle key damage, loss separately.

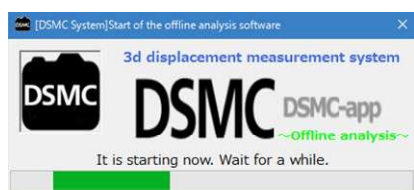
2-2. Start of the OfflineAnalysis software

Start off-line software.

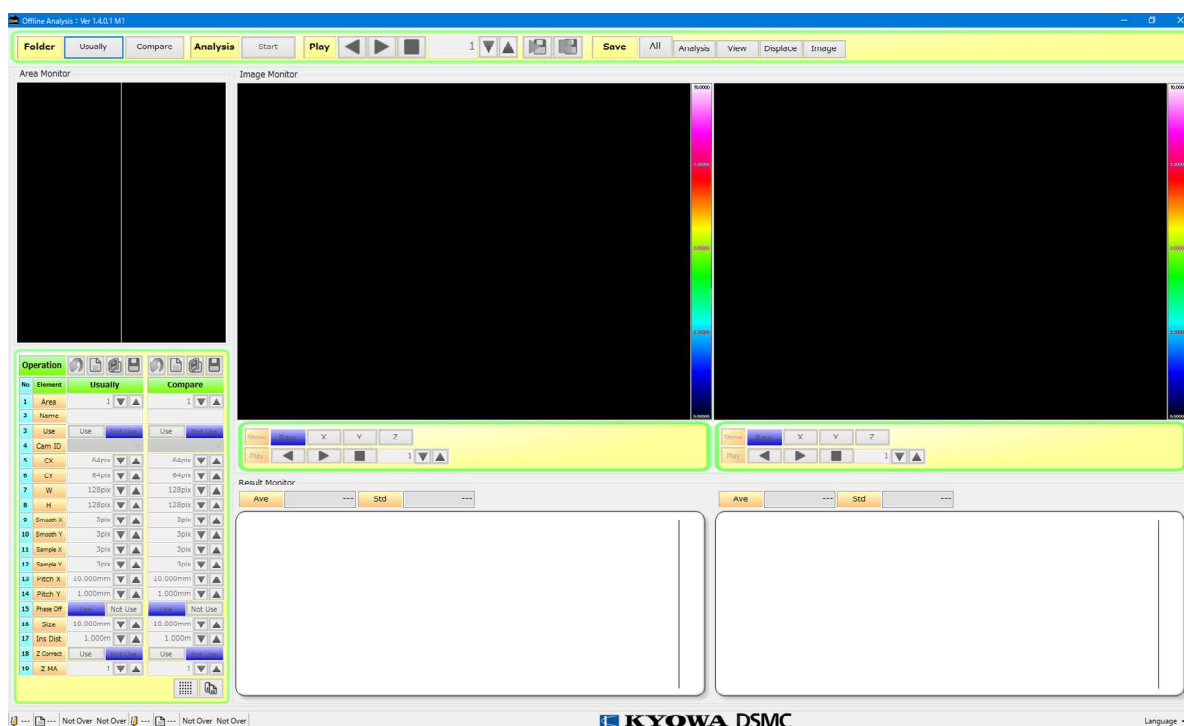
1. Double-click “OfflineAnalysis” icon.



“During start” screen is displayed when you start, “Main” screen is displayed afterwards .



“During start” Screen



“Main” Screen

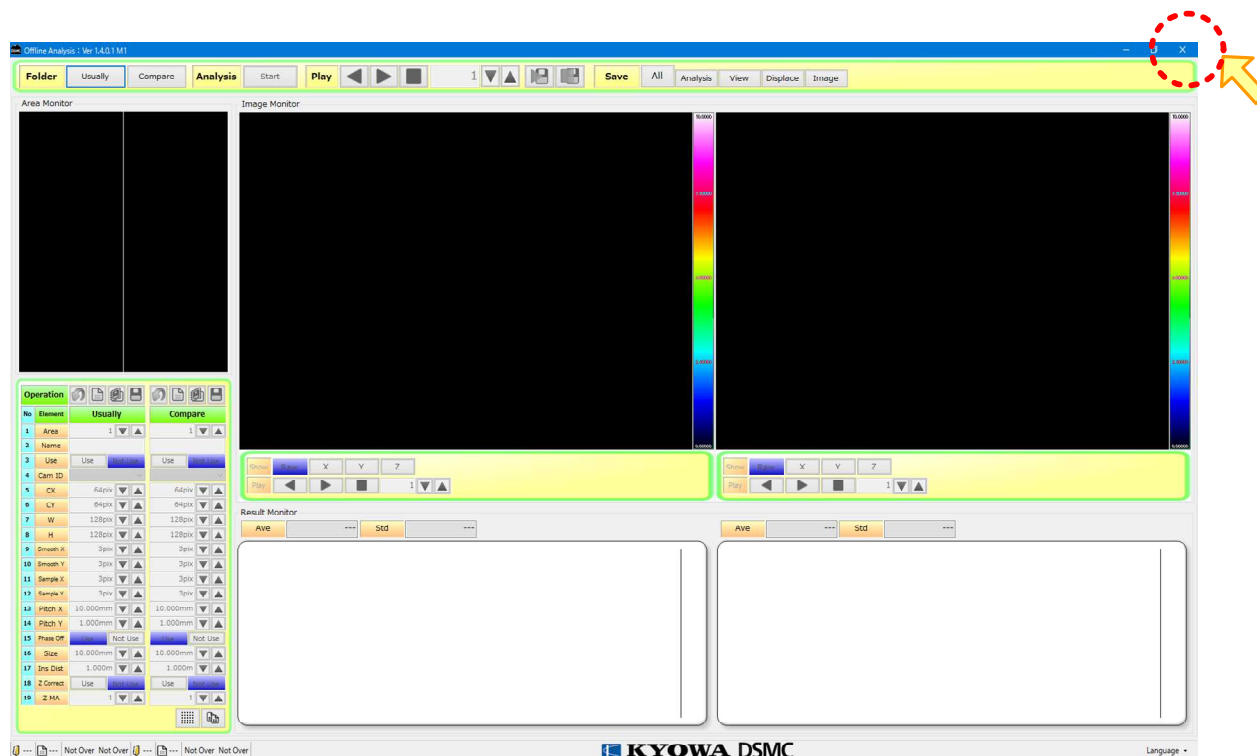


When starting without connecting the dongle key, the left message will be displayed.

2-3. End of the Offline analysis software

End off-line software.

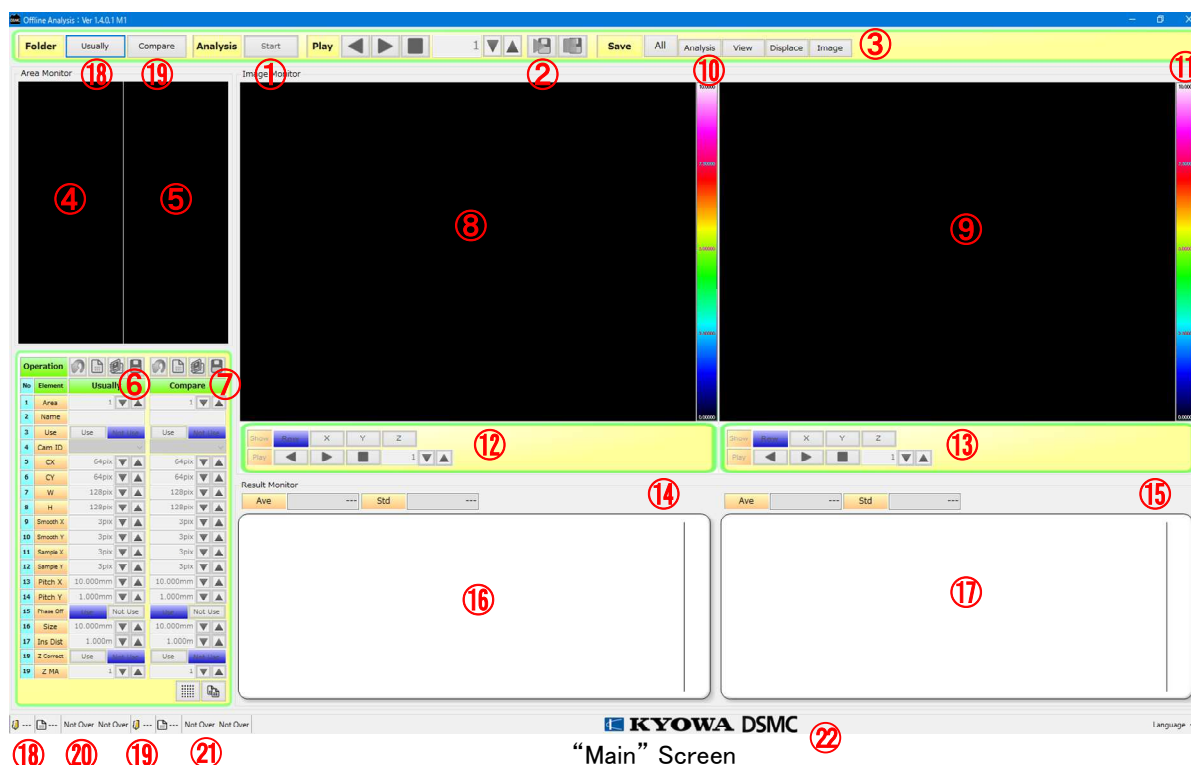
1. Click “Close” button in the main screen.



“Main” Screen

3-1. Main Screen

About the main screen, show the list of operation below.



No	Name	Content
①	“Start” Button	Start Offline analysis.
②	“Play” Menu	After analysis, use for reconfirm. Frame advance and consecutive replay are possible.
③	“Save” Menu	After analysis, save measurement result of every image and every area in a CSV file.
④ ⑤	“Area” Menu	Display the area image at the time of analyzing and the reconfirmation. Choice of seven kinds of contents is possible.
⑥⑦	“Area Edit” Menu	Can edit information necessary for analysis each area No.
⑧ ⑨	“Image” Menu	Display the area image at the time of analyzing and the reconfirmation in a whole image. Choice of five kinds of contents is possible. In addition, extended / reduction, the operation of the image movement are possible, too.
⑩⑪	“Color Bar” Menu	Can confirm color setting and current setting contents depending on displacement.
⑫ ⑬	“Display Change” Menu	Can choose the contents of the image monitor at the time of analyzing and the reconfirmation. Choice of three kinds of contents is possible. In addition, frame advance after the analysis and consecutive reproduction are possible.
⑭ ⑮	“Displacement Result” Numeric Display	Display X,Y,Z result of each area and the standard deviation in the area. When choice “Raw Image” and the area are unused, the numerical value result is cleared.
⑯ ⑰	“Displacement Result” Graph Display	Display X,Y,Z result of each area and graph of the standard deviation in the area. When choice “Raw Image” and the area are unused, the graph result is cleared.
⑱⑲	“Analysis Image Choice” Menu	Choose analyzing image folder .
⑳㉑	“Status” Display	Display the state during various analysis.
㉒	“Logo” Display	Display off-line logo. Version indication screen is displayed when you double-click.

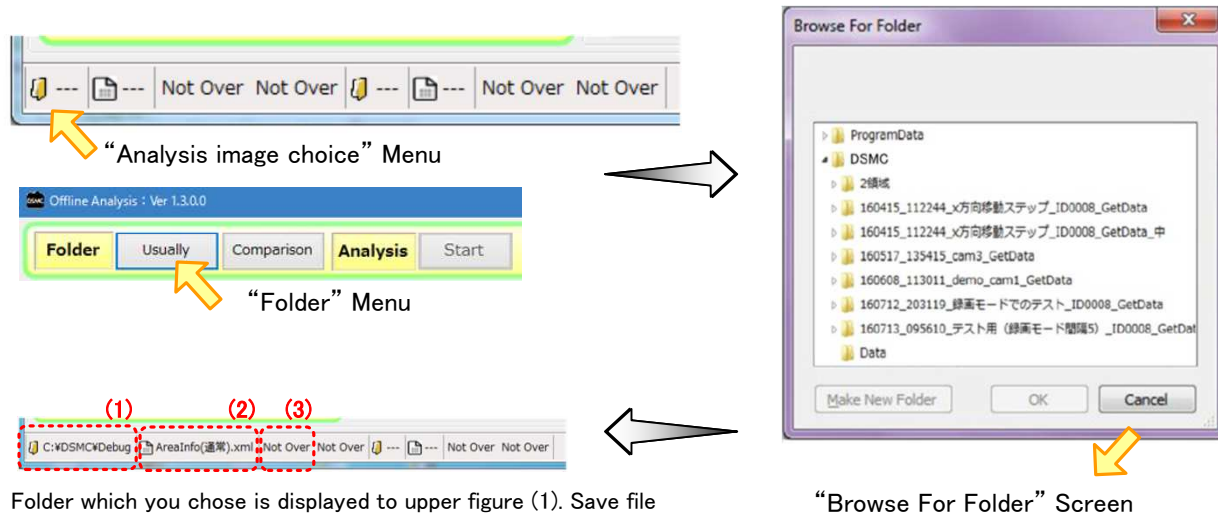
Supplement

Above [No], Even number is [usually], odd number is [comparison], menu and display for two analysis.

4-1. To analyze it?

Explain off-line analytical procedure.

1. Please click “Analysis image choice” menu or “Folder” menu.
“Browse For Folder” screen is displayed.
Please click “OK” button after choice with the analysis folder .



2. Please set analysis area and various parameters by “Area Edit” menu.



“Area Edit” Menu

CAUTION

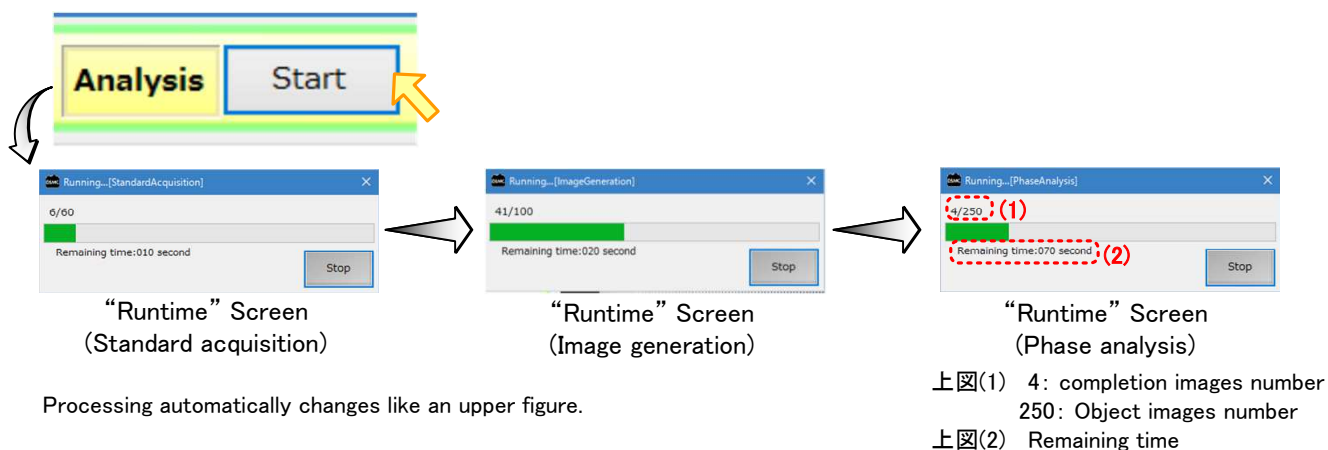
When editing from “2. Name” to “17. measurement distance”, please click “Save” button of the operation menu by all means.

Because “15.Phase connection” regardless of a domain number, setting is changed collectively, please warn the editing.

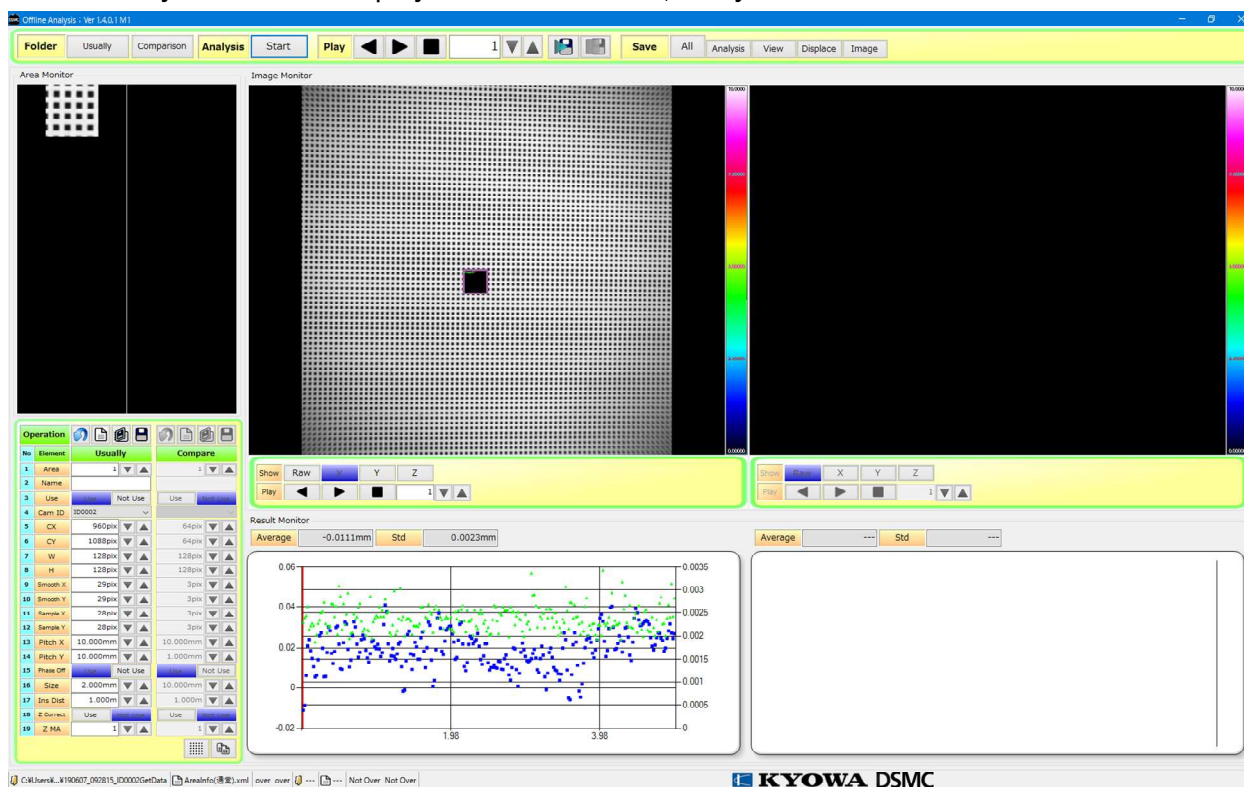
Supplement

When you put back editing contents, carry out “1” again , please click the “Put back” button of the “Operation” menu.

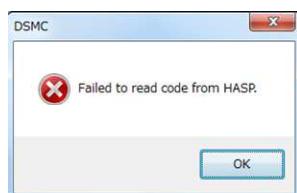
3. Please click “Start” button. Analysis is started.



4. The analysis result is displayed in main screen, analysis is end.



“Main” Screen



When remove the dongle key after start,
start analysis in the state that a dongle key is not connected
left message is display.

4-2. To edit the analyzing area?

Explain the position of the analysis area and an editing method of the size.
Illustrate by the premise that the analysis image is chosen.

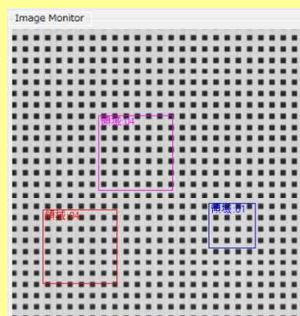
1. Select “1. Area” of “Area Edit” menu, please decide editing area No. .

No	Element	Usually
1	Area	1 ▼ ▲
2	Name	

Supplement

Explain the color of the area frame displayed in “Image Monitor” menu.

- **Magenta**: Analysis image specifically area
- **Red**: Chosen now, analysis object area
- **Blue**: Not chosen now, analysis object area
- **Nothing**: Unused area



2. Please click “Use” button, from “3. Use Select” of “Area Edit” menu.

2	Name	
3	Use	Use Not Use
4	Cam ID	ID0002 ▼

3. Please select analysis object camera, from “4. Camera ID” of “Area Edit” menu.

3	Use	Use Not Use
4	Cam ID	ID0002 ▼
5	CX	960pix ▼ ▲

Supplement

When cameras more than two are not set in the analysis folder, you cannot change it.

4. When change “5. Center X”, “6. Center Y” of “Area Edit” menu, can change position of area.
In addition, when change “7. Width”, “8. Height”, can change size of area.

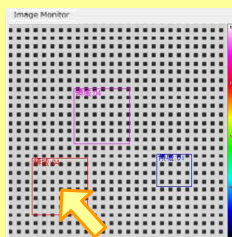


Supplement

Can change position and size of the area by mouse operation from “Image monitor” menu.

- Position : “Left” click in rectangle area
- Size: “Right” click in rectangle area

In click status, if you drag the area, you can edit position and size.



5. When change “9. Smooth X”, “10. Smooth Y”, “11. Sample X”, “12. Sample Y”, “13. Pitch X”, “14. Pitch Y” of “Area edit” menu, can improve the analysis result.



Supplement

The content of each parameter is as follows.

- Smooth X, Smooth Y: Set the lattice pitch to near numerical value by pixel unit.
- Sample X, Sample Y: Set the lattice pitch to near numerical value by pixel unit.
- Pitch X, Pitch Y: Set lattice pitch by mm unit.

Use “Auto Smooth, Sample” of “Area Edit” menu lower right, can set, too.



“Area Edit” menu

“Auto Smooth, Sample” button

6. You can select to use or not, by “15. Phase connection” of “Area Edit” menu.



Supplement



“Auto Smooth, Sample”
button

7. Set “16. Size”, “17. Measurement distance” of “Area Edit” menu.



Supplement

The content of each parameter is as follows.

- Size: Set the size of the field of vision lengthwise direction of the camera by mm unit.
- Measurement distance: Set two-dimensional lattice and the distance between the camera by m unit.

8. You can select to use or not, by “18.Z Correct” of “Area Edit” menu.



Supplement

Set whether the Z correction is valid or invalid.

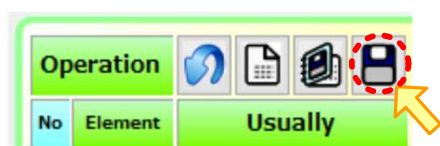
9. Set “19.Z MA” of “Area Edit” menu.



Supplement

Set moving average of Z displacement.

10. Please click “Save” button of “Operation” menu.



CAUTION

When editing from “2. Name” to “17. measurement distance”, please click “Save” button by all means. If you do not like this, when analysis, editing contents are not reflected.

Supplement

(1) About “Operation” menu

There is the effective operation menu button at the time of area editing.



“Operation” Menu

No	Name	Content
①	“Return” Button	Return edited area information to original state.
②	“Area Info Read” Button	Read area information from file.
③	“Area Info Save Add Name”	Save area information by appointed file name.
④	“Area Info Save” Button	Save area information by default file name.

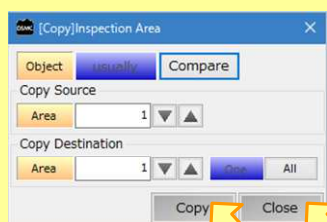
(2) About the copy function of the area

When you click “Area Copy” button of “Area Edit” menu lower right, “Area information copy setting” screen is displayed.



“Area Edit” Menu

“Area Copy” Button



“Area information copy setting” Screen

Please appoint copy source, copy destination of area information to execute.

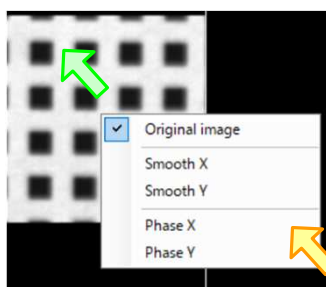
During this screen display, do not accept other operation. When you click “Copy” button and “Close” button, “Main” screen come to be able to operate.

4-3. To confirm the analysis result?

Explain various confirmation methods about the analysis result.

4-3-1.To confirm various processing images?

1. Please left double click "Area Monitor" menu. "Image Select" context menu is displayed.
Please choose middle image what you want to confirm.

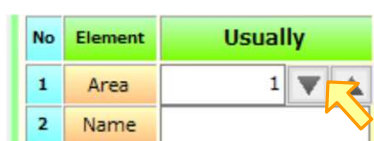


Supplement

The default is "Original image" is chosen.

4-3-2.To confirm the result of other area?

1. Please change "1. Area" of "Area Edit" menu. Analysis result that area No which you chose is displayed.



Supplement

Display update content are as follows.

- Area monitor
- Image monitor
- Displacement result (Value)
- Displacement result (Graph)

4-3-3.To change the displacement result?

1. Please change selection of "Display change" menu. Analysis result that displacement which you chose is displayed.



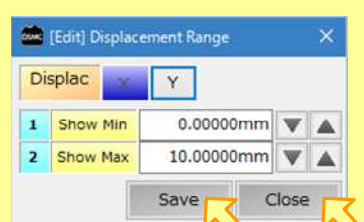
Supplement

Display update content are as follows.

- Image monitor
- Displacement result (Value)
- Displacement result (Graph)

Supplement

When double-click "Color Bar" menu, "Display Range Color Setting" screen is displayed.

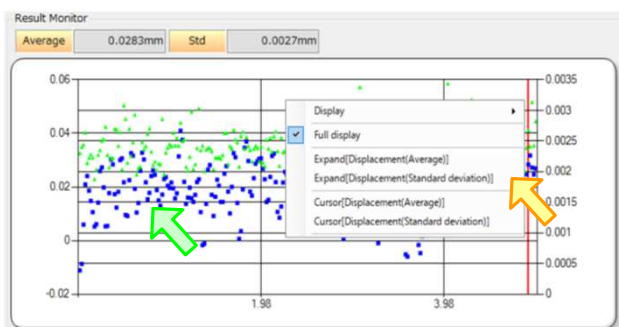


"Display Range Color Setting" Screen

During this screen display, do not accept other operation.
When you click "Save" button and "Close" button, "Main" screen come to be able to operate.

4-3-4.To confirm the analysis result from graph?

1. Please right click "Displacement result" graph. "Graph Operation" context menu is displayed.
Please choose processing that you want to confirm.



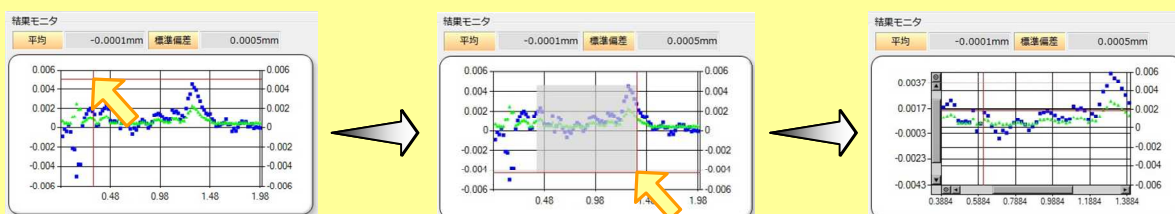
Supplement

Plot color and each axial content as follows.

- Plot Blue: Displacement average value (Unit : mm)
- Plot Green: Displacement standard deviation (Unit : mm)
- Y1 axis (Left): Displacement average value (Unit : mm)
- Y2 axis (Right): Displacement standard deviation (Unit : mm)
- X axis (Bottom): Measuring time (Unit : Second)

Supplement

Explain expansion. Click start point (left top) that you want to display, drag display range, the selection range is expand displayed.

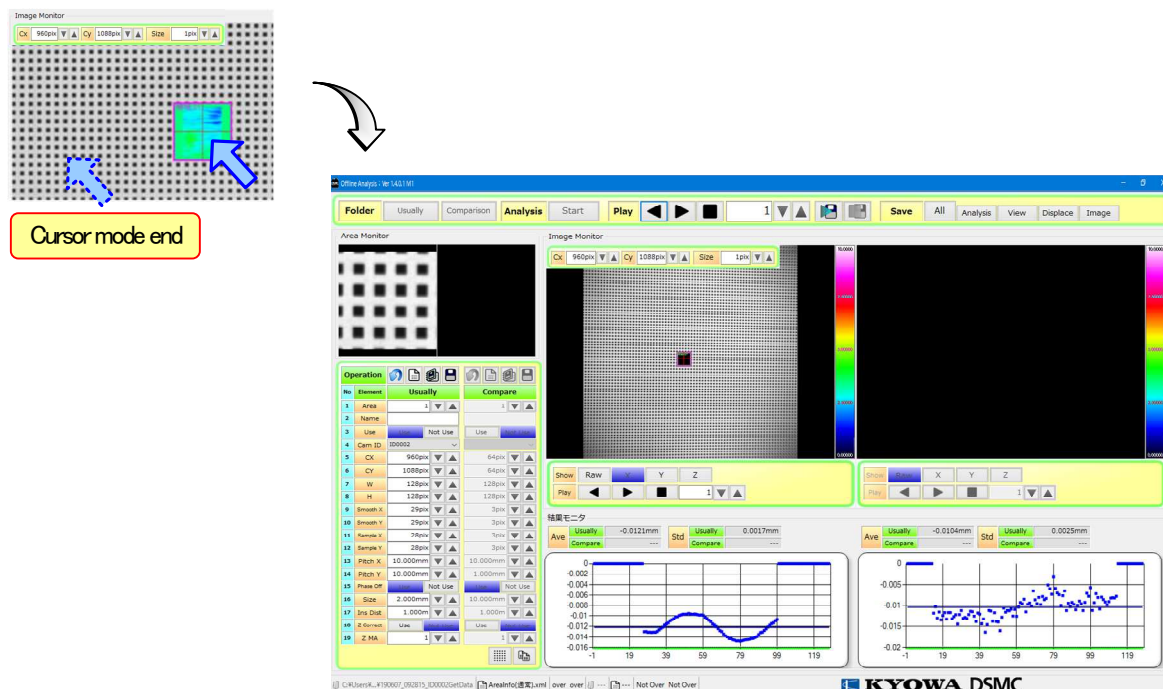


Explain the cursor. XY value of the point that you clicked is displayed.



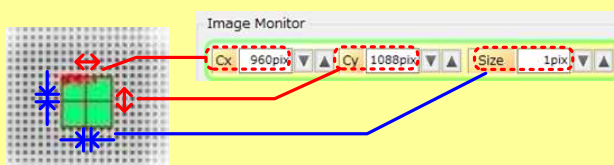
4-3-5.To confirm the analysis result in detail?

1. Please double-click the area frame of "Image Monitor" menu. To "Cursor Mode", you can confirm the displacement every pixel in this area.
Please double-click the area frame outside to finish "Cursor Mode".



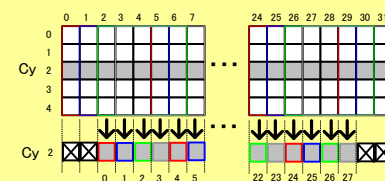
Supplement

Cross line is displayed by the center in area. "Cx", "Cy" of "Image Monitor" menu are cursor positions in the upper, "Size" is width of cross line.



The size is changed by 2 size, like 1, 3, 5, When it is size 5 in cases, it is with five pixels of size including front back 2 Pixel in total, calculate average, standard deviation of five pixels size, display "Displacement result" value, graph below.

【Example】Cy : 2, Size : 5



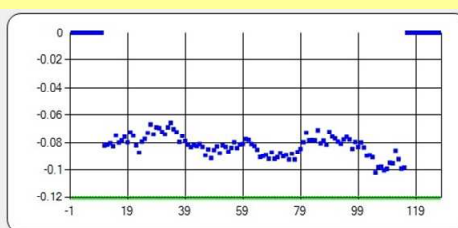
Supplement

About contents of the graph indication, plot color and each axial content is as follows.

[X Line]



[Y Line]



- Plot Blue: 【Usually】Displacement average value(Unit : mm)
- Plot Green: 【Usually】Displacement standard deviation(Unit : mm)
- Plot Pink: 【Compare】Displacement average value(Unit : mm)
- Plot Aqua: 【Compare】Displacement standard deviation(Unit : mm)

- Y1 axis (Left): Displacement average value (Unit : mm)
- Y2 axis (Right): Displacement standard deviation (Unit : mm)
- X axis (Bottom) : X Position ([X Line]) (Unit : Pixel)
- X axis (Bottom) : Y Position ([Y Line]) (Unit : Pixel)

4-4. To store the analysis result?

Explain the method to save the analysis result.

1. Please click “All” button from “Result Save” menu. All the analysis results are stored.



Supplement

Save to “AnalysisFolder\OfflineAnalysis(Result)\” folder.

When click “Analysis Result” button, only analysis result is stored, name as follows.

○○○○○○○_□□□□□_ResultAnalysis.csv (○:Date, □:Time)

When click “Area Image” button, only area image is stored, name as follows.

○○○○○○○_□□□□□_AreaView_●●_ID☆☆☆☆.bmp
(○:Date, □:Time, ●:Usually or compare, ☆:Camera ID)

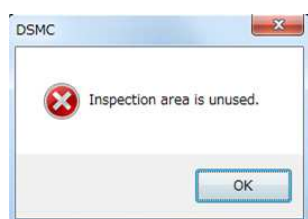
When click “Displacement Result” button, only displacement result is stored, name as follows.

○○○○○○○_□□□□□_△△△△△_ResultDisplace_●●_ID☆☆☆☆_Area■_Displacement▲.csv
(○:Date, □:Time, △: Image No, ●:Usually or compare, ☆:Camera ID, ■:Area No, ▲:Displacement name)

When click “Analysis Image” button, only analysis image is stored, name as follows.

○○○○○○○_□□□□□_△△△△△_DisplaceImage_●●_ID☆☆☆☆_Displacement▲.bmp
(○:Date, □:Time, △: Image No, ●:Usually or compare, ☆:Camera ID, ▲:Displacement name)

Attention

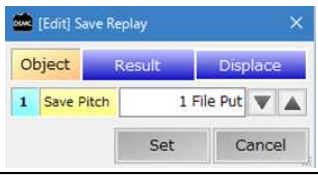


Please choose analysis area No before clicking “All” button or “Displacement result” button.
When area No of non-analysis is chosen, the left message is displayed and is not saved.

Supplement

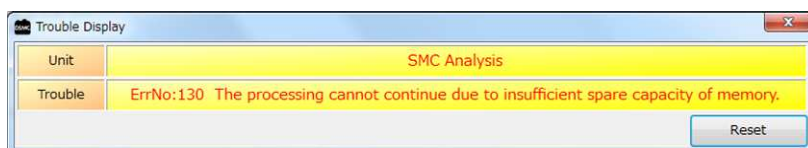
Explain “Replay” menu of analysis result.



No	Name	Content
①	“Save Play” Button	“Save Play” screen is displayed. Reproduce while storing preservation object, preservation pitch by setting screen, analysis result by setting contents. 
②	“Save Play Stop” Button	Stop reproduction with the preservation.

5-1. What is the trouble?

It occurs during analysis and expresses that you cannot continue the analysis. At the time of the occurrence, the following “Trouble display” screen is displayed.



“Trouble display” screen

When the trouble occurs, please click “Reset” button, after evading the trouble, revise the trouble, re-analysis.

Explain about the representative trouble and the reason below.

No	Trouble Name	Reason
3	Double start of the application occurred.	Offline analysis software was starting, and start processing was carried out again.
30	Analysis is non-completion.	After analysis, when you change image No fast, it may occur. After confirming that “Status” becomes “completion”, please change image No.
101	The image file for analysis does not exist.	Predetermined folder does not exist in the subordinate of the analysis image folder which you chose. Change choice folder, or, please change the contents to the predetermined folder form. (※ About the folder form, it is reference with an attached sheet “format making procedure book”.)
110	The whole image file does not exist.	There is not whole image file in the predetermined folder. (※ About the folder form, it is reference with an attached sheet “format making procedure book”.)
130	The free space lack of the memory, processing cannot continue.	Free space of the physical memory of the PC is lack. Finish other application, please secure the free space.

Supplement

A trouble except the above occurs, when it is hard to restore, please contact our staff.



Kyowa Electronics Instruments Co., Ltd.
182-8520 Choufugaoka, Chofu-shi, Tokyo 3-5-1
<http://www.kyowa-ei.com/>