Display Creator

- Graphics Software for Customising Colour Displays

USER MANUAL

MoTeC

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Introduction

Display Creator is a unique application used to design and create custom display configurations for MoTeC's D series displays and C series display loggers.

It has versatile and powerful graphical creation functions that allow the configuration of all display elements. Many of the functions are self explanatory, and onscreen assistance is provided.

See the following three topics before starting a Display Creator project.

About CAN Signals and Channels

How to Create a Display Configuration. **This topic includes automatic quick setup.**

Functional Overview

Help and Samples

The purpose of this help system is to provide an understanding of Display Creator concepts, and the information necessary to create a display configuration. However, it is not possible to cover the extensive flexibility built into the system, or the many options available. Therefore, in conjunction with using this help, it is **highly recommended** to analyse the sample projects that ship with Display Creator, and watch the various webinars provided by MoTeC.

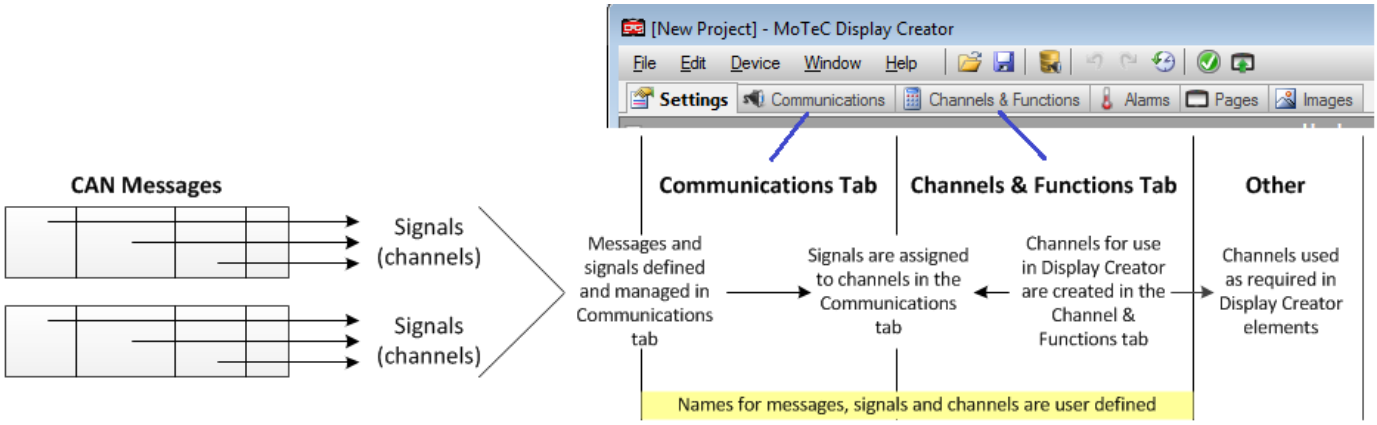
This link is to all available webinars, including Display Creator — webinars.

To open a sample project:

1. Select **File > New**.
2. Select the device model for which the display is required.
3. Select a sample from the ***Template*** list.
4. Click **OK**.

☛ *To gain an understanding of how to create a display, read this help and then methodically deconstruct one of the samples.*

About CAN Signals and Channels



☛ *Messages, signals and channels can be **manually** created and set up, or **automatically** added by importing the DBC file created in Dash Manager when a Dash/Logger configuration is saved. See Importing a DBC file*

Not all signals need to be assigned to channels. Unassigned signals are not received.

See the following for a depiction of the functional process flow:

How to Create a Display Configuration

Functional Overview

How to Create a Display Configuration

To create a functioning display the following tasks are required.

☛ *The tasks, sequence and dependencies shown below are provided to indicate functional relationships. Pages, elements, channels etc. can be created, deleted, modified at any time, and at will.*

Setup

It is best to define the display device and default font before performing any of the tasks below, see Settings Tab. Changing the device after creating a display configuration will automatically resize all elements so as to fit on the device's screen.

	Task	When	Reference Links
1	* Setup communications (messages and signals)	Any time before 12	Communications Tab Importing a DBC file
2	* Setup channels for use in the display elements	Any time before any of 3, 6, 7, 10, 11, 12	Channels & Functions Tab Importing a DBC file
3	* Assign channels to signals	After 1 and 2	Communications Tab Importing a DBC file
4	Create pages (each page covers the whole screen)	Any time	Pages Tab
5	Create page display elements	Any time	Page Elements
6	Assign channels to display elements on each relevant page	After 2	
7	Define conditions on which pages are displayed	After 2	Pages Tab
8	Create alarm displays (these are placed on pages)	Any time	About Alarms Alarm Displays Alarm Elements
9	Create/modify alarm display elements	Any time after 8	
10	** Assign channels to alarm display elements	After 2	
11	Define alarm conditions	After 2	
12	Validate and configure device	Validate any time during creation to check for issues. Configure device when ready, an automatic validate step occurs first. Configuration must be valid before the system sends the display configuration to the device.	Project Validation Configure Device

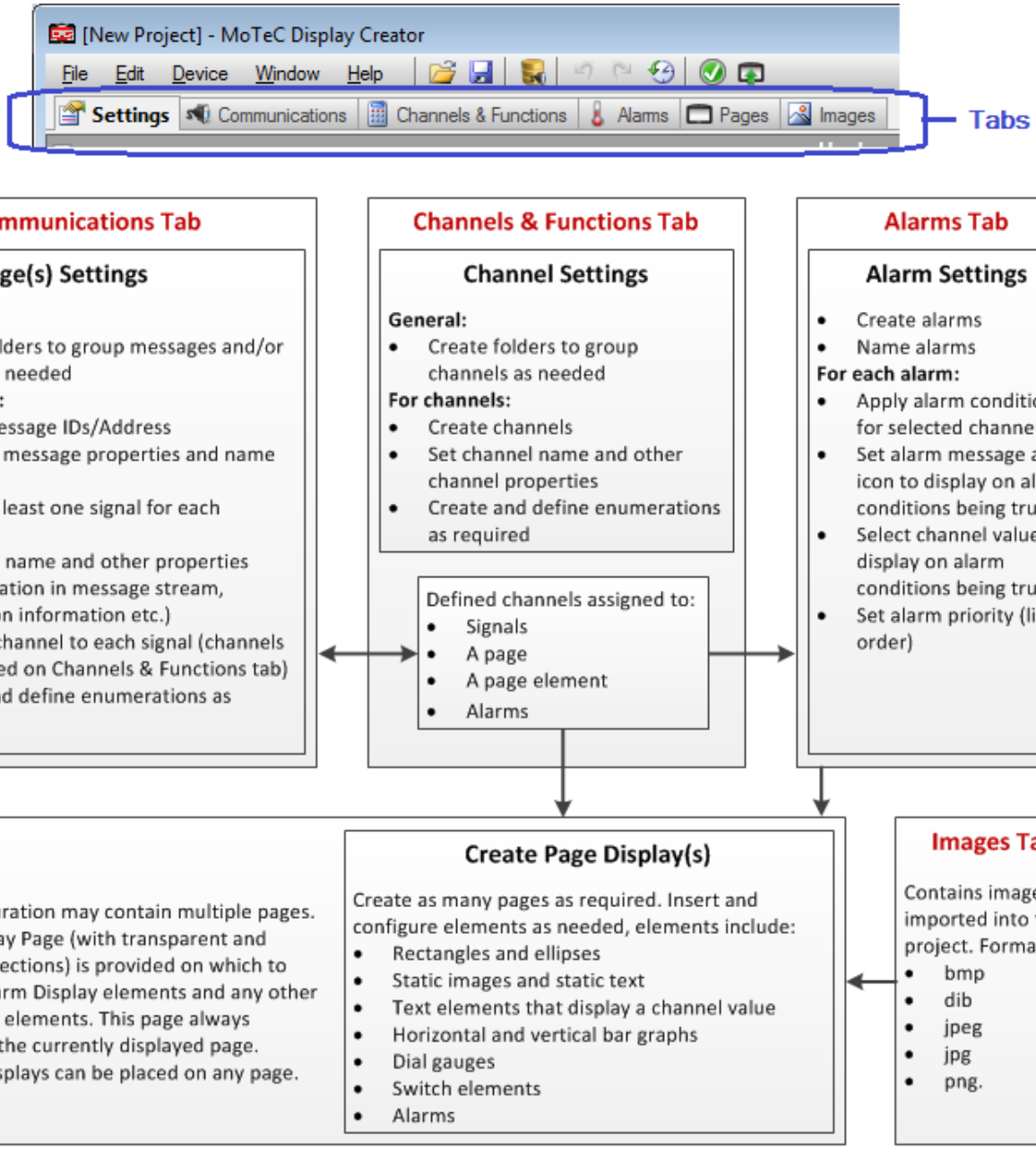
Use this link to view a webinar showing the creation of a basic configuration using a DBC file, webinar_DBC.

* **For C Series** display/loggers, these tasks can be automatically performed by importing the DBC file that is automatically generated by Dash Manager. If required, manual adjustments can still be made. See Importing a DBC file. **For D Series** displays, importing a DBC file is not applicable. However, a quick display can be setup by using one of the provided samples. See Introduction.

** **For C Series** display/loggers, if a DBC file is imported, all alarms are automatically set to display in the ***Alarm Display*** element on the ***Overlay Page***. See Overlay Page

Functional Overview

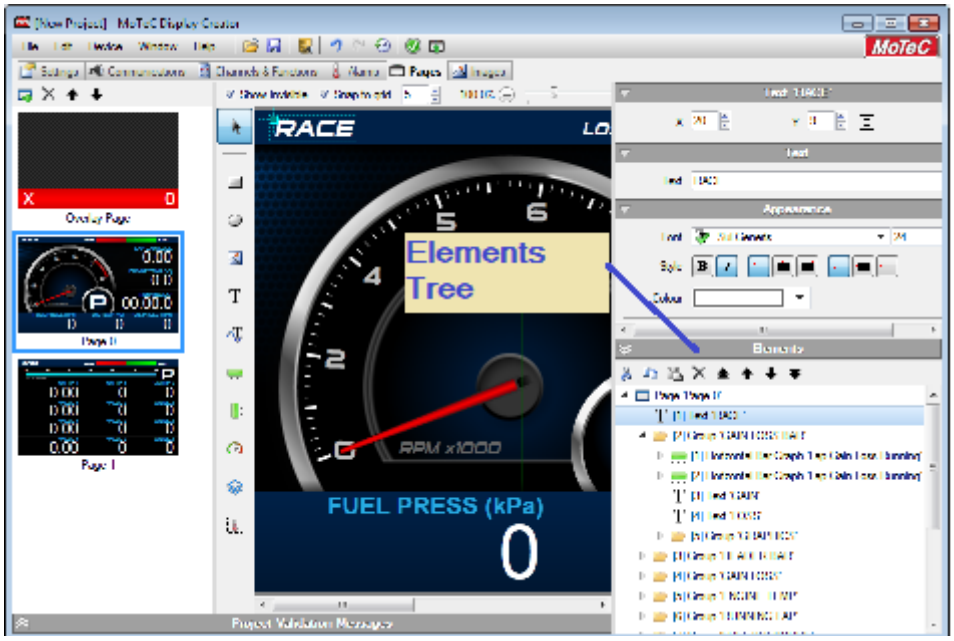
The process flow and functions involved in creating a display are depicted in the following diagram. Details on the use of each tab, and the elements associated with them, are provided in the relevant topic within this help file.



About Element Selection

This topic applies to selection of elements on a page. As Display Creator does this in a unique way, it is provided here as a preamble. Some of the operations used to select elements in Display Creator are unique. Such as:

- Select an element from the element tree list, see Page Elements.



- Click repeatedly on an element at one location on the page. This will sequentially select (drill down) each element whose boundaries encompass the cursor location. When the selection reaches the lowest element in the hierarchy, the selection loops back to the first element. It does not necessarily drill down through every element on the page. A more precise method of selecting a specific element is to select it in the hierarchical element tree.

See Selecting Elements on a Page for more information.

About Origin Points

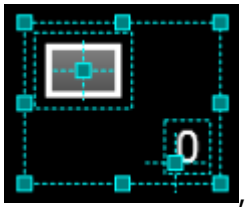
This topic applies to alignment of elements on a page. As Display Creator does this in a unique way, it is provided here as a preamble. See Page Elements for more information.

Element Origin Points

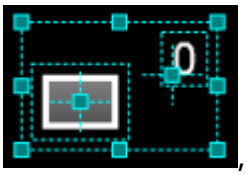
All elements that can be included in a display have an origin point, this point is used for the alignment of elements. By default, text based elements have an origin point at the top left corner of the element (this can be changed via the element's properties, as an example, see Static Text). All other elements have an origin point in the centre of the element, this cannot be changed, however, the alignment of these elements is internally calculated so that alignment is based on the element's border.

The distinction is that text elements will align using the location of the origin point.

For example:

Take these two selected elements 

, the origin point for the ***Text*** element is at the bottom left.

Aligning the elements to top has the following effect 

, the top of the rectangle is aligned with the origin point of the ***Text*** element.

About Alarms

Managing alarms in Display Creator can be summarised as follows:

- Required alarms, and the conditions which make them active, are defined on the ***Alarms*** tab. See Alarms Tab.
- Any number of alarms are then assigned to any number of ***Alarm Display*** elements, see Alarm Displays.
- An ***Alarm Display*** element is a parent element that can contain ***Alarm Icon***, ***Alarm Message*** and/or ***Alarm Channel Value*** elements. See Alarm Elements.
  When an alarm becomes active, the appropriate ***Alarm Display*** and its child elements display the alarm information.
- Multiple ***Alarm Displays*** can be placed on the ***Overlay Page*** and on any other page(s). See Overlay Page and Pages Tab.

Display Creator Tabs

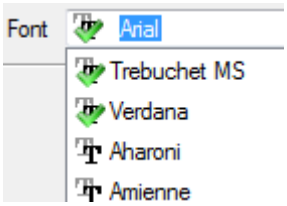
Display Creator contains six tabs required to create a display configuration. That is,

- Settings
- Communications
- Channels & Functions
- Alarms
- Pages
- Images

Settings Tab

Defines the display or logger device for which the display configuration is being created. Changing the device will automatically resize all elements so as to fit on the device's screen.

The default font used for the configuration is also specified on this tab. The display configuration is not valid and cannot be sent to the device if a default font is not specified.

A green tick in the font icon 

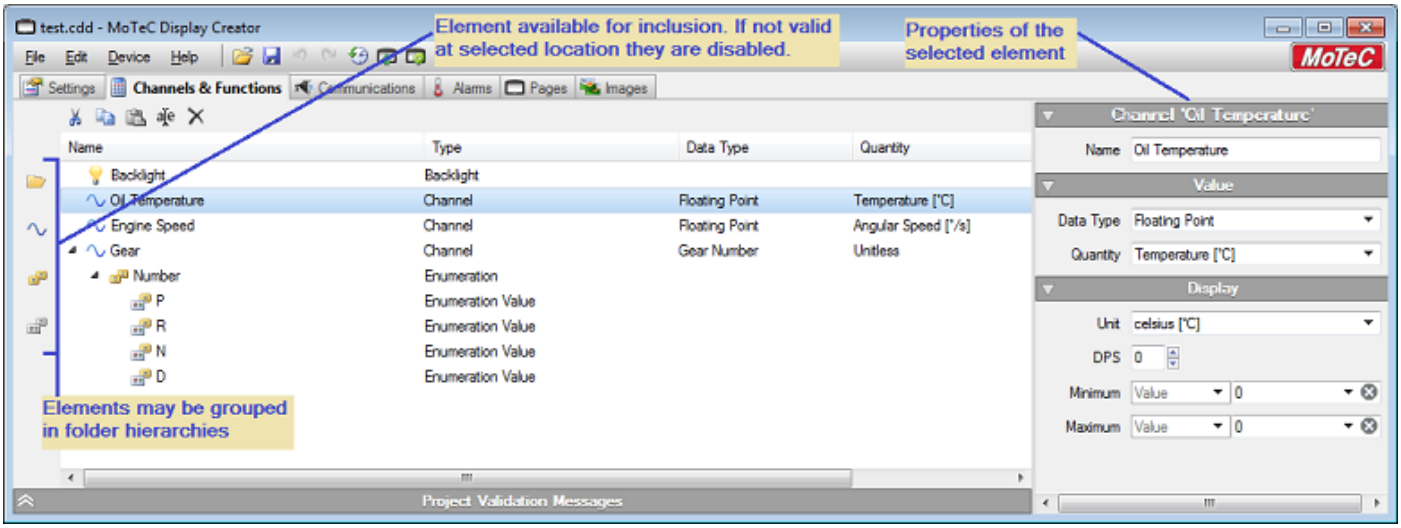
indicates that it is a Windows system font. As such, there is certainty that these fonts will be available if the project is moved to another PC.

Channels & Functions Tab

This tab allows manual creation of channels. These are subsequently assigned to signals.

☛ *Messages, signals and channels can be automatically created for use in Display Creator by importing the DBC file created in Dash Manager when a Dash/Logger configuration is saved. See Importing a DBC file.*

The properties displayed for this tab vary depending on the element selected.



Channel Properties

Channel "name"	
Name	Name given to the channel. As this will be assigned to a signal, it is recommended to use a name that corresponds to the signal.

Value	
Data Type	Used to specify the expected format of the received value or an enumeration.
Quantity	Used to specify the class of data expected for the channel.

Display	
Unit	Unit chosen for the applicable type of channel (signal).

Enumeration Properties

Enumeration Value	
Name	Name given to the enumeration.
Value	Value of the enumeration.

Communications Tab

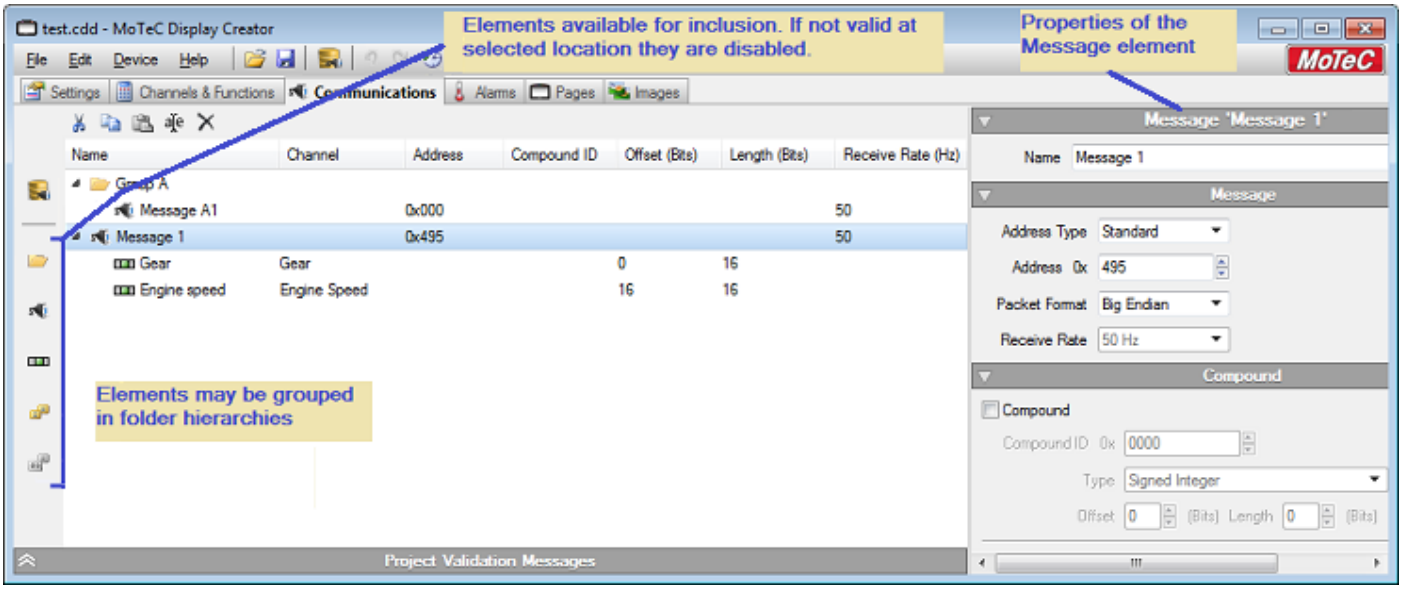
This tab allows manual setup of CAN messages and signals, and the assignment of channels.

☛ *Messages, signals and channels can be automatically created for use in Display Creator by importing the DBC file created in Dash Manager when a Dash/Logger configuration is saved. See Importing a DBC file.*

The properties displayed for this tab vary depending on whether the ***Message*** or ***Signal*** element is selected, as shown in the Message Element and Signal Element examples.

Message Element

These are the properties with a message element selected.



Message "name"	
Name	Name given to the message. The name could identify the type of data transmitted in this message, or some other aspect that is relevant.

Message	
Address Type	Two formats of message ID exist. Standard, which uses 11 bit and has values between 0 and 2047. Extended has 29 bit and has values between 0 and 536870911.
Address	The Address value tells all other devices what to associate the incoming data with based on their internal databases All addresses should be shown as hexadecimal numbers.
Packet Format	For signals containing more than 8 bits (1 byte) of data, the byte order can be either most significant data in the lower byte offset or most significant data in the higher byte. Lower byte is specified by selecting Big Endian, higher byte by selecting Little Endian.
Receive Rate	Default is 50 Hz and can be user configured.

Compound	
Optionally, a message may contain further addressing of the signals by extending the address into the data section of the message. The location of the compound address is specified, and signals associated with this message must match the Address and the Compound ID. **Compound Checkbox** — Check to identify use of extended addressing.	
Compound ID	A compound address value for associated channels.
Type	Used to set the format of the received value. Unsigned integer values are absolute, containing values from 0 to max for the bit length of the signal. Integer values use the two's complement format giving negative and positive values in equal proportions.
Offset	The Offset and Length settings tell the device where the compound ID is within the message.
Length	

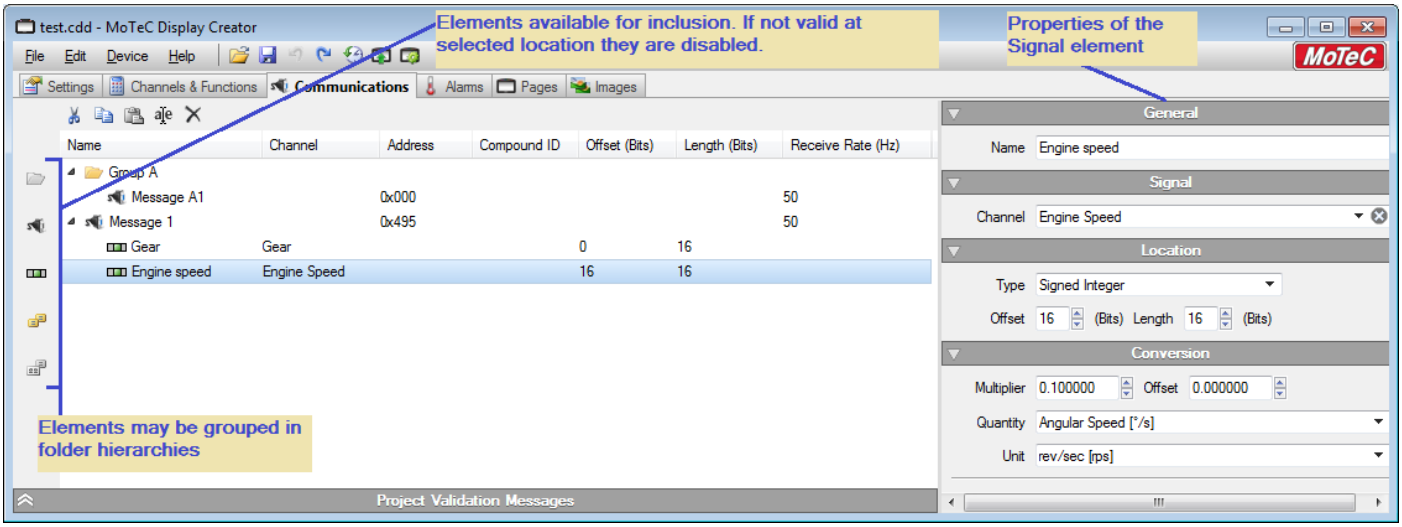
Signal Element

☛ *Messages, signals and channels can be **manually** created and set up, or **automatically** added by importing the DBC file created in Dash Manager when a Dash/Logger configuration is saved. See Importing a DBC file*

Not all signals need to be assigned to channels. Unassigned signals are not received.

These are the properties with a ***Signal*** element selected.

A signal can be a single bit, or number of bits of the data transmitted in the data section of a CAN message. The data section contains up to 8 bytes, or 64 bits of data. A signal can comprise between 1 and 32 bits of the entire 64 bits of data.



General	
Name	User defined name given to the signal.

Signal	
Channel	The Display Creator channel associated with this signal. The selection list is populated from the channels created in the ***Channel & Functions*** tab.

Location	
Type	Used to set the format of the received value. Unsigned integer values are absolute, containing values from 0 to max for the bit length of the signal. Integer values use the two's complement format giving negative and positive values in equal proportions.
Offset **Length**	To identify the unique signal, the Offset and Length settings tell the device where to find this signal within the message, based on the order in which the data is received.

Conversion	
Once the signal has been received, the raw numeric value can be determined. This value can then be scaled using the Multiplier and added to using the Offset to convert the raw value into the final channel value in a real unit of measurement specified by the quantity and unit. **For example:** Sending engine temperature as an integer, where 0 == 0 degrees, and 1000 == 100 degrees. A multiplier of 0.1 is required to convert this to a floating point signal containing 0.0 to 100.0 degrees. ☛ *Conversions are applied to signal values in two steps:* 1. *Scaled Value = (Signal Value * Multiplier + Offset).* 2. *Final Value = Scaled Value converted to the specified Quantity.* **For example:** A signal with a multiplier of **0.1**, offset of **50** and a Quantity & Unit of **speed** and **miles/hour** respectively are converted as follows: Scaled Value = Signal Value * 0.1 + 50. Final Value = Scaled Value * 0.44704 metres/second.	
Multiplier	A scaling factor applied to the raw CAN value.
Offset	Amount added to resulting value after the multiplier.
Quantity	Used to specify the class of data on which to apply the conversion. For example, temperature.
Unit	The unit to convert to for the quantity selected. For example, K (Kelvin).

Alarms Tab

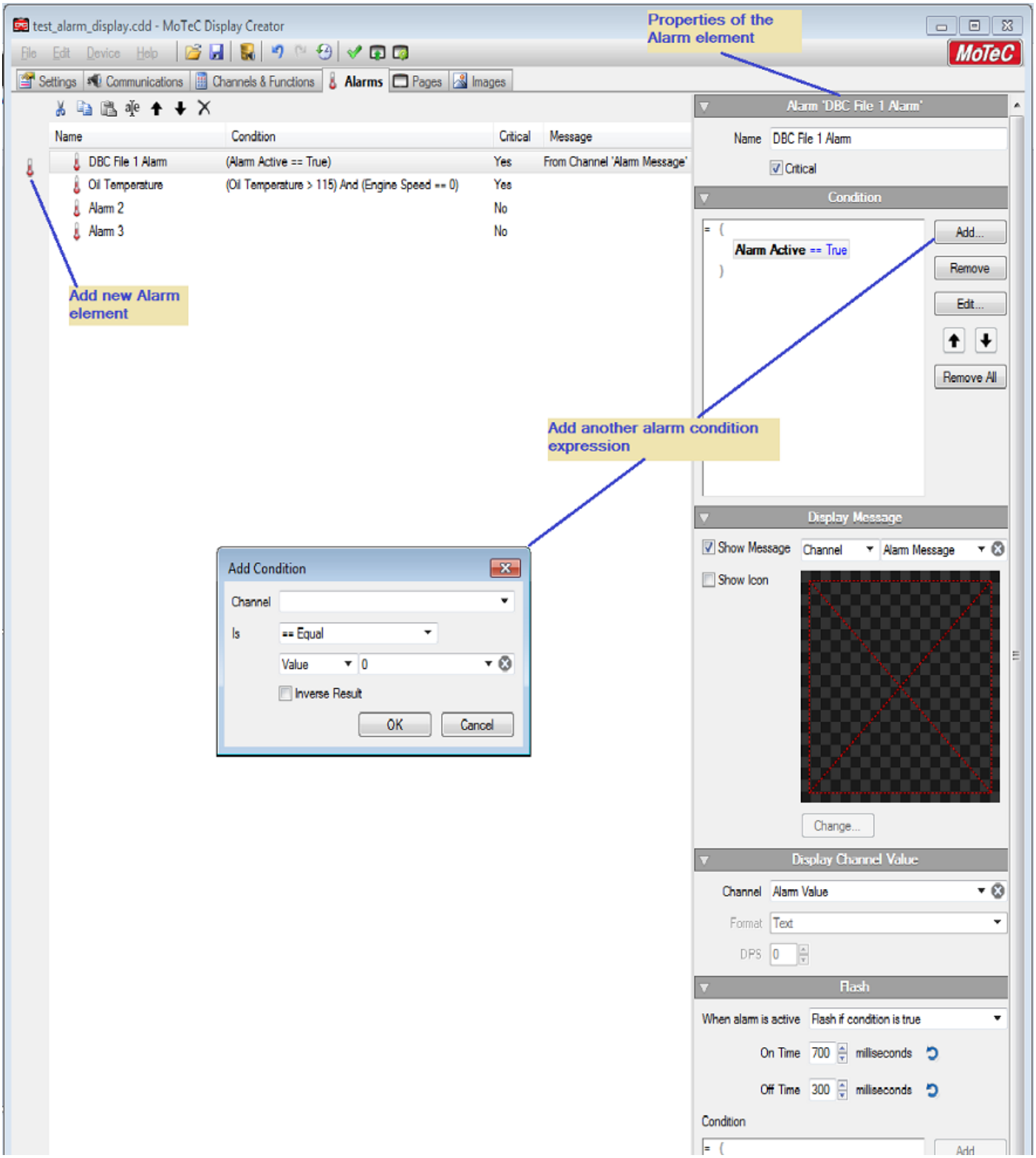
The ***Alarms*** tab is used to create any number of alarms.

☛ *Although an alarm is created and its condition may become true, it will not display unless it has been assigned to an **Alarm Display** element, see Alarm Displays. By default, all alarms created on the **Alarm** tab are automatically selected to display in **Alarm Display** elements on the **Overlay Page**. Therefore, at the simplest level, all that is required to display an alarm is to create it.*

Any number of ***Alarm Display*** elements may be added to the ***Overlay Page*** or any other page. See Overlay Page and Pages Tab

When a single ***Alarm Display*** element has a number of alarms assigned to it, and more than one of these alarms become active at the same time, the alarm that is higher on the ***Alarms*** tab list will display. If in the meantime another alarm becomes active that is higher on the list, that alarm will immediately replace the currently displayed alarm.

If Alarm Display elements are included on pages other than the Overlay Page, the alarm will only become visible if that page is also the one that is currently displayed. However, that same alarm will nevertheless display on the ***Overlay Page*** and be visible (unless it has been deselected). Therefore, the possibility exists that the same alarm could be displayed twice.



Alarm Properties

General	
Critical Checkbox — Check this to ensure the alarm displays when active. Non critical alarms may not display in some situations.	
Name	Descriptive name given to the alarm.

Condition	
Contains the statements that specify the conditions under which the alarm becomes active.	
Add	Use to add a condition expression. The ***Add Condition*** dialogue box displays as shown in the image above. ☛ *A sequence of condition expressions can be inserted and connected by **And** or **Or** statements.*
Remove	Removes the selected expression.
Edit	Use to edit an existing condition. The ***Edit Condition*** dialogue box displays, which is identical to ***Add Condition*** dialogue box.
	Moves a selected expression up or down.
Remove All	Removes all condition expressions.

Add Condition Dialogue Box	
Channel	For selecting a display channel defined on the ***Channels & Functions*** tab.
Is	To insert the required operator (==, !=, <, <=, >, >=)
Channel or Value	For selecting a display channel or value that the operator is applied to.
Inverse Result — Check this to make the condition true when the defined condition expression evaluates to false.	

Display Message
Show Message Checkbox — Check this to enter a message that is to display when the alarm becomes active. The ***Alarm Display*** element used for the alarm must have an ***Alarm Message*** element associated with it in order to display the message.
Show Icon Checkbox — Check this to select an icon to display when the alarm becomes active. The ***Alarm Display*** element used for the alarm must have an ***Alarm Icon*** element associated with it in order to display the icon.

Change	Change the selected icon.

Display Channel Value	
Used to specify a channel value to display when the alarm becomes active. The ***Alarm Display*** element used for the alarm must have an ***Alarm Channel Value*** element associated with it in order to display the value.	
Channel	Used to select the display channel to use.
Format	Format of the value (either numeric or time format). Formats offered are those that are applicable to the selected display channel.
DPS	The number of decimal points to which the value should extend.

Flash	
Used to define the flash behaviour for the alarm message when the alarm becomes active.	
When alarm is active	Used to choose the circumstances under which the alarm message should flash.
On Time	The amount of time the alarm message will display between flashes.
Off Time	The amount of time the alarm message will not display between flashes.
Condition	Contains the statements that specify the conditions under which the alarm message should flash. For this to have an effect **Flash if condition is true** option must be selected in the **When alarm is active** field.

Pages Tab

The pages defined on this tab comprise the displays available for the current project.

The ***Properties*** pane at the right side of the ***Display Creator*** window will change depending on what is selected. For information on management and properties of a page, see Page Management and Properties. For information on the properties of individual elements see the Page Elements topics.

☛ *All pages are initially created by the user, except for the **Overlay Page**, which always overlays the currently displayed page. A project can contain any number of pages but only one Overlay Page.*

Default page

The ***Default Page*** is the first page listed in the ***Navigation (Pages)*** pane that **does not** have any display conditions assigned to it in the Switched Element section of the ***Properties*** pane.

Page display (switching) criteria

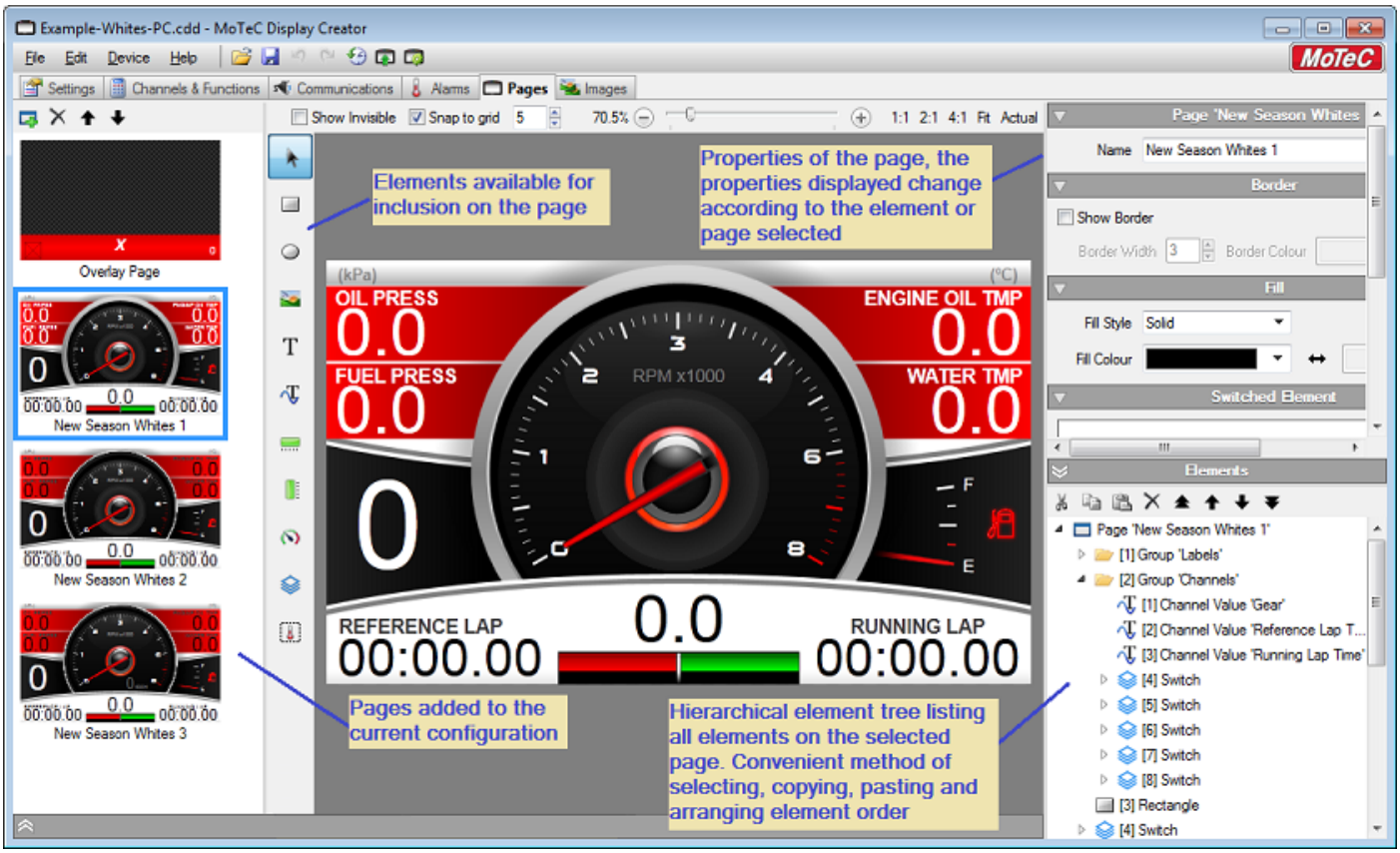
A device that uses a Display Creator project will display pages according to the following criteria:

- The page displayed is the page whose display conditions are true, however:
  - If more than one page has conditions that evaluate as true, then the page highest on the list displays.
  - If there are no pages whose conditions evaluate as true, then the ***Default Page*** displays.
  - If a ***Default Page*** does not exist, and there are no pages whose display conditions are true, then only the ***Overlay Page*** displays.

☛ *Although a condition expression can use any channel to switch pages automatically, a convenient method to manually switch pages is to use channels assigned to push buttons.*

Example

The example below is similar to one of the sample configurations that ships with Display Creator. For more detailed information of what is possible, see the individual element help provided in the Page Elements topics. Also, take time to study the construction of the sample configurations available.



Page Management and Properties

Pages are created and managed as discreet elements. The properties of each page apply just to that page. The sections below cover managing pages, and their properties.

Page Management

Page management includes functions such as adding, deleting and arranging page order. Page management is done by selecting a page in the ***Navigation (Pages)*** pane and using the right-click menu to add, copy, cut, paste, delete and move pages, or by using the buttons at the top of the ***Navigation (Pages)*** pane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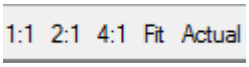
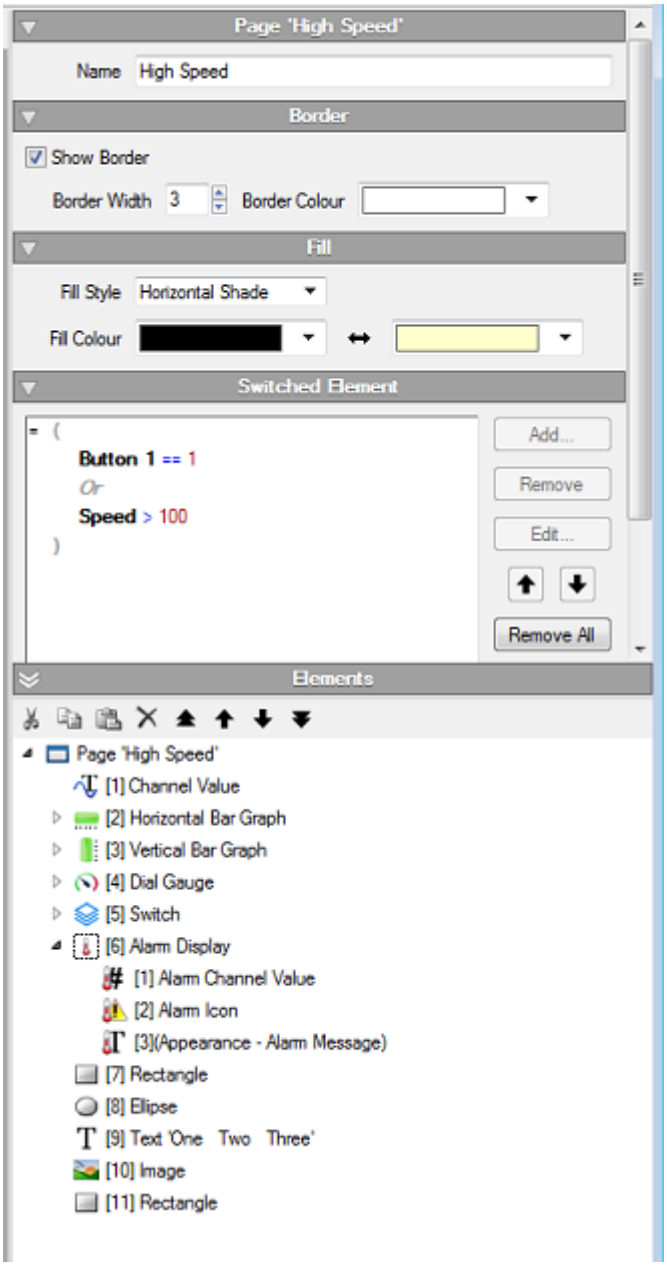
Page Properties

Page properties are of two types, firstly those that govern how the page displays in Display Creator, and then those that govern the operation, and the look and feel in the finalised project.

Properties that govern how the page displays in Display Creator	
	
Show Invisibles checkbox	Uncheck this so that dotted outlines identifying non-visible elements are not shown.
Snap to grid checkbox	Check this so that elements snap to, or are positioned in reference to the grid. It is recommended to use snap to grid. It may be turned off from time to time to allow minute positioning of elements, however, minute positioning is best done using an element's position properties.
Snap to grid value	Determines how fine or coarse the grid is, default is 5.
Manual zoom 	Manually select zoom level.
Preset zoom levels 	These are respectively 100%, 200% and 400% **Fit** will resize to the maximum space available in the ***Display Creator*** window. **Actual** will resize to the actual dimensions of the device for which the display is being created. This gives the best representation of the size of the display.

Properties that govern the created display configuration



Page '[name]'

Name Descriptive name given to the page. Default is Page n, where n is an incremental sequential number used for each added page.

Border

Show Border checkbox — Check this so that the defined border is shown. Elements on the page can overlap and display in front of the border.

Fill

Colour, graduated shading using two colours, and opacity can be applied.

Switch Element

This is where channel conditions are expressed for the currently selected element in a switch or for a page. For an element in a switch, the element is displayed if the conditions are true. For a page, the page is displayed if the conditions are true.

Elements

This is a hierarchical tree view of all elements on the page. Use the right-click menu and the buttons provided to manipulate the elements as required.

☛ *The order in which elements are displayed indicates their layer on the page. At the top of this list is the front layer and the bottom the back. How elements display when overlapped is dependant on this layer order.*

Overlay Page

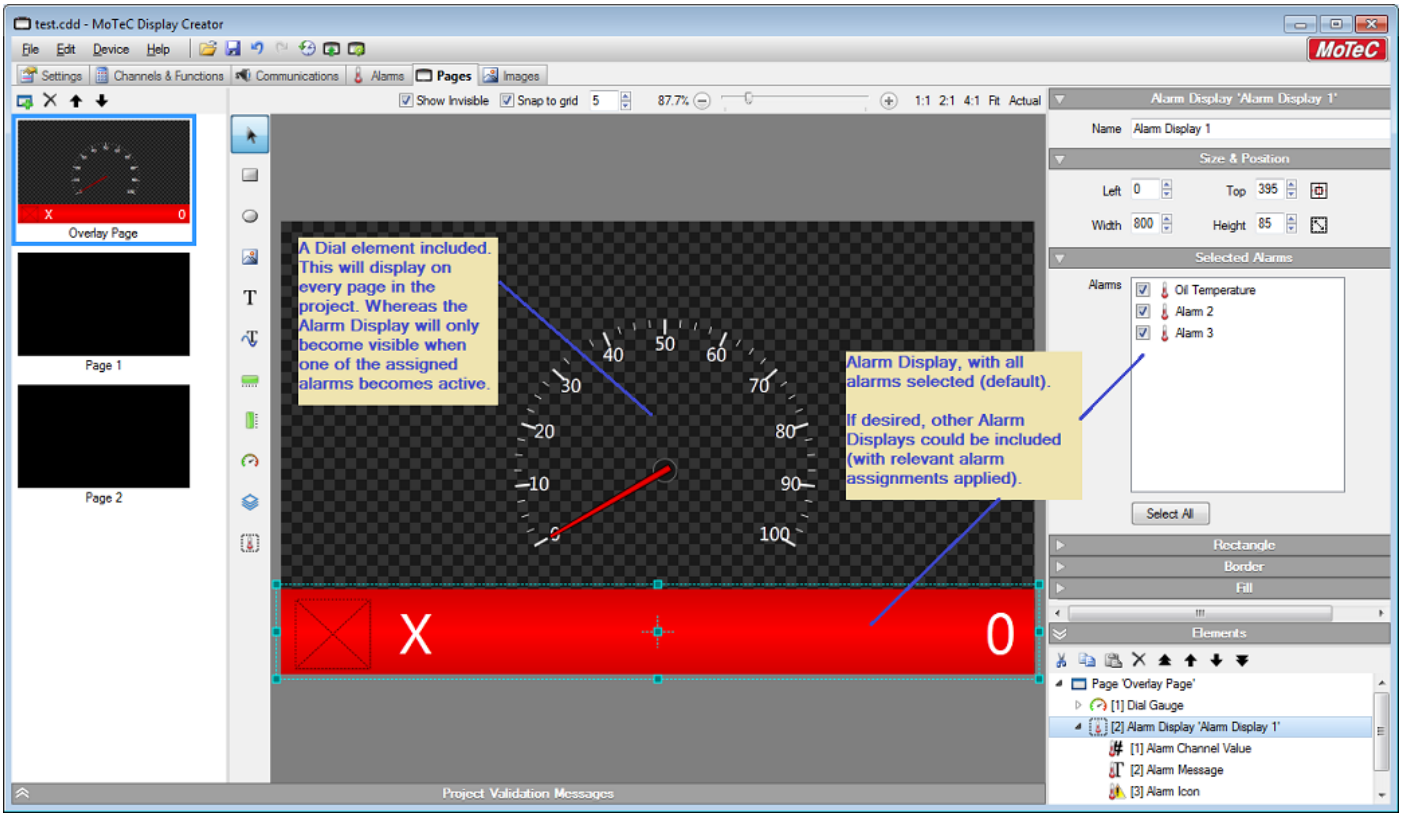
On a device, the ***Overlay Page*** is always displayed and overlays the current page. Its background is 100% transparent.

By default the ***Overlay Page*** contains an ***Alarm Display*** element that has all alarms assigned (selected), see Alarms Tab and Alarm Displays. The ***Alarm Display*** element will only become visible if one of the alarms associated with it becomes active. All other elements on this page that are not part of an ***Alarm Display*** element will always be visible.

Any of the elements that can be included on a page can also be included on the ***Overlay Page***.

☛ *The Overlay Page allows for powerful presentation options, such as allowing common elements to display on every page. A significant amount of development time can be saved by using this technique.*

For example: *a* ***Dial*** *element placed on the* ***Overlay Page*** *will display on every page, with the design around the dial varying depending on the page it overlays.*



Page Elements

Elements can be added to a page, these and their specific properties are described in subsequent topics. Also, there are a number placement functions that can be applied to elements, and these are only available via the right click menu. See Right-Click Menu Element Placement Functions.

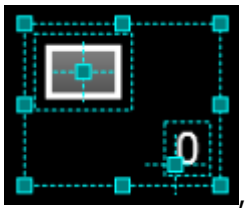
It is important to understand two other aspects of element management, the origin points and the elements tree.

Element Origin Points

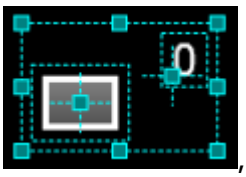
All elements that can be included in a display have an origin point, this point is used for the alignment of elements. By default, text based elements have an origin point at the top left corner of the element (this can be changed via the element's properties, as an example, see Static Text). All other elements have an origin point in the centre of the element, this cannot be changed, however, the alignment of these elements is internally calculated so that alignment is based on the element's border.

The distinction is that text elements will align using the location of the origin point.

For example:

Take these two selected elements 

, the origin point for the ***Text*** element is at the bottom left.

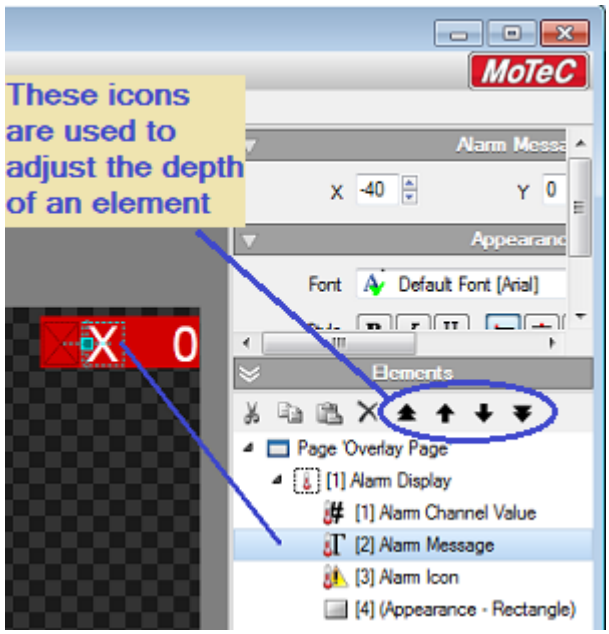
Aligning the elements to top has the following effect 

, the top of the rectangle is aligned with the origin point of the ***Text*** element.

Elements Tree

The elements tree is a hierarchical view of all elements on the page. All operations that can be done to an element directly by selecting the element on the page can also be done via selecting the element in this view. It is a convenient method of selecting an element (especially in a complex display), and can be used for cutting, copying, pasting and deleting.

☛ *This view also depicts the Z-Order, which is the depth of each element or group of elements. The higher in the list an element or group is placed, the closer it is to the front, the element at the top of the list will display in front of any other element. The depth can be adjusted using the right-click menu, drag-and-drop, or the arrows available at the top of the list.*

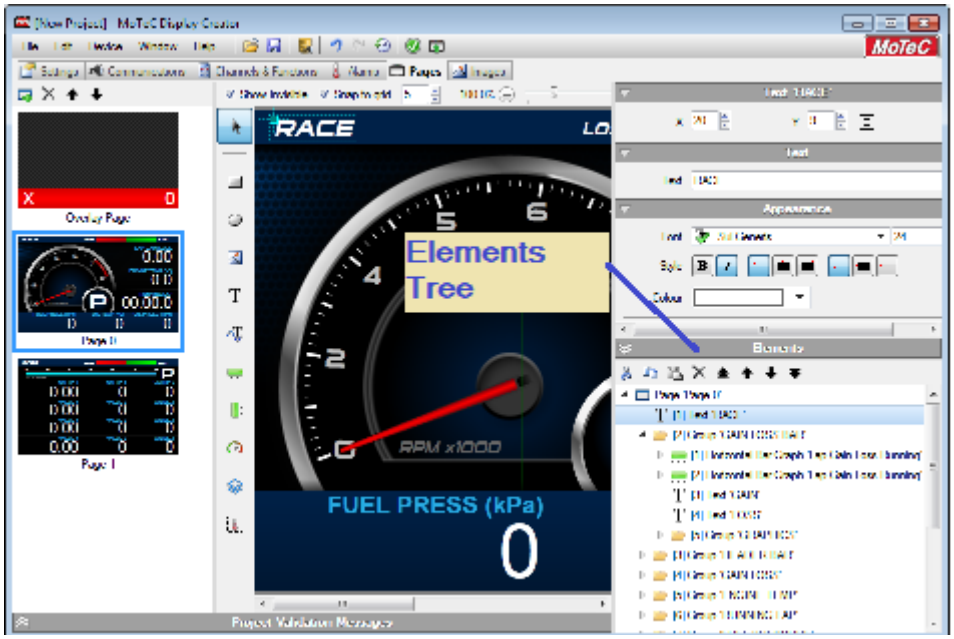


Selecting Elements on a Page

Selecting elements on a page

The various methods for selecting elements are:

- Individually click an element on a page
- Select a number of elements by dragging the cursor over the page to enclose a group of elements
- Select an element from the element tree list, see Page Elements.



- Click repeatedly on an element at one location on the page. This will sequentially select (drill down) each element whose boundaries encompass the cursor location. When the selection reaches the lowest element in the hierarchy, the selection loops back to the first element. It does not necessarily drill down through every element on the page. A more precise method of selecting a specific element is to select it in the hierarchical element tree.

Selecting elements that are part of a Switch element

Only one individual element in a ***Switch*** element can be selected at one time. Multiple elements within a ***Switch*** element cannot be selected as a group. To select these:

1. Select the ***Switch***.
2. Select the required element from the ***Navigation (Switch)*** pane.

Right-Click Menu Element Placement Functions

Apart from specific element properties, there are a number of element placement functions that can be applied to elements, these are only available via the right-click menu. All functions (other than Z-Order), require more than one element to be selected. The Z-Order function is only available for single element or parent element selections (child elements move with the parent). The functions are described below.

Grouping	Allows a selection of elements to be grouped so that they can be manipulated as one object, such as moving the whole group forward or backward (Z-Order), these appear in the elements tree as a group folder. Elements that are grouped can still be moved independently to any location.
Z-Order	The Z-Order, which is the layer depth of each element or group of elements. The order is displayed in the elements tree, the higher in the list an element or group is placed, the closer it is to the front, the element at the top of the list will display in front of any other element.

The functions below operate according to the following criteria:

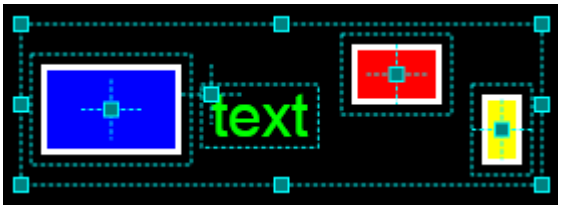
- All elements will move **relative to the first selected element** (does not apply to Spacing), – that is, the first selected element will remain stationary and all other elements will move as required to achieve the result (e.g. alignment).
- With ***Switch*** elements, all functions operate on the ***Switch***, not on the elements in the ***Switch***.
  However, the elements in the ***Switch*** might be affected. For example, if the ***Switch*** size changes, the elements in the ***Switch*** will resize relative to the changed size of the ***Switch*** (but not text based elements).
- Origin points are used in determining element arrangement, see Element Origin Points

Alignment

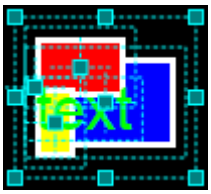
Aligns a selection of elements. An alignment can be applied, and then another alignment can be applied to the resulting alignment.

In these examples, the blue rectangle is the first selected element.

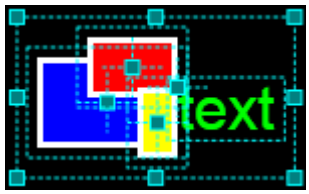
Using this selection as the starting arrangement:



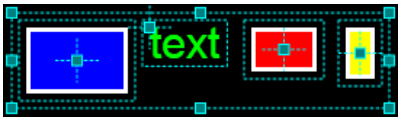
Align **left** results in:



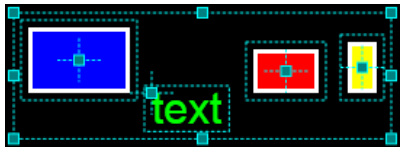
Align **right** results in:



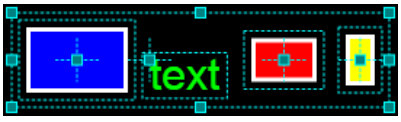
Align **top** results in:



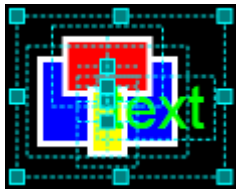
Align **bottom** results in:

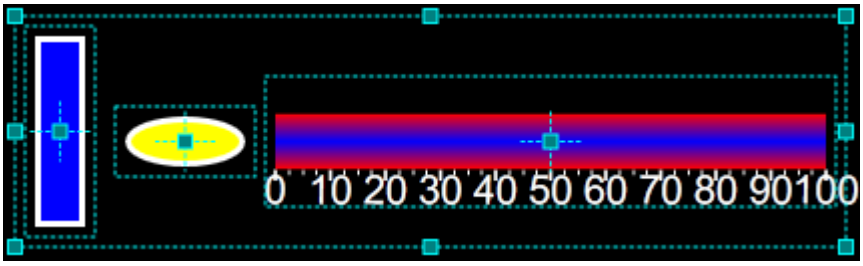
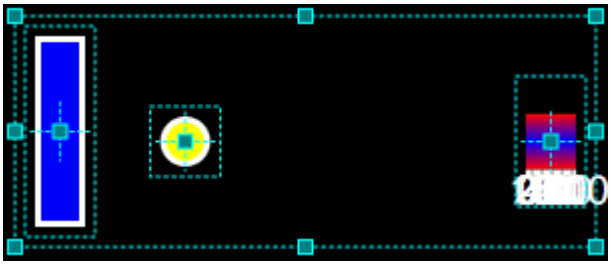
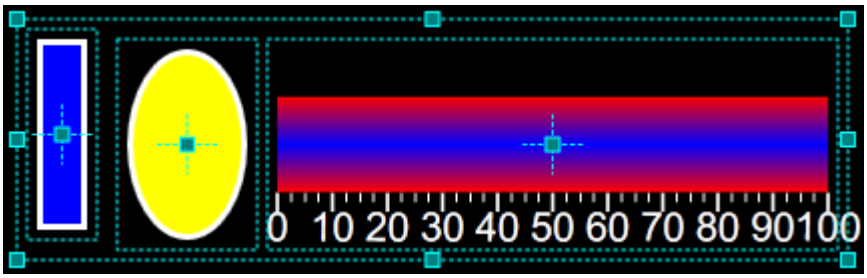


Align **vertical centre** results in:



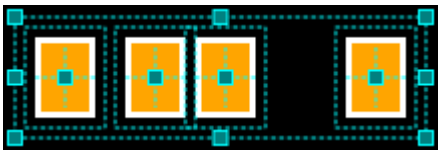
Align **horizontal centre** results in:



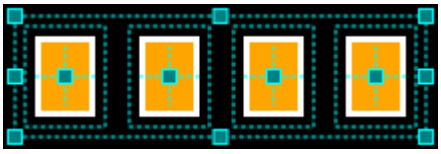
Sizing	Resizes all selected elements to either the width or the height of the first selected element (this function is not available for text based elements). ☛ *Resize occurs from the origin point – that is, the size is calculated from the element centre, not at a border.* **In these examples, the blue rectangle is the first selected element.** **For example, using this selection as the starting arrangement:**  **Make same width** results in  Note that the text is not resized. **Make same height** results in 

Spacing Equally spaces elements, or removes spaces between elements.

For example (HORIZONTAL), using this selection as the starting arrangement:

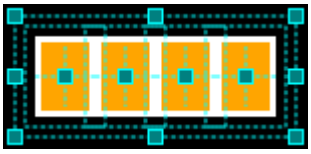


Equal horizontal spacing results in



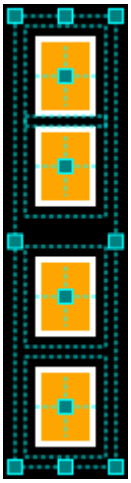
Elements between the two outside elements moved to create equal spacing.

Remove horizontal spacing results in

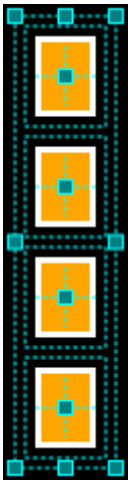


Elements moved from right to left.

For example (VERTICAL), using this selection as the starting arrangement:

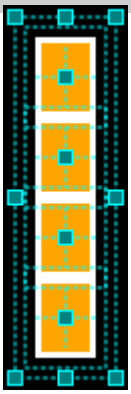


Equal vertical spacing results in



Elements between the top and bottom elements moved to create equal spacing.

Remove vertical spacing results in



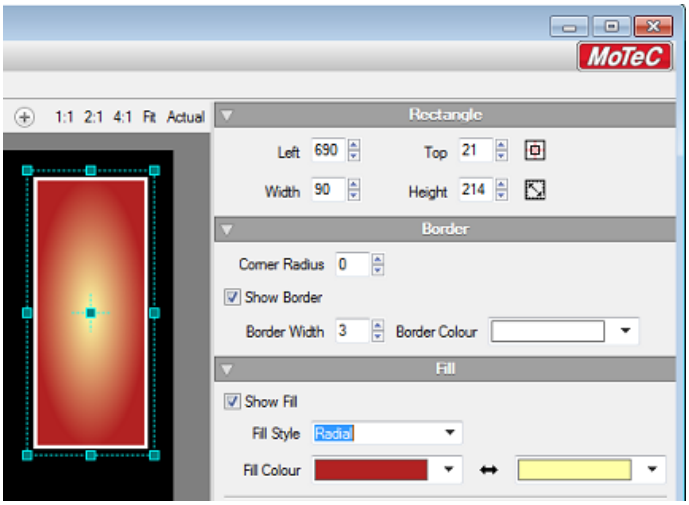
Elements moved from bottom to top.

Rectangle

Rectangle	
Left	Space between the left margin of the page and the left border of the element in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Width	Width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Height	Height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the page.
Fit	Centres the element and then fits the borders to the edges of the page.

Border
Properties to set border characteristics.

Fill
Properties to set fill characteristics.

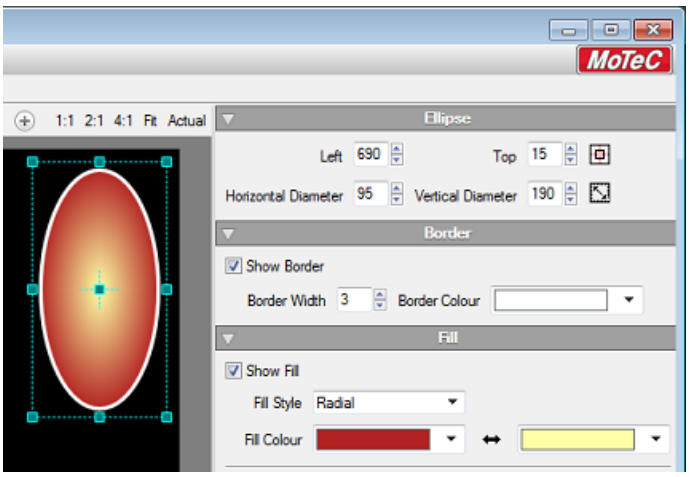


Ellipse

Ellipse	
Left	Space between the left margin of the page and the left border of the element in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Horizontal Diameter	Horizontal width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Vertical Diameter	Vertical height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the page.
Fit	Centres the element and then fits the borders to the edges of the page.

Border
Properties to set border characteristics.

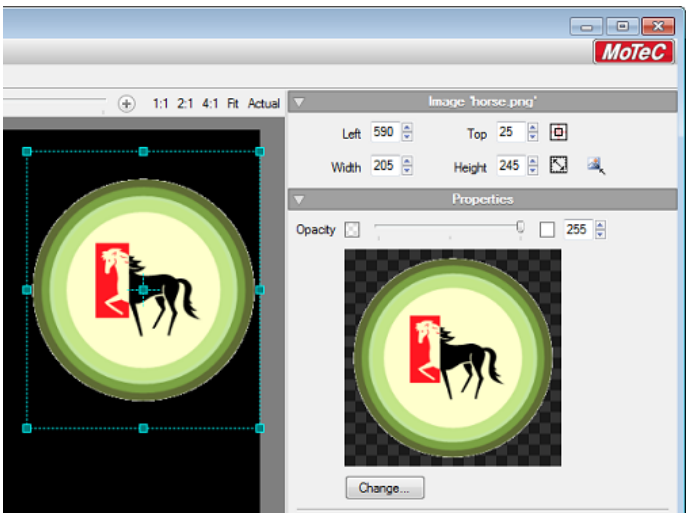
Fill
Properties to set fill characteristics.



Image

Image	
Left	Space between the left margin of the page and the left border of the element in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Width	Horizontal width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Height	Vertical height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the page.
Fit	Centres the element and then fits the borders to the edges of the page.
Reset	Reset the image to its original size.

Properties
Set the opacity of the element, 0 is fully transparent, 255 is fully opaque.

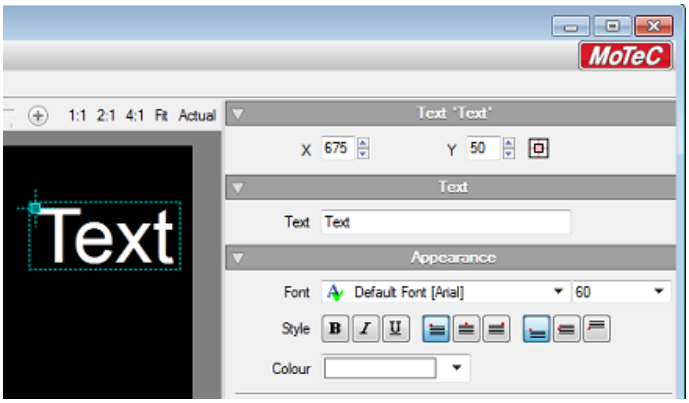


Static Text

Used to display text.

Text	
X	Space between the left margin of the page and the origin point (see Element Origin Points) of the element in pixels.
Y	Space between the top margin of the page and the origin point of the element in pixels.
Centre	Places the origin point of the element at the centre of the page.
Text	Text to display in the element.

Appearance
Properties to set font type, size, style and colour characteristics. The icons are used to move the text relative to the origin point. The dot represents the origin point and the lines the relative position of the text. The first three govern the horizontal position and the last three govern the vertical position of the text. See Element Origin Points.



Channel Value

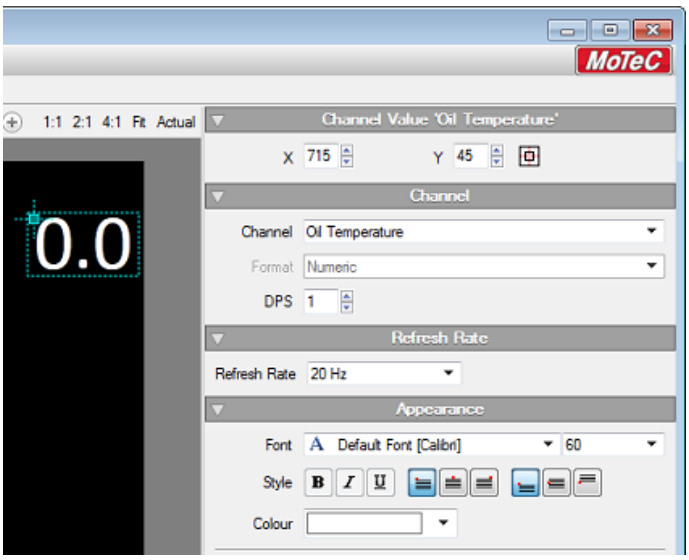
This element is used to display a selected channel value.

Text	
X	Space between the left margin of the page and the origin point (see Element Origin Points) of the element in pixels.
Y	Space between the top margin of the page and the origin point of the element in pixels.
Centre	Places the origin point of the element at the centre of the page.

Channel	
Channel	Used to select the channel whose value is to display in the element.
Format	The format the value is to take. This is either a numeric or time format. If the channel can only be represented as numeric, then this is automatically set and cannot be changed.
DPS	The amount of decimal places allowed for the value.

Refresh Rate
Used to specify how frequently the value is refreshed.

Appearance
Properties to set font type, size, style and colour characteristics. The icons are used to move the text relative to the origin point. The dot represents the origin point and the lines the relative position of the text. The first three govern the horizontal position and the last three govern the vertical position of the text. See Element Origin Points.



Horizontal Bar Graph

A ***Horizontal Bar Graph*** element graphically displays the value of the assigned channel as it varies. This element is ideal for purposes such as a Gain/Loss bar.

Note the following:

- Each graphical component of the bar graph (as shown in the elements tree), including tick marks and text values can be formatted and moved anywhere on (or off) the page.
- The bar graph bar is the component of the bar graph to which the input channel is assigned.
- Start and end values, major and minor divisions, and tick text, can all be configured.
- The bar graph can be setup in a non linear progression.
  For example: 0, 20, 30, 40, 45, 50, 55, 60, 65 etc.

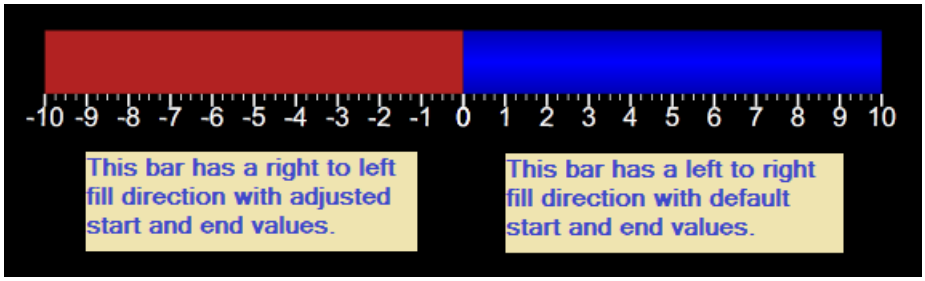
Linear and non-linear progressions

All progressions are initially linear, as defined in the ***Configure Ticks*** window (explained below). A non-linear progression, as mentioned above, can be defined after the linear bar graph is created. See Creating a Non-Linear Progression.

☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Adjusting direction of fill

The direction in which the bar fills can be selected from the properties pane (left to right or right to left). However, the start and end values need to be manually changed in the ***Configure Ticks*** window (explained below) to change the progression to fit the purpose. See the following example:



Configuring Ticks

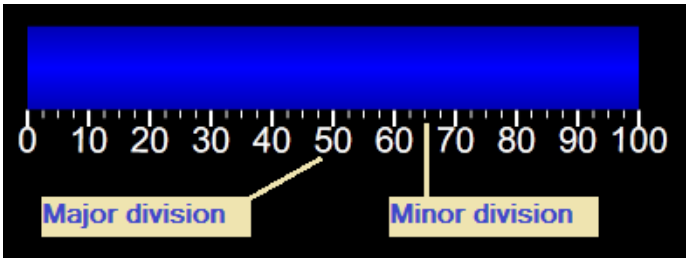
When a bar graph is first created, a ***Configure Ticks*** window displays. This can also be displayed later by selecting the **Configure Ticks** button on the ***Properties*** pane.

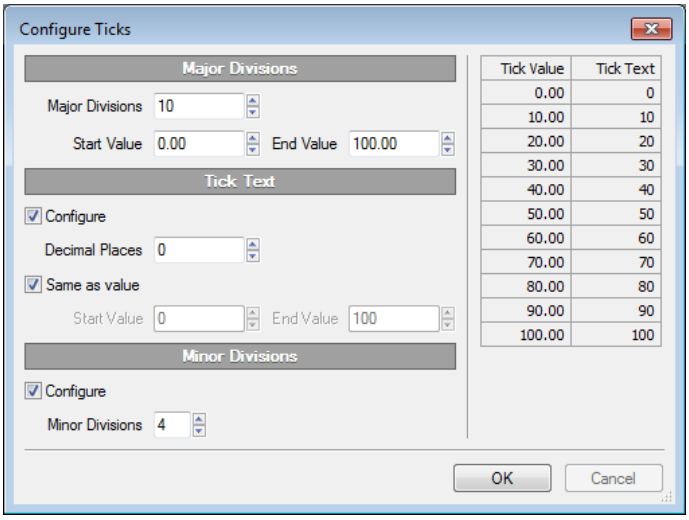
☛ *The **Configure Ticks** window displays the current configuration, but not any non-linear adjustments. It will always adjust the configuration to a linear progression based on the values and configuration selected.*

Major Divisions
Set the number of major divisions (does not include the initial position) and the start and end values. Ten would give 11 positions including the start.

Tick Text
The ticks can be same as the value or different.

Minor Divisions
Set whether minor divisions are required and the number of divisions between each major division.

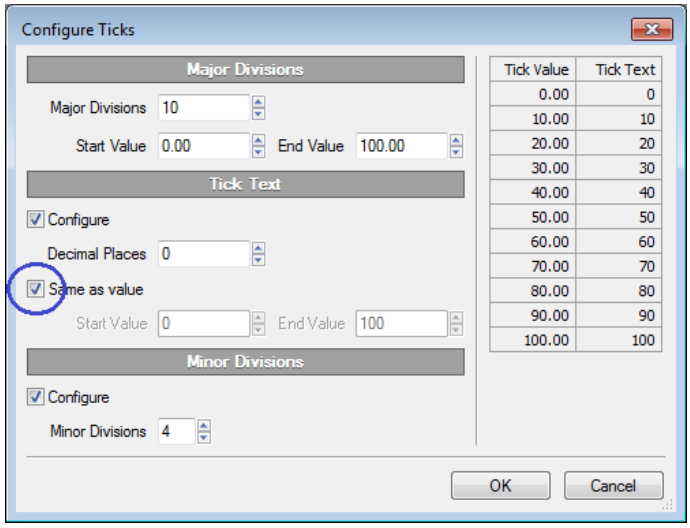


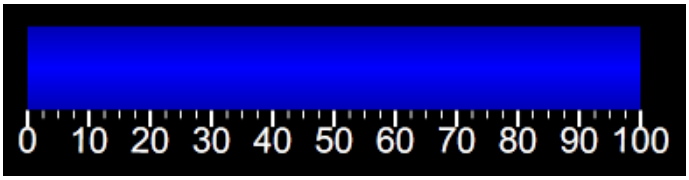


Create Representative Tick Mark Text

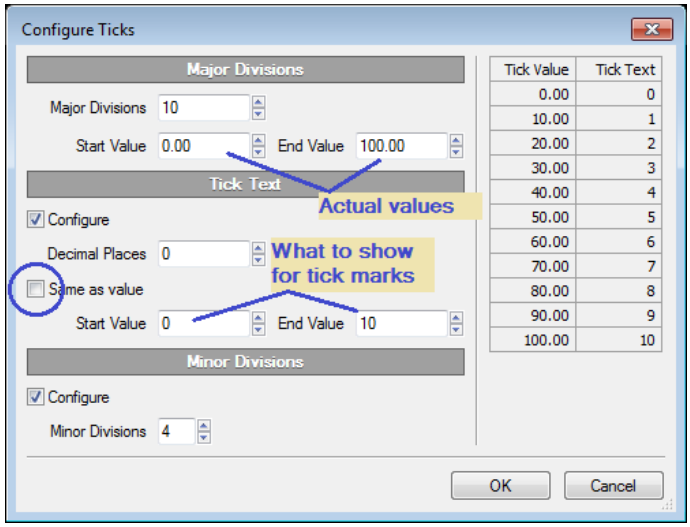
Sometimes the tick mark text is best shown as text that is representative of the actual value, such as on a tachometer (which is the displayed text x1000). The method for doing this is shown in the following example.

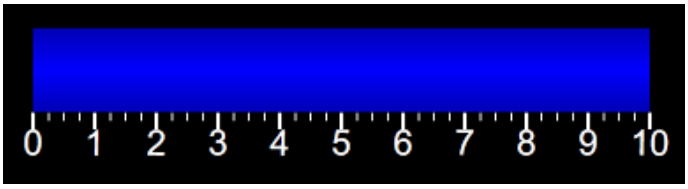
This configuration gives the result shown at right.





This configuration gives the result shown at right.



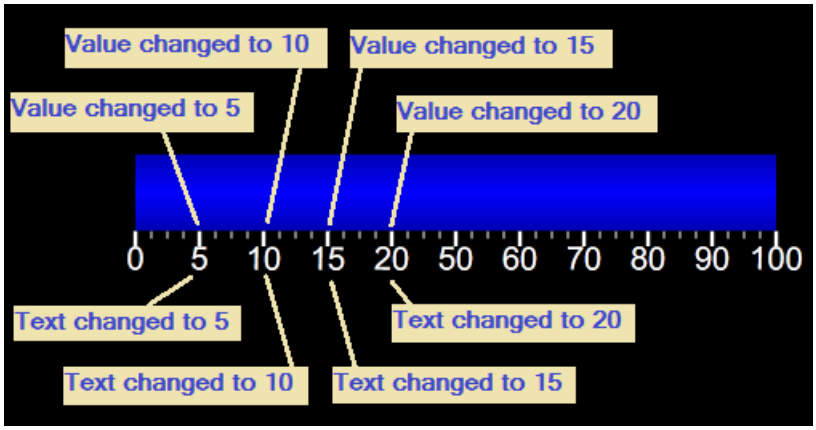


Creating a Non-Linear Progression

To create a non-linear progression, such as in the example below:

1. Create an appropriate linear horizontal bar graph.
2. For each required major division:
   (a) Select the tick mark.
   (b) In the ***Properties*** pane, change the **Value** to what is required.
   (c) Select the tick mark text.
   (d) In the ***Properties*** pane, change the **Text** to what is required.

For example:



☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Adding Sweeps

Sweep elements are bracketed sections of the bar graph that can be used as visual cues. In the example below, four sweeps are added with varying properties such as no fill, and various offset, Z-Order and width settings.

To include a sweep on a bar graph:

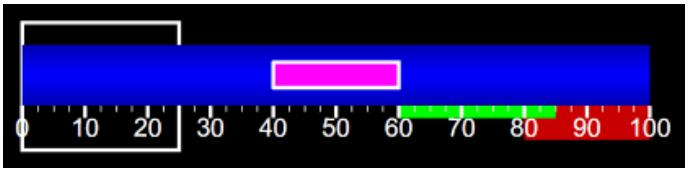
1. Select the bar graph.
2. From the right-click menu, select **Insert > New Sweep**.

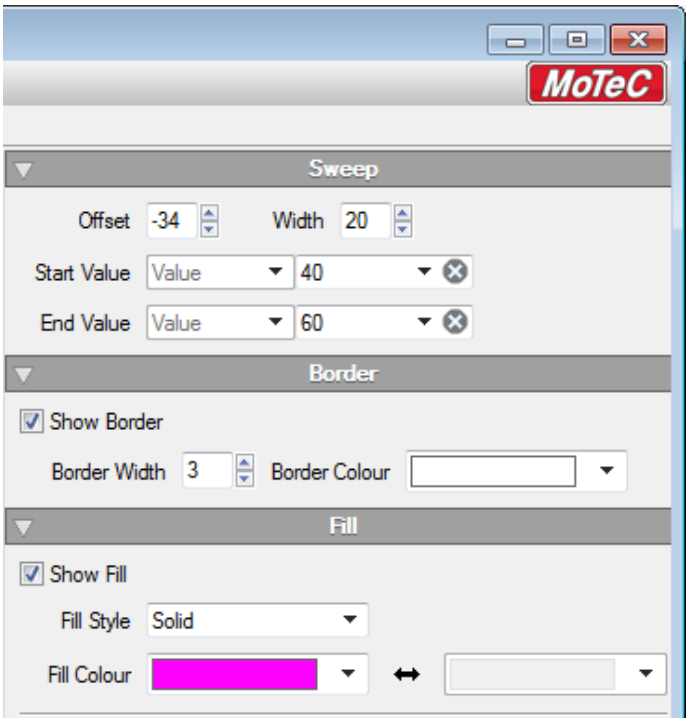
☛ *The sweep will not display on the bar graph unless a start and end value is entered.*

Sweep	
Offset	With positive offset changes, the sweep moves down relative to the bottom edge of the bar, with negative changes the sweep moves up relative to the bottom edge of the bar.
Width	As the width changes, the bottom border of the sweep either expands or retracts while the top border remains stationary.
Start Value	Where to begin the sweep.
End Value	Where to end the sweep.

Border
Use to set the border characteristics as required.

Fill
Use to set the border characteristics as required.





Vertical Bar Graph

A ***Vertical Bar Graph*** element graphically displays the value of the assigned channel as it varies. This element is ideal for purposes such as a temperature or pressure bar.

Note the following:

- Each graphical component of the bar graph (as shown in the elements tree), including tick marks and text values can be formatted and moved anywhere on (or off) the page.
- The bar graph bar is the component of the bar graph to which the input channel is assigned.
- Start and end values, major and minor divisions, and tick text, can all be configured.
- The bar graph can be setup in a non linear progression.
  For example: 0, 20, 30, 40, 45, 50, 55, 60, 65 etc.

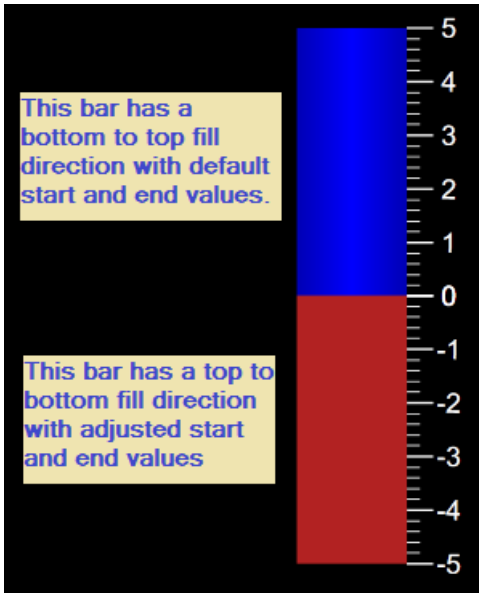
Linear and non-linear progressions

All progressions are initially linear, as defined in the ***Configure Ticks*** window (explained below). A non-linear progression, as mentioned above, can be defined after the linear bar graph is created. See Creating a Non-Linear Progression.

☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Adjusting direction of fill

The direction in which the bar fills can be selected from the properties pane (left to right or right to left). However, the start and end values need to be manually changed in the ***Configure Ticks*** window (explained below) to change the progression to fit the purpose. See the following example:



Configuring Ticks

When a bar graph is first created a ***Configure Ticks*** window displays, this can also be displayed later by selecting the **Configure Ticks** button on the ***Properties*** pane.

☛ *The **Configure Ticks** window displays the current configuration, but not any non-linear adjustments. It will always adjust the configuration to a linear progression based on the values and configuration selected.*

Major Divisions

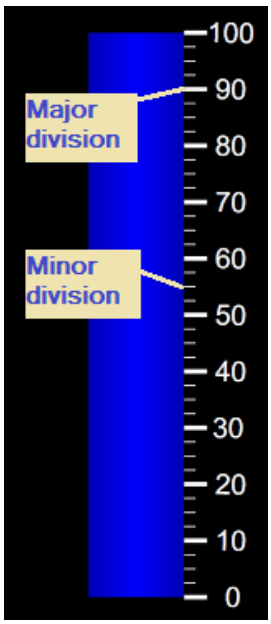
Set the number of major divisions (does not include the initial position) and the start and end values. Ten would give 11 positions including the start.

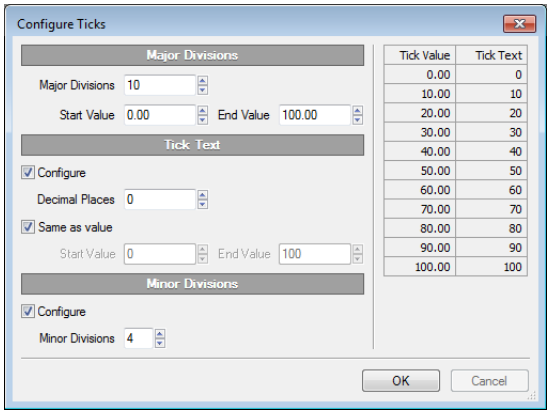
Tick Text

The ticks can be same as the value or different.

Minor Divisions

Set whether minor divisions are required and the number of divisions between each major division.

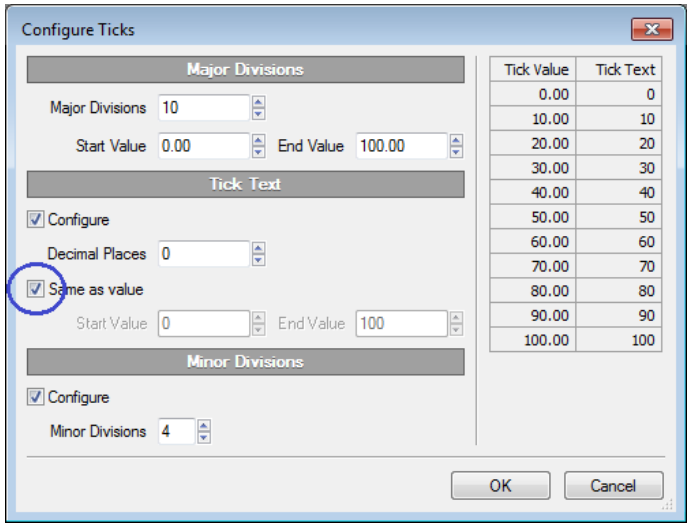


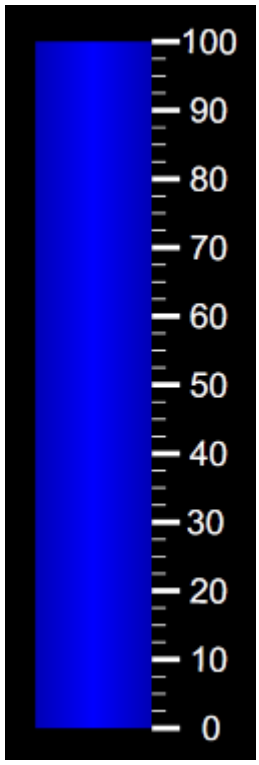


Create Representative Tick Mark Text

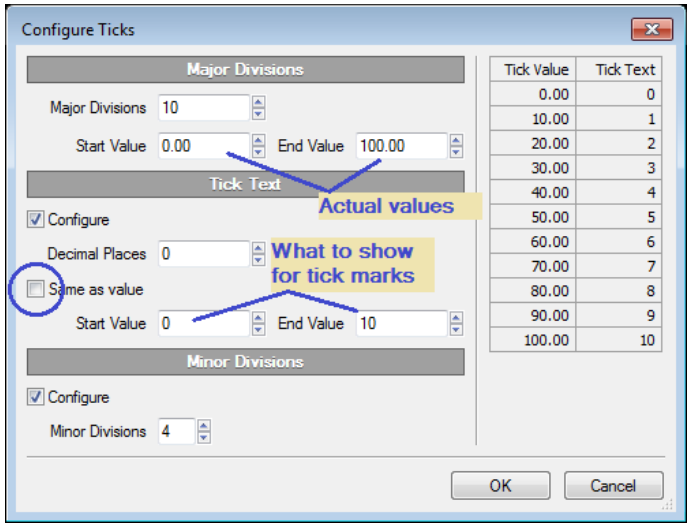
Sometimes the tick mark text is best shown as text that is representative of the actual value, such as on a tachometer (which is the displayed text x1000). The method for doing this is shown in the following example.

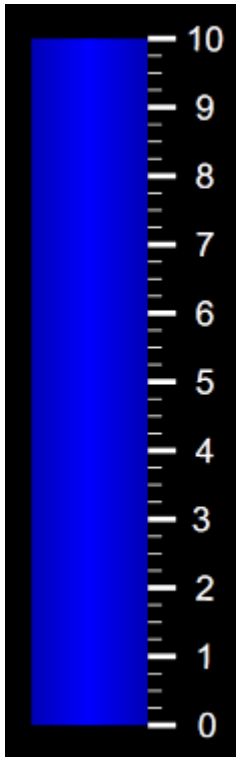
This configuration gives the result shown at right.





This configuration gives the result shown at right.



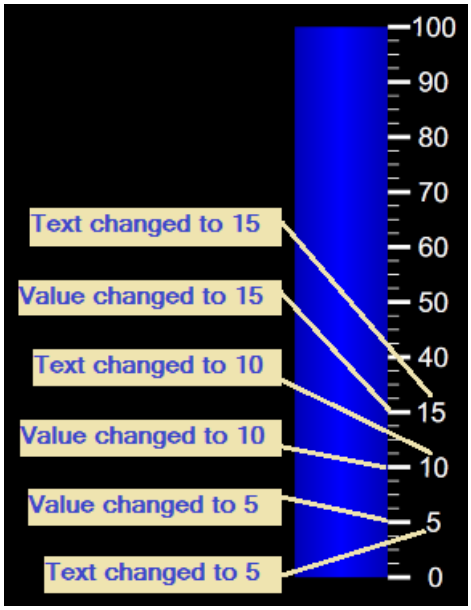


Creating a Non-Linear Progression

To create a non-linear progression, such as in the example below:

1. Create an appropriate linear horizontal bar graph.
2. For each required major division:
   (a) Select the tick mark.
   (b) In the ***Properties*** pane, change the **Value** to what is required.
   (c) Select the tick mark text.
   (d) In the ***Properties*** pane, change the **Text** to what is required.

For example



☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Adding Sweeps

Sweep elements are bracketed sections of the bar graph that can be used as visual cues. In the example below, four sweeps are added with varying properties such as no fill, and various offset, Z-Order and width settings.

To include a sweep on a bar graph:

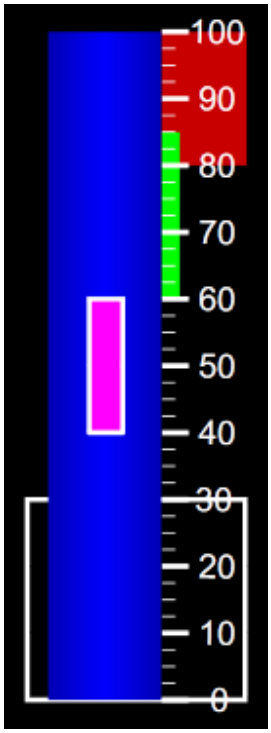
1. Select the bar graph.
2. From the right-click menu, select **Insert > New Sweep**.

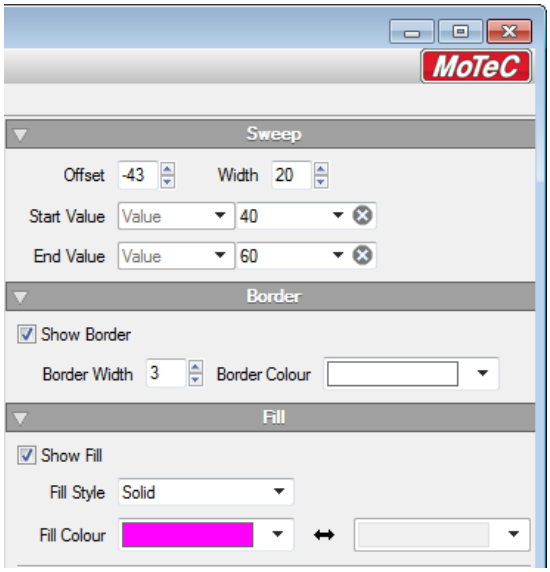
☛ *The sweep will not display on the bar graph unless a start and end value is entered.*

Sweep	
Offset	With positive offset changes, the sweep moves to the right relative to the right edge of the bar, with negative changes the sweep moves left relative to the right edge of the bar.
Width	As the width changes, the right border of the sweep either expands or retracts while the left border remains stationary.
Start Value	Where to begin the sweep.
End Value	Where to end the sweep.

Border
Use to set the border characteristics as required.

Fill
Use to set the border characteristics as required.





Dial

A ***Dial*** element graphically displays the value of the assigned channel as it varies.

Note the following:

- Each graphical component of the dial (as shown in the elements tree), including tick marks and text values can be formatted and moved anywhere on (or off) the page.
- The pointer is the component of the dial to which the input channel is assigned.
- Start and end values, start and end angles, major and minor divisions, and tick text, can all be configured.
- The dial can be setup in a non linear progression.
  For example: 0, 20, 30, 40, 45, 50, 55, 60, 65 etc.

Linear and non-linear progressions

All progressions are initially linear, as defined in the ***Configure Ticks*** window (explained below). A non-linear progression, as mentioned above, can be defined after the linear dial is created. See Creating a Non-Linear Progression.

☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Configuring Ticks

When a dial is first created a ***Configure Ticks*** window displays, this can also be displayed later by selecting the **Configure Ticks** button on the ***Properties*** pane.

☛ *The **Configure Ticks** window displays the current configuration, but not any non-linear adjustments. It will always adjust the configuration to a linear progression based on the values and configuration selected.*

Dial Face

Sets the start and end of the dial relative to the zero angle position.

Major Divisions

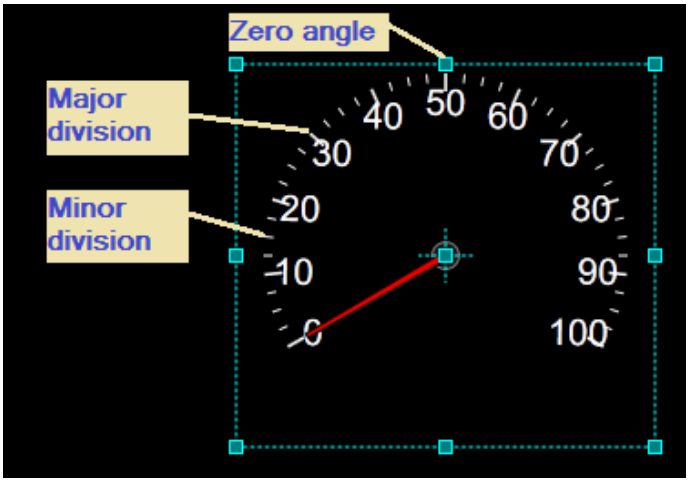
Set the number of major divisions (does not include the initial position) and the start and end values. Ten would give 11 positions including the start.

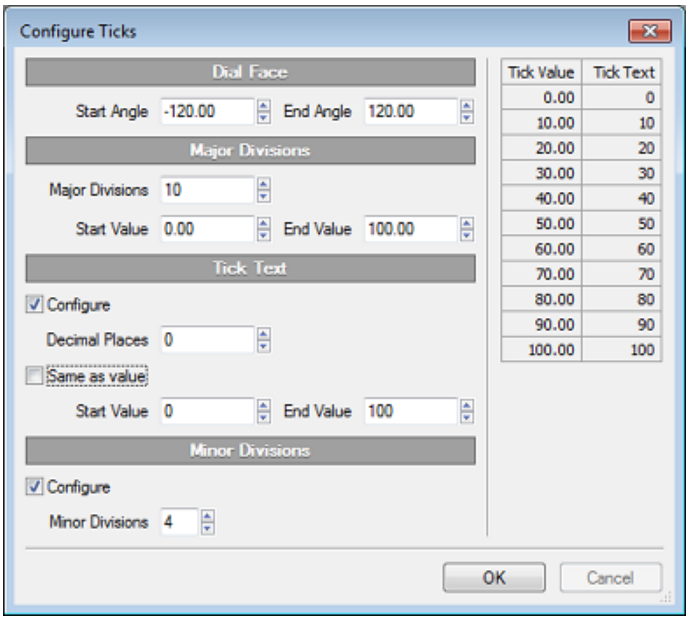
Tick Text

The ticks can be same as the value or different.

Minor Divisions

Set whether minor divisions are required and the number of divisions between each major division.

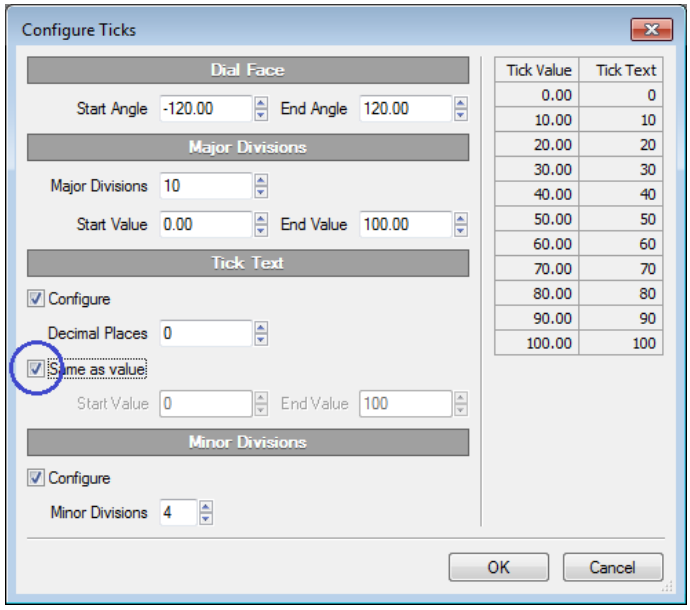


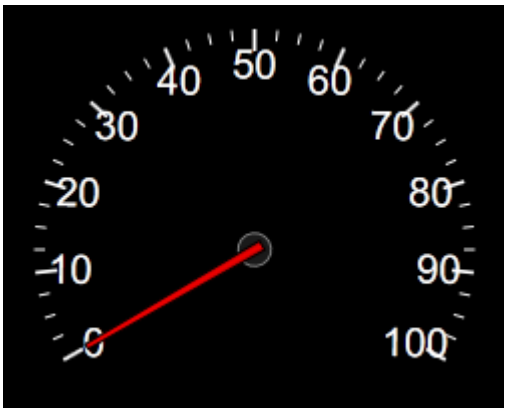


Create Representative Tick Mark Text

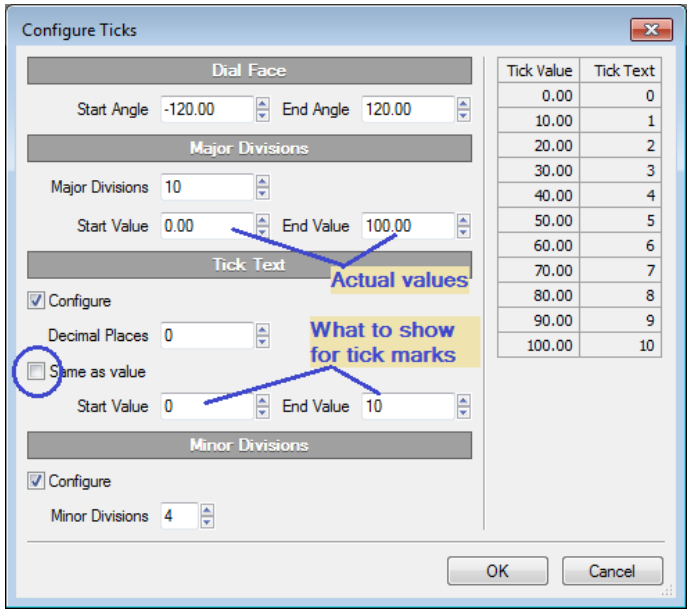
Sometimes the tick mark text is best shown as text that is representative of the actual value, such as on a tachometer (which is the displayed text x1000). The method for doing this is shown in the following example.

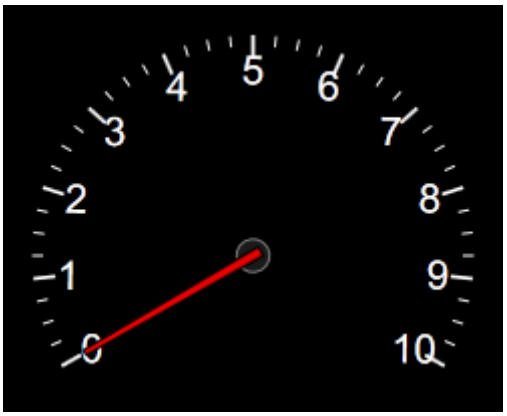
This configuration gives the result shown at right.





This configuration gives the result shown at right.



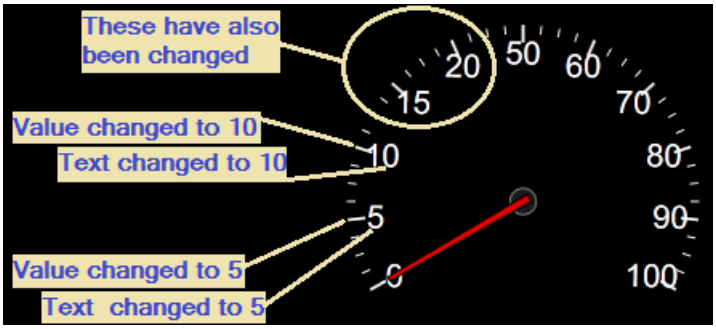


Creating a Non-Linear Progression

To create a non-linear progression, such as in the example below:

1. Create an appropriate linear dial.
2. For each required major division:
   (a) Select the tick mark.
   (b) In the ***Properties*** pane, change the **Value** to what is required.
   (c) Select the tick mark text.
   (d) In the ***Properties*** pane, change the **Text** to what is required.

For example:



☛ *The **Configure Ticks** window only defines linear progressions. If it is used after non-linear adjustments are made, it will revert the progression to linear, and the non-linear adjustments will be lost.*

Adding Sweeps

Sweep elements are bracketed sections of the dial that can be used as visual cues. In the example below, three sweeps are added with varying properties such as no fill, and various radius and width settings.

To include a sweep on a dial:

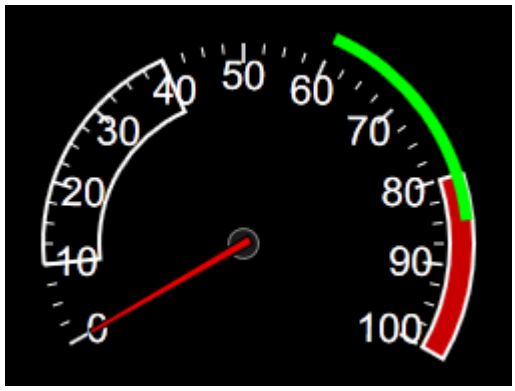
1. Select the dial.
2. From the right-click menu, select **Insert > New Sweep**.

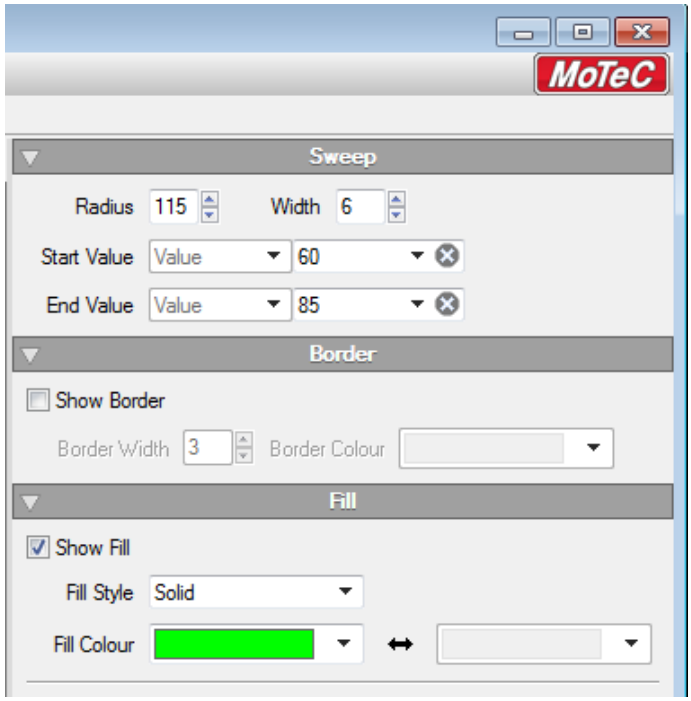
☛ *The sweep will not display on the dial unless a start and end value is entered.*

Sweep	
Radius	As the radius changes, it moves the whole element to, or away from the centre.
Width	As the width changes, the inner border either expands to, or retracts from the centre.
Start Value	Where to begin the sweep.
End Value	Where to end the sweep.

Border
Use to set the border characteristics as required.

Fill
Use to set the border characteristics as required.





Switch

A ***Switch*** element controls the contents of an area of the page that is bounded by the ***Switch***.

The ***Switch*** element can contain any element except for another ***Switch*** or an ***Alarm Display***. Each element in the ***Switch*** occupies the complete area of the ***Switch***.

Elements can only be added to a ***Switch*** by selecting it, and using the right-click menu, or by selecting **Add** in the ***Switch Navigation*** pane on the left.

Any number of elements can be included in a ***Switch***, but each element must have an assigned condition. When running on the device, the ***Switch*** will display only one of those elements. The element displayed is the first in the list for which the condition evaluates to true. If no conditions evaluate as true, no element is displayed.

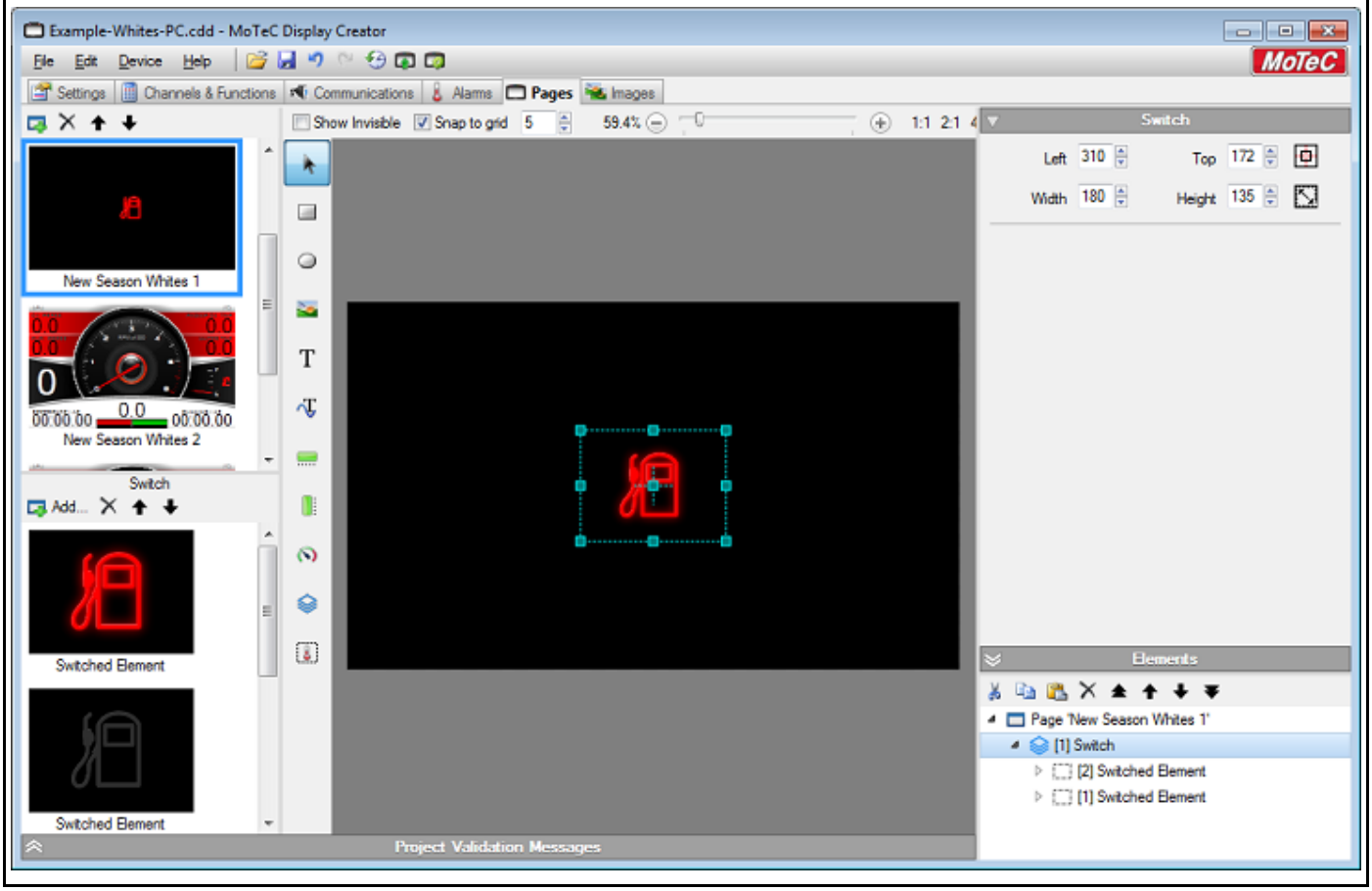
Switch properties	
Left	Space between the left margin of the page and the left border of the element in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Width	Horizontal width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Height	Vertical height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the page.
Fit	Centres the element and then extends the borders to the edges of the page.

Example of a Switch

This is an example of a fuel indicator switch that will display one of two icons based on the fuel level.

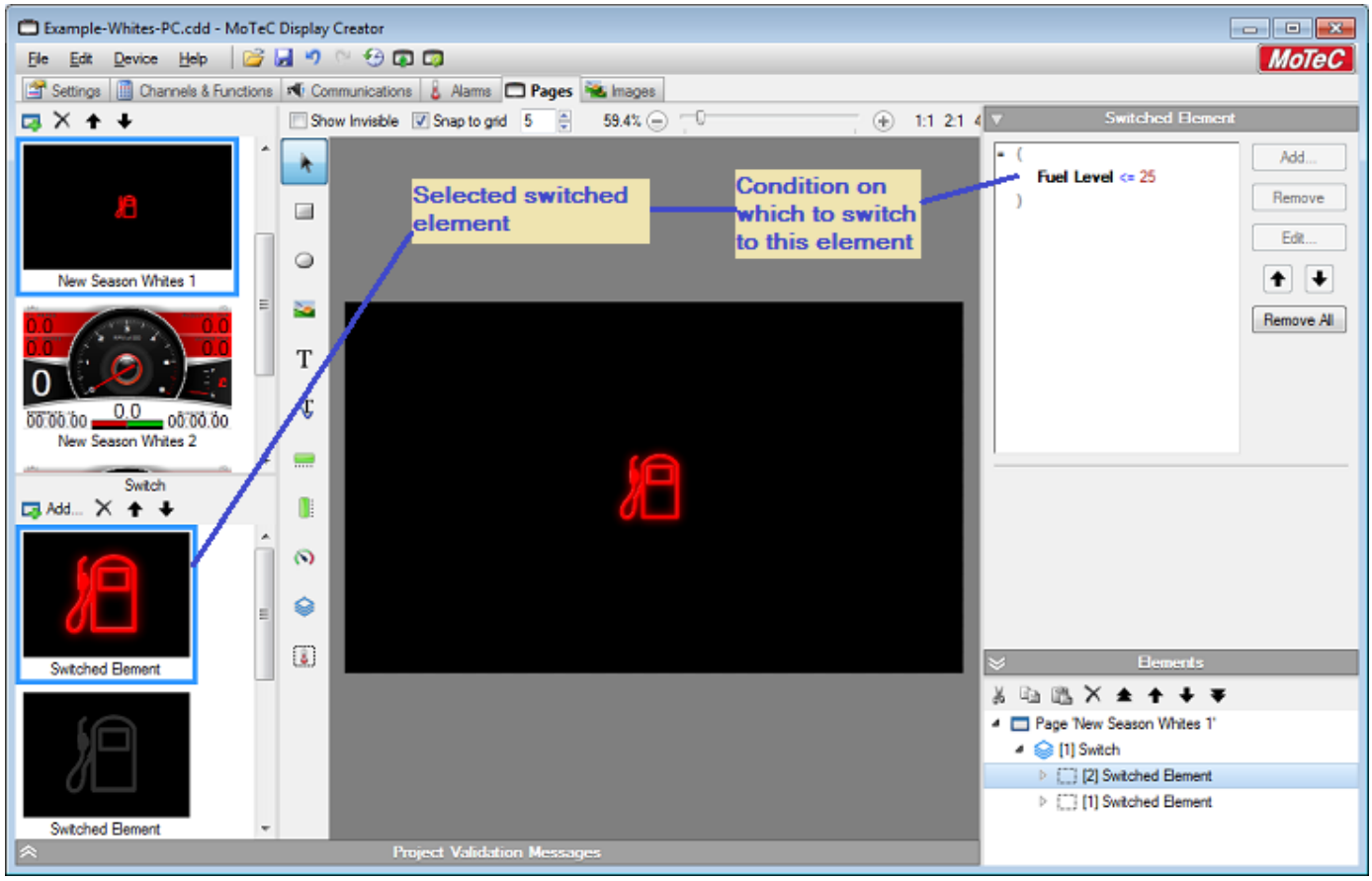
With the Switch selected

Two image elements are included in the ***Switch*** (as shown in the Switch list and Elements Tree), one of which is a low fuel image.



With the low fuel image element selected

The condition of this element becomes true if the channel **Fluid Level** is <= 25, as seen in the Switch Element pane.



Alarm Displays

An ***Alarm Display*** element is a parent or group element. Its child elements are used to display the alarm information (alarms are defined on the ***Alarm*** tab) when they become active. See Alarms Tab.

More than one ***Alarm Display*** element can be included on the ***Overlay Page*** and on any other page, see Pages Tab. This allows flexibility in the presentation of different alarms.

An ***Alarm Display*** element can have any number of the alarms from the ***Alarm*** tab associated with it. This allows the same area on the display to be used for multiple alarms.

To setup:

1. Place an ***Alarm Display*** element on the page.
2. Select the ***Alarm Display*** and use the right-click menu to insert the alarm (child) elements.

   ☛ *Only alarm elements from the **Alarm Display** right-click menu will be associated with the **Alarm Display**.*

The following applies for each ***Alarm Display*** element:

- At least one alarm should be assigned
- Inserting elements into the ***Alarm Display*** element can only be done by selecting it and using the right-click menu. Consider the following:
  - At least one of either ***Alarm Icon***, ***Alarm Message*** or ***Alarm Channel Value*** elements should be inserted. See Alarm Elements
  - For graphical and informational purposes; ***Rectangle***, ***Ellipse*** and static ***Text*** elements can also be inserted as, or if required.
- Can contain as many ***Alarm icon***, ***Alarm Message*** and ***Alarm Channel Value*** elements as wanted. However, the same alarm information is displayed in each.

  ☛ *To display information from two or more different alarms at the same time, create a separate **Alarm Display** element for each alarm and assign the appropriate alarm to each.*

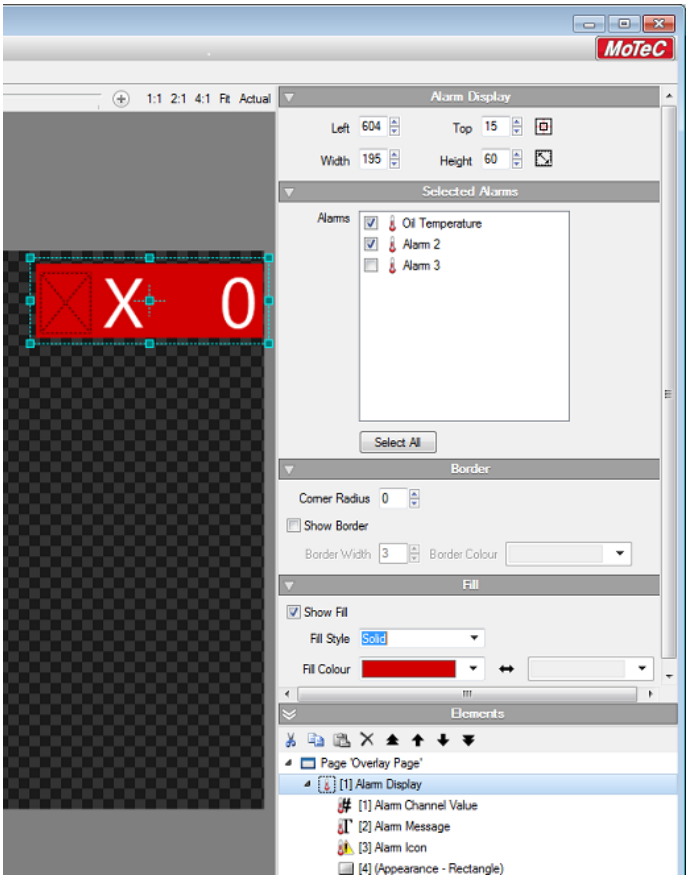
- Any elements inserted into an ***Alarm Display*** element can be placed anywhere on the page, not necessarily just within the bounds of the ***Alarm Display*** element. Regardless of their location, all included elements move in relation to the ***Alarm Display*** element as it is moved.
- The appearance (background) is essentially a rectangle that cannot be deleted. It can however have its fill hidden (making it transparent), or the fill colour opacity adjusted to suit.

Alarm Display	
Left	Space between the left margin of the page and the left border of the element display in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Width	Horizontal width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Height	Vertical height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the page.
Fit	Centres the element and then fits the borders to the edges of the page.

Selected Alarms
Use to select the alarms to display in the element.

Border
Use to set the border properties of the appearance (rectangle).

Fill
Use to set the fill properties of the appearance (rectangle). Opacity can be set from the Fill Colour drop-down.



Alarm Elements

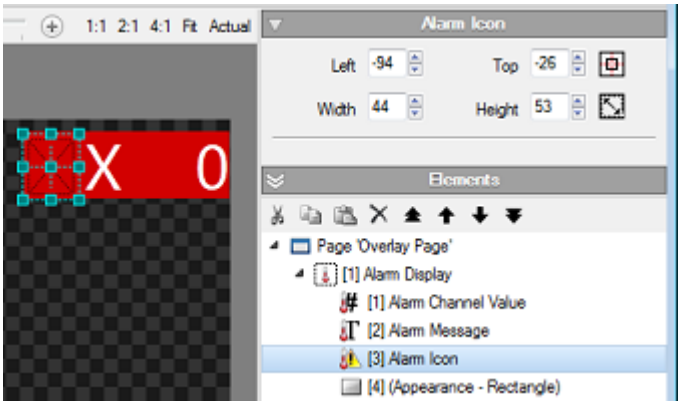
The ***Alarm Icon***, ***Alarm Message*** and ***Alarm Channel Value*** elements are inserted as required into an ***Alarm Display*** element and are the means by which alarm information is displayed when an alarm becomes active

For graphical and informational purposes; ***Rectangle***, ***Ellipse*** and static ***Text*** elements can also be inserted.

Alarm Icon Element

The ***Alarm Icon*** element is a child of the ***Alarm Display*** element.

Alarm Icon	
Left	Space between the left margin of the page and the left border of the element in pixels.
Top	Space between the top margin of the page and the top border of the element in pixels.
Width	Width of the element in pixels. Change in dimension occurs at the right border, left border position remains static.
Height	Height of the element in pixels. Change in dimension occurs at the bottom border, top border position remains static.
Centre	Centres the element on the ***Alarm Display***.
Fit	Centres the element and then fits the borders to the edges of the ***Alarm Display***.

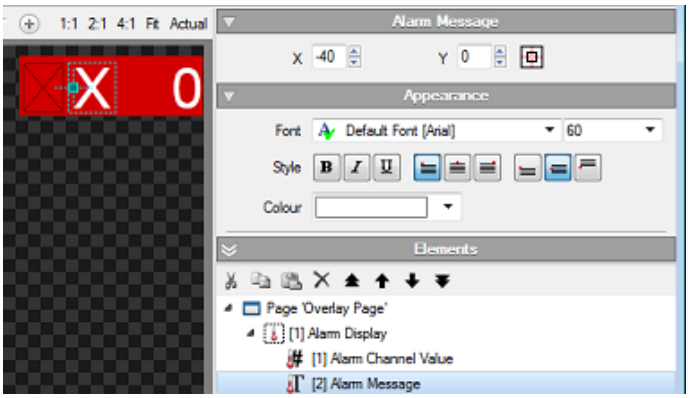


Alarm Message Element

The ***Alarm Message*** element is a child of the ***Alarm Display*** element.

Alarm Message	
X	Space between the left margin of the ***Alarm Display*** and the origin point (see Element Origin Points) of the element in pixels.
Y	Space between the top margin of the ***Alarm Display*** and the origin point of the element in pixels.
Centre	Places the origin point of the element at the centre of the ***Alarm Display***.

Appearance
Properties to set font type, size, style and colour characteristics. The  icons are used to move the text relative to the origin point. The dot represents the origin point and the lines the relative position of the text. The first three govern the horizontal position and the last three govern the vertical position of the text. See Element Origin Points.



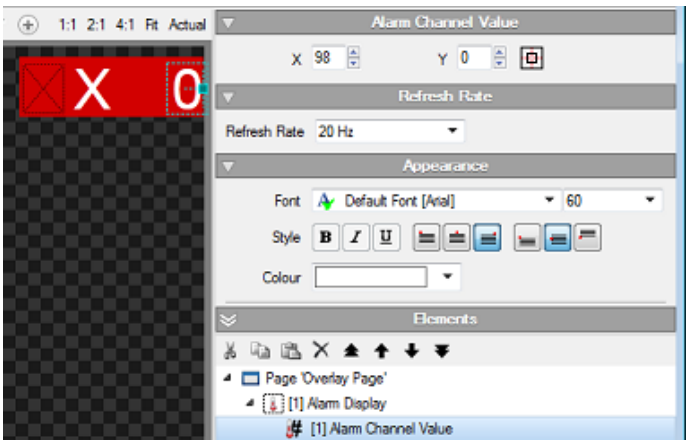
Alarm Channel Value Element

The ***Alarm Channel Value*** element is a child of the ***Alarm Display*** element.

Alarm Channel Value	
X	Space between the left margin of the ***Alarm Display*** and the origin point (see Element Origin Points) of the element in pixels.
Y	Space between the top margin of the ***Alarm Display*** and the origin point of the element in pixels.
Centre	Places the origin point of the element at the centre of the ***Alarm Display***.

Refresh Rate
Used to specify how frequently the value is refreshed.

Appearance
Properties to set font type, size, style and colour characteristics. The icons are used to move the text relative to the origin point. The dot represents the origin point and the lines the relative position of the text. The first three govern the horizontal position and the last three govern the vertical position of the text. See Element Origin Points.



Importing a DBC file

A DBC file is created in Dash Manager when a Dash/Logger configuration is saved.

The DBC file is used to import Dash Manager messages, signals and alarms to Display Creator, and eliminates the need to manually setup these in Display Creator.

The import facilitates:

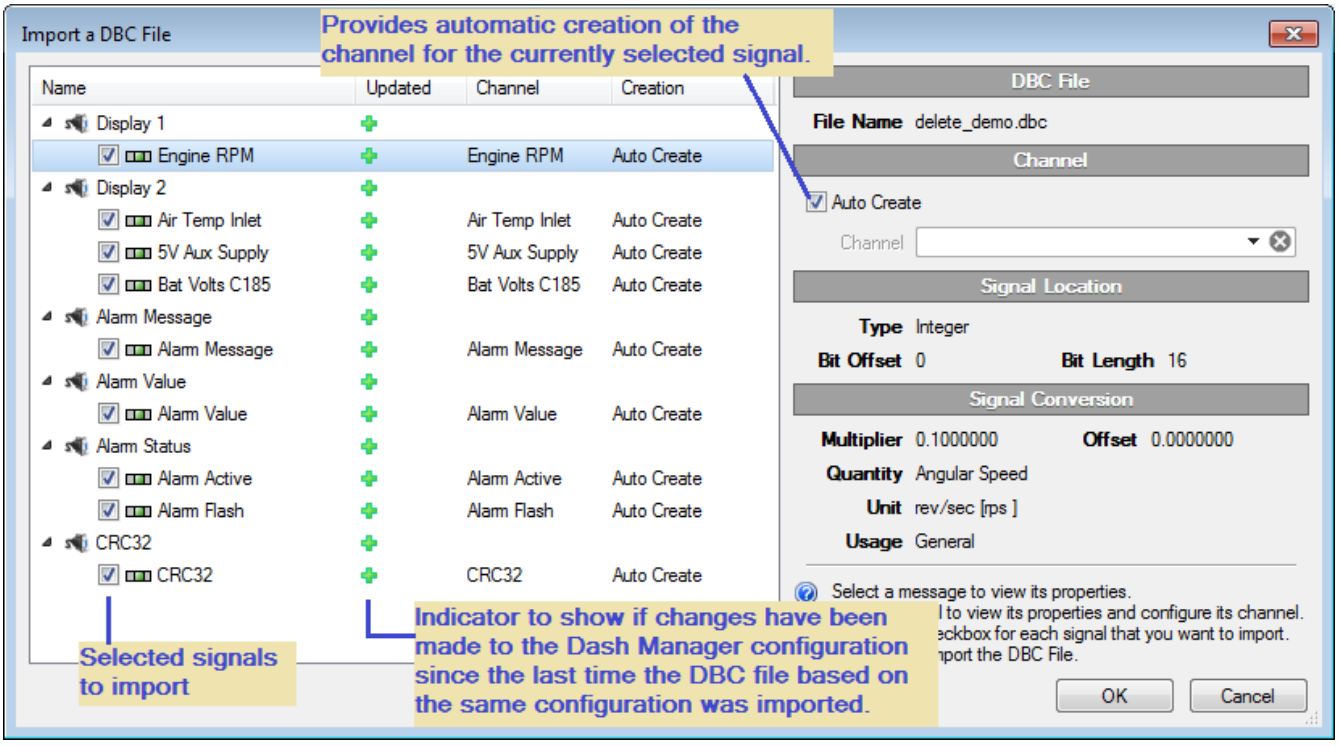
- Automatic setup of messages, signals and channels in Display Creator.
- A comparison and update mechanism to highlight and selectively update differences between an updated Dash Manager configuration and Display Creator.
- Import and setup of Dash Manager alarms in Display Creator.

Initial Import of a DBC File

This topic covers the initial import of a DBC file. See Subsequent Imports of a DBC File for imports after the first and Updating a DBC File Import to use the update function that highlights and updates differences between an updated Dash Manager configuration and Display Creator.

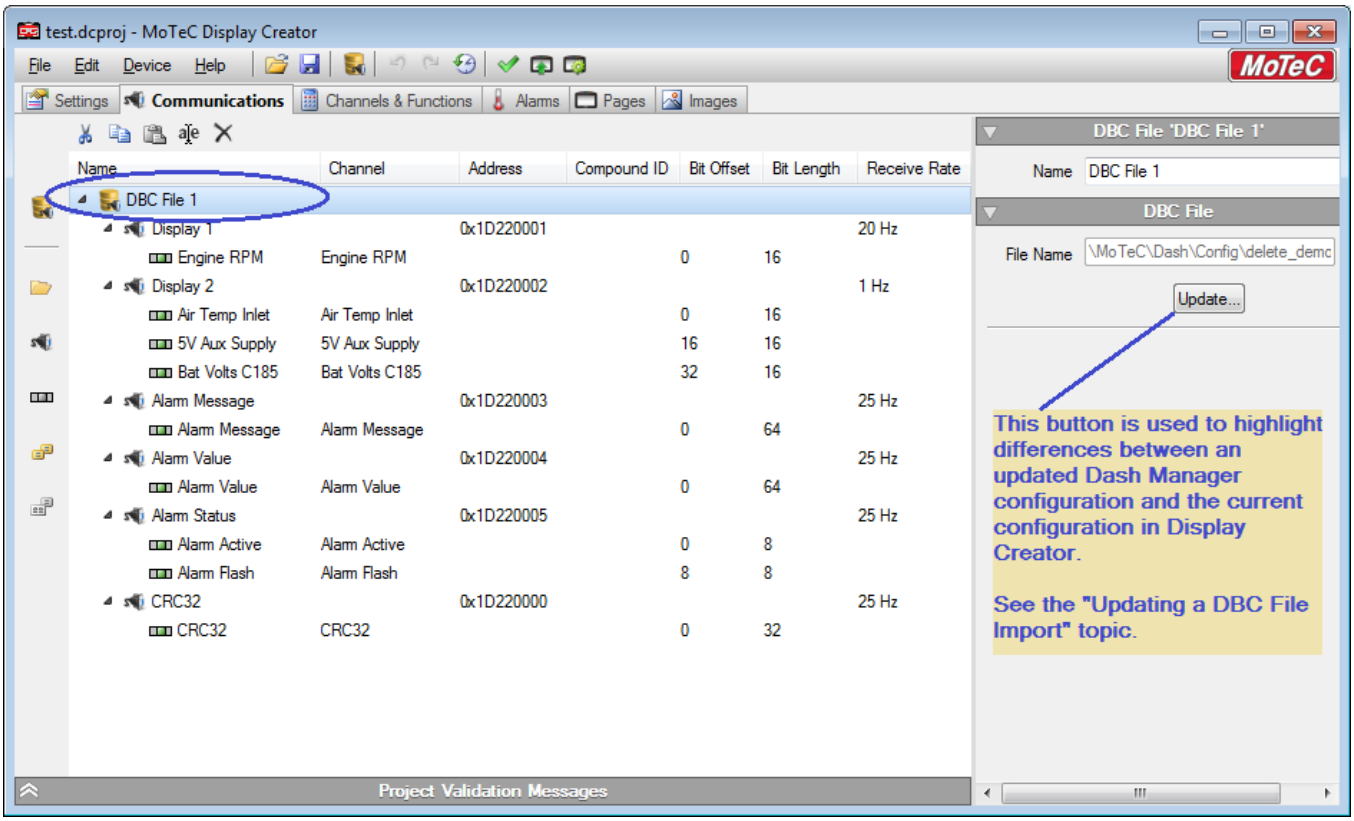
To import the DBC file:

1. Select **File > Import DBC File...** or the Import DBC File... icon and open the DBC file.
   The ***Import a DBC File*** window displays.
   By default, all signals are selected for import, and channel creation set to occur automatically.
2. Make selections on signals required and whether to automatically create the related channel.
   See the following example of an ***Import a DBC File*** window.
   If a signal is required and the **Auto Create** for the channel is not selected, the channel must be created manually in the ***Channel & Functions*** tab, and assignment of the channel to the signal made manually in the ***Communications*** tab.



On completion of the import, the ***Communications*** and ***Channel & Functions*** tab are populated with the selections made.

☛ *In the **Communications** tab, a folder is created that contains the imported communications configuration. It is given a default name, such as **DBC File 1**, as shown in the example below. This can be changed in the **Properties** pane. Any subsequent imports are given their own folder.*

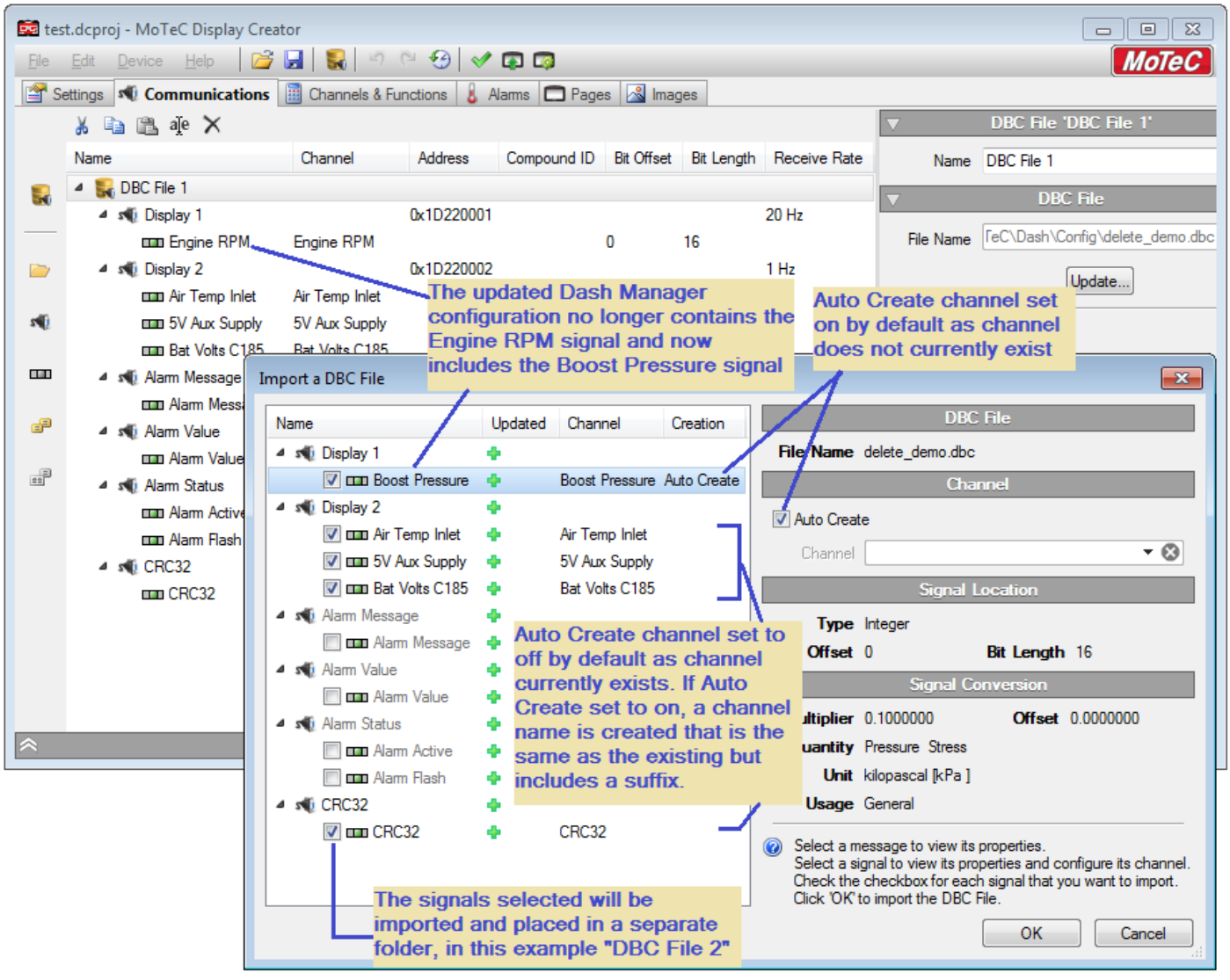


Subsequent Imports of a DBC File

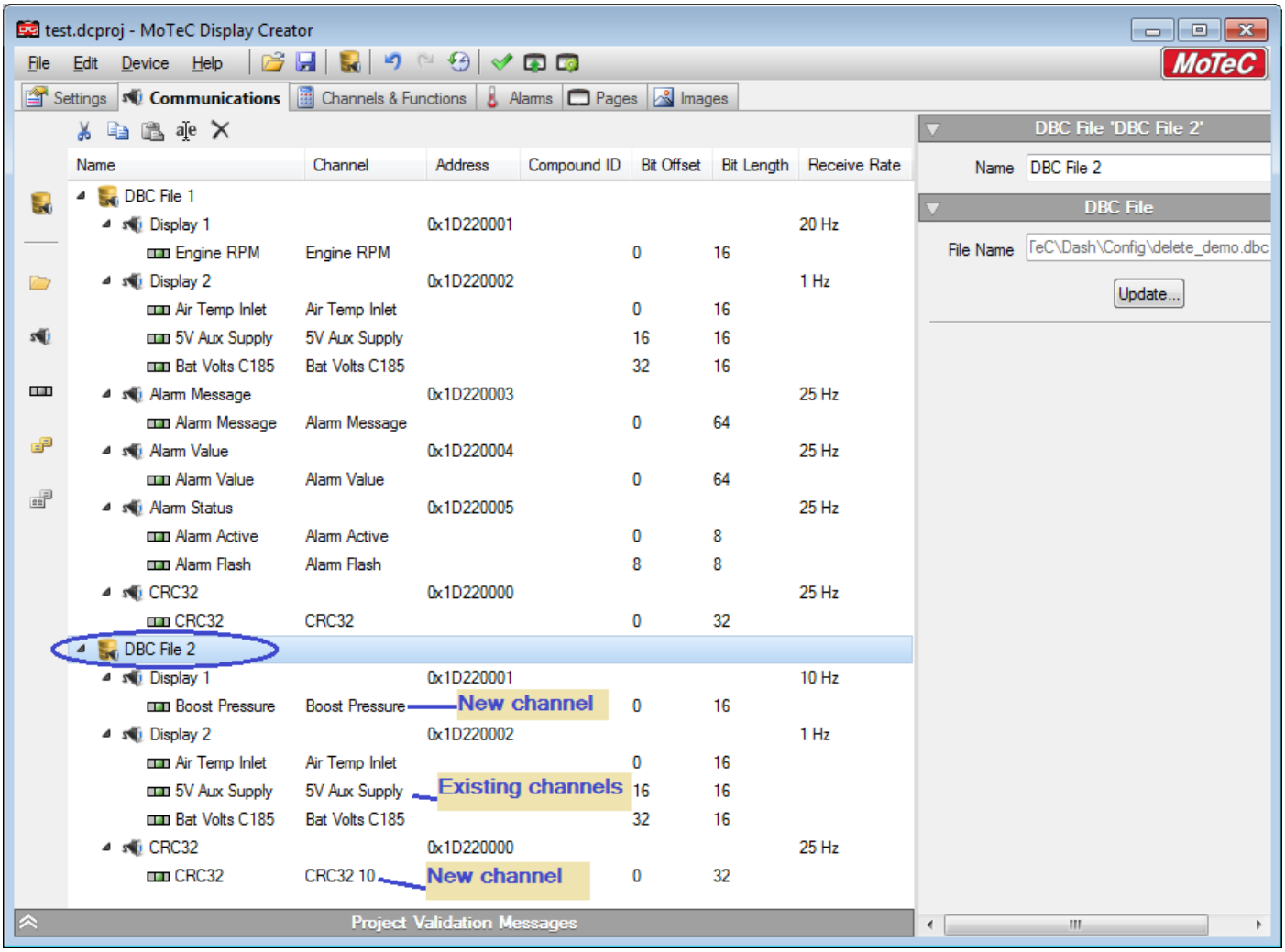
Become familiar with the initial import of a DBC file before reading about a subsequent import, see Initial Import of a DBC File.

☛ *Importing will import all signals and associated messages selected and will place them in a separate folder. Depending on what the user may want to achieve, using the compare and update function may be more appropriate, see Updating a DBC File Import.*

Below is an example of an ***Import a DBC File*** window when importing an updated DBC file. Following this diagram is an image of how the ***Communication*** tab would appear if the import was to go ahead.



Communications tab after import



Updating a DBC File Import

Once a DBC file has been imported it is possible to do a compare between an updated Dash Manager configuration and the Display Creator configuration.

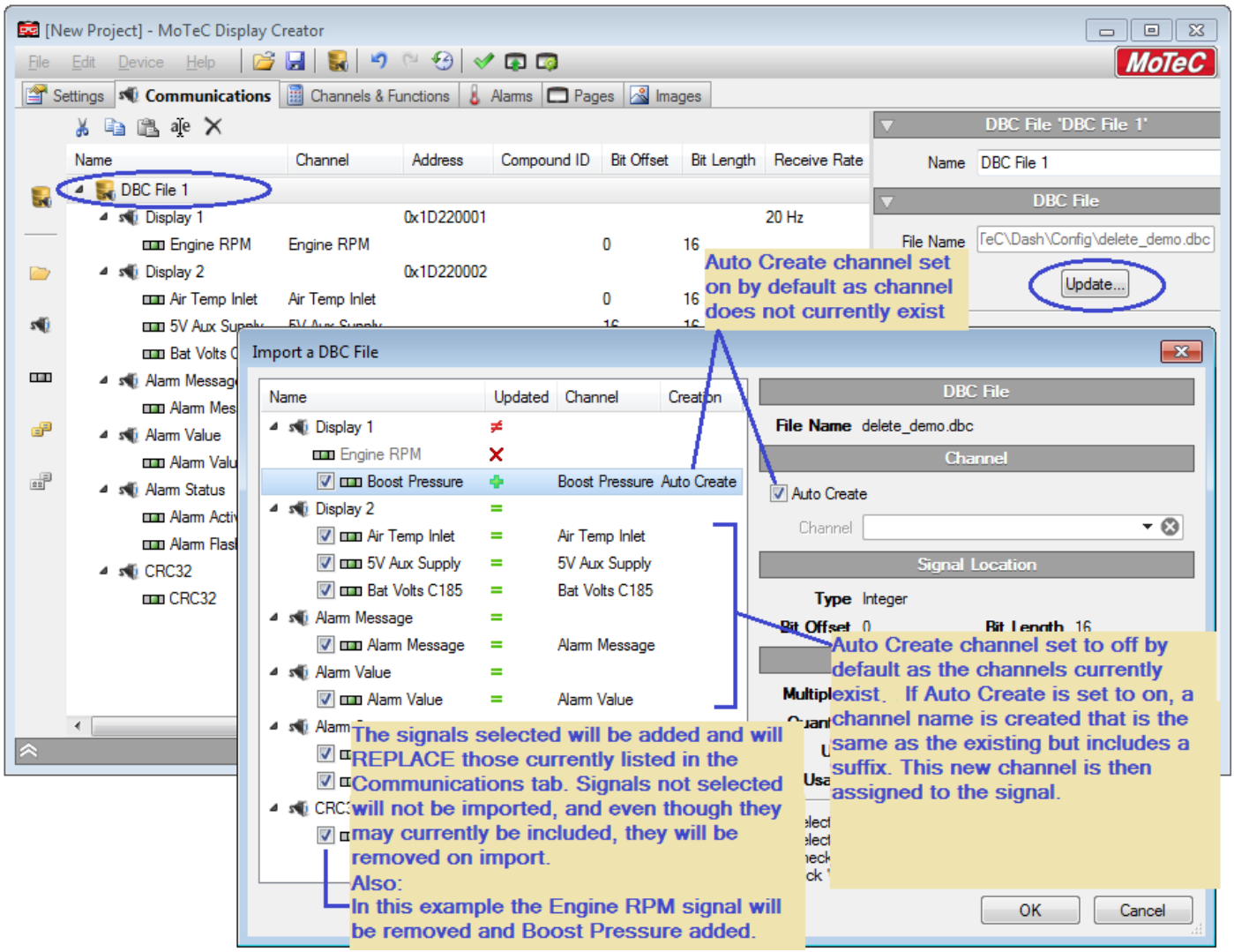
The icons used to indicate differences are shown in the following table.

Icon	Meaning
≠	The message is not the same, it contains any number of differences to signals.
✕	The signal exists in Display Creator but has been removed from the Dash Manager configuration. On accepting the update, any such signals will be removed from the Display Creator configuration.
✚	The signal does not exist in Display Creator and can be added.
=	The Dash Manager and Display Creator configurations are the same.

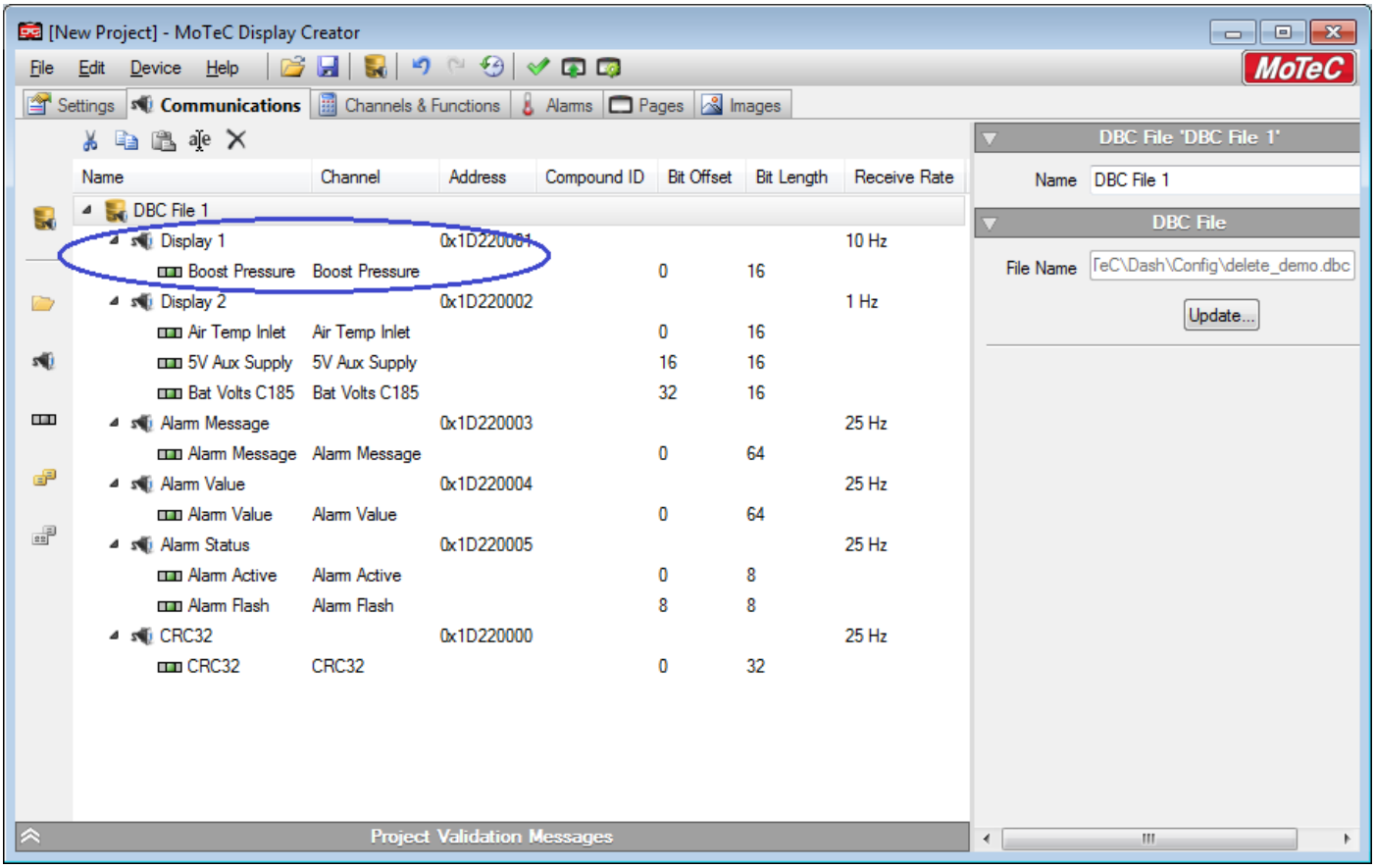
In the example below, the following scenario takes place:

1. An initial import is done.
2. Changes are made to the Dash Manager configuration that results in a modified DMC file.
3. From the ***Communications*** tab in Display Creator, the DBC file and **Update** button are selected.
4. The ***Import a DBC File*** window displays showing the differences between the Dash Manager and Display Creator configurations.
5. Selections are made and the DBC file is imported.

☛ *The Display Creator DBC file is totally **replaced** with the selections made. That is, if a signal that was previously included is not selected, it will not be included in the new Display Creator configuration.*



Communications tab after update



Imported DBC File Alarms

When a Dash Manger configuration is imported, alarm signals can be selected for inclusion, with corresponding channels automatically set up.

☛ *The import automatically creates a single alarm in Display Creator on the **Alarms** tab that is shared by all the alarms that were defined in Dash Manager. This alarm is automatically assigned to the **Alarm Display** element on the **Overlay Page**.*

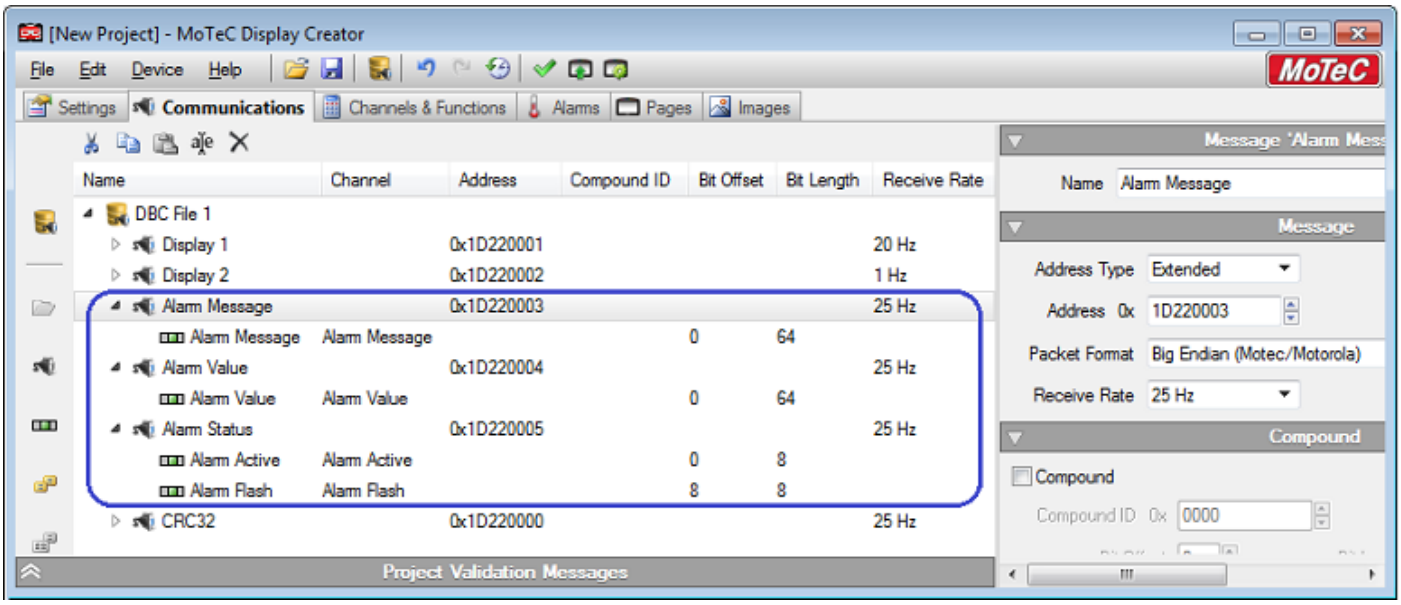
The default behaviour when **any of the alarms defined in Dash Manager** become active is to display the alarm data in the ***Alarm Display*** element on the ***Overlay Page***. If multiple Dash Manager alarms are active at the same time, the alarm with the highest priority displays.

Alarm functionality is not impacted by an imported alarm:

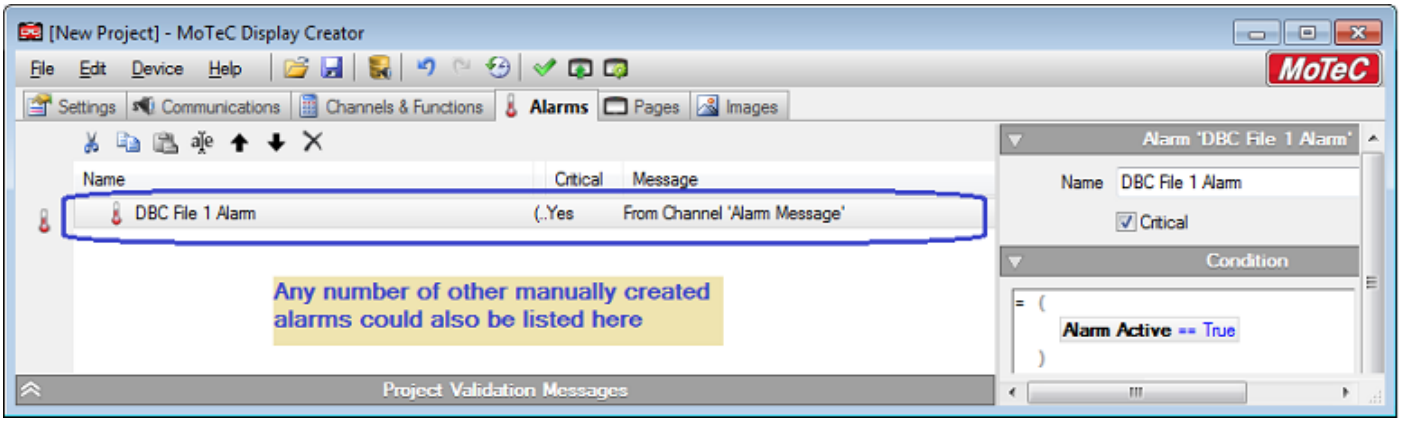
- The imported alarm behaves and is managed in Display Creator just as any other alarm (apart from the fact that this one alarm caters for multiple alarms from the Dash Manager configuration).
- The imported alarm can be selected for inclusion in any ***Alarm Display*** element on any page.
- The imported alarm can be deselected from any ***Alarm Display*** element on any page, including the ***Overlay Page***.
- Imported alarm properties such as name, icon and flash rate, etc. can be edited as required.
- Manually created alarms operate with no change and can be created and set up as required.
- Manually created alarms can continue to be selected for inclusion on the ***Alarm Display*** element on the ***Overlay Page***. If the imported alarm and a manual alarm become active at the same time, the alarm with the highest priority on the ***Alarms*** tab displays.

Example scenario

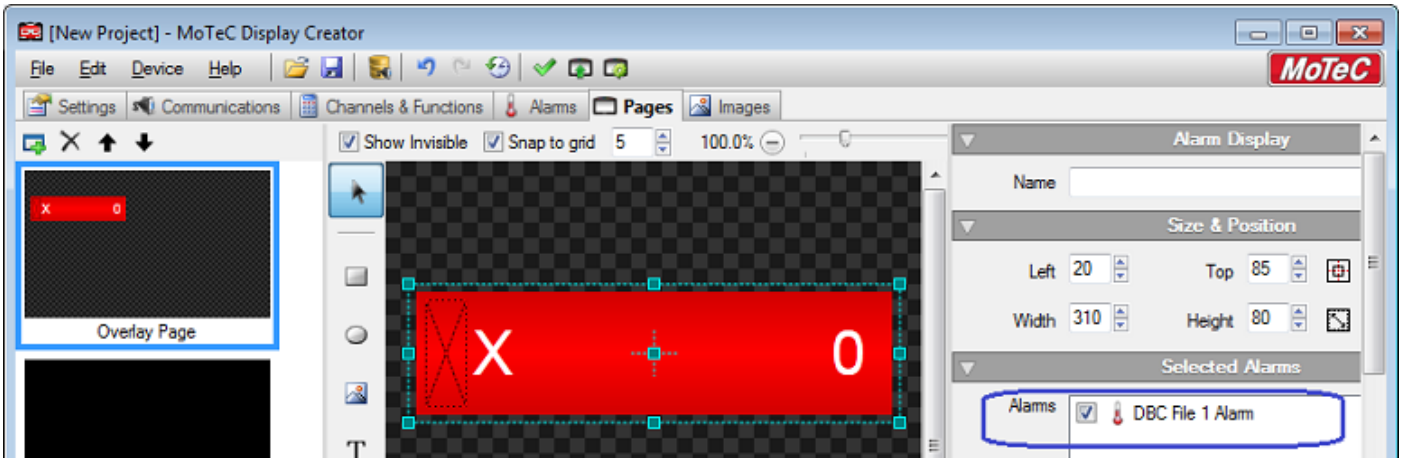
Alarm Message, Alarm Value, Alarm Active and Alarm Flash channels are created, each of which use the corresponding signal.



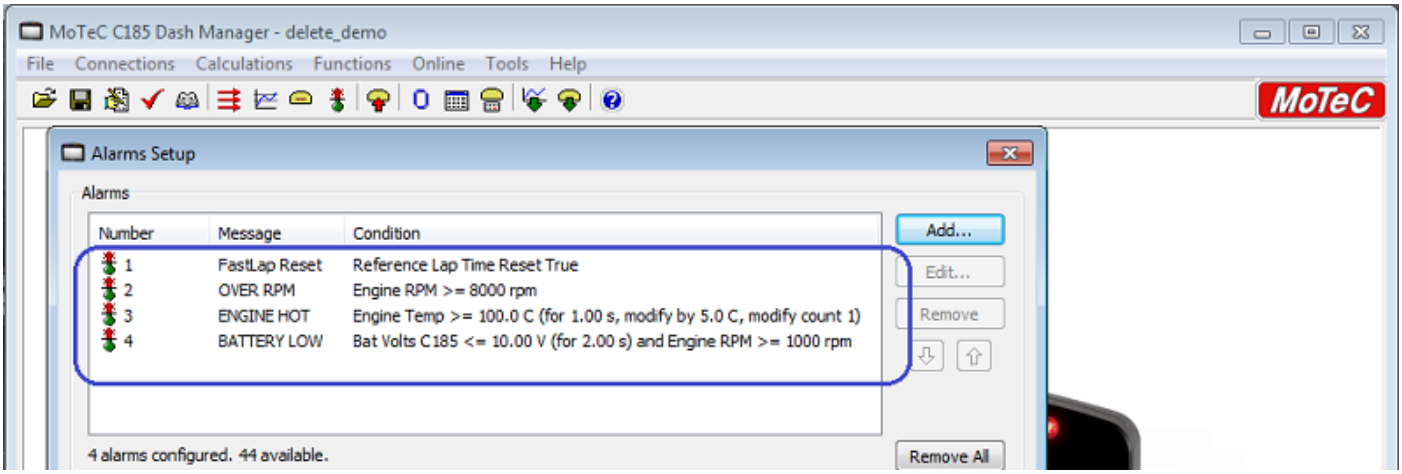
The imported alarm is automatically created on the ***Alarms*** tab.



The imported alarm is automatically selected to display in the ***Alarm Display*** element on the ***Overlay Page***.



All the alarms defined in Dash Manager (shown below) will use the same imported alarm as shown in the previous images.



Project Validation

A display configuration cannot be sent to the device if it is not valid, for this reason, check the validation before sending.

Use the **Device > Validate Project...** menu to validate the project configuration.

If the validation fails, the issues that caused failure are listed in the ***Project Validation Messages*** pane. Resolve the issues and try again.

Configure Device

Use **Device > Configure Device...** menu or the  **Configure Device** button. A list of possible devices displays; select the appropriate device to send the configuration to, and select the **Send** button.

- *Sending a configuration will automatically save the project.*
- *A display configuration cannot be sent if it is not valid. If an attempt is made to send the configuration and it fails due to validation problems, the issues that caused the failure are listed in the **Project Validation Messages** pane. Resolve the issues and try again.*

Troubleshooting

Channel values are not displaying on the display

"C Series" products require an enable to receive files created in Display Creator. If you have accidentally sent a file to the display without the enable you will need to do the following in Dash Manager.

1. Select the **Online > Update Device Firmware** menu option.
2. Select the **Online > Dash Options (Upgrades)** menu option to purchase the enable.

The display area is not centred

The display area can end up being offset to the right if the operating system font size is set to greater than 100%. To fix this:

1. Right-click on the operating system desktop and choose **Screen Resolution** from the pop-up menu.
2. In the Display Set-up, choose **Make text and other items larger or smaller**.
3. On the resultant screen, make sure that the assigned text size is set to 100%.

Multi-lingual fonts — How can I use multi-lingual fonts?

To use non-english fonts on the display the operating systems input language needs to be assigned accordingly, see the following.

1. From the Control Panel, choose **Clock, Language, and Region**.
2. Select **Change keyboards or other input methods**.
3. In the resultant screen or tab, select **Change keyboards**.
4. Select the **Add** button and add the required language.
5. A dialogue boxes and/or toolbars should appear from where to assign the language and the Input Mode.
6. In Display Creator, when adding a new text item to the page, simply type into the Text field (top right of the screen). After entering the required text, press the **Tab** key and then the **Enter** key.