

7.1 9 X-Y Chart Tag

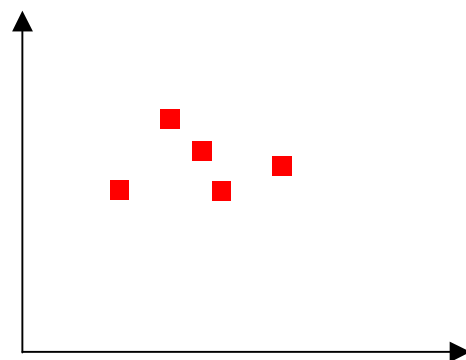
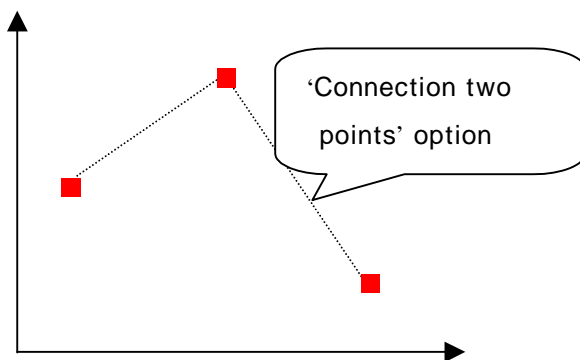
Before mentioned trend graph displays X axis as time movement and Y axis as value change. But X-Y chart tag display both X and Y axis as value's change. If you display a point in two-dimensional graph (plane graph), you need two values. If you display 5 points, you need 10 addresses to read in general. In addition, ***There needs an address (one word) to be used at the number of points*** in X-Y chart tag. So, total 11 addresses to read are needed.

(1) Simple Registration of X-Y chart tag

X-Y chart tag has two type; 'Trend' and 'Histogram'. Trend type is monitoring the movement of various points and histogram type is tracing the point without erasing.

- 1) Select X-Y chart tag in pull-down menu and register at screen
- 2) Specify the address to read in general tab and select the graph type in display tab. And register the attributes of points group (data set) to be displayed in range tap.

[Example, In case that z is address to read]



< trend : In case of three values (points) >

=> Read 6 values

(z+1 buf value, z+2 buf value)

(z+3 buf value, z+4 buf value)

(z+5 buf value, z+6 buf value)

< histogram: In case of one value >

=> Read 2 values

(z+1 buf value, z+2 buf value)

* ***There are over 2 points, Because this graph don't erase past dots.***

7.1 9.1 Specifying Contents

(1) General

Address to read: According to specified address, number of point is decided. Specified address itself represents the number of points. Namely, if 'Address to read' is Z , the value of Z is n (number of dots), and $(Z+1, Z+2)$, $(Z+3, Z+4)$, $(Z+5, Z+6)$, ... , $(Z+2*n-1, Z+2*n)$ come to dots to be displayed. Eg) n is 1,2,3,..., $n-1$

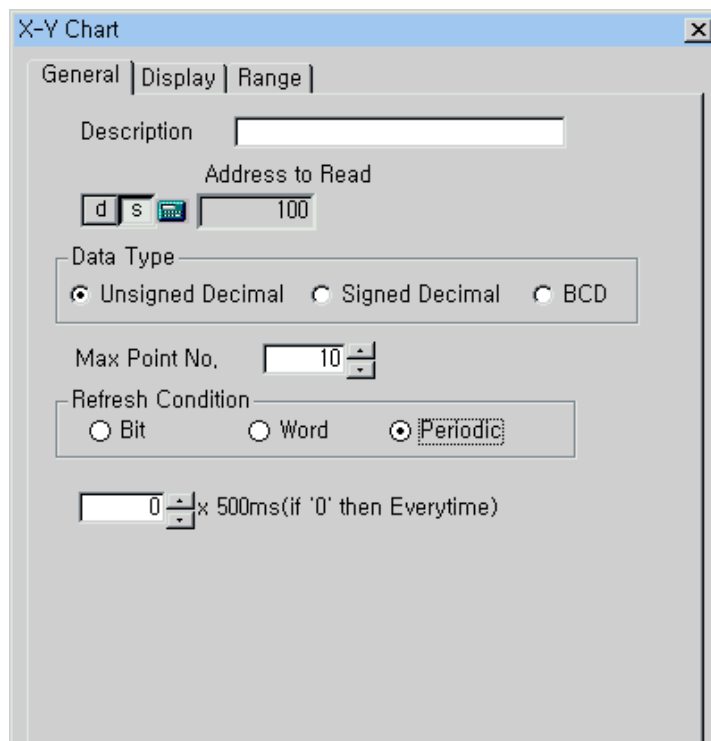
Data Type: Choose one among unsigned decimal, signed decimal, BCD

Maximum Point Number: Limit the maximum value of buffer of 'Address to read'. If the maximum point number is specified as 10 and even first buffer value of address to read is bigger than 10, display 10 points data.

Display condition: Specify the refresh condition of graph. Whenever this condition is satisfied, graph is drawn newly. To say, refreshed data will be applied and updated information is displayed.

- 1) Bit condition : Refresh when the specified address satisfy On/Off/edge, On/Off/level condition
- 2) Word condition : Refresh when the specified address value is within the range of specified word address.

Periodic Condition : Refresh according the specified time period(0 means, every scan).



[General Tab in X-Y chart tag]

(2) Display

1) Graph Form

You can choose one between frameless rectangle and framed rectangle. Default value is frameless rectangle.

2) Color of background and frame

Background Color : Specify the background color

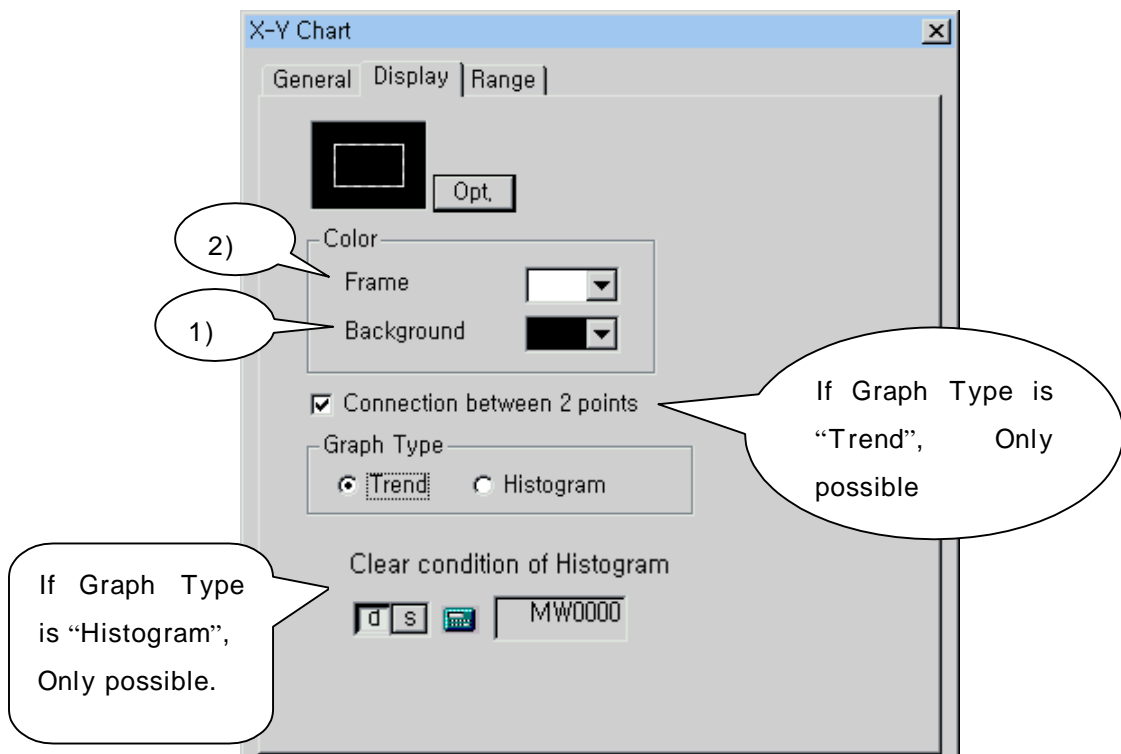
Frame Color : Specify the frame color except frameless one

3) Graph Type : Choose one between 'trend' and 'histogram' .

Connecting between two points: Can select *only in case of trend* graph type

Clear Condition of Histogram: Can select *only in case of histogram*. 'Histogram X-Y chart does not clear the past points even current value is changed. If you want to clear the trace of past points, insert any number except 0 in the word address of Clear Condition.

Notice) If you want trace in graph, you should insert 0 number in this Clear Condition.



[Display tab in X-Y graph tag]

(3) Range

Maximum data set is 4. (Later it can be increased).

If you insert each content in following 1)~ 5) and press 'Add', one set is registered.

1) Vertical Max/Min

Specify maximum and minimum of Y axis.

2) Horizontal Max/Min

Specify maximum and minimum of X axis.

3) Point Dot Size

Specify the size of point dot. Point is displayed as rectangle and point size is length of one side. But only **odd number** is available

4) Pen Color

Specify the color of point

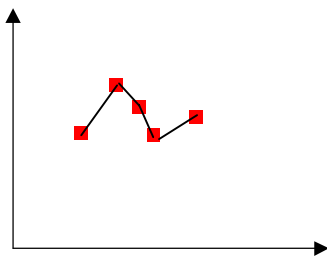
5) Line Patten

There are 8 type of line. Available only when select "connecting between two points" in trend graph.

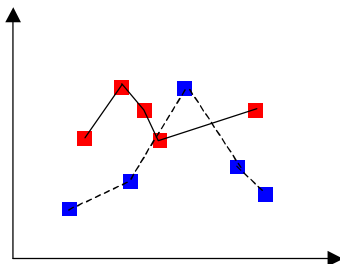
* Add, delete and modify of data set is same with the case of ExGraph2 Tag.

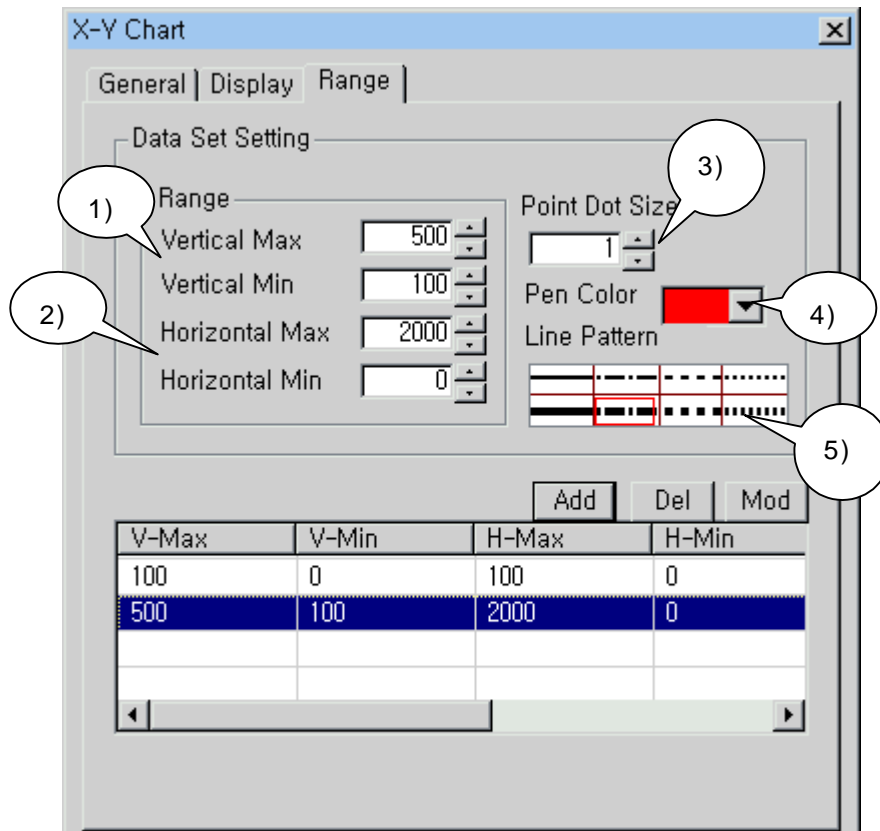
[Data Set]

: Data set means displayed point group. Displaying one 'Data Set' by connecting of 5 points, following graph will be shown.



By connecting 5 points and make two groups(Data Sets), following graph will be shown.





[Range tab in extended graph 2]

7.1 9.2 Example of X-Y Chart Tag Registration

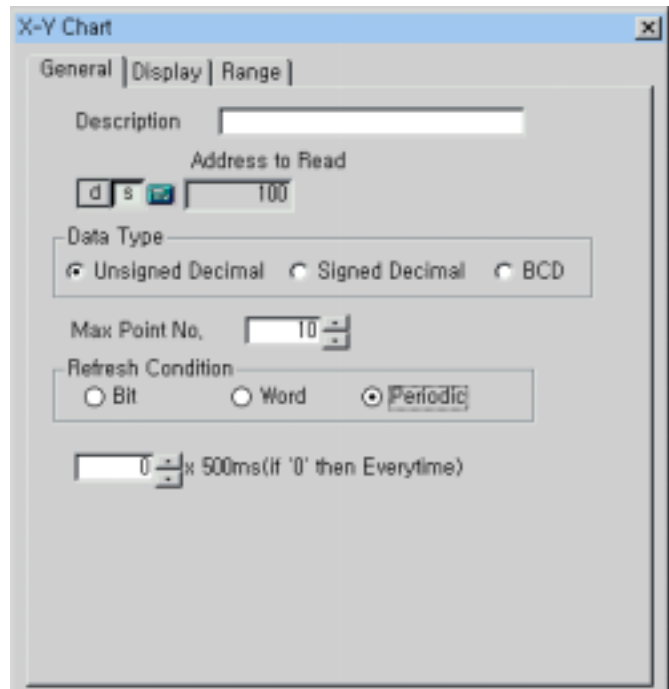
Register X-Y chart tag which display the distribution of value in system buffer. Data type is unsigned decimal, specify address to read from system buffer 100. Refresh condition is periodic and 0 so as to display the graph with updated value. Select frameless rectangle and trend in display tab and use connecting between two points.

Add two data sets in range tab. Specify the point size as 5 (only odd number is available) and pen color as red and blue respectively and connecting line pattern as '—' and '.....'.

* This is based on color type. According to the type of main unit, it can be different.

(1) General

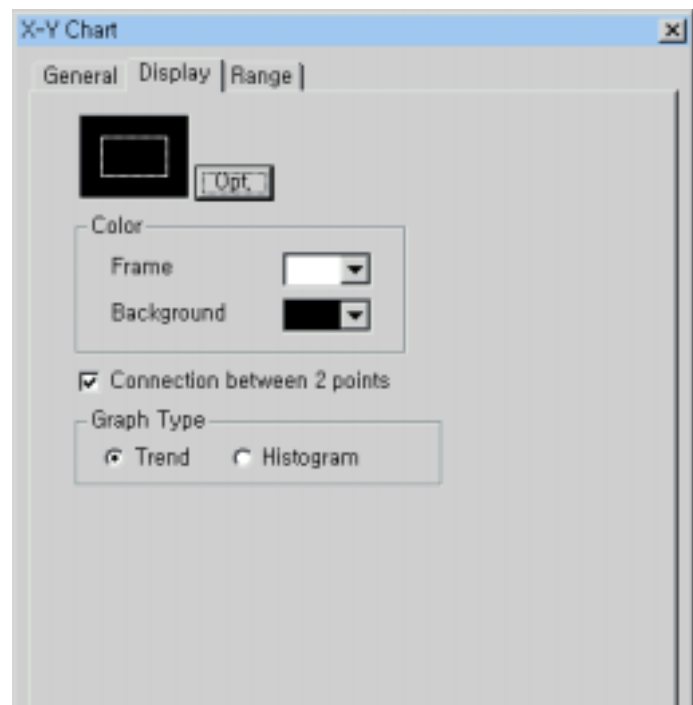
- Address to read: 100(System Buffer)
- Data Type: Unsigned Decimal
- Max. Point No.: 10
- Refresh Condition: Periodic 0



[Example, General Tab in X-Y Chart]



(2) Display

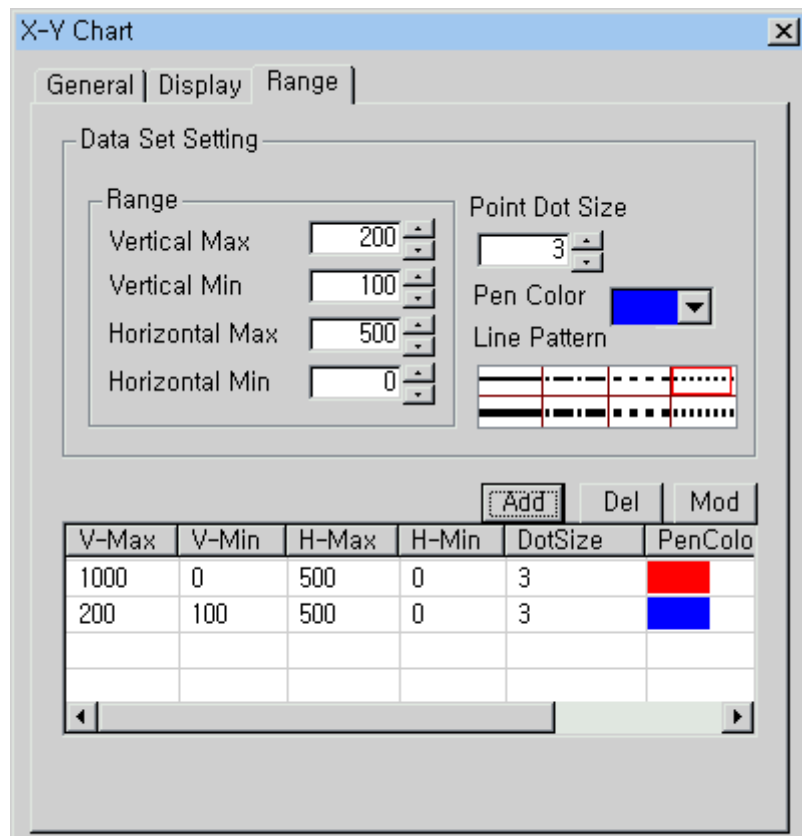
- Graph Type: Framed Rectangle
- Background Color: Black
- Frame Color: White
- Graph Type: Trend
- Connecting between points: Use



[Example. Display Tab in X-Y Chart Tag]

(3) Range

- Data Set: 2
 - 1) Number 1 Set
 - Vertical (y): 0~1000
 - Horizontal (x): 0~500
 - Point Size: 3
 - Point Color: Red
 - Line Pattern : 
 - 2) Number 2 Set
 - Vertical (y): 100~200
 - Horizontal (x): 0~500
 - Point Size: 3
 - Point Color: Blue
 - Line Pattern: 



[Example. Range Tap in X-Y Chart Tag]

(4) Result

- Below table shows current value of system buffer.

Buffer	100	101	102	103	104	105	106	107	108	109	110	111	112	113	...
Value	3	250	500	100	150	400	800	110	195	30	490	300	180	70	...

Set1	Set1	Set2	Set2	Set1	Set1	Set2	Set2	Set1	Set1	Set2	Set2
1 st Point	1 st Point	1 st Point	1 st Point	2 nd Point	2 nd Point	2 nd Point	2 nd Point	3 rd Point	3 rd Point	3 rd Point	3 rd Point
x	y	x	y	x	y	x	y	x	y	x	y

- **Number of Point (Value of No. 100 Buffer) is 3.** So, read 12 buffer, 3 X 2(xy two points) X 2(number of set) = 12 (13 word value including No. 100 buffer).

Set 2: - - - - (BLUE)
 Set 1: ——— (RED)

