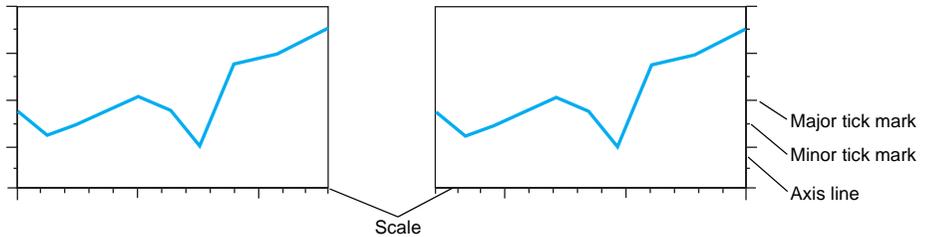


8.2 Scale Display Overview

Scale

A graph can be provided with a scale along any sides: right, left, top, or bottom.

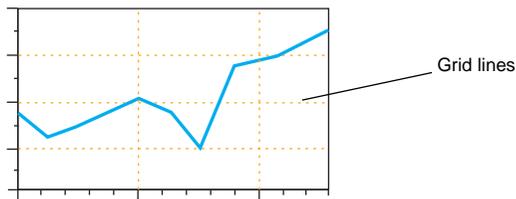
- Scale along the left and bottom sides
- Scale along the right and bottom sides



Grid lines

Grid lines can be drawn in accordance with tick marks.

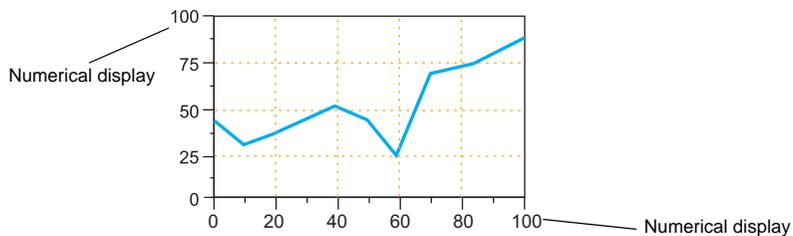
Example: Grid lines at major tick marks



Numerical Display

Reference numbers can be displayed at tick marks.

Example: Reference numbers at major tick marks



Applicable Items

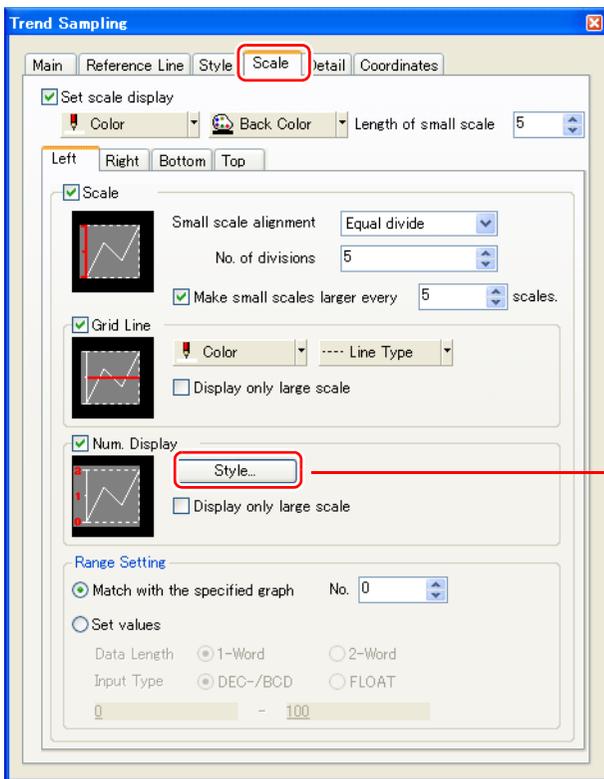
- Trend graph
- Trend sampling

Setting Items

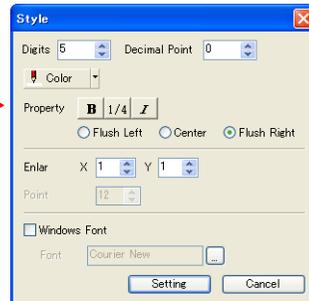
In the item dialog, open the [Scale] tab window, and check [Set scale display].



Click or double-click.



Example: Trend sampling



Color, Back Color	Select the color of the major and minor tick marks, and axis lines of the scale. Each setting is common to all left, right, bottom, and top sides.													
Length of small scale	Set the length of the minor tick marks of the scale. This setting is common to all left, right, bottom, and top sides. 1 - 16 The thickness of the marks is fixed.													
<input type="checkbox"/> Scale in [Left], [Right], [Bottom], and [Top] tab windows	Check these boxes as necessary for the sides of the graph when showing a scale, grid lines, or reference numbers. Default: <input checked="" type="checkbox"/> Left] and <input checked="" type="checkbox"/> Bottom] checked													
Small scale alignment	<ul style="list-style-type: none"> <input type="checkbox"/> [Equal divide] (based on [No. of divisions]) Minor tick marks are equally spaced according to the specified number of divisions along the axis line. <input type="checkbox"/> [Equal interval] (based on [No. of intervals]) Minor tick marks are equally spaced according to the specified interval from the zero point along the axis line within the following range. <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Direction</th> <th>Side</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>LFT/RGT</td> <td>Top/Bottom</td> <td rowspan="2">[X Axis Data Points] or [Range Setting] in the [Scale] tab window</td> </tr> <tr> <td>UP/DW</td> <td>Left/Right</td> </tr> <tr> <td>LFT/RGT</td> <td>Left/Right</td> <td rowspan="2">[Range Setting] in the [Scale] tab window</td> </tr> <tr> <td>UP/DW</td> <td>Top/Bottom</td> </tr> </tbody> </table>	Direction	Side	Range	LFT/RGT	Top/Bottom	[X Axis Data Points] or [Range Setting] in the [Scale] tab window	UP/DW	Left/Right	LFT/RGT	Left/Right	[Range Setting] in the [Scale] tab window	UP/DW	Top/Bottom
Direction	Side	Range												
LFT/RGT	Top/Bottom	[X Axis Data Points] or [Range Setting] in the [Scale] tab window												
UP/DW	Left/Right													
LFT/RGT	Left/Right	[Range Setting] in the [Scale] tab window												
UP/DW	Top/Bottom													
<input type="checkbox"/> Make small scales larger every n scales.	Check this box when placing major tick marks. The major tick mark is twice the length of the minor. The thickness of the markings is fixed.													
<input type="checkbox"/> Grid Line	Check this box when drawing grid lines. Grid lines are drawn at the major and minor tick marks of the scale. <table border="1" style="margin-left: 40px;"> <tr> <td>Color, Line Type</td> <td>Set the color or the line type of the grid lines.</td> </tr> <tr> <td><input type="checkbox"/> Display only large scale</td> <td>Check this box when drawing grid lines only at the major tick marks of the scale. Uncheck this box to draw grid lines at both minor and major tick marks.</td> </tr> </table>	Color, Line Type	Set the color or the line type of the grid lines.	<input type="checkbox"/> Display only large scale	Check this box when drawing grid lines only at the major tick marks of the scale. Uncheck this box to draw grid lines at both minor and major tick marks.									
Color, Line Type	Set the color or the line type of the grid lines.													
<input type="checkbox"/> Display only large scale	Check this box when drawing grid lines only at the major tick marks of the scale. Uncheck this box to draw grid lines at both minor and major tick marks.													
<input type="checkbox"/> Num. Display	Check this box when showing reference numbers at the major and minor tick marks of the scale. <table border="1" style="margin-left: 40px;"> <tr> <td>Style</td> <td>Set the number of digits or the color of reference numbers shown at tick marks.</td> </tr> <tr> <td><input type="checkbox"/> Display only large scale</td> <td>Check this box when showing reference numbers only at the major tick marks of the scale. Uncheck this box to show reference numbers at both minor and major tick marks.</td> </tr> </table>	Style	Set the number of digits or the color of reference numbers shown at tick marks.	<input type="checkbox"/> Display only large scale	Check this box when showing reference numbers only at the major tick marks of the scale. Uncheck this box to show reference numbers at both minor and major tick marks.									
Style	Set the number of digits or the color of reference numbers shown at tick marks.													
<input type="checkbox"/> Display only large scale	Check this box when showing reference numbers only at the major tick marks of the scale. Uncheck this box to show reference numbers at both minor and major tick marks.													

Range Setting	<p>* Settings in this area are valid, provided that [Small scale alignment: Equal interval] is set or [<input checked="" type="checkbox"/> Num. Display] is checked.</p> <ul style="list-style-type: none"> [Match with the specified graph] <table border="1"> <thead> <tr> <th>Direction</th> <th>Side</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>LFT/RGT</td> <td>Top/Bottom</td> <td rowspan="2">[X Axis Data Points]^{*1}</td> </tr> <tr> <td>UP/DW</td> <td>Left/Right</td> </tr> <tr> <td>LFT/RGT</td> <td>Left/Right</td> <td rowspan="2">[Graph Min. Value] and [Graph Max. Value] specified for the selected graph number^{*2}</td> </tr> <tr> <td>UP/DW</td> <td>Top/Bottom</td> </tr> </tbody> </table> <ul style="list-style-type: none"> [Set values] Specify the minimum and maximum values using constants or memory addresses.^{*2} 	Direction	Side	Range	LFT/RGT	Top/Bottom	[X Axis Data Points] ^{*1}	UP/DW	Left/Right	LFT/RGT	Left/Right	[Graph Min. Value] and [Graph Max. Value] specified for the selected graph number ^{*2}	UP/DW	Top/Bottom
Direction	Side	Range												
LFT/RGT	Top/Bottom	[X Axis Data Points] ^{*1}												
UP/DW	Left/Right													
LFT/RGT	Left/Right	[Graph Min. Value] and [Graph Max. Value] specified for the selected graph number ^{*2}												
UP/DW	Top/Bottom													

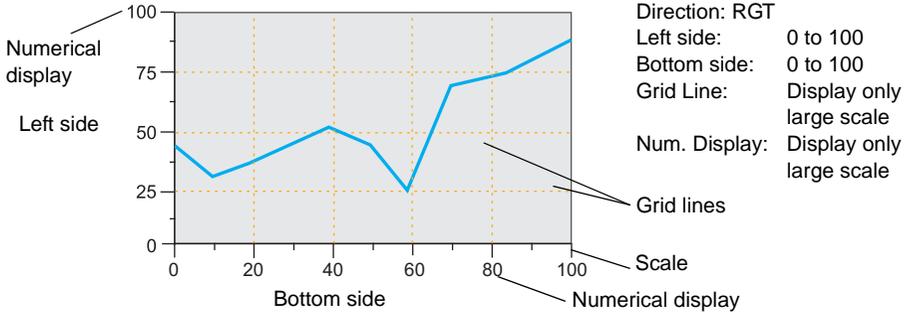
*1 If [X Scale] is checked in trend graph settings, the range is determined by the minimum and maximum values of the X scale.

*2 If the minimum and maximum values are specified with memory addresses (other than constants) in the [Range Setting] area and if these values are changed during RUN, an update resulting from the change occurs at the following times:

- The screen including a trend graph or trend sampling is redrawn.
- In the case of a trend graph, the bit for redraw or redraw after clear in the control memory is set (ON).
- In the case of trend sampling, the macro command TREND_REFRESH is executed.

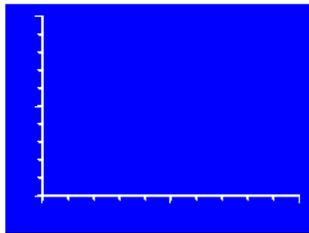
Setting Procedure

As an example, this section describes how to set a scale with reference numbers and grid lines for a trend graph.



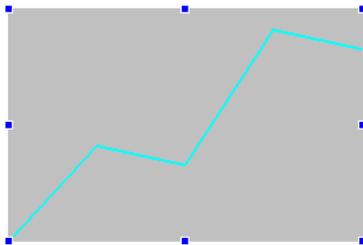
- Place a trend graph part without scale (*) on the screen.
 * If scale settings are made for a graph part with scale, scales will overlap one another. Be sure to select a part without scale.

Trend graph part with scale

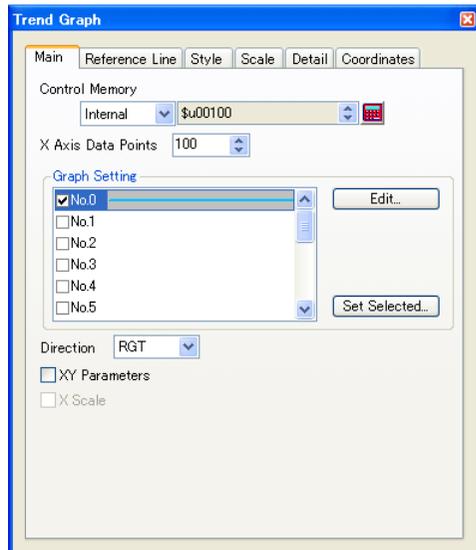


Scales doubly displayed

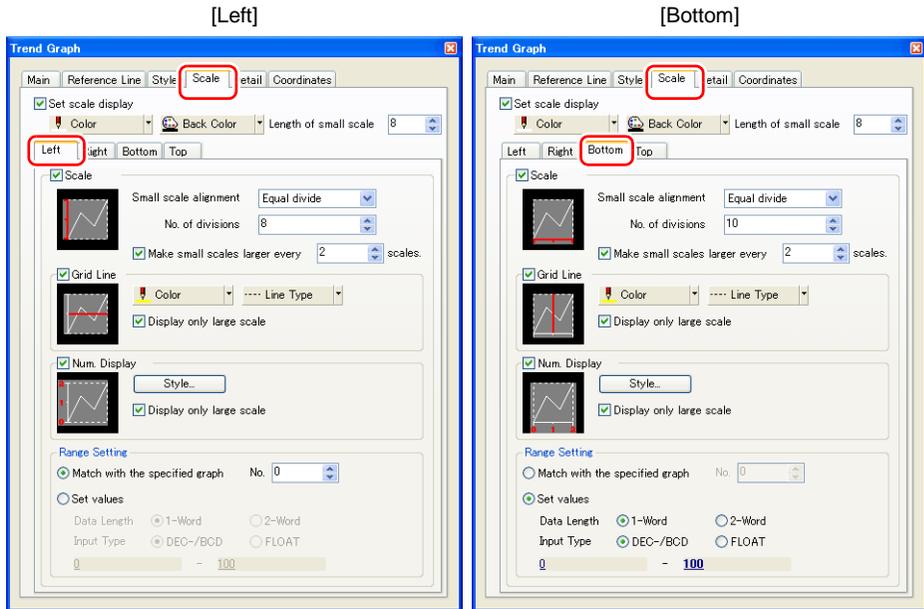
- Click or double-click the trend graph part to open its item dialog. Make settings as necessary in the [Main] tab window. For more information on settings, refer to the V8 Series Reference Manual.



Trend graph part without scale



3. Click the [Scale] tab. Set the [Left] and [Bottom] tab windows as follows.



4. The necessary settings have been completed.

Limitations

Trend Graph

- For asynchronous display of multiple trend graphs, the scale of the parent trend graph is displayed. Scale settings made for child trend graphs are invalid.

Trend Graph and Trend Sampling

- If a tile pattern is selected for [Color] in the [Style] tab window in the above dialog, other color settings, such as for [Grid Line], are invalid. Do not select tile patterns.