

User's Guide



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CN9-SW-GRAFIX

for CN9300, CN9400, CN9500, CN9600

Windows Software Manual

TABLE OF CONTENTS

Page	Description
4	CN9-SW-Grafix Overview
7	Quick Start Description
8	Quick Start Installation and Troubleshooting
9	Adding a new instrument
13	Setting instrument properties
14	Creating a new program
15	Setting program properties
18	Adding segments to a program
19	Setting segment types and properties
20	Adding a new chart
24	Setting chart properties
27	Adding a new alarm
29	Setting alarm properties
30	Basic Menu Description
	File New
	File Open
31	File Export
	File Save
	File Save As
32	File MRU (Most Recent Files)
	File Print
	File Print Setup
	File Custom Display Properties
	File Properties
	File Exit
33	View Toolbar
	View Status Bar
	Window Cascade
	Window Tile
	Window Arrange Icons
34	Help Topics
	Help About
	ModbusServer Description
35	COM and DCOM
	Application and Instrument Templates
36	Creating a new application template

36	Application Template Properties
37	Charts and Charting
38	Chart Add Trace
	Chart Start, Stop and Restart
	Chart Zoom
	Chart Key
	Chart Add and Show notes
39	Chart properties
	Creating a new chart
	Chart exporting
40	Instrument displays
	Instrument SP1 and Run Mode
	Instrument Communications
	Instrument Clone
41	Instrument Edit Programs
	Instrument Properties
	Initial Setup
42	Setpoint One
	Setpoint Two
43	Setpoint Three
	Analog Scaling
	Programmer
	Calibration Adjustments
	Output Configuration
44	Diagnostic and Instrument
	Communications
	Security settings
	Standard Instrument Types
45	Setpoint Programmer
	Programmer New Program
	Programmer Delete Program
	Programmer Select Program
	Programmer Read and Write program data
46	Programmer Add and Insert Segment
	Programmer Remove Segment
	Programmer Properties
47	Custom displays
	Creating a custom display
48	Alarms
	Alarm Add Alarms
	Alarm Settings

48	Alarm Restart Alarms
49	Security Settings
	Instrument display security settings
	Application security settings
50	Start and Stop Communication
	New options dialog
51	Select devices dialog
52	Device Properties dialog
53	Select devices dialog
54	Omega Engineering CN9600 instrument display
55	Instrument settings dialog
56	Chart properties dialog
57	Format properties dialog
58	Chart trace selection dialog
59	Trace properties dialog
60	Modify Trace Details dialog
61	Select data source dialog
62	Application properties dialog
63	Security parameters dialog
64	Manage device templates dialog
65	Clone instrument dialog
66	Clone instrument settings dialog
67	Alarm properties dialog
68	Alarm active dialog
69	Chart Zoom dialog
70	Chart Key dialog
71	Chart Add Note dialog
72	Chart Show Notes dialog
73	Select Program to Delete dialog
74	Select Program to Edit dialog
75	Program Properties dialog
76	Program Colors dialog
77	Program Scales dialog
78	Custom Template Properties dialog
79	Custom Display Settings dialog
80	Custom Setting Properties dialog
81	Custom Display Layout dialog
82	Custom Display Layout Properties dialog
84	Load select dialog
85	SP1 and Run mode dialog
86	Index

CN9-SW-GRAFIX Description

CN9-SW-GRAFIX is a configuration and charting tool for use with Modbus connected instrumentation.

The application enables the user to configure, display and chart data values from any connectable instrument for which a suitable template is available. Omega Engineering instruments are connected using the ModbusServer application which is installed with this product. [See the ModbusServer section for more details.](#)

This help document assumes that the user has basic knowledge of the windows operating system, mouse and keyboard. It is beyond the scope of this document to detail operation of these items and users should consult the original documentation that was provided with their system.

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Quick Start Description

This getting started guide describes the basic actions required to connect and communicate to instruments, chart values from those instruments and configure alarms on those data values.

Before using this guide ensure that a suitably equipped instrument is connected to the PC and has valid initial settings before continuing. If the instrument is displaying LEV5 then the instrument initial settings need to be defined, see owners manual for details.

For more information consult the application guides for wiring and connecting instruments and communications.

Quick Start Installation and Troubleshooting

The CN9-SW-GRAFIX application is installed from the CDROM automatically when the CD is inserted. If after inserting the CD the application does not automatically install run the "SETUP.EXE" file located in the root of the CDROM drive.

Under the ModbusServer application directory are new instrument template files, stored in the "Template" sub-directory. Users of existing ModbusServer applications will need to re-create their applications with these updated templates for use with CN9_SW_GRAFIX.

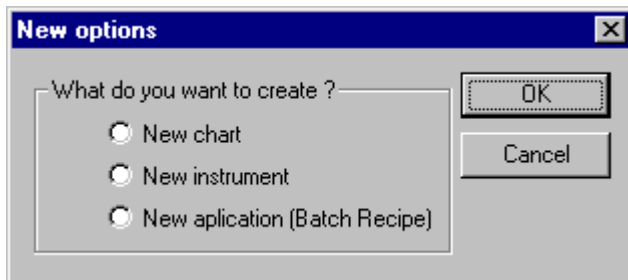
The instrument displays are blank at startup and will remain blank if the communications link is not functioning correctly. To verify this either verify the communications activity at the target instrument (see manual for details) or open the server application and use the View/Ports menu to select a port and view the statistics.

If the instruments displays go blank occasionally or the message "Error reading settings from device" is seen then the servers communication settings may need to be changed. This is normally only the case if a RS232-RS485 converter is in use on a chain of more than twenty instruments. To change the communications settings to fix these problems open the server application and use the File/Ports menu to access the setup of the required port. In the port setup is a setting called the "Transaction Gap", this value is used to slow data transfer to allow RS232-RS485 converters to operate correctly. The default value for this setting is 20ms, for a malfunctioning link this value should be increased to 35ms or greater.

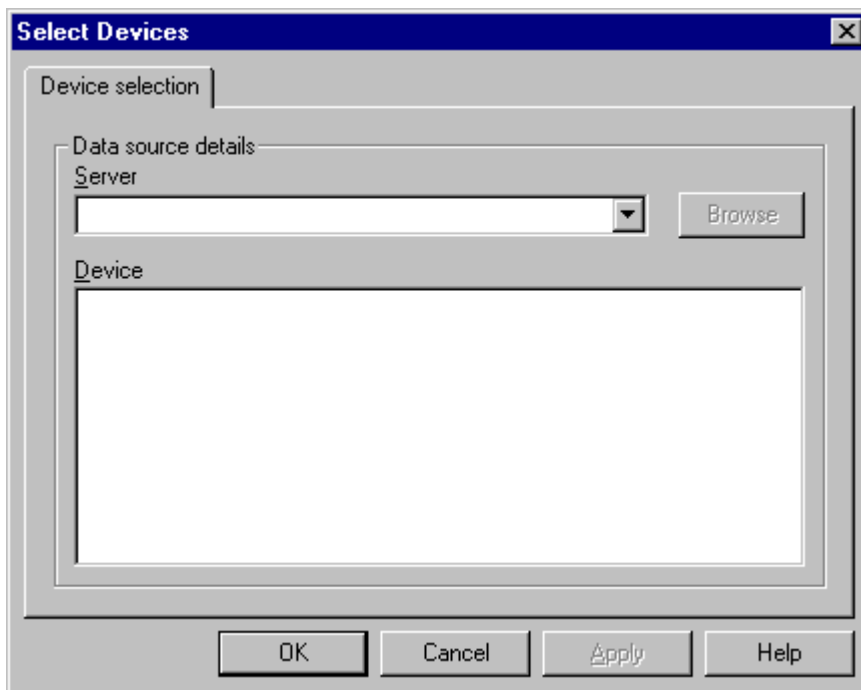
For a link without a RS232-RS485 converter this value can be reduced to 0ms to improve the communications speed to the connected instruments.

Adding a new instrument

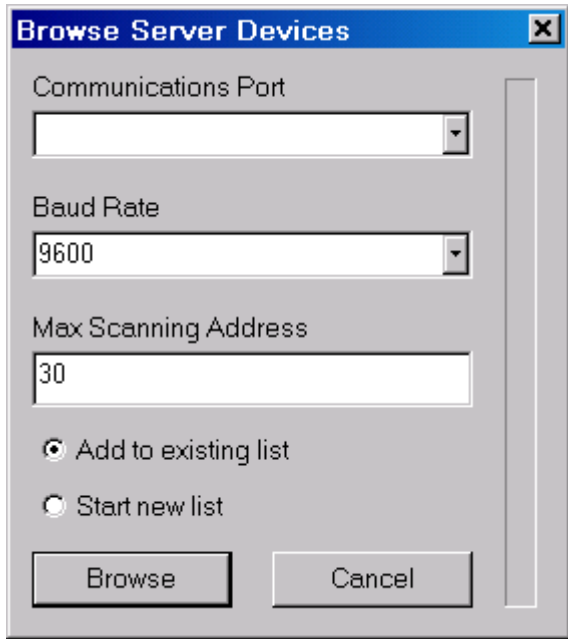
To add a new instrument to the application select "New" from the File menu which will open the New options dialog



Select the New instrument option and press OK which will open the Select devices dialog.



The "OEM.ModbusServer" server is selected in the dropdown server list. Then click on the Browse button which will open the Browse server devices dialog.



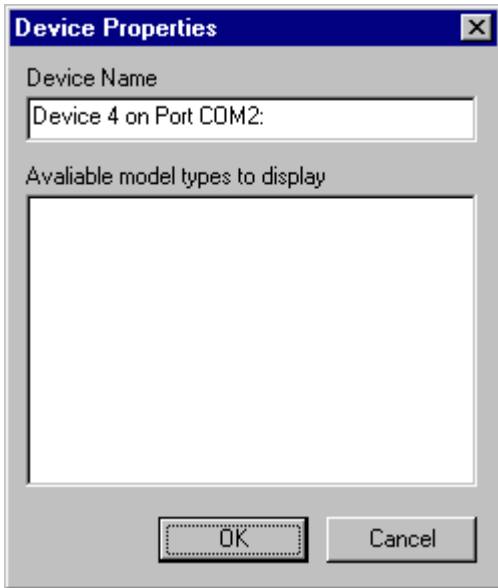
Select the communications port which is connected to the Omega Engineering instrument and the communications baud rate. You may also specify the highest ModBus address to scan for devices on, this defaults to 30 but can be set as 1 to 254.

To add more instruments to an existing application select "Add to existing list".

To start a new list or to change the Baud rate on a communications port select "Start new list".

Press Browse and the Server application will attempt to find any instruments connected to the specified communications port. The detected devices will be listed in the devices list of the Select devices dialog (shown above).

Displayed next to each device in the devices list is the default display template of that instrument. If the instrument is not communicating correctly then the display template will be shown as "[Unknown]". To change a display template selection double click on the device name in the list, this will open the Device properties dialog.



This lists the available model types to display for the selected instrument. Select the required option and press OK.

Note: the single display instrument models will always prompt for the user to select a display template. This can either be done in advance or pressing OK will prompt for any devices which require a display template to be selected.

Choose any of the detected devices and press OK to complete the addition of the instrument to the application template. This will create an instrument display window for the selected instrument type and display template. For example;

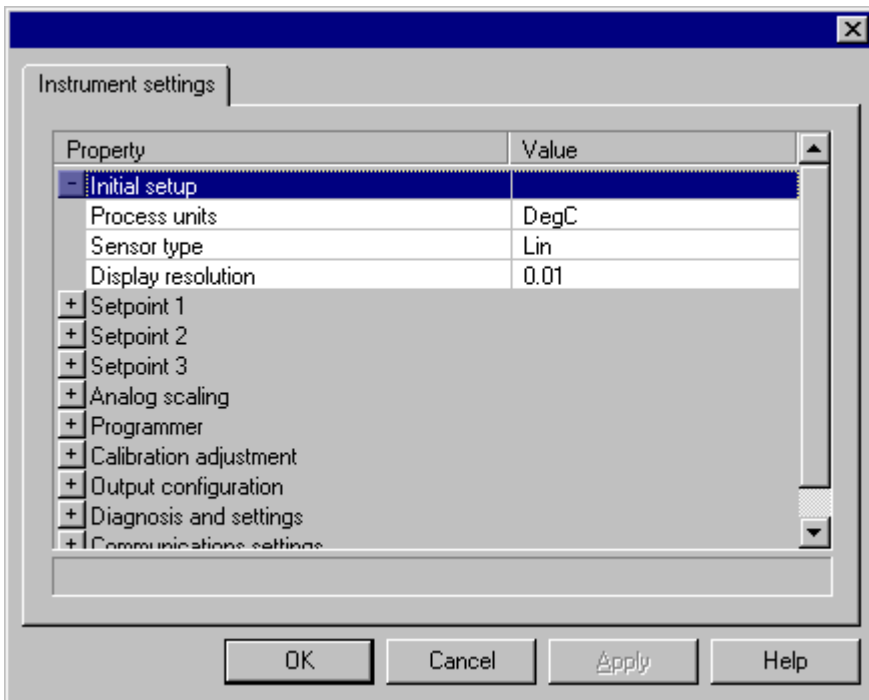


Note: the instrument display will show LEV5 if no valid setting has been made for input sensor, display resolution or output device, these settings are configurable from instrument front panel only.

To inspect or change instrument settings see [Setting instrument properties](#).

Setting instrument properties

To inspect or change instrument settings select "Properties" from the "Instrument" menu which will open the Instrument settings dialog.



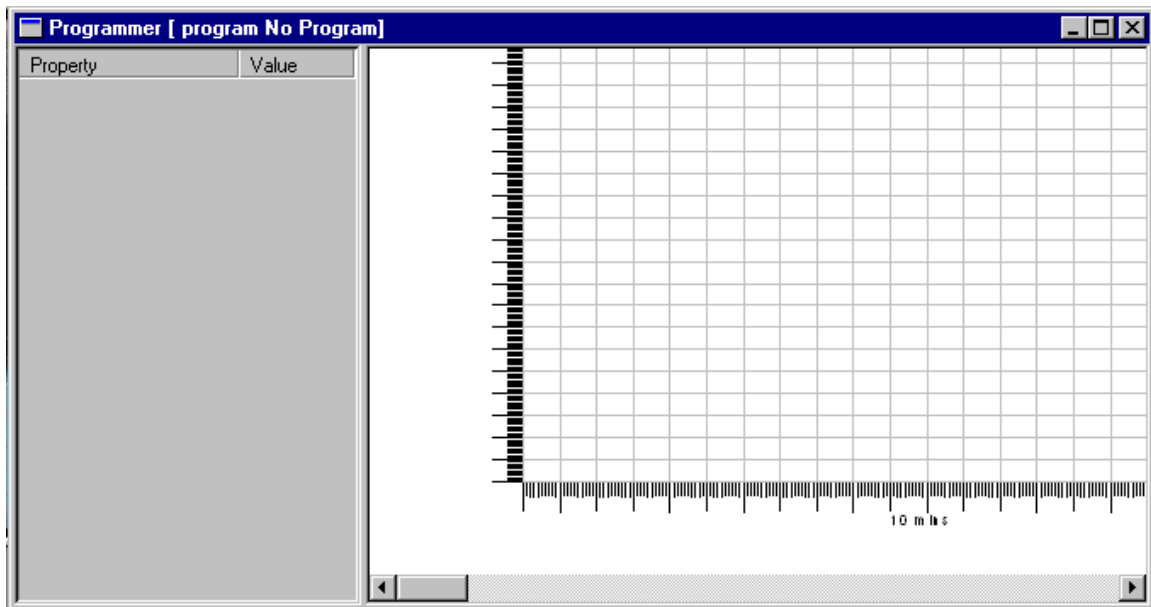
Settings groups can be open and closed by double-clicking on the plus and minus symbols of the left of the list.

Each value can be changed by double-clicking on the value and either selecting a new value from the provided list or typing a new value.

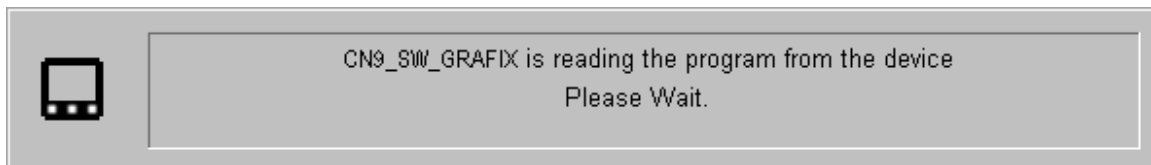
Pressing Apply or OK will send these new settings to the instrument.

Creating a new program

To create a new program for a programmable instrument select the "Edit Programs" option from the "Instrument" menu which opens the Programmer document window.



It may take several seconds to load the program data from the instrument and during this period the wait dialog will be displayed.

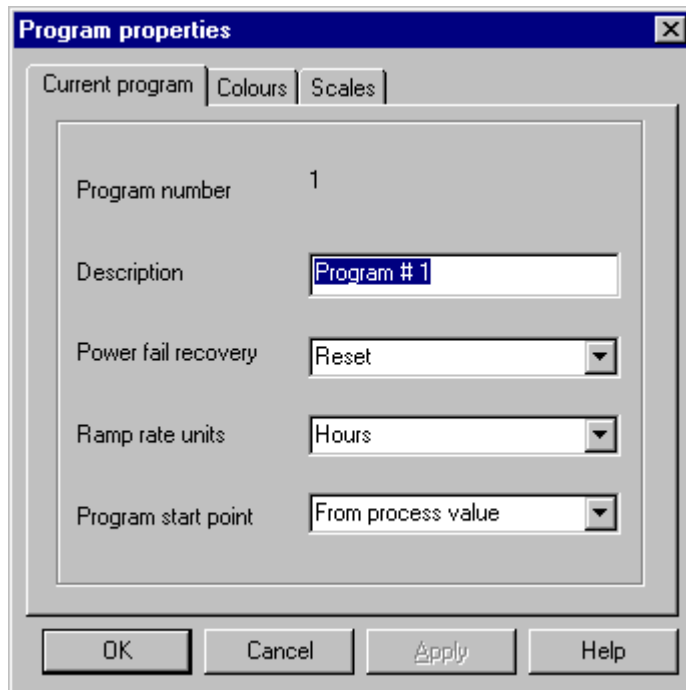


Once the program data has been loaded from the instrument select the "New Program" option from the "Programmer" menu to create a new program.

To configure the properties of the newly created program see [Setting program properties.](#)

Setting program properties

To configure the properties of a program select the "Properties" option from the "Programmer" menu which opens the Program Properties tabbed dialog.



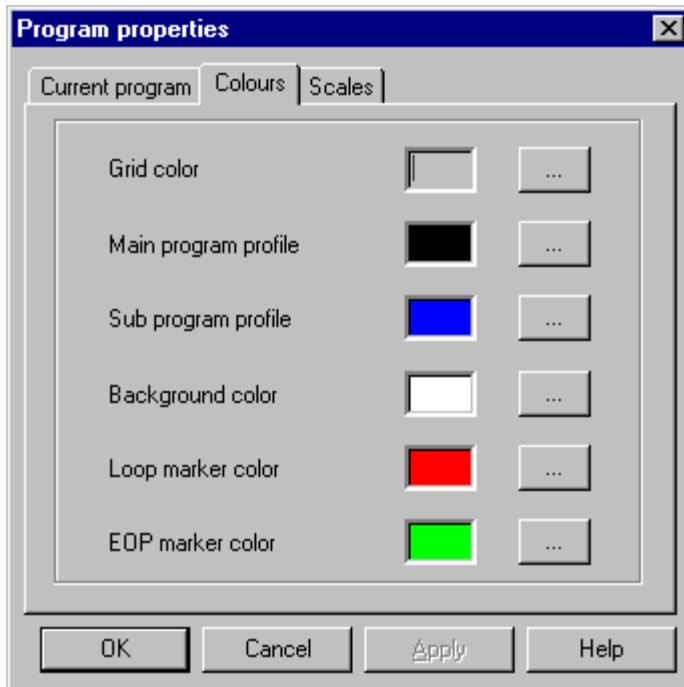
The first page contains settings for the current program.

The program number shows the program number the instrument front panel would display and cannot be changed.

The program name should be set to a name which describes the process that the program will perform e.g. "Extruder warmup cycle" .

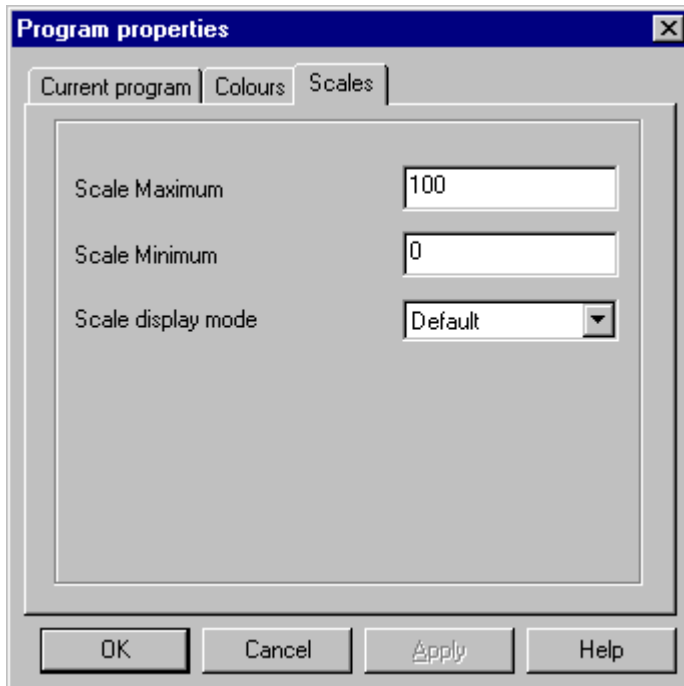
The powerfail recovery, ramp rate units and program start point should all be set to the desired values.

The second page of this tabbed dialog is the Program Colors dialog.



This allows the appearance of the program graphical trace to be changed.

The last page of this tabbed dialog is the Program Scales dialog.

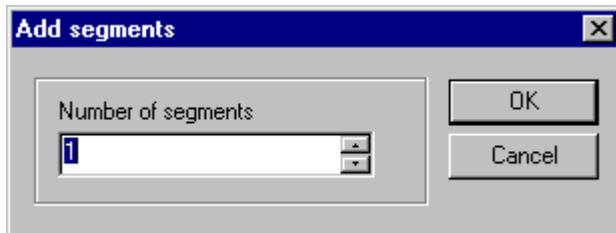


This allows the setpoint value (y axis) range to be defined and the timebase (x axis) draw method to be selected.

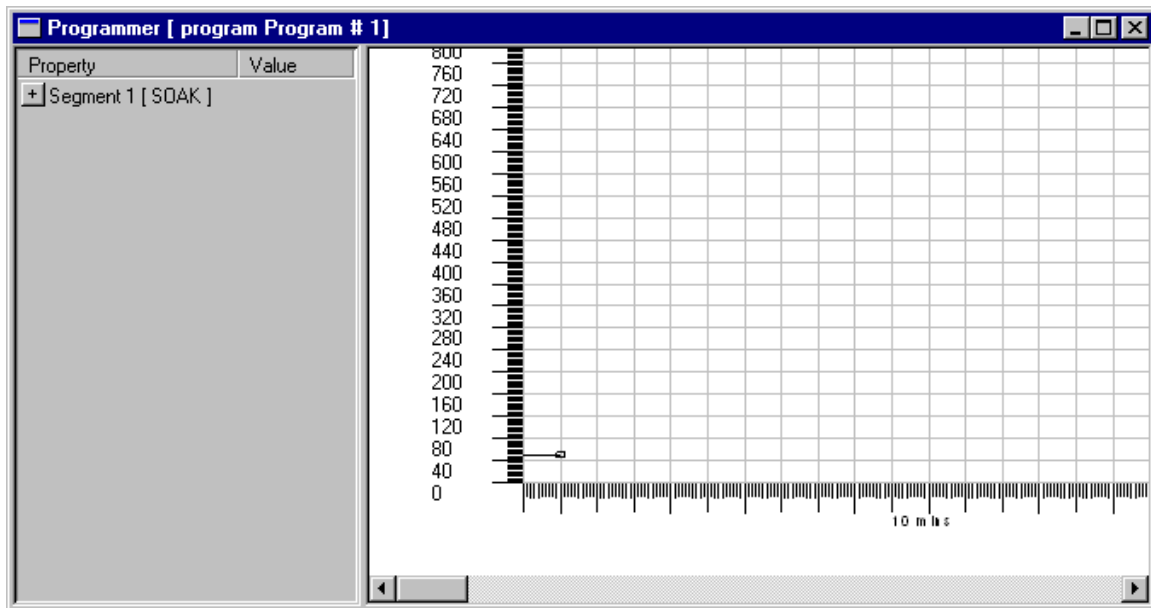
To add a segment to this program see [Adding segments to a program.](#)

Adding segments to a program

To add a segment to the current program select the "Add Segment" option from the "Programmer" menu, for this example select the "Ramp/Soak/Step" option which will open the add segments dialog.



Leave the segment count at one and press OK to continue. This should change the programmer document window as shown.

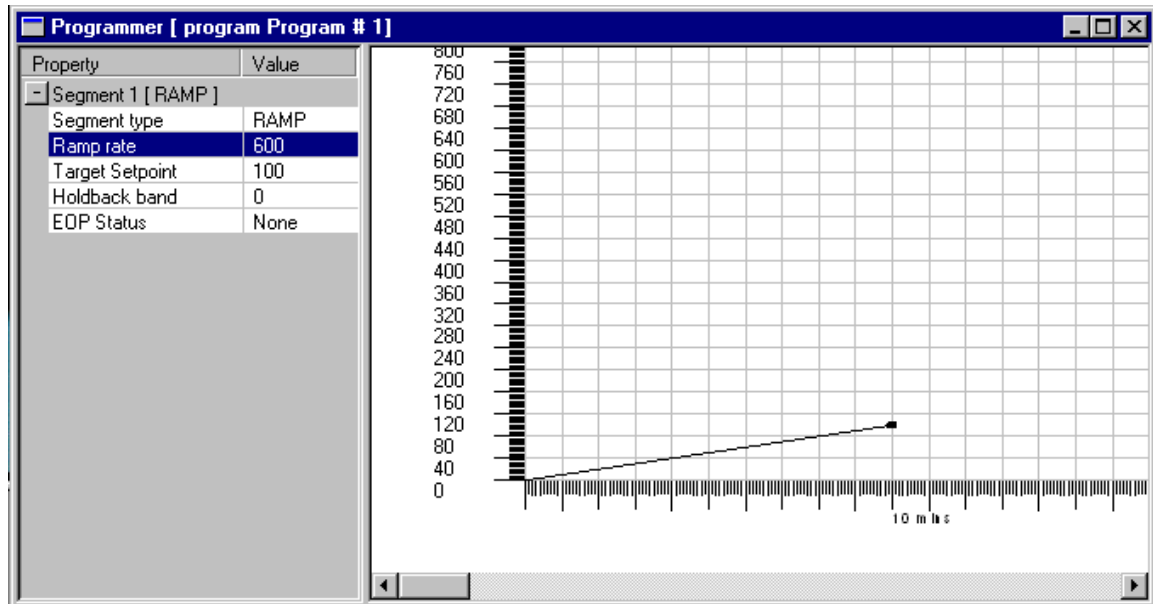


To set the segment properties see [Setting segment types and properties](#)

Setting segment types and properties

Double click on the plus symbol at the left of the segment name to open the segment properties list. Next double-click on the "Segment Type" value and select RAMP from the dropdown list to change the segment type.

Set the "Ramp rate" value to be 600 and set the "Target Setpoint" value to be 100 greater than its initial value. This should change to programmer document window to something like this.



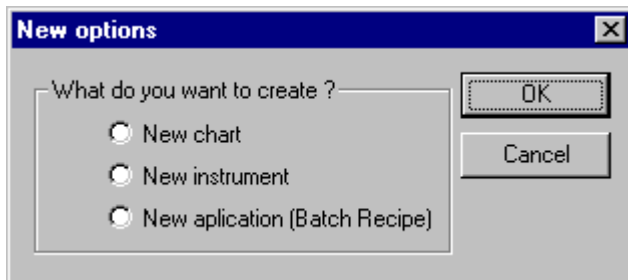
The ramp rate and target setpoint can also be changed using the graphical program trace. Left click on the line end point box and holding the left button down move the end point to a new position. The values in the ramp rate and target setpoint values will change to reflect the new program trace.

To save the new program to the instrument select the "Write program data" option from the "Programmer" menu.

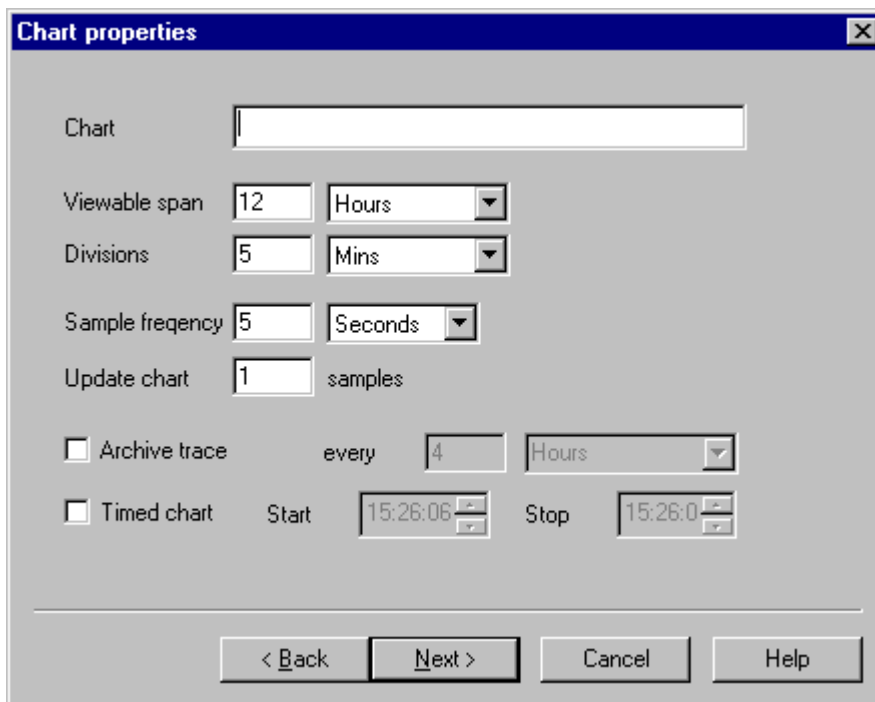
For more information about the programmer document and segment settings see [Setpoint Programmer](#)

Adding a new chart

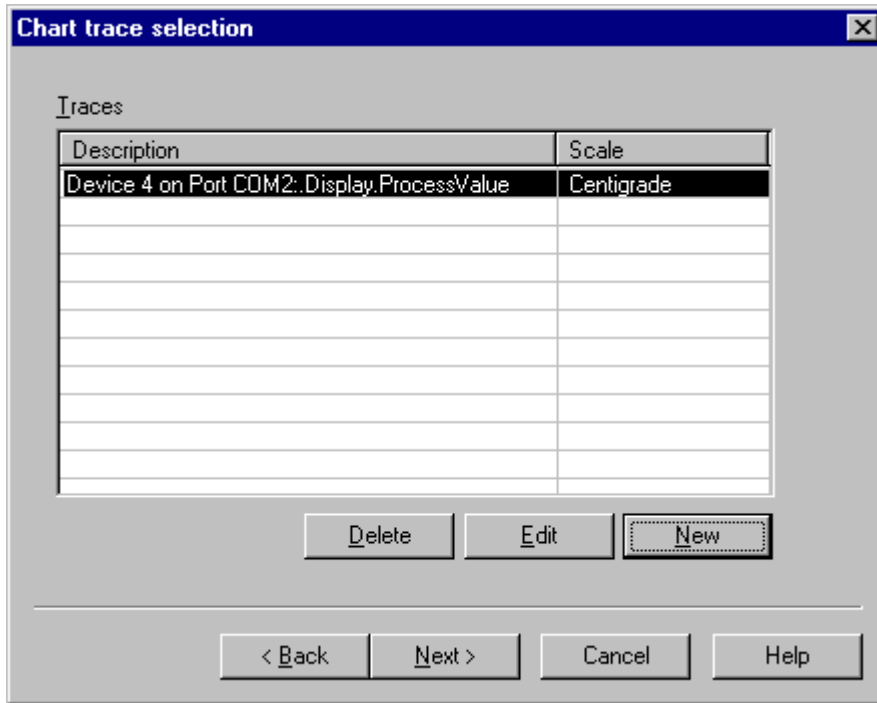
To add a new chart to the application select New option from the File menu which opens the New options dialog.



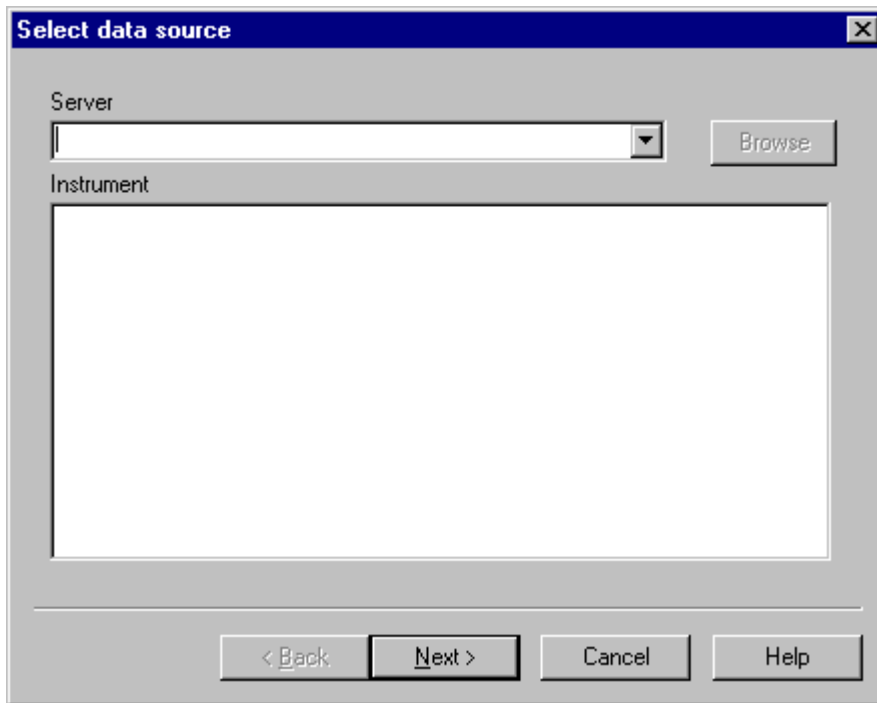
Select the New chart option and press OK which will open the Chart properties dialog.



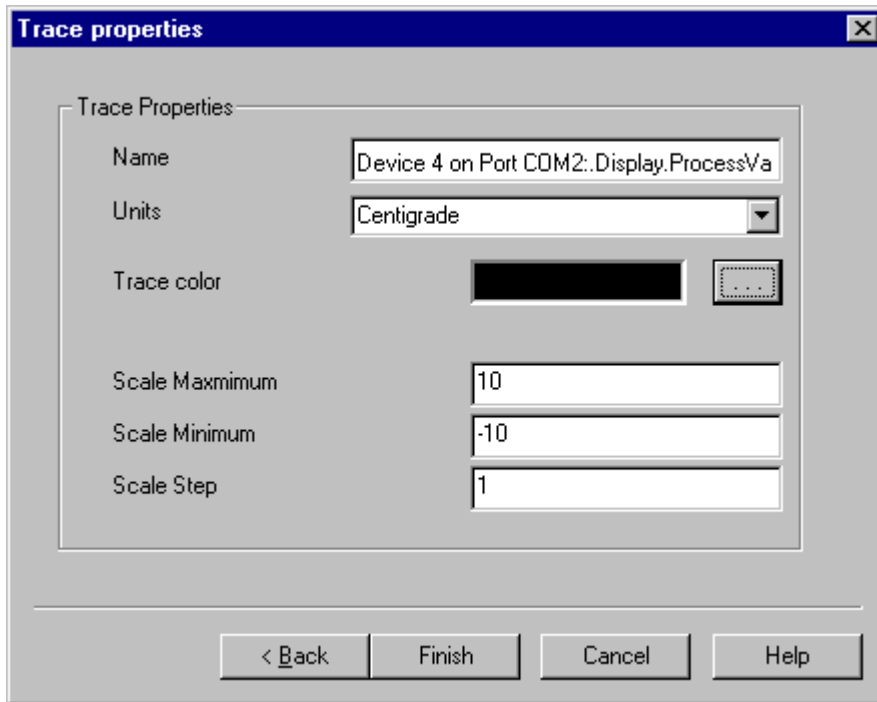
Enter the required filename for the new chart, change any other parameter values required and then press Next to show the Chart trace selection dialog.



Press the Add button to add a trace to the chart, this opens the Select data source dialog.

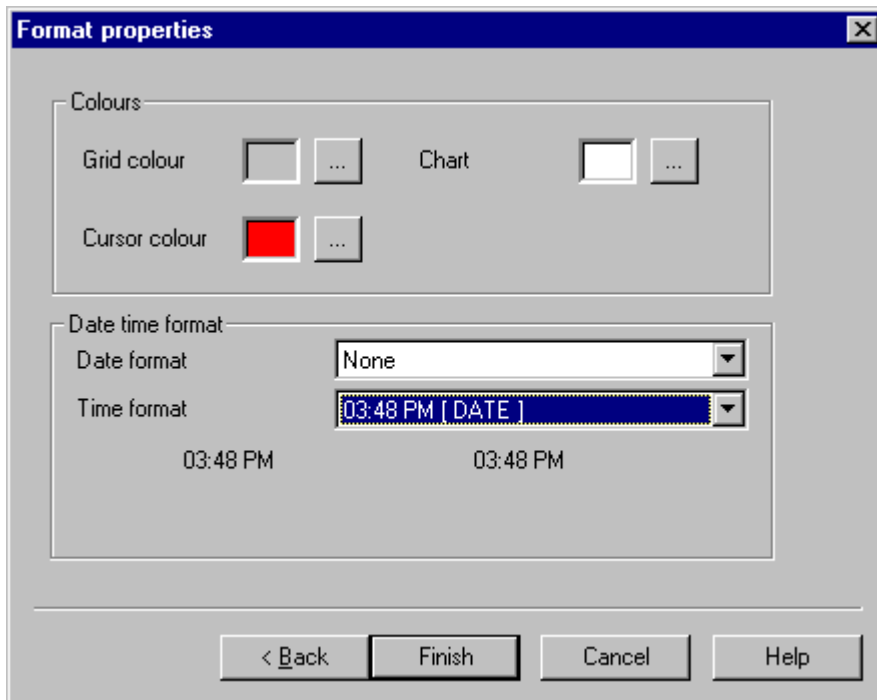


The OEM.ModbusServer server from the dropdown server list. If no instruments appear in the instrument list then see [Select devices dialog](#). Select a data source tag from the instrument display list and press Next, this opens the Trace properties dialog.



Change the trace name and select the trace units if required and press Finish to return to the Chart trace selection dialog.

Press Next to move to the Chart properties dialog.



Make any required changes to the chart appearance settings and press Finish to complete the creation of the chart.

A new chart document will appear and will start charting data from the selected source. To set the chart properties see [Setting chart properties.](#)

Setting chart properties

To set chart properties select the "Properties" option from the "Chart" menu which opens the Properties tabbed dialog. The Properties tabbed dialog contains three pages, the Chart properties dialog.

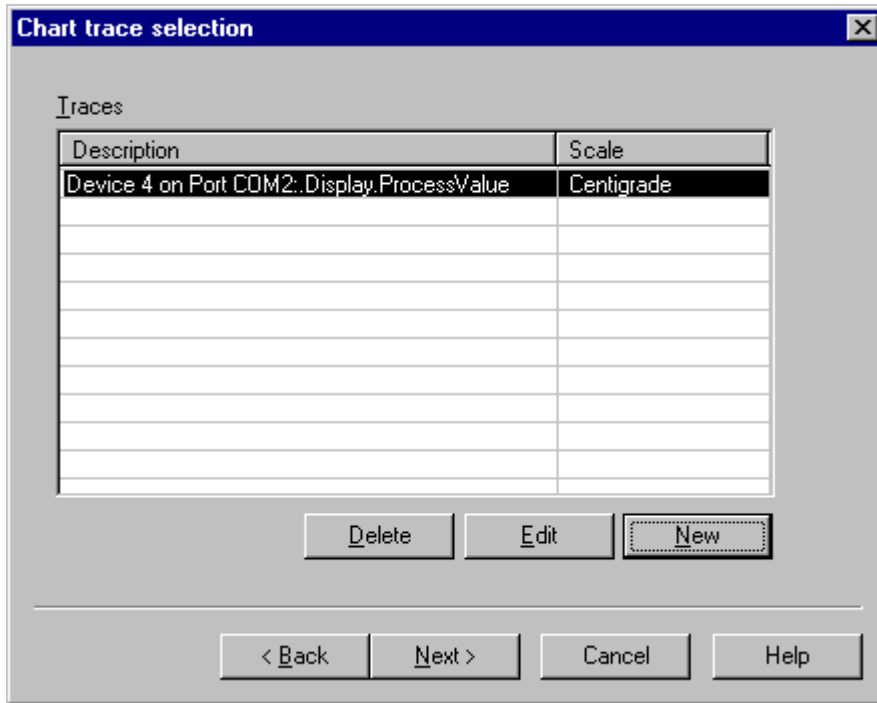
The screenshot shows the 'Chart properties' dialog box with the following settings:

- Chart: [Empty text box]
- Viewable span: 12 Hours
- Divisions: 5 Mins
- Sample frequency: 5 Seconds
- Update chart: 1 samples
- Archive trace: every 4 Hours
- Timed chart: Start 15:26:06 Stop 15:26:0

Navigation buttons at the bottom: < Back, Next >, Cancel, Help.

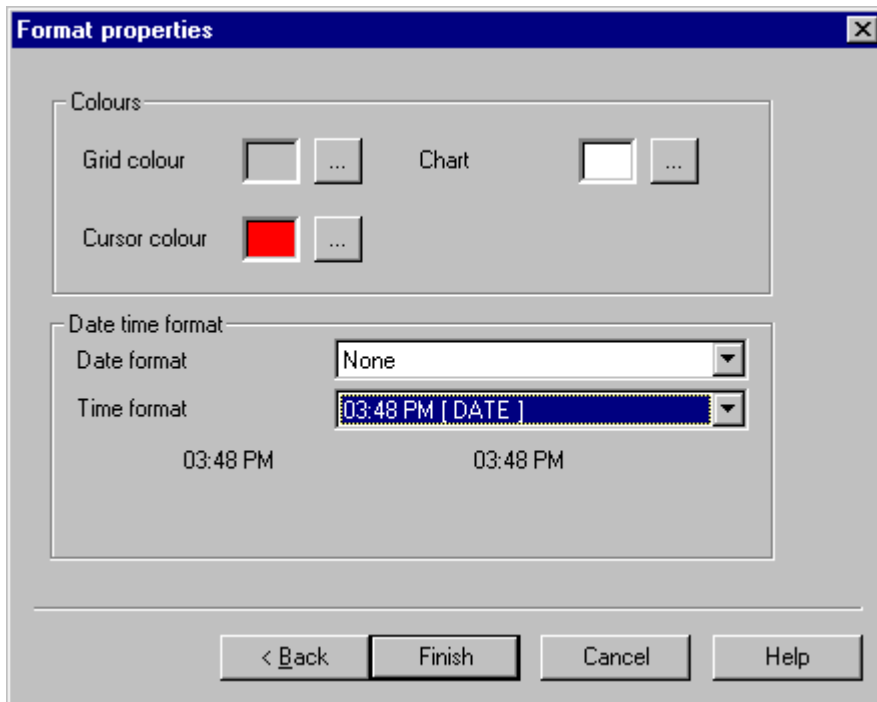
Which contains the properties for the chart including the timescale settings, the update frequency and archive and timed chart control.

The next page is the Chart trace selection dialog.



Which is used to add, remove traces and set trace properties using the Modify Trace Details dialog.

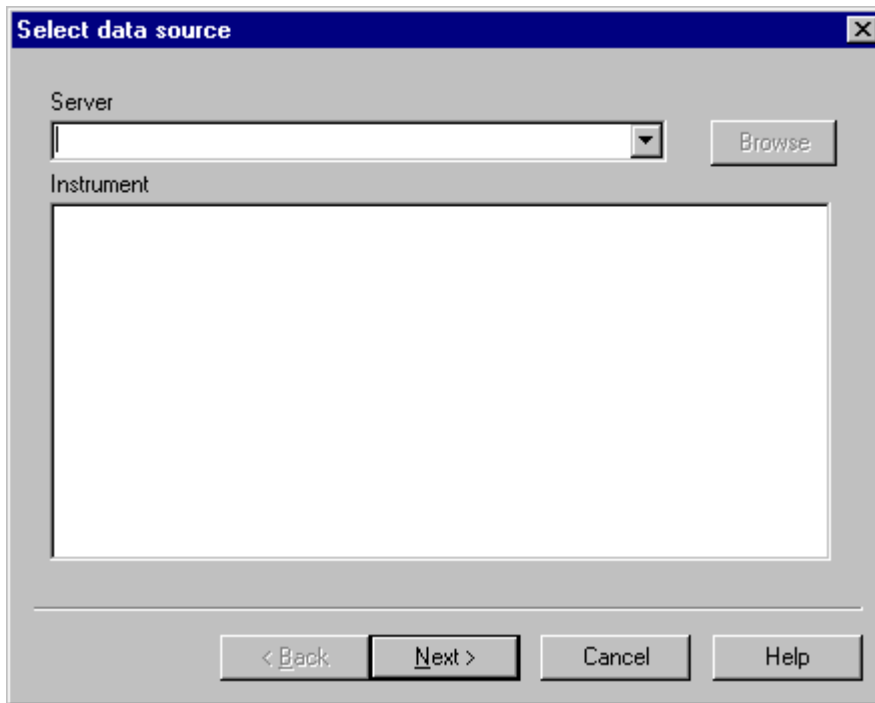
The last page is the Format properties



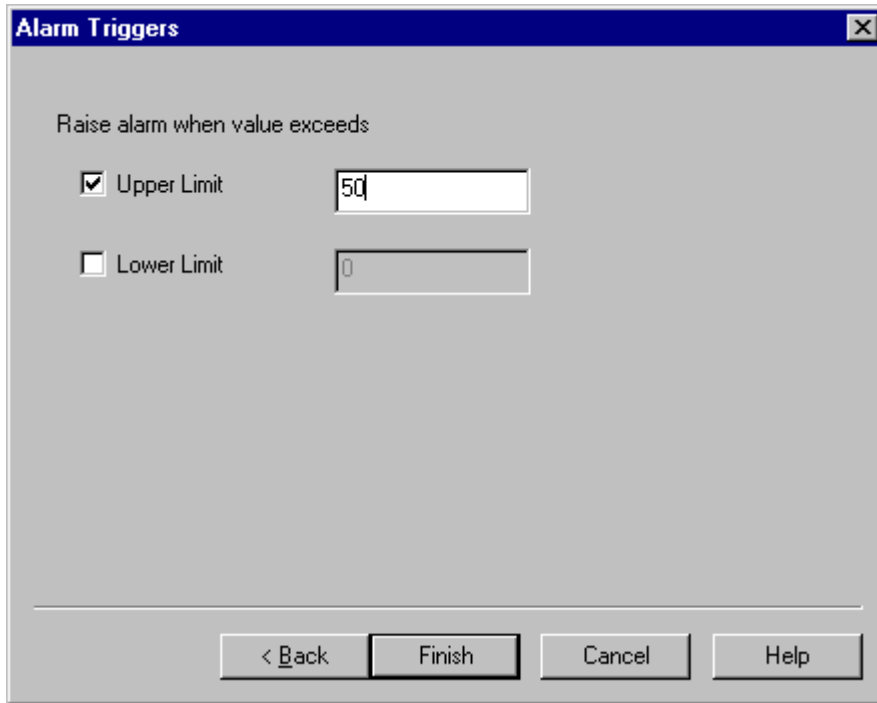
Which contains the properties for the chart presentation colors and formats.

Adding a new alarm

To add an alarm to an application select the "Add alarm" option from the "Alarms" menu which opens the Select data source dialog.



The OEM.ModbusServer server is displayed in the dropdown server list. If no instruments appear in the instrument list then see [Select devices dialog](#). Select a data source tag from the instrument display list and press Next, this opens the Alarm triggers dialog.



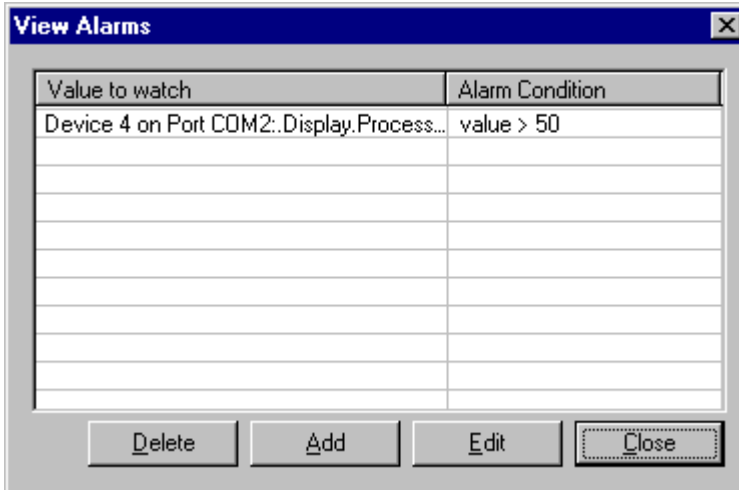
The image shows a dialog box titled "Alarm Triggers" with a close button (X) in the top right corner. The main text reads "Raise alarm when value exceeds". Below this, there are two options: "Upper Limit" with a checked checkbox and a text input field containing "50", and "Lower Limit" with an unchecked checkbox and a text input field containing "0". At the bottom of the dialog, there are four buttons: "< Back", "Finish", "Cancel", and "Help".

Select the required alarm trigger mode and value, or both if a band alarm is required and press finish to create the alarm.

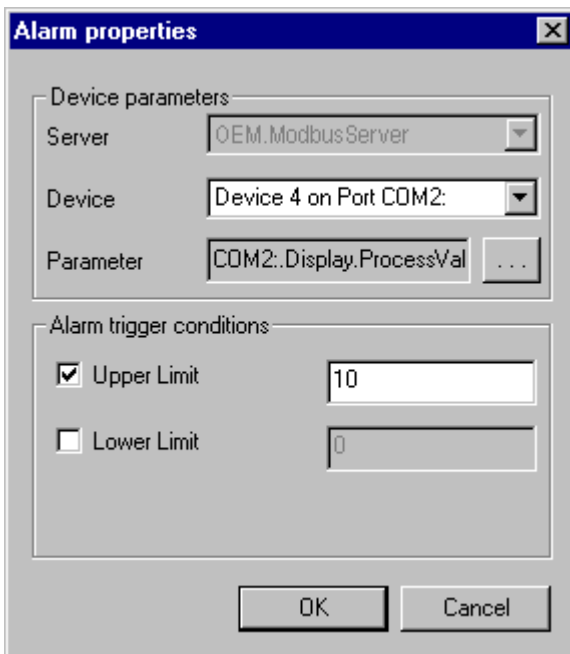
To set alarm properties for an existing alarm see [Setting alarm properties](#)

Setting alarm properties

Select the "Alarm Settings" option from the "Alarms" menu which opens the View alarms dialog.



This dialog allows alarms to be added and deleted and alarm properties to be changed by selecting an alarm from the list and pressing the Edit button which opens the Alarm properties dialog.



This dialog allows the alarm data source and trigger conditions to be changes as required.

Basic Menu Description

The following items describe the basic menu options which are always available to the user. Menu options for specify windows are described in the relevant section of the help file. These are Charting, Alarms, Instruments and Programmer.

File New

Create a new document within the current application template, opens the New options dialog.

File Open

Open an existing document from disk. The available file types to be loaded are:

Application settings file (*.apl) which contains all the settings for an application at the point at which it was last saved.

Instrument settings file (*.dev) which contains all the settings for an instrument at the point at which it was last saved using File SaveAs

If an instruments settings file is loaded with an instrument selected (the active window) then the settings are loaded into that instrument. This opens the Load selection dialog to select the items to clone into the existing instrument before sending data to the selected instrument.

See also the Clone Instrument menu option.

Chart settings and log file (*.trc) which contains all the settings for a chart at the point at which it was last saved using File SaveAs

Backup Chart settings and log file (*.trd) which contains a backup of a chart settings file.

See also Charts and Charting for more information about chart file formats and recovery.

File Export

This menu option allows the user to export the settings of the selected document type into a specified rich text format (.RTF) file.

Application: Exports the current application settings including security and alarm settings.

Instrument: Exports the selected instrument settings including security settings.

Programs: Exports the selected programs and segments.

Chart: Exports the values and notes from the selected chart into a specified comma separated values format (.CSV) file.

File Save

Saves the selected document type to disk, if the document has no filename then the application uses File Save As.

File Save As

This menu option allows the user to save the current application to a specified filename or save an element of an application to a separate file.

Application: Saves the current application template including all instruments and chart settings into the specified file.

Chart: Saves a separate chart template file rather than saving the settings into the application settings file.

Instrument: Saves a separate instrument template file rather than saving the settings into the application settings file.

File MRU (Most Recent Files)

Opens an application file from a list of recently used files.

File Print

Prints the currently chart documents displayed data.

File Print Setup

Select and configure the printer used for chart document printing.

File Custom Display Properties

Opens the Manage device templates dialog, which is used to create and manage custom display templates. See [Creating a custom template and Custom Display Properties](#) for more details

File Properties

Opens the Application properties dialog.

File Exit

Exit the application, will prompt for the saving of any changed data in open documents within the application template.

View Toolbar

Toggles display of the toolbar.

View Status Bar

Toggles display of the statusbar.

Window Cascade

Arranges the open document windows.

Window Tile

Arranges the open instrument windows.

Window Arrange Icons

Arrange the iconised document windows.

Help Topics

Opens this help file.

Help About

Displays the about box which contains application information and contact details.

ModbusServer Description

The ModBus Server provides an OPC version 2.0 interface between OPC clients and modbus equipped instruments over RS232 or RS485 using the ModBus RTU protocol.

The Server application comes complete with the instrument templates required to communicate with a selection of commonly derived instruments and allows the user to create new templates to communicate with third party equipment connected to the same communications interface.

For more details consult the [Server application help file.](#)

COM and DCOM

COM (Component Object Model) and DCOM (Distributed Component Object Model) define a standard set of interfaces which can be used to provide communication between applications.

COM defines these interfaces in a manner which is not dependent on the implementation of the application or system, thus allowing communication between different application languages, implementations and platforms.

DCOM is an extension to COM that provides support for communication over network interfaces without any application level interaction. This means that applications on separate machines can connect as if they were running on the same machine. Even if the machines are based on different technologies and operating systems.

COM and DCOM are products of Microsoft (tm) and more information about them can be found on the Microsoft web site.

Application and Instrument Templates

Application templates contain all the settings and data for a group of instruments, charts and alarms. Application templates can be used to create a number of 'batch recipes' containing the settings for a specific machine setup and usage. See [creating a new application template](#).

Instrument templates contain the settings for a single instrument and can be loaded into existing or new application templates to include already known instrument settings. See the [File saveas menu option](#)

Creating a new application template

To create a new application template either select the New option from the File menu and the New Application from the New options dialog or push the New Instrument button on the toolbar.

Application Template Properties

To change the application template properties use the Properties option of the File menu which opens the Application properties dialog.

Charts and Charting

A chart is a graphical document window which is used to display a number of updating values from specified data sources.

Double clicking on the chart area will display or hide the chart key.

Right clicking on the chart area will open the charting popup menu which contains the following options;

If the chart horizontal scrollbar is dragged to the extreme right then the chart window and cursor will follow active data edge. The cursor can be moved away from the active edge to query values and add comments and restored by dragging the scrollbar right again.

The chart window also supports shortcut keys, left and right scroll the chart view, ctrl left and right scroll the chart view by a page at a time and home and end move to the chart start end points.

Add trace

Start/Stop and Restart communications

Zoom

Key

Add and Show notes

Properties

Chart settings and data are stored into a trace data file (*.trc) file which contains all the settings for a chart and the data up to the point at which it was last saved.

Live chart data is stored into a trace backup file (*.trd) which contains the data from the last saved file to the current time.

To recover a chart and associated data from these files first load the trace data file (*.trc) to create the chart document and load the previous settings and then with the new chart window selected load the trace backup file (*.trd) to recover the live chart data into the chart window.

Chart Add Trace

First opens the Select data source dialog to select a data source for the chart trace. Pressing next opens the Trace Properties dialog which configures the trace name, appearance and scale. Press finish to add the trace to the chart.

Chart Start, Stop and Restart

The Start / Stop menu option is ticked if chart communications are currently active. Selecting the menu option toggles the communications state.

The Restart menu option stops and the starts the chart communications.

Chart Zoom

Opens the Chart Zoom dialog.

Chart Key

Shows the Chart Key dialog.

Chart Add and Show notes

The Add Note menu option opens the Add Note dialog at the current cursor location. The Show Notes menu option opens the Show Notes dialog which allows viewing of all chart notes.

Chart properties

Open a tabbed dialog containing the Chart properties dialog, Chart trace selection dialog and the Format properties dialog

Creating a new chart

To add a new chart to the application either select New option from the File menu and the New Chart from the New options dialog or push the New Chart button on the toolbar.

This opens the Chart properties dialog. First enter the required title for the new chart. Then select any changed chart options or press Next.

This opens the Chart trace selection dialog. Press the New button to add a new trace to the chart.

This opens the Trace data source dialog. The OEM.ModbusServer is displayed in the pulldown list. Select a data source tag from the tree in the instrument list to add to the chart and press Next.

This opens the Trace properties dialog. Enter the required name and scales for this trace (or use defaults) and press Finish.

Repeat to add more traces as required and then press Next. This opens the Chart properties dialog. Change the chart properties as required (or use defaults) and press Finish

A new chart window will now appear in the application. The chart automatically scrolls to the end of the selected timescale.

Chart exporting

Selected from the File, Export->Chart menu option this exports the chart data into the specified Comma Separated Value (CSV) file. See also the File export menu option.

Instrument displays

An instrument display is used to display key elements of an instruments configuration and data values and to configure the control values within the instrument.

Right clicking on the instrument display will open the instrument popup menu which contains the following options;

SP1 and Run mode

Properties

Edit Programs

Clone

Start/Stop and Restart communications

Instrument SP1 and Run Mode

Opens the SP1 and Run mode dialog to allow the user to change the setpoint one value and programmer run state.

Instrument Communications

Used to restart, stop and then start, and toggle the started/stopped status of communications to the instrument selected.

Instrument Clone

Attempts to open the clone instrument and clone instrument settings dialogs.

Copies settings from the currently selected instrument to the instruments selected to clone to.

Instrument Edit Programs

Opens a programmer document window for the current instrument, [see the programmer section](#) for more details.

Instrument Properties

Opens the [Instrument settings dialog](#) to allow the user to change settings values and security.

Initial Setup

These are the configuration settings which must be set to operate the instrument.

Process Units: The setting of the units for the instrument.

Sensor Type: The selected input sensor type.

Display Resolution: Sets in instrument display resolution, 1,0.1 and 0.01 depending on selected sensor type.

Setpoint One

Settings which control the setpoint one output control method. Key settings are described below.

Setpoint Value: The value at which control occurs.

Tune Mode: The setting of the tune mode which can be "OFF" tune disabled, "ON" tune enabled, "ATSP" tune at set point enabled or "PARK" disable instrument output control.

Proportional Cycletime Mode: Either set to OnOff control or variable to use the value in Proportional Cycletime Value.

Proportional Cycletime Value: The cycle time value to use if not in OnOff mode.

Derivative Sensitivity: Defaults to 0.5, not normally changed see manual for details.

Setpoint Two

Settings which control the setpoint two output control method. Key settings are described below.

Setpoint Value: The value at which control occurs.

Setpoint Mode: The main operating mode for this output.

Proportional Cycletime Mode: Either set to OnOff control or variable to use the value in Proportional Cycletime Value.

Proportional Cycletime Value: The cycle time value to use if not in OnOff mode.

Reset Setpoint Latch: Write Yes to the setting to reset latched alarms.

Setpoint Three

Settings which control the setpoint three output control method. Key settings are described below.

Setpoint Value: The value at which control occurs.

Setpoint Mode: The main operating mode for this output.

Reset Setpoint Latch: Write Yes to the setting to reset latched alarms.

Analog Scaling

Settings which control the input scaling for linear sensors. The specified part of the input reading (max 0-50mV) is scaled to display over the specified range. Thus an input range of 10mv to 50mv and a display range of 0 to 400 would display 100 with an input of 20mv.

Programmer

The current program mode, if running then the program number is the running program. If not running then the program number is the program to run.

Calibration Adjustments

Sensor calibration settings.

Output Configuration

Output physical, logical and indicator settings.

Diagnostic and Instrument

Contains settings and values not used in normal operation. These include autotune result values, communications activity control and display averaging.

Communications

Communications settings, these values are read only.

Security settings

Each item in the instrument settings list has an associated security level. Double-click on an item to change settings individually. Double-click on a group heading to change all items within the group.

Standard Instrument Types

The following are Omega Engineering standard instrument types

CN 9500 - 32nd DIN, single display, two output controller.

CN 9300 - 16th DIN, single display, two output controller.

CN 9400 - 16th DIN, dual display, two output controller.

CN 9600 - 16th DIN, dual display, three output controller with setpoint programmer.

Setpoint Programmer

The programmer document window is a graphical presentation of a setpoint programmer sequence. It is divided into two panes, the left-hand pane shows the segments contained within the program and the right-hand pane contains the program profile. The program profile always starts the program line using the main instrument setpoint as a start position.

Right clicking on the programmer area will open the programmer popup menu which contains the following options;

Add and Insert segment

Delete segment

Properties

Note that the programmer window will not detect any changes made to programs from the instrument front panel until the entire applications is completely restarted. This is to avoid lengthy delays repeatable reading the program data.

Programmer New Program

Create a new, empty program.

Programmer Delete Program

Opens the Select Program to Delete dialog.

When a program is deleted the following program numbers are changed to reflect the new order. The names of the programs are not changed and calls between programs remain unchanged unless they called the now deleted program.

Programmer Select Program

Opens the Select Program to Edit dialog.

Programmer Read and Write program data

Reads program data from or writes program data to the associated instrument.

Programmer Add and Insert Segment

Adds or inserts a segment of the specified type, segments are inserted above the selected segment. The available segment types are;

Call: Passes control into a sub program, note that a program which is itself called program cannot call another program.

EOP: Sets the state of the selected EOP output(s), note most segments have EOP settings within them already.

Ramp: Change the setpoint from its current value to the target value at a fixed rate of change. The holdback band value stops the ramp from moving the setpoint if the actual process value moves out of a band around the current control setpoint.

Soak: Wait a time period with the current setpoint.

Step: Change the control setpoint.

Loop: Loop back to the first segment in the program a number of times.

Programmer Remove Segment

Delete the selected segment

Programmer Properties

Opens a tabbed dialog containing the Program Properties dialog, Program Colors dialog and Program Scales dialog.

The program powerfail recovery, ramp rate units and start point should be set before segments are added to the program.

The colors and layout of the programmer display are also controlled with these properties settings.

Custom displays

Custom display templates are used to define the connection between a number of Modbus data sources and a display window. They are used to display values in a manner other than the standard instrument displays or to display values from 3rd party modbus data sources.

Custom displays have three basic elements;

The background bitmap of the display window (if specified).

The list of settings items which can be configured via the display template, similar to the settings items of the main instruments displays.

The list of settings items actually displayed in the display window and the configurations for their format and position.

Creating a custom display

To create a custom display template first open the [Manage device templates dialog](#) and select New.

This opens a tabbed dialog starting with the Template Properties dialog which allows the user to enter a template name and description and to select the bitmap file to display as a background the display window (if required).

Also allows the user to specify a data item and value which is written when settings items are written to the custom template. This supports the exit program mode operation and similar change commit operations.

The next page is the Display Settings dialog which is used to create groups of settings and add individual settings items to each group. The New Group, Rename and Delete Group buttons allow control over the custom display settings groups.

Having created a group individual settings items can then be created within each group. To create a new item select Add which opens the Custom Setting Properties dialog to configure the item properties.

The final page is the Display Layout dialog which is used to add and configure items to be displayed on the custom template.

Alarms

An alarm consists of an upper and/or lower limit check and is associated with an Modbus data source from any connected device. When the value from the source exceeds either of the enabled limits an alarm is generated.

When an alarm is generated the Alarm active dialog opens showing the alarm or alarms which are active. If configured from the Application properties menu option an alarm sound is also played and is repeated at thirty second intervals.

The alarm active dialog will appear each time an alarm occurs and cannot be removed until the source of the alarms is removed. An alarm can be cleared by double clicking on the alarm condition name in the list. The alarm will reappear if the alarm condition is still present.

Alarms are stored in the application file and are restored and activated when an application is loaded.

Alarm Add Alarms

Opens the Select data source dialog to select a data source for the alarm the press Next.

Enter the alarm limit upper and/or lower alarm values for this alarm and press Finish.

Alarm Settings

Opens the Alarm properties dialog for the selected alarm.

Alarm Restart Alarms

Stops and then re-starts communications for all alarms.

Security Settings

To change security settings for the application select Properties option from the File menu see File Properties for more details.

Two types of security parameter are available, application security and instrument display security.

Instrument display security settings

These security settings control the access the user has to each data values within the instrument. Any data values with a security level higher or equal to the current security level is read-only.

Application security settings

These security settings control the access the user has to application level actions and events. The settings are divided into the following sections;

Application: Global application actions such as creating documents and configuring windows.

Communications: Communications actions.

Charting: Charting menu and configuration options.

Instrument: Instrument menu and configuration options.

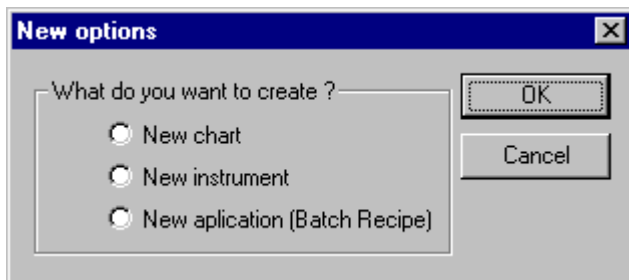
Programmer: Programmer menu and configuration options.

Alarms: Alarm menu and configuration options.

Start and Stop Communication

Start and stop communications for selected groups of document windows.

New options dialog



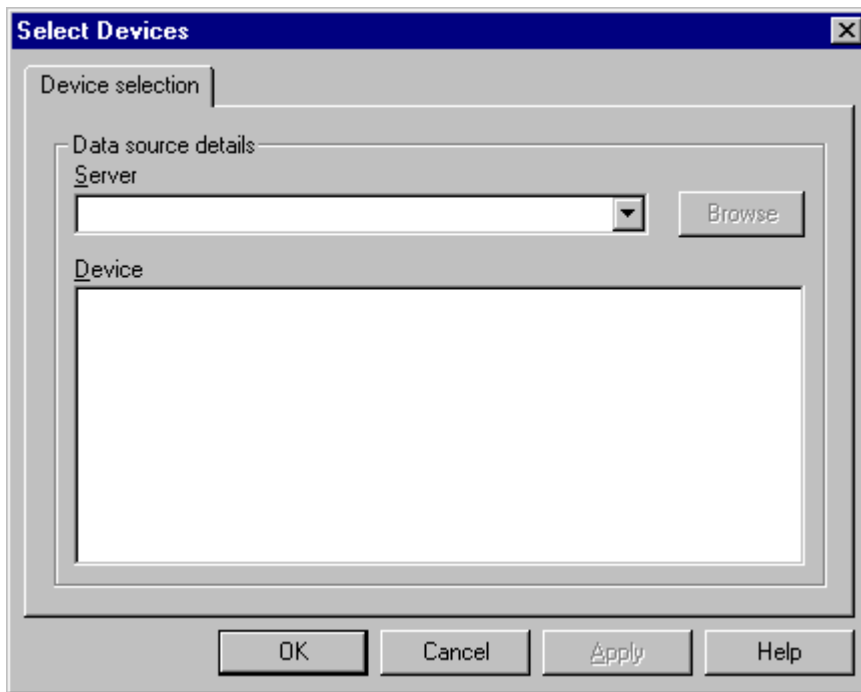
Used to select a document type to create, the options available are;

New chart - used to log and display data values from a number of data sources

New instrument - used to create instrument display windows for both standard instruments and 3rd party custom instruments, to allow configuration and monitoring of key data values.

New application - used to create an application template to hold a group of instruments and charts and their settings.

Select devices dialog



Used to select a data source for an instrument display.

Server selection pulldown list of available servers, or type in a known server name.

Browse button to search for connected instruments on a specified communications port [click for more info.](#)

Device list from currently selected server

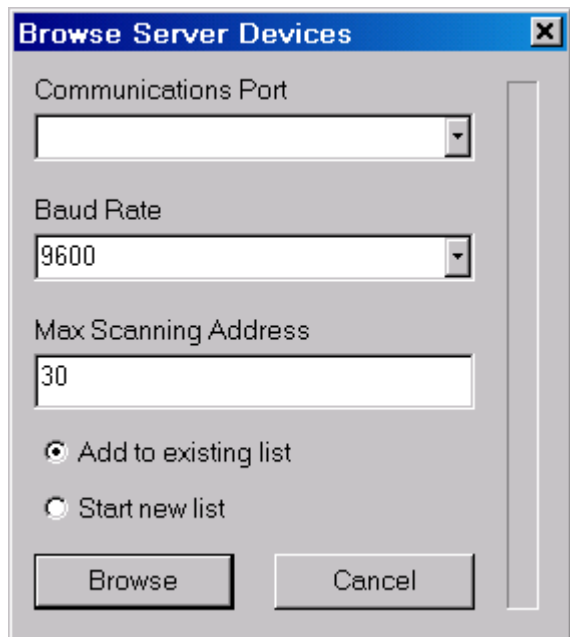
Device Properties dialog



Device name allows the name of the selected device to be changed to the entered text. The name is change when the OK button is pressed.

Available model types to display lists the display templates which are available for the selected device.

Select devices dialog



Used to browse for devices connected to the specified communications interface via the ModbusServer application.

Specify the communications port and baud rate of the instruments to detect.

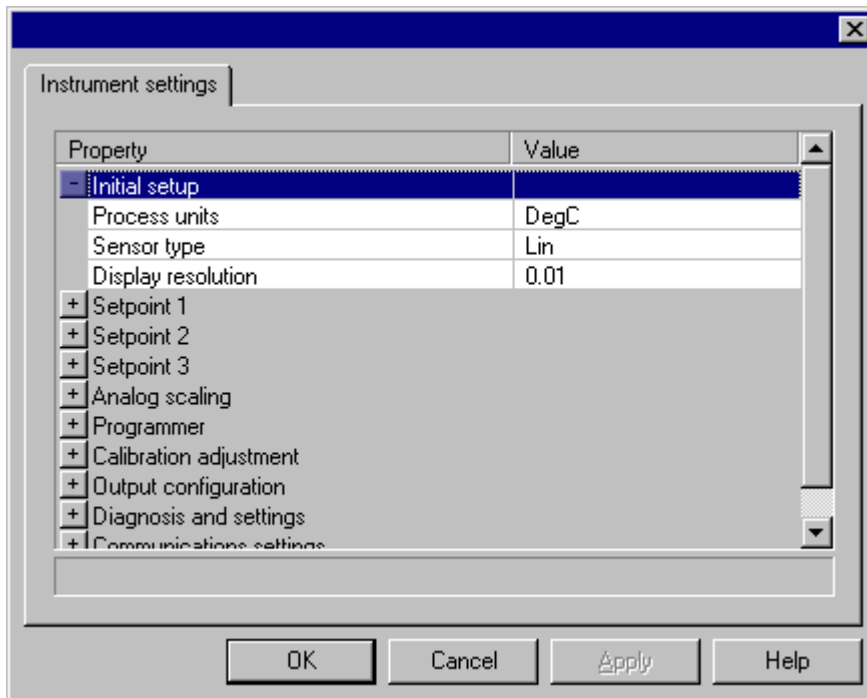
Specify the ModBus addressing range to scan, defaults to 1 to 30 can be set up to 254.

Pressing browse will scan for devices over the given address range and list the detected devices. To change the display template for a detected instrument double click on the instrument name to open the Device Properties dialog.

Omega Engineering CN9600 instrument display

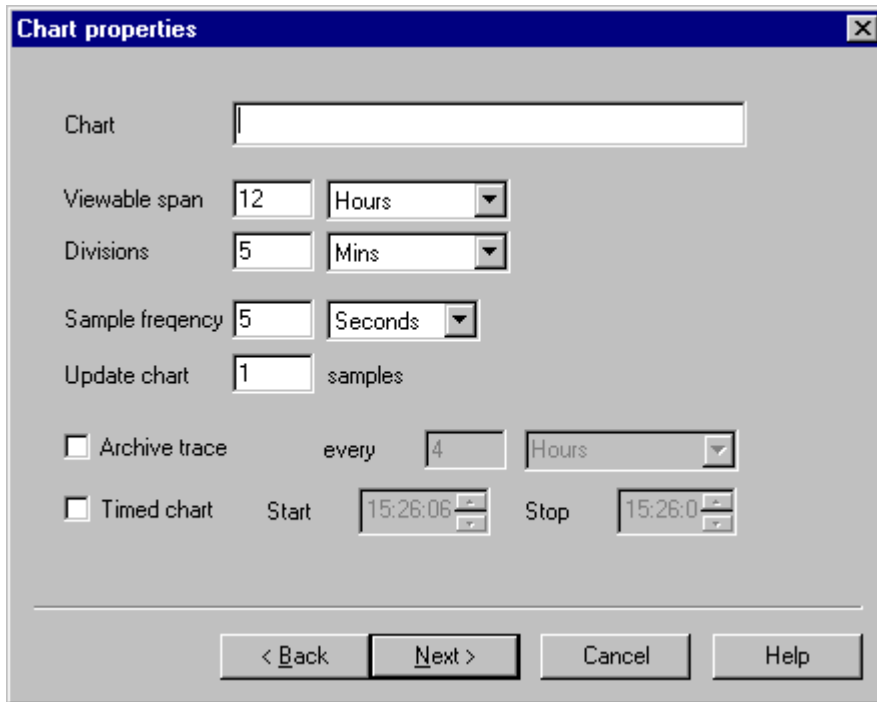


Instrument settings dialog



Used to configure instrument settings for the current instrument. [click for more details about instrument settings.](#)

Chart properties dialog



The screenshot shows a dialog box titled "Chart properties" with a close button (X) in the top right corner. The dialog contains several input fields and checkboxes:

- Chart:** A text input field.
- Viewable span:** A text input field containing "12" and a dropdown menu set to "Hours".
- Divisions:** A text input field containing "5" and a dropdown menu set to "Mins".
- Sample frequency:** A text input field containing "5" and a dropdown menu set to "Seconds".
- Update chart:** A text input field containing "1" followed by the text "samples".
- Archive trace:** An unchecked checkbox, followed by the text "every", a text input field containing "4", and a dropdown menu set to "Hours".
- Timed chart:** An unchecked checkbox, followed by the text "Start", a time selection field containing "15:26:06", the text "Stop", and a time selection field containing "15:26:0".

At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

Used to enter the main chart properties.

The filename of the chart, this can be selected using the browse button.

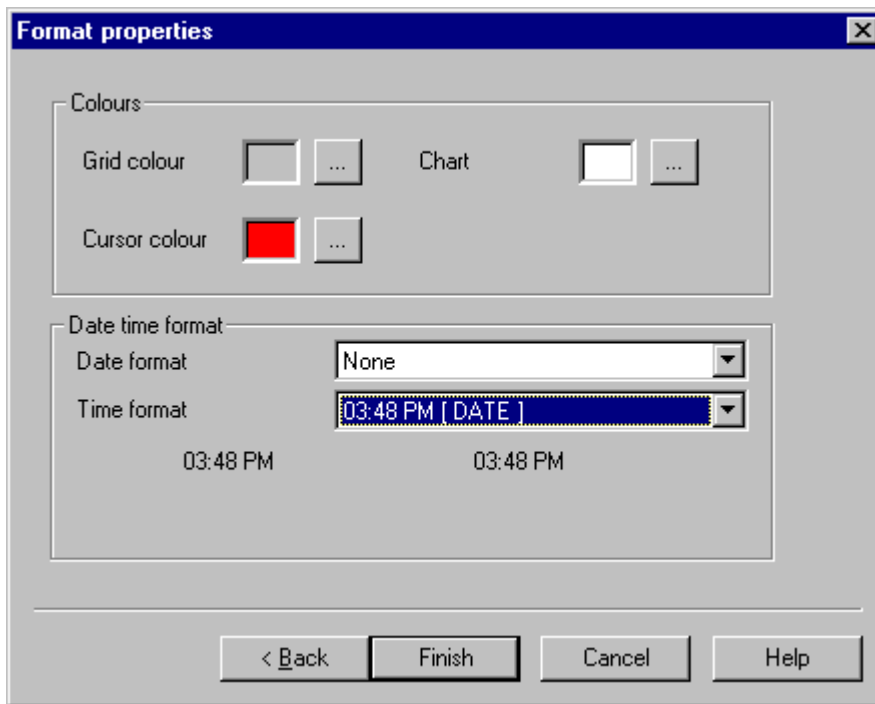
Major timescale intervals are used to specify how the timebase of the chart is drawn. These units may not be accurately represented on all monitor and graphic setting combinations.

Sample frequency and update rate specify how often data is recorded and how often the chart updates with new data.

The archive trace check box and time selection is used to specify how often a trace will be closed, saved to disk and a new chart file created.

The timed trace check box and time selection is used to trigger a trace to run at a specific time every day.

Format properties dialog

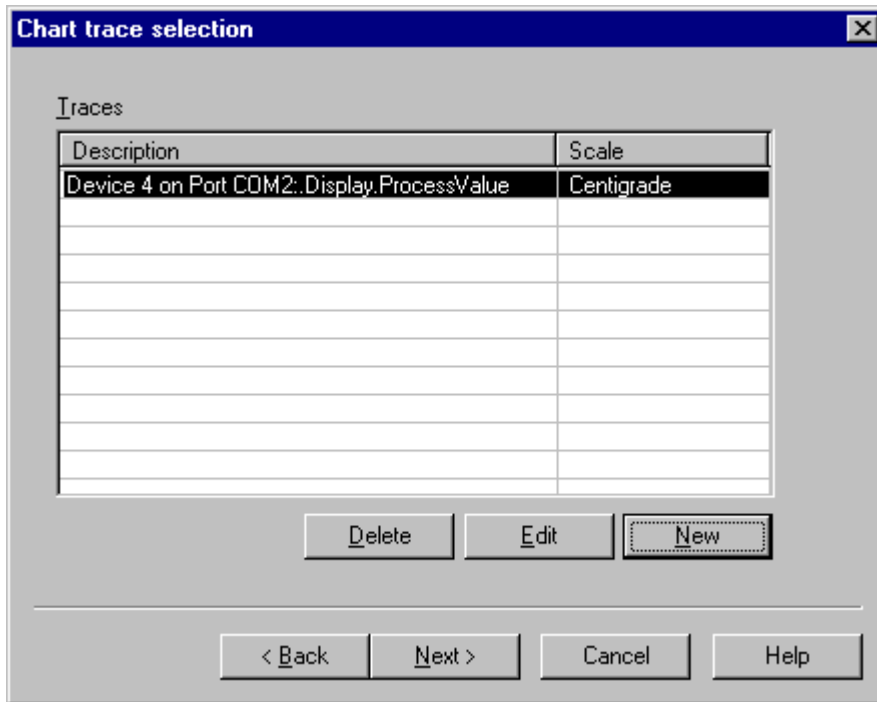


Used to enter the chart format properties.

Select the grid, chart background and selection cursor colors.

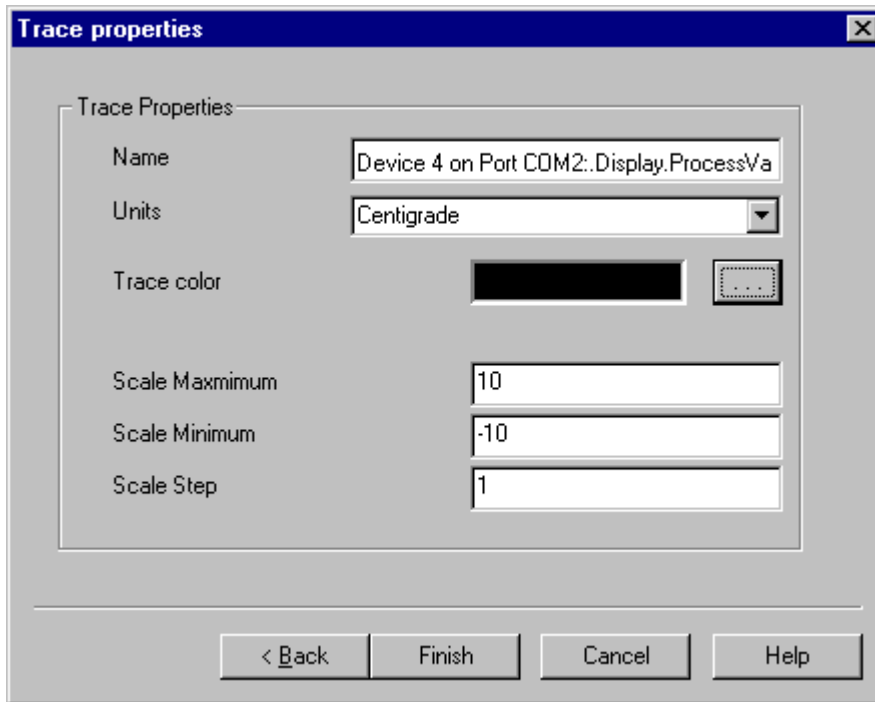
Select the required time and date format.

Chart trace selection dialog



Used to add and remove traces from the chart and edit trace properties.

Trace properties dialog



Used to enter the chart trace properties.

Name of the trace for the chart key.

Units of the trace for the chart key.

Color of the trace line on the chart.

Scale of the vertical axis on the chart for this trace.

Modify Trace Details dialog

Static

Lable

Server

Device

Parameter ...

Colour ...

Units

Upper range

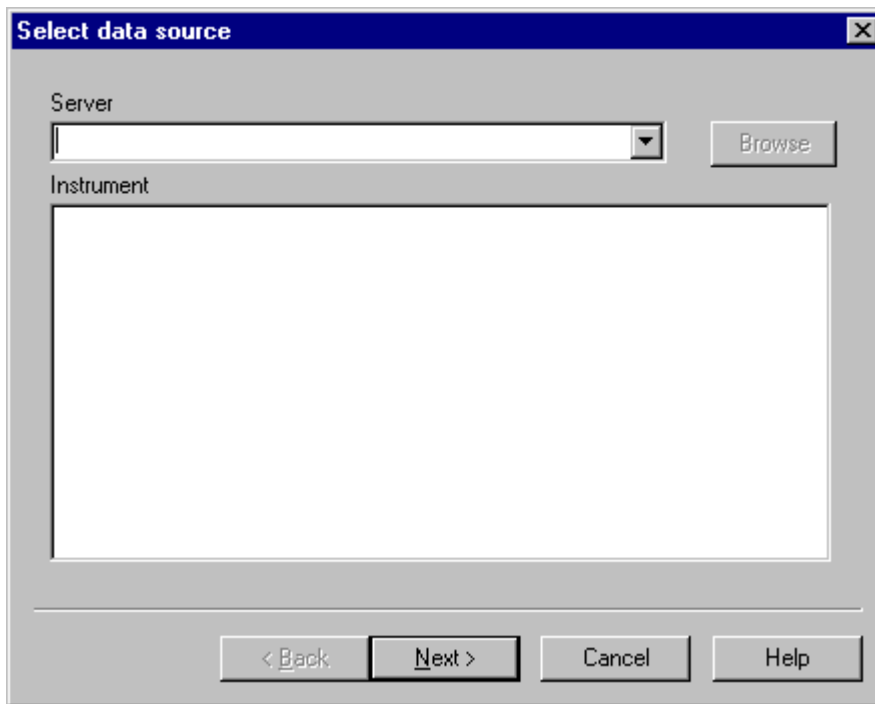
Lower

Step

OK Cancel

Used to change the trace data source details, trace color, trace units and vertical axis scales.

Select data source dialog



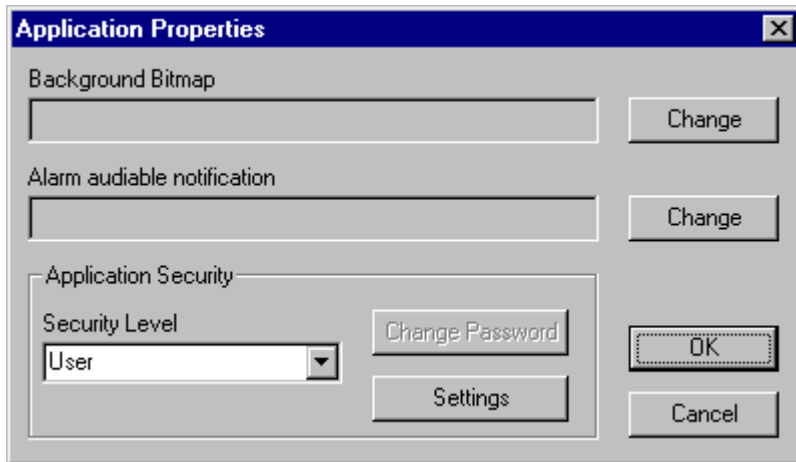
Used to select a chart trace or alarm data source.

Server selection pulldown list of available servers, or type in a known server name.

Browse button to search for connected instruments on a specified communications port [click for more info.](#)

Instrument list from currently selected server

Application properties dialog



Background bitmap is used to select the image draw into the applications background area.

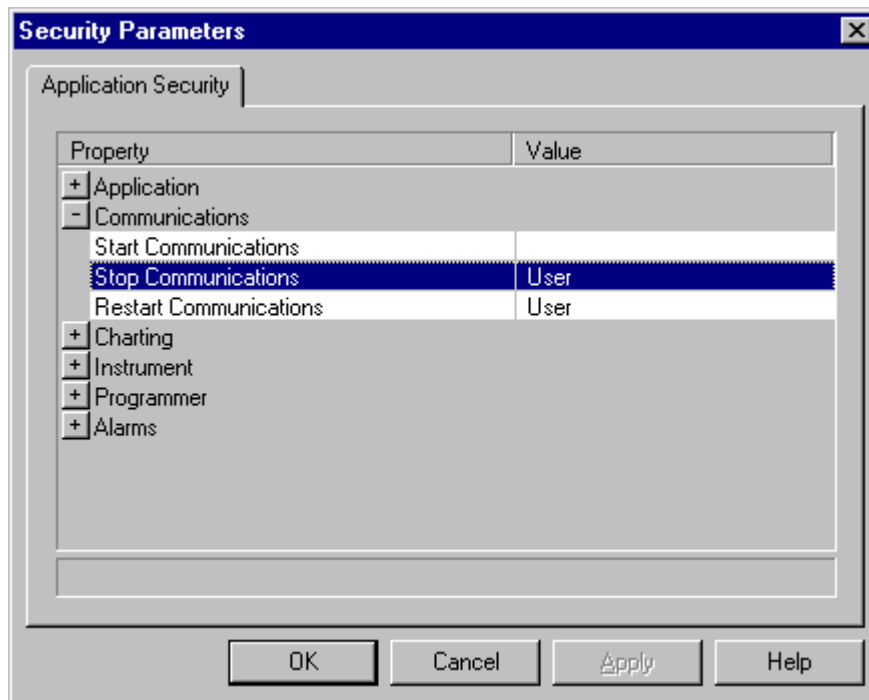
Alarm audible notification is used to select the wave file used to signal active alarms within the application.

Security level is used to select between User, Supervisor and Administrator security levels. Changing to a higher security level will prompt for the password for that security level.

Change password is used to change the password for the current security level, note that User level does not have a password.

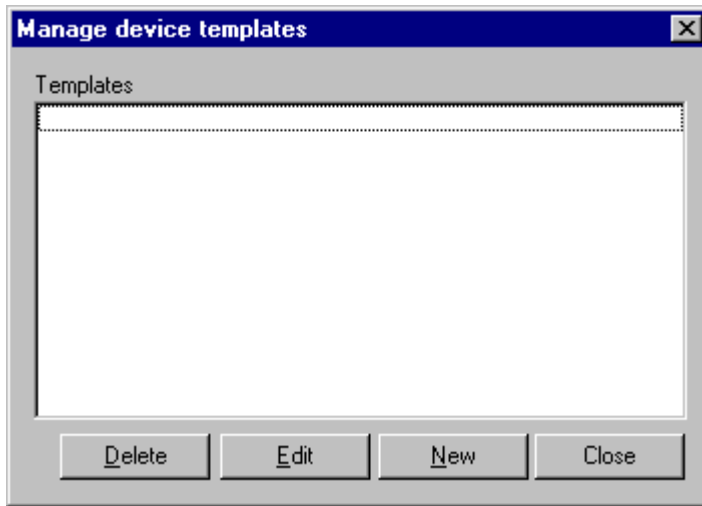
Settings opens the [Security parameters dialog](#) which is used to set the application security settings for the selected security level.

Security parameters dialog



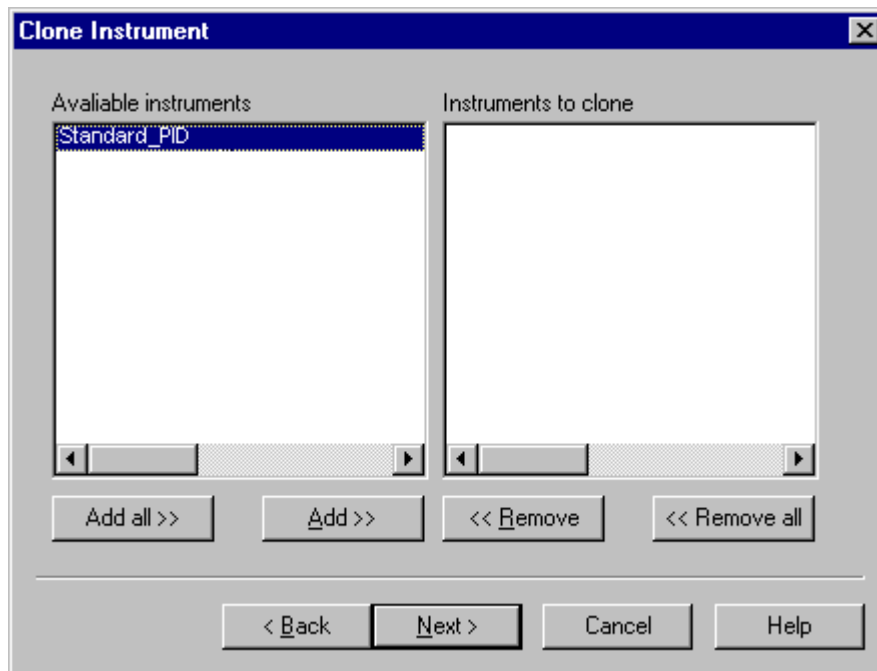
Contains a list of the security parameters for the application, double-click on an item to change settings individually. Double-click on a group heading to change all items within the group.

Manage device templates dialog



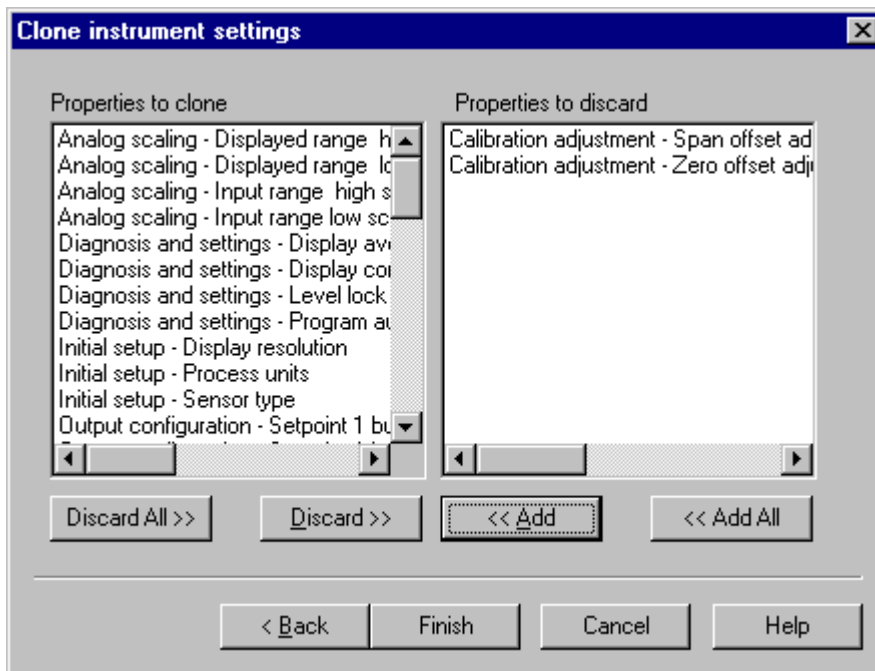
Used to create, delete and edit device templates. See [Creating a custom template](#) and [Custom Display Properties](#) for more details

Clone instrument dialog



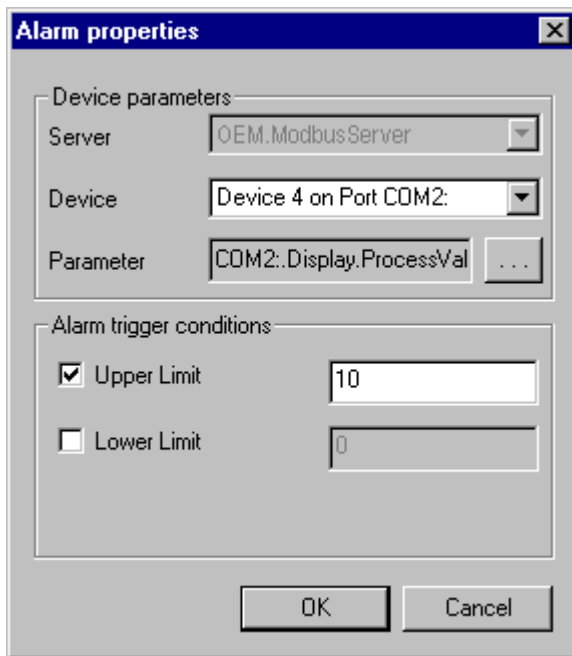
Select the instruments to clone settings to and Add them to the list.

Clone instrument settings dialog



Select which data values are to be cloned into the selected instruments.

Alarm properties dialog

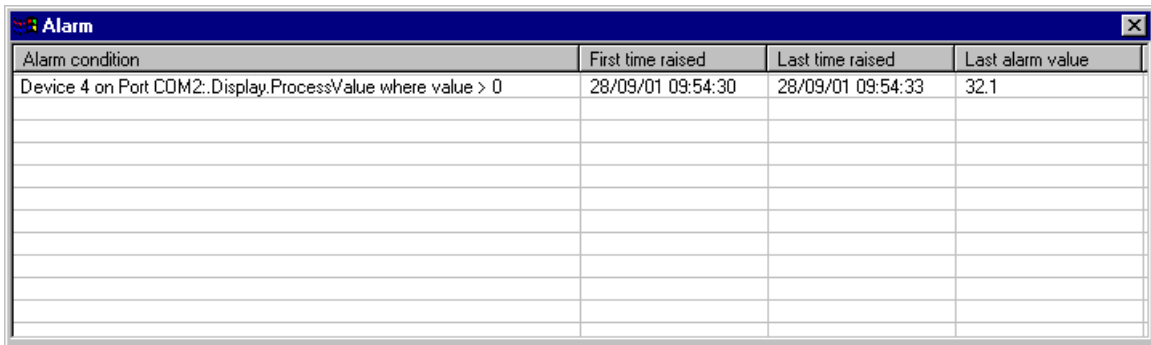


This dialog allows the properties of an alarm to be configured.

Server, Device and Parameter specify the data source for the alarm.

Upper and lower limit specify the alarms limits for the alarm.

Alarm active dialog



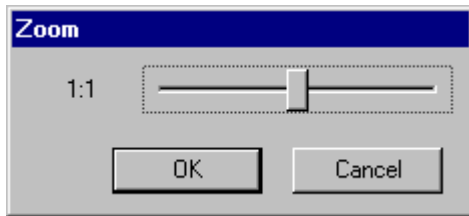
The screenshot shows a window titled "Alarm" with a close button (X) in the top right corner. The window contains a table with four columns: "Alarm condition", "First time raised", "Last time raised", and "Last alarm value". The first row of the table contains the following data:

Alarm condition	First time raised	Last time raised	Last alarm value
Device 4 on Port COM2: Display.ProcessValue where value > 0	28/09/01 09:54:30	28/09/01 09:54:33	32.1

Show a list of active alarms listing the alarm condition, first time the alarm was raised, the latest time the alarm was raised and the value of the latest alarm condition.

Double clicking on an alarms clears that alarm from the list.

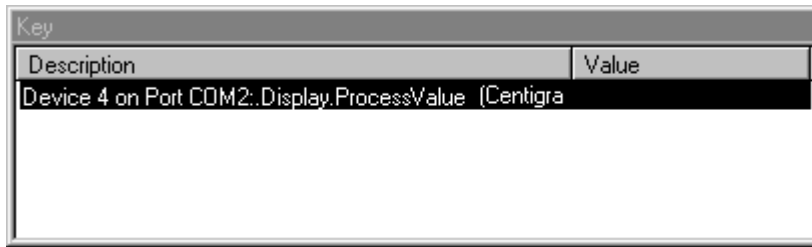
Chart Zoom dialog



This dialog controls the zoom level of the chart timebase.

Move the slider to zoom out (left) or in (right) of the chart timebase.

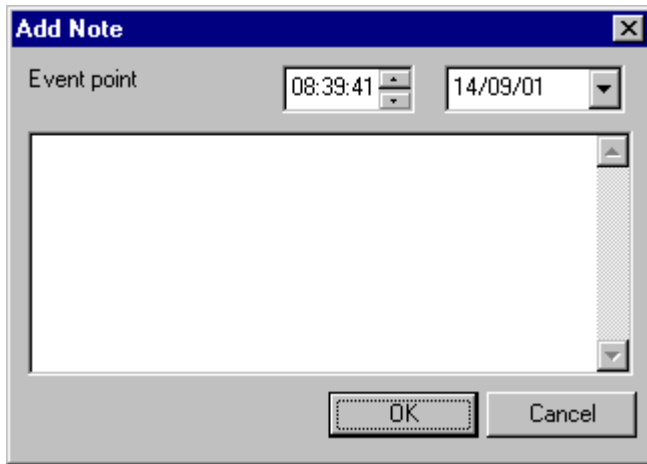
Chart Key dialog



Description	Value
Device 4 on Port COM2: Display.ProcessValue (Centigra	

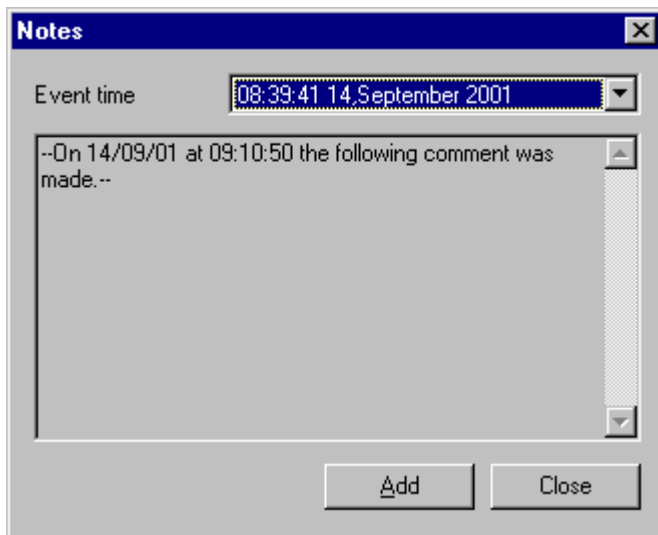
This dialog shows a list of the traces on the chart. To hide it select the Chart, Key menu option again.

Chart Add Note dialog



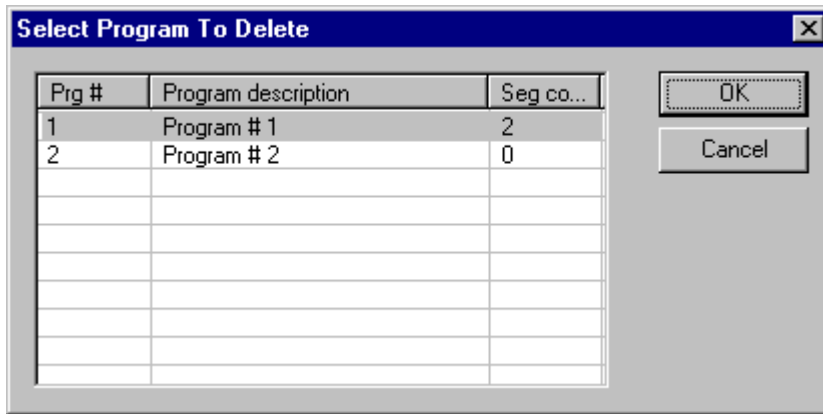
Show the time at which the note will be added and allows the user to type the text of the note.

Chart Show Notes dialog



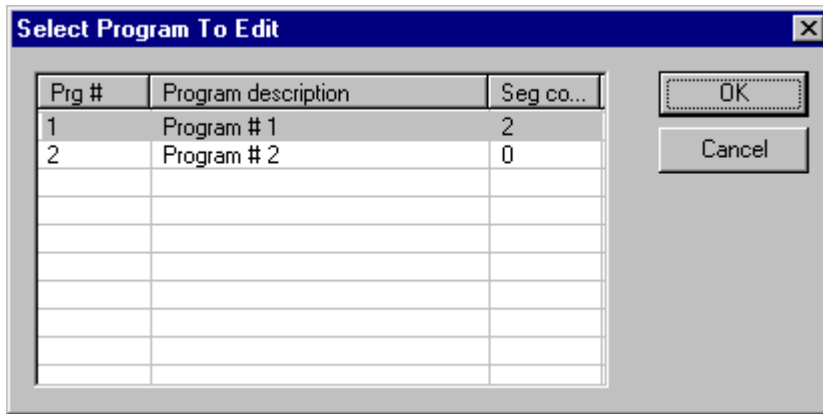
Shows the note nearest the cursor and allows the user to view all other notes via the pulldown selection or add a new note to the chart.

Select Program to Delete dialog



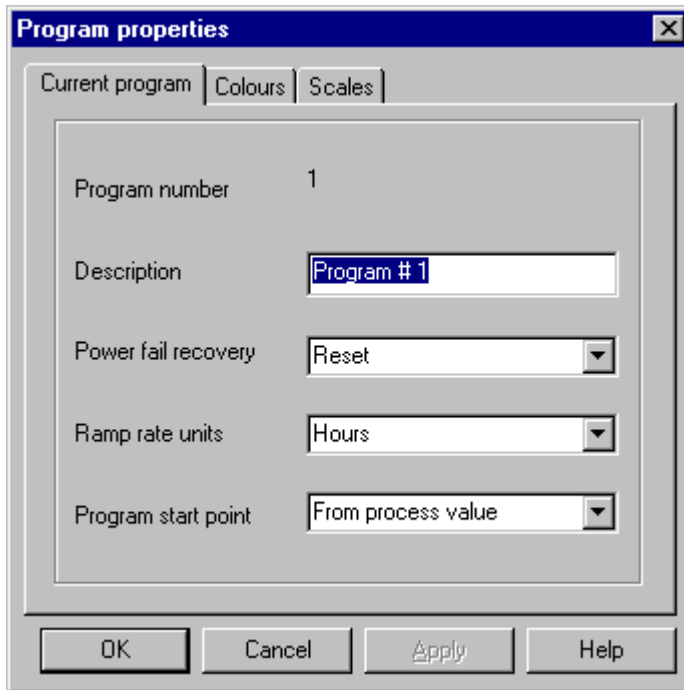
Selects a program to be deleted.

Select Program to Edit dialog



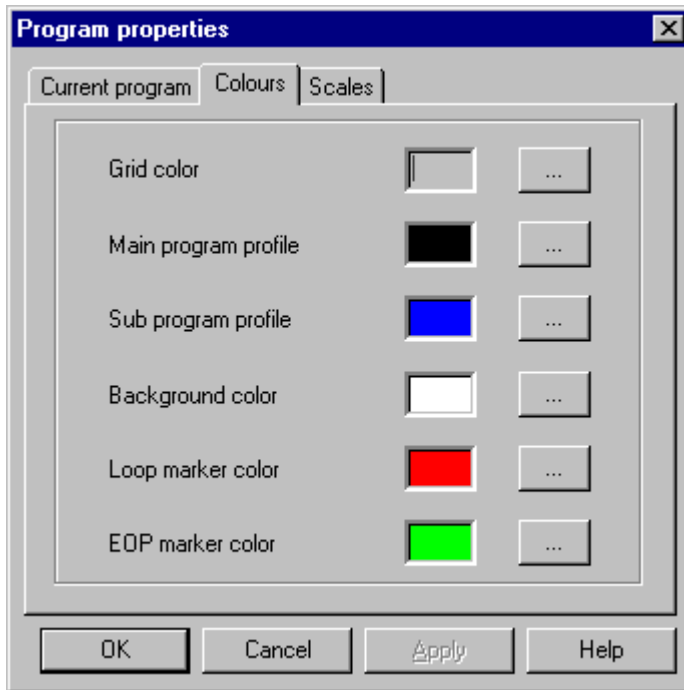
Selected a program to be displayed in the documents editing windows.

Program Properties dialog



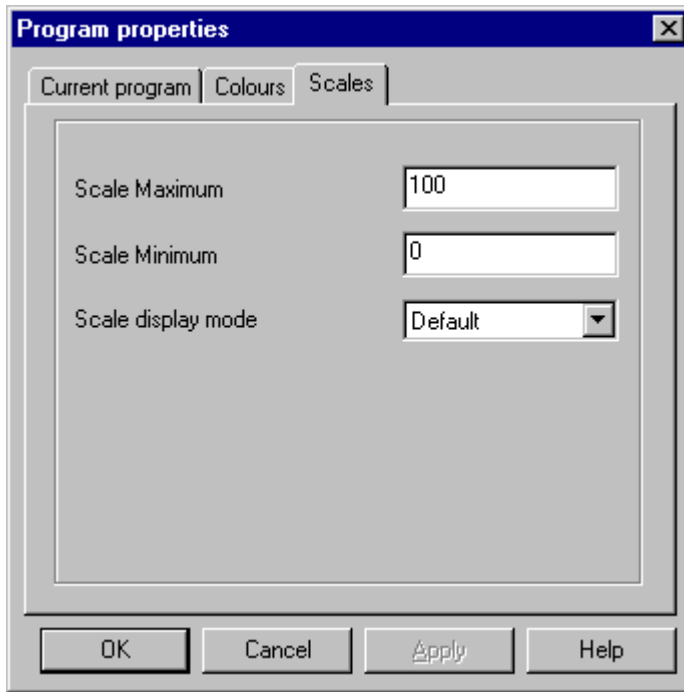
Allows the user to set the program description, powerfail recovery mode, ramp units and starting point.

Program Colors dialog



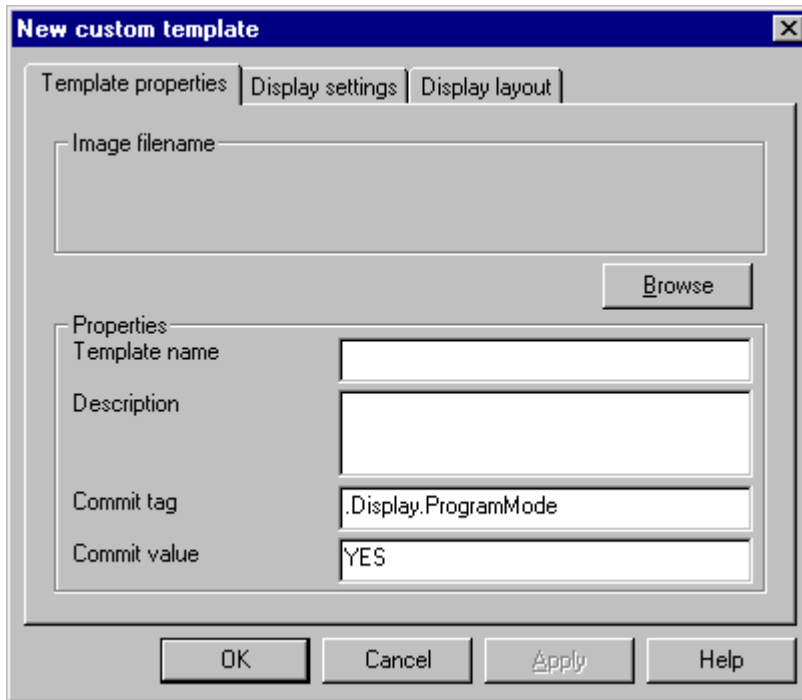
Allows the use to set the program profile display window colors.

Program Scales dialog



Allows the user to set the program profile display window scales and timebase display mode.

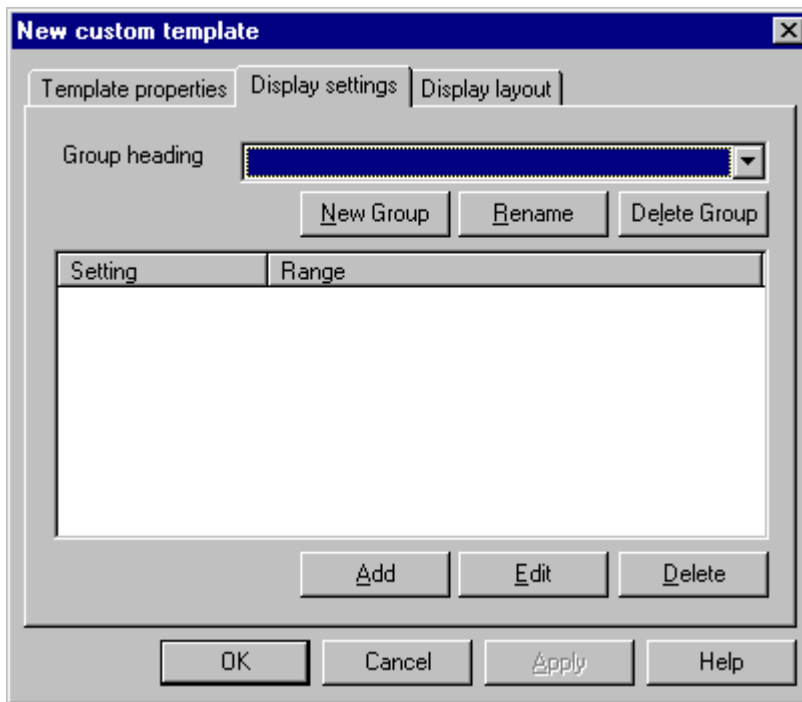
Custom Template Properties dialog



Allows the user to enter a template name and description and to select a background bitmap file to display in the custom window.

Also allows the user to specify a data item and value which is written when settings items are written to the custom template. This supports the exit program mode operation and similar change commit operations.

Custom Display Settings dialog



Allows the user to add, remove and edit groups of custom display settings and to add, remove and edit the properties of items within these groups.

Custom Setting Properties dialog

The image shows a Windows-style dialog box titled "Custom setting properties". It contains several sections for configuring a custom display settings item. At the top, there are two text input fields: "Name" and "OPC Tag". The "OPC Tag" field has a "Browse" button to its right. Below these fields is a "Data entry" section with four radio buttons: "Integer", "Decimal", "List", and "Read only". The "Read only" option is selected. Underneath, there are two sections for range settings. The first is "Integer range", which is unchecked, and includes "Upper" and "Lower" input fields (both containing "0") and a "Step" input field (containing "0"). The second is "Decimal range", also unchecked, with similar "Upper", "Lower", and "Step" input fields. The final section is "List values", which is unchecked, and contains a list box with "Add" and "Delete" buttons to its left. At the bottom of the dialog are "OK" and "Cancel" buttons.

Specified the properties of a custom display settings item.

Name is the textual description of the item

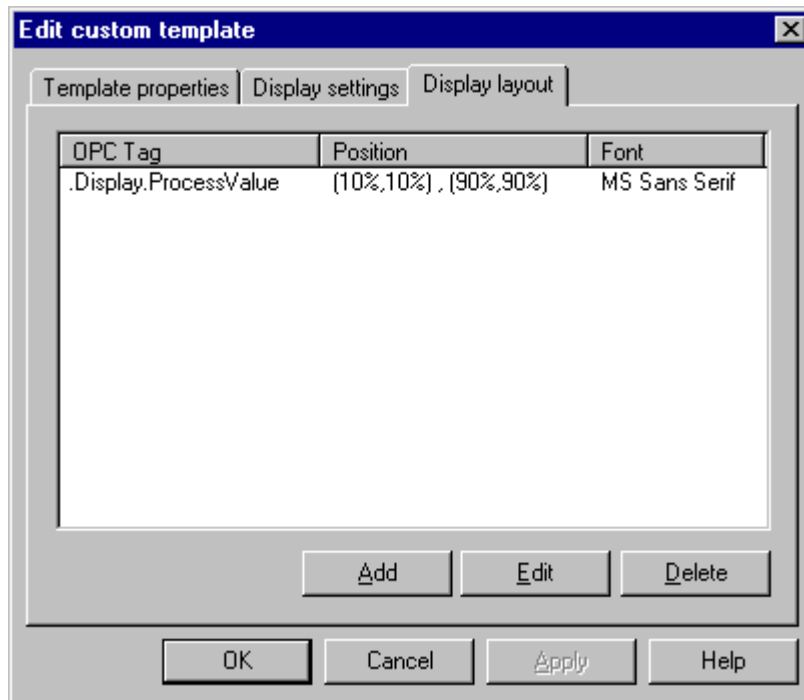
OPC Tag is the location of a parameter within a device. Note that it is specified without a server or device name and starts with a '.' eg '.Display.ProcessValue'. The tag can also be fetched using the browse button.

Next the data entry type is specified, Integer, Decimal(floating point) or a list. Read only specifies that the item cannot be changed.

Integer and Decimal items have an upper, lower and stepping limit. eg 0 to 100 in steps of 0.1

List items contain a list filled with values from the list, decimal and integral entry details values, in that order.

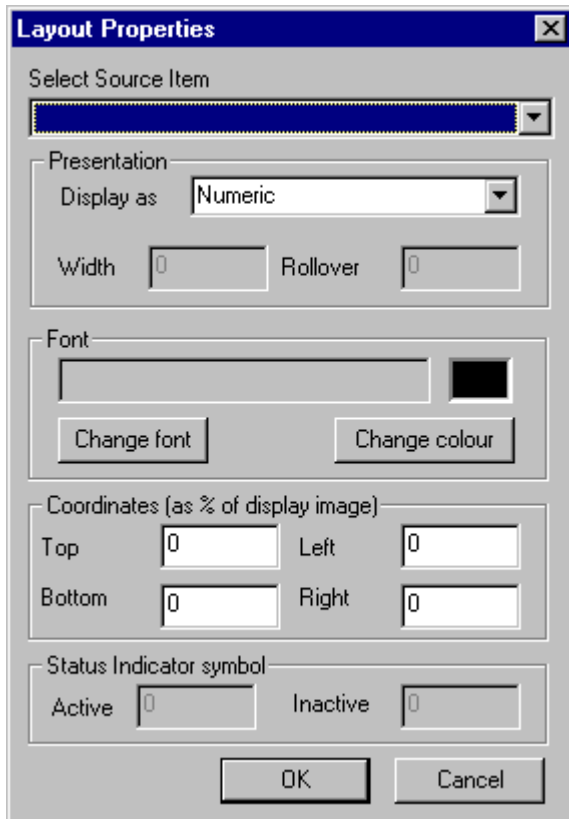
Custom Display Layout dialog



Allows the user to add and configure items to be displayed on a custom display template.

Selecting Add opens the Layout Properties dialog

Custom Display Layout Properties dialog



Allows the user to specify how a custom display settings item is to be displayed in the custom display window.

The pulldown list allows selection of a source tag.

The presentation specifies what format the data will be display in. Numeric and status indicator formats have a max value and text formats also have a width and rollover value.

Max width or max Value specifies the maximum allowable value returned from the server. Anything above this value is considered invalid and is not displayed.

Display width specifies the maximum number of characters to be displayed on the custom display.

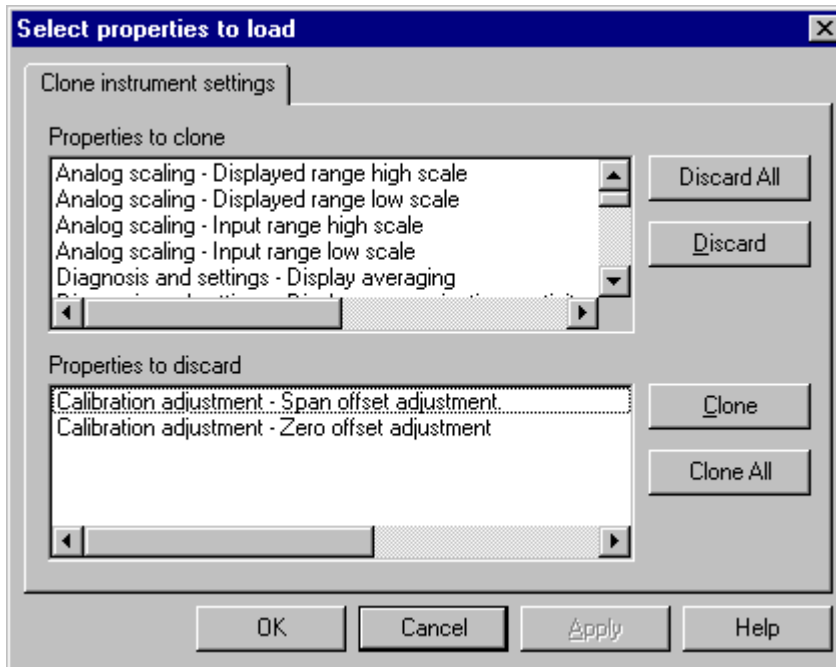
Rollover specifies the number of characters that are shifted left in each update cycle. A value of one will give a scrolling message a value equal to the display width will give a flashing message.

The font selection defines the font type and color.

The coordinates section defines how and where the item is displayed within the custom display window. The values are in percentages of the display width and height and define the rectangle that the item is to be displayed in. Thus a item which filled the window would be set as top=0,left=0,bottom=100,right=100.

The last section defines the characters to use as status indicators, the item is inactive if it's value is equal to zero.

Load select dialog

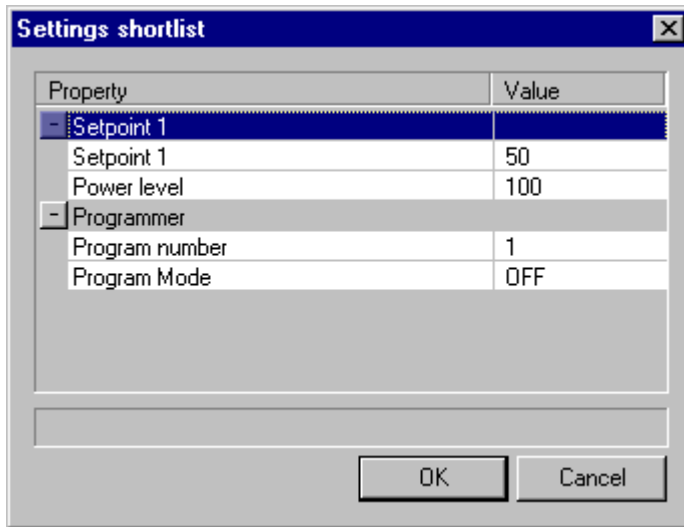


Allows the user to select the properties to clone into an existing instrument.

By default all properties except Sensor span and zero are selected to clone.

Selecting properties from either list and pressing Discard or Clone moves those items between the discard and clone lists.

SP1 and Run mode dialog



Contains the following instrument settings:

Setpoint one value, the main process control setpoint.

Setpoint one power, the actual output power.

Programmer number for CN9600 instruments to specify the program number to run using the programmer run state.

Programmer run state, the state of the setpoint programmer.

INDEX

Page	Description
27	Adding a new alarm
20	Adding a new chart
9	Adding a new instrument
18	Adding segments to a program
68	Alarm active dialog
48	Alarm Add Alarms
67	Alarm properties dialog
48	Alarm Restart Alarms
48	Alarm Settings
48	Alarms
43	Analog Scaling
35	Application and Instrument Templates
62	Application properties dialog
49	Application security settings
36	Application Template Properties
30	Basic Menu Description
43	Calibration Adjustments
38	Chart Add and Show notes
71	Chart Add Note dialog
38	Chart Add Trace
39	Chart exporting
38	Chart Key
70	Chart Key dialog
39	Chart properties
56	Chart properties dialog
72	Chart Show Notes dialog
38	Chart Start, Stop and Restart
58	Chart trace selection dialog
38	Chart Zoom
69	Chart Zoom dialog
37	Charts and Charting
65	Clone instrument dialog
66	Clone instrument settings dialog
35	COM and DCOM
44	Communications
47	Creating a custom display
36	Creating a new application template
39	Creating a new chart
14	Creating a new program
81	Custom Display Layout dialog
82	Custom Display Layout Properties dialog
79	Custom Display Settings dialog
47	Custom displays
80	Custom Setting Properties dialog
78	Custom Template Properties dialog
52	Device Properties dialog
44	Diagnostic and Instrument
32	File Custom Display Properties
32	File Exit
31	File Export

32	File MRU (Most Recent Files)
30	File New
30	File Open
32	File Print
32	File Print Setup
32	File Properties
31	File Save
31	File Save As
57	Format properties dialog
34	Help About
34	Help Topics
41	Initial Setup
40	Instrument Clone
40	Instrument Communications
49	Instrument display security settings
40	Instrument displays
41	Instrument Edit Programs
41	Instrument Properties
55	Instrument settings dialog
40	Instrument SP1 and Run Mode
5	License
84	Load select dialog
64	Manage device templates dialog
34	Modbus Server Description
60	Modify Trace Details dialog
50	New options dialog
54	Omega Engineering CN9600 instrument display
43	Output Configuration
76	Program Colors dialog
75	Program Properties dialog
77	Program Scales dialog
43	Programmer
46	Programmer Add and Insert Segment
45	Programmer Delete Program
45	Programmer New Program
46	Programmer Properties
45	Programmer Read and Write program data
46	Programmer Remove Segment
45	Programmer Select Program
7	Quick Start Description
8	Quick Start Installation and Troubleshooting
63	Security parameters dialog
44	Security settings
49	Security Settings
61	Select data source dialog
51	Select devices dialog
53	Select devices dialog
73	Select Program to Delete dialog
74	Select Program to Edit dialog
42	Setpoint One
45	Setpoint Programmer
43	Setpoint Three
42	Setpoint Two
29	Setting alarm properties
24	Setting chart properties
13	Setting instrument properties

15	Setting program properties
19	Setting segment types and properties
85	SP1 and Run mode dialog
44	Standard Instrument Types
50	Start and Stop Communication
59	Trace properties dialog
33	View Status Bar
33	View Toolbar
33	Window Arrange Icons
33	Window Cascade
33	Window Tile



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