

Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



Danger

indicates that death or severe personal injury **will** result if proper precautions are not taken.



Warning

indicates that death or severe personal injury **may** result if proper precautions are not taken.



Caution

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

Caution

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

Notice

indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:



Warning

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

Trademarks

All names identified by ® are registered trademarks of the Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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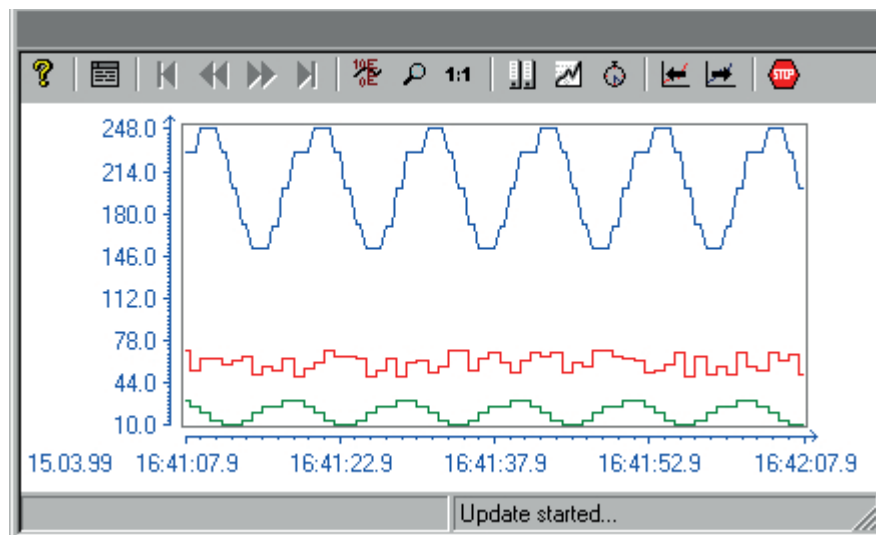
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WinCC Online Trend Control

Introduction

In order to process data in graphic form, WinCC uses Online Trend Control to offer the option of displaying process data as a trend. The trend type to be used can be selected. Furthermore you have the option of displaying current or archived values.

Display of tag values during Runtime takes place in ActiveX Control, inserted and configured in a picture in Graphics Designer.



Requirement

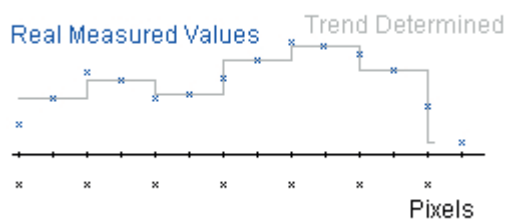
The following requirements apply to the display of trends in WinCC Online Trend Control:

- In a WinCC Online Trend Control any number of trends can be displayed. However, it is recommended to configure no more than 8 trends.
- A trend can represent a maximum of 30000 value pairs. Depending on the screen resolution and the settings, the display might however vary.
- The trends can be based on online tags or archived tags.
- Online tags of a trend must have the identical update cycle.
- In order to display tags as a function of other tags, you should use the WinCC Function Trend Control.

Resolution of Trend Display

The number of trend values that can be displayed on the screen is limited by the screen resolution and selected size of the trend window. Therefore, when displaying trends, it is possible that fewer values are displayed in the trend window than are actually archived.

If, for example, in an area of 100 pixels 200 measured values are archived, each pixel represents 2 measured values. The value shown on the screen is that of the most recent data (most recent time stamp).



Representation Trend Lines

2.1 Representation Trend Lines

Introduction

WinCC Online Trend Control has a multitude of options to display a trend.

See also

Representation of Staggered Trends (Page 2-6)
Identification of Time Jumps and Time Overlaps (Page 2-10)
Time Range of Trend Display (Page 2-8)
Write direction (Page 2-7)
Representation Using Common Axes (Page 2-4)
Representation formats (Page 2-1)

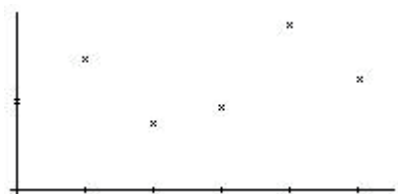
2.2 Representation formats

Introduction

Three basic trend format are available for the graphic display of tag values.

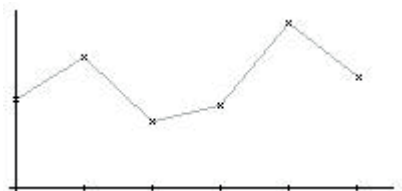
Single Values

Value of measurement points are shown as dots.



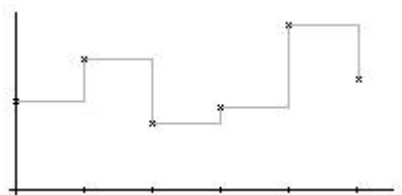
Linear Interpolation

The trend line is interpolated on a linear basis from values of measurement points. The trend is represented as either a solid line or a dashed line. The area under the curve can also be displayed in a solid color.



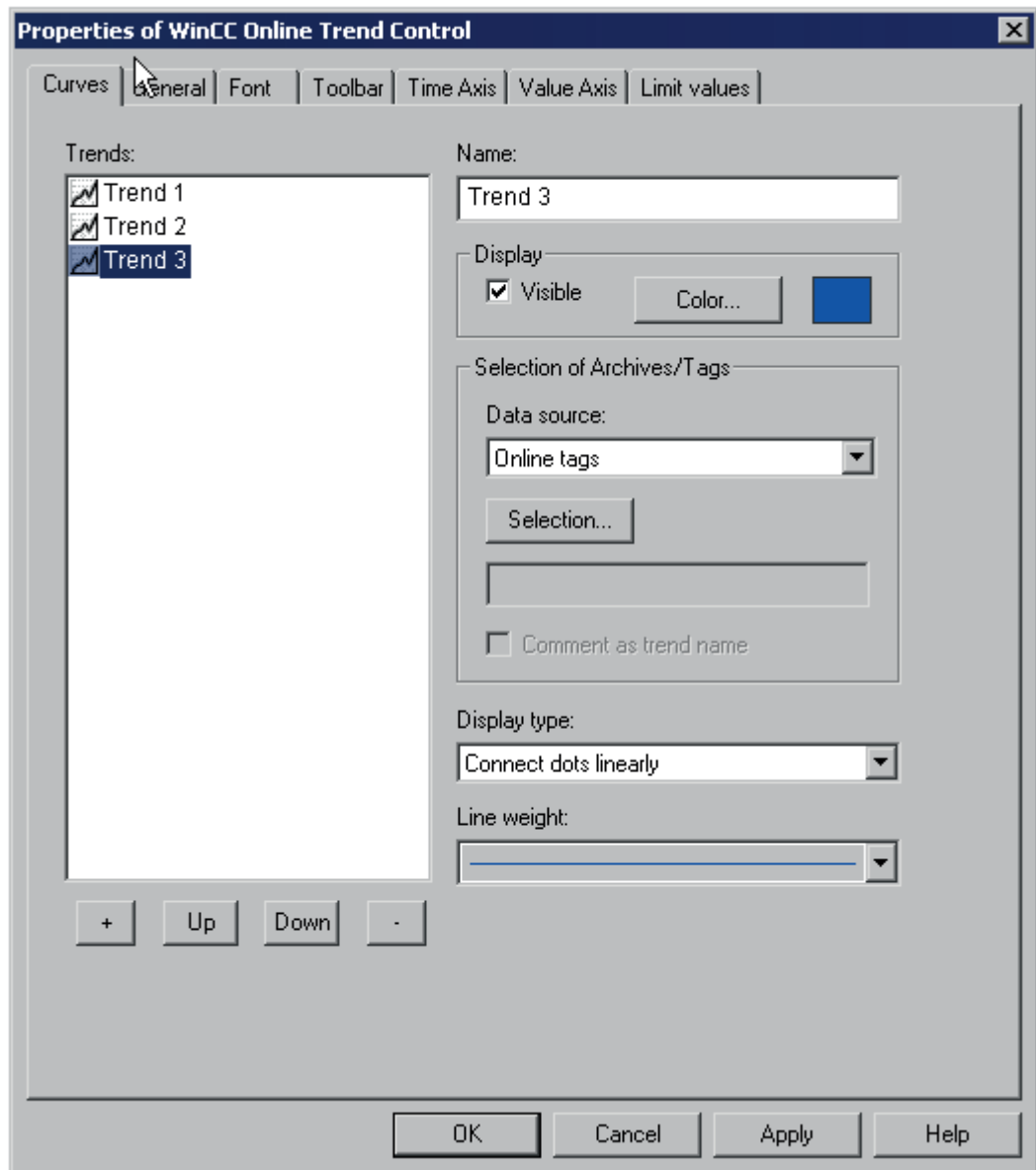
Stepped trend

The trend line is interpolated as a stepped curve from the values of measurement points. The trend is represented as either a solid line or a dashed line. The area under the curve can also be displayed in a solid color.



Configuration

The display of trends is configured on the "General" tab of the "Properties of WinCC Online Trend Control" dialog.



See also

Representation Trend Lines (Page 2-1)

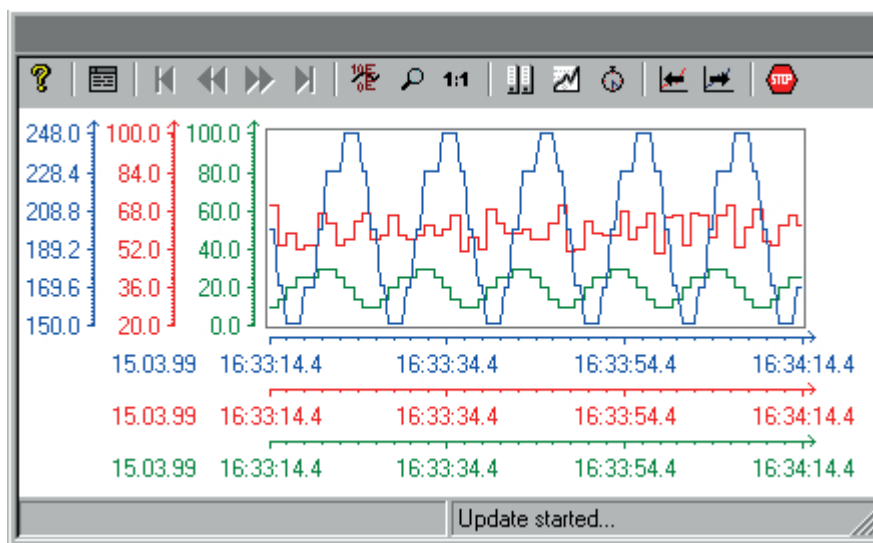
2.3 Representation Using Common Axes

Introduction

If multiple trends are to be displayed in a trend window, you have the choice of using individual axes for each trend or using shared X/Y axes for all trends.

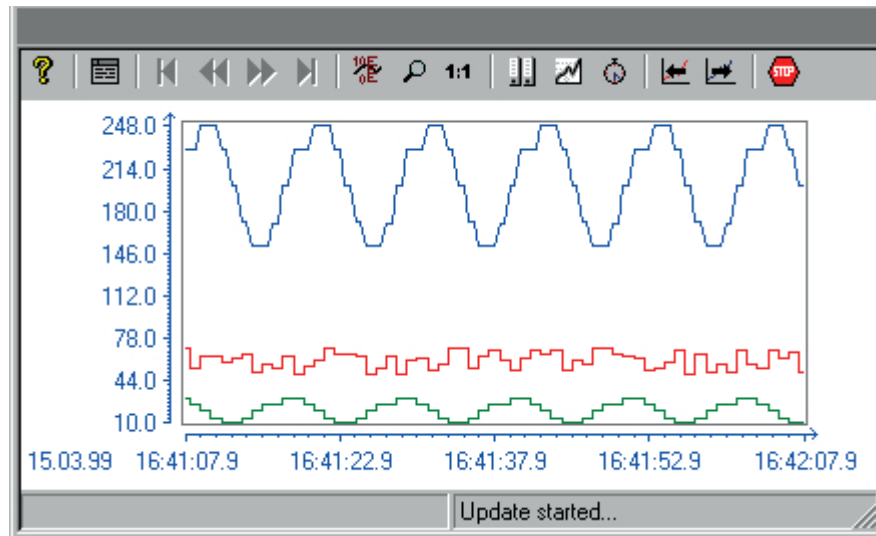
Representation Using Different Axes

If the tag values to be displayed in a tag window differ greatly, the use of shared axes for the trend display is not recommended. The tag values can be read more easily if different axial scales are used.



Representation Using Common Axes

If comparison of trend characteristics is important, it is recommended to display trends with common axes. The exact tag values can be determined in Runtime through zoom or coordinate inquiry.



Configuration

The display of common axes is configured in the "General" tab of the "Properties of WinCC Online Trend Control" dialog.

Note

When configuring an Online Trend Control, only tags with an identical updating cycle should be displayed in a trend window in the case of several trends with a common time axis. In the case of tags with different updating cycles, the length of the time axis is not identical for all tags. Since the tag trends are updated at different times due to the different updating cycles, a minimal different in the end time for the time axis occurs on each change. As a result, the trends displayed skip slightly to and fro on each change.

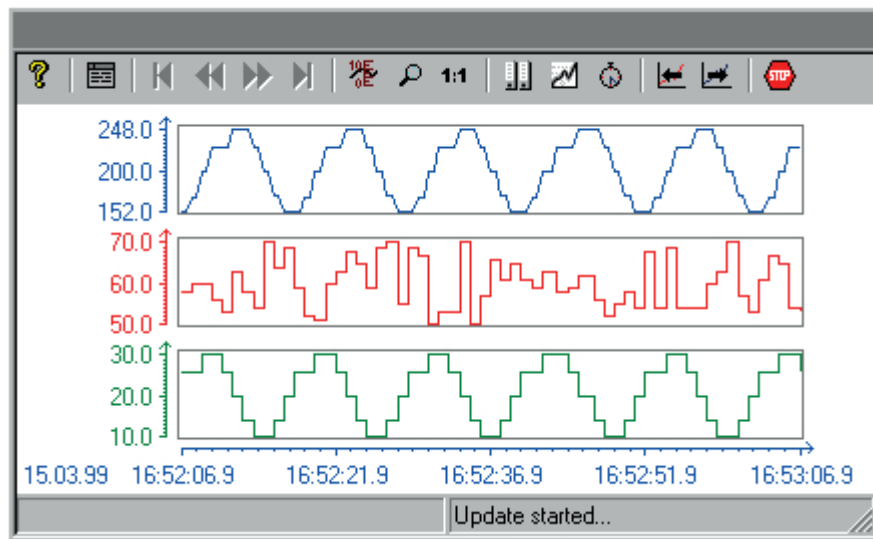
See also

Representation Trend Lines (Page 2-1)

2.4 Representation of Staggered Trends

Introduction

In a staggered display, the trends are displayed offset over each other in the trend window. For each trend, the value range to be displayed can be set for the Y axis.



Configuration

The display of staggered trends is configured in the "General" tab of the "Properties of WinCC Online Trend Control" dialog.

See also

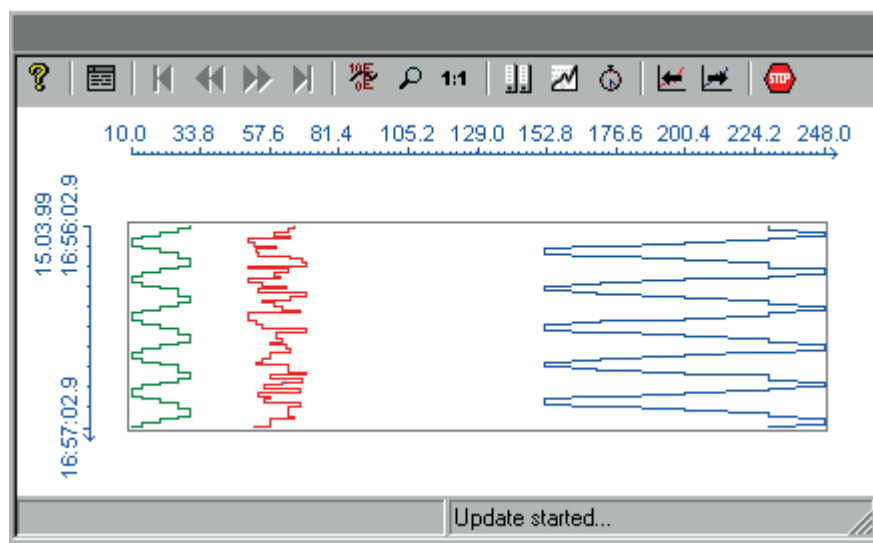
Representation Trend Lines (Page 2-1)

2.5 Write direction

Introduction

With the "Write Direction" option, you can specify where the current measurement values are to be displayed. Setting "From the bottom" means that the current measurement values are processed from downward.

If setting "From the top" or "From the bottom" is selected for the write direction, only True-Type fonts should be used inside the "Trend" window to ensure a clear display of labels on the vertical axis.



Configuration

The write direction configured in the "General" tab of the "Properties of WinCC Online Trend Control" dialog.

See also

Representation Trend Lines (Page 2-1)

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