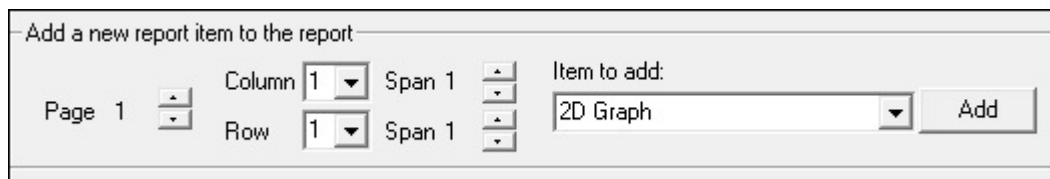


Report 2D Graph

2D Graph reports allow the user to display any signal in the workspace against any other signal in the workspace (or against time).

Adding a 2D Report graph

To add a 2D report graph, select 2D Graph in the **Items to add** combo box and select the **Add Button**.



The screenshot shows a dialog box titled "Add a new report item to the report". It contains several controls: a "Page" dropdown set to "1", a "Column" dropdown set to "1", a "Span" dropdown set to "1", a "Row" dropdown set to "1", and another "Span" dropdown set to "1". To the right of these is an "Item to add:" label above a text box containing "2D Graph" and a small dropdown arrow. An "Add" button is located to the right of the text box.

2D Report Graph Dialog

The following dialog will appear and should be populated.

Add / Modify Graph

Graph Title

Arial

14

B

I

U

Color

Black

Custom

Graph Properties

Location

Pos.

Span

Column:

1

1

Row:

1

1

Page:

1

Files to Graph

ALL_FILES

Query:

Edit Query

Line Color

Black

Custom

Line Style

Solid

☐ Bold

☐ Graph Mean

☐ Graph Standard Deviation

☐ Graph Confidence Ellipse

Annotations...

X Axis Properties

X Axis Label

Data Type

☐ Graph within a range of events

Y Axis Properties

Y Axis Label

Data Type

☐ Use scientific notation

☐ Show Points

Legend

Done

Clear Form

Cancel

This dialog is broken down into five sections to allow users precise control over which signals are plotted and how.

Section 1: Graph Title

Graph title, font selection and size. (Visual3D Version 5.0 feature)

Add / Modify Graph

Graph Title

Arial

14

B

I

U

Color

Black

Custom

Section 2: Graph Properties

The basic graph properties

Graph Properties

Location

Pos.

Span

Column: 1 1

Row: 1 1

Page: 2

Files to Graph

ALL_FILES

Query:

Edit Query

Line Color

Red

Custom

Line Style

Solid

☐ Bold

☒ Graph Mean

☒ Graph Standard Deviation

☐ Graph Confidence Ellipse

Line Color

Red

Custom

Line Style

Solid

☐ Bold

Std Dev Style

Solid

Annotations...

in this example, the graph will be plotted on Page 2, Column 1, Row 1

Parameter	Description
Files to Graph	The Files to Graph combo allows the user to select ALL_FILES or any TAG.
Line Color and Line Style	The top Line Color and Line Style refer to the signal lines drawn
Mean and Standard Deviation	In this example, the check boxes Graph Mean and Graph Standard Deviation are checked, which means that the mean and standard deviation of the signal lines selected will be computed and displayed.
Annotations	See also the associated Pipeline Command Add_Graph_Annotation .

Annotations Editor

Annotations Editor

Style	Color	Event Name	Scope	Average Only

Add

Edit

Delete

OK

Cancel

1. Within the Annotations Editor select **Add** to add an annotation to the graph or select **Edit** to modify an existing annotation.

Annotations

Annotation Style

Color

Black

Custom

Size

Normal

Event Name or Numeric Value

Select Label or Enter Frame value

☒ Set annotation globally
(Applies to all graphs at this location)

☐ Set annotation local
Applies only to current graph item

☒ All Graphs

☐ Average Event or Numeric Value

OK

Cancel

2. The initial dialog for the annotation

Annotations

Annotation Style

Vertical Line

Color

Red

Custom

Size

Normal

Event Name or Numeric Value

T3

Select Label or Enter Frame value

☒ Set annotation globally
(Applies to all graphs at this location)

☐ Set annotation local
Applies only to current graph item

☒ All Graphs

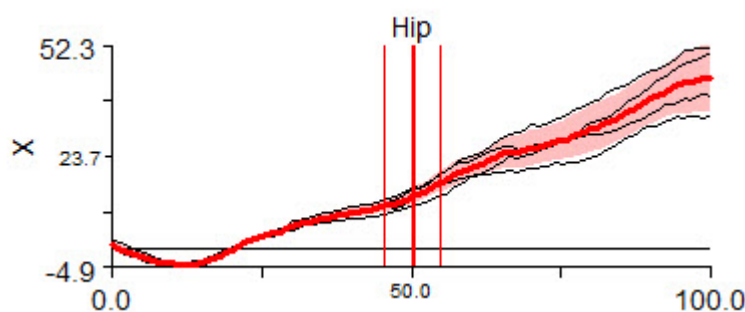
☐ Average Event or Numeric Value

OK

Cancel

3. Select the parameters of the annotation.

4. If All Graphs are selected an annotation is added for every occurrence of the Event for every



graph.

5. Notice the multiple vertical lines because there is an event for each graph.

Annotations

Annotation Style

Vertical Line

Color

Black

Custom

Size

Large

Event Name or Numeric Value

T3

Select Label or Enter Frame value

☒ Set annotation globally
(Applies to all graphs at this location)

☐ Set annotation local
Applies only to current graph item

☐ All Graphs

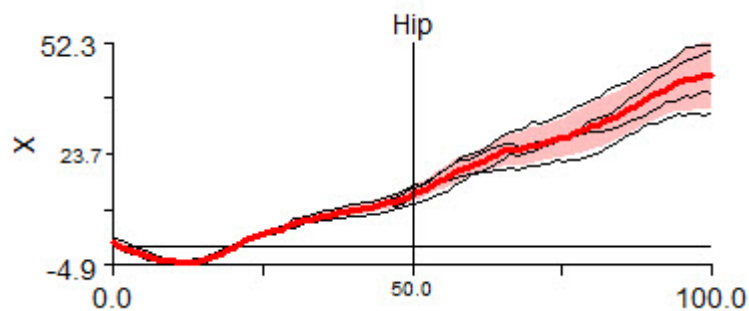
☒ Average Event or Numeric Value

OK

Cancel

6. If Average Event or Numerical Value is selected, Visual3D interprets the edit box.

7. For example, specifying the Event label T3



8. For example, in this case the average location of the Event is identified and drawn.

Annotations

Annotation Style

Vertical Line

Color

Black

Custom

Size

Large

Event Name or Numeric Value

25

Select Label or Enter Frame value

☒ Set annotation globally
(Applies to all graphs at this location)

☐ Set annotation local
Applies only to current graph item

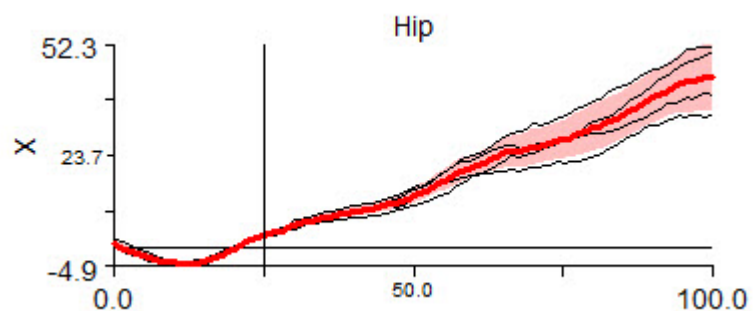
☐ All Graphs

☒ Average Event or Numeric Value

OK

Cancel

9. If Average Event or Numerical Value is selected, Visual3D interprets the edit box.



10. For example, specifying the Time 3

11. For example, in this case the annotation is drawn at 25% of the x-axis..

Section 3: X-Axis

The signal used for the x-axis.

X Axis Properties

X Axis Label

Time

X Axis Scale

Normalize 0% to 100%

Data Type

FRAME_NUMBERS

Data Name

TIME

☒ Graph within a range of events

Range Begin

RHS

Range End

RTO

Intermediate Events

LHS

LOFF

LON

LTO

RHS

ROFF

...

Exclude sequences containing

In this example, time is displayed on the x-axis.

The signals in the Y-Axis properties for (File to graph and within a graph) that have occurrences of the

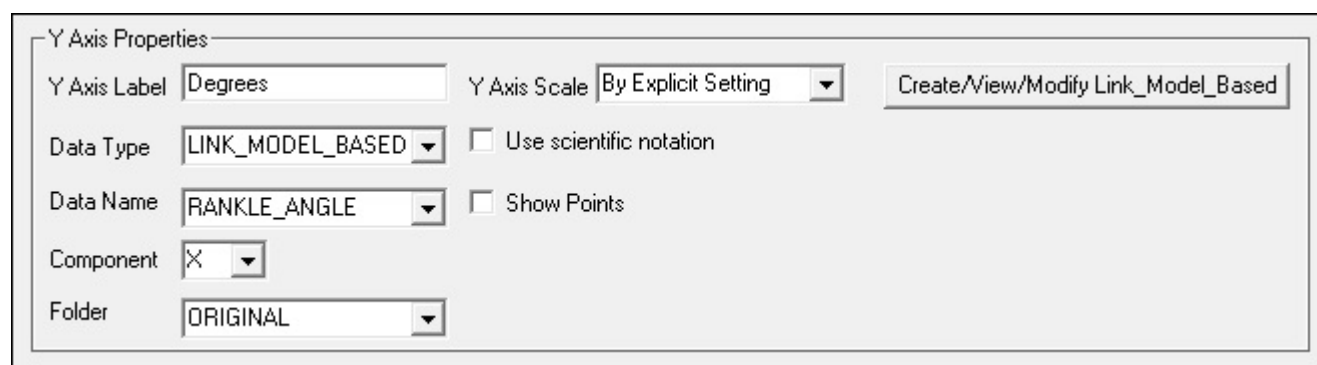
range Range Begin to **Range End** will be drawn on the graph.

If **Intermediate Events** are selected, only ranges from **Range Begin** to **Range End** that contain the **intermediate events** will be graphed.

If Exclude sequences containing is populated, only ranges from **Range Begin** to **Range End** that do not contain the **excluded events** will be graphed

Section 4: Y-Axis

The signal used for the y-axis



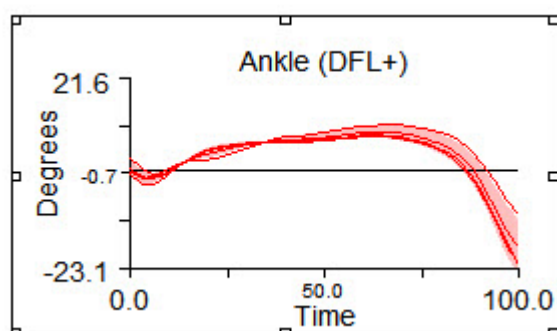
In this example, the x-component of the Right Ankle Angle will be displayed.

The range of the graph can be specified as:

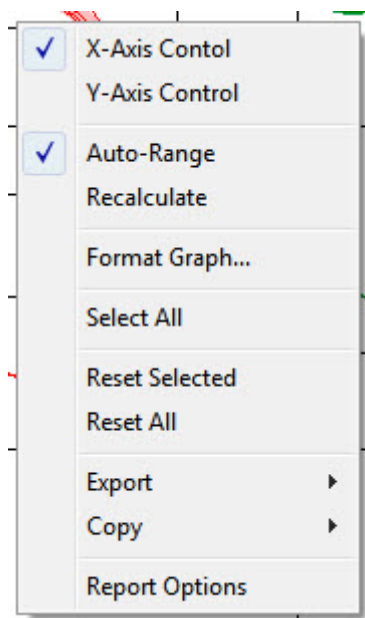
1. Normalize 0% to 100% - each range of data will be scaled from 0 to 100 percent
2. Global Min to Max - the minimum and maximum value of the signals across all ranges is computed
3. By Explicit Setting - The user can format the graph and specify an explicit range regardless of the signals selected.

Defining an Explicit Range

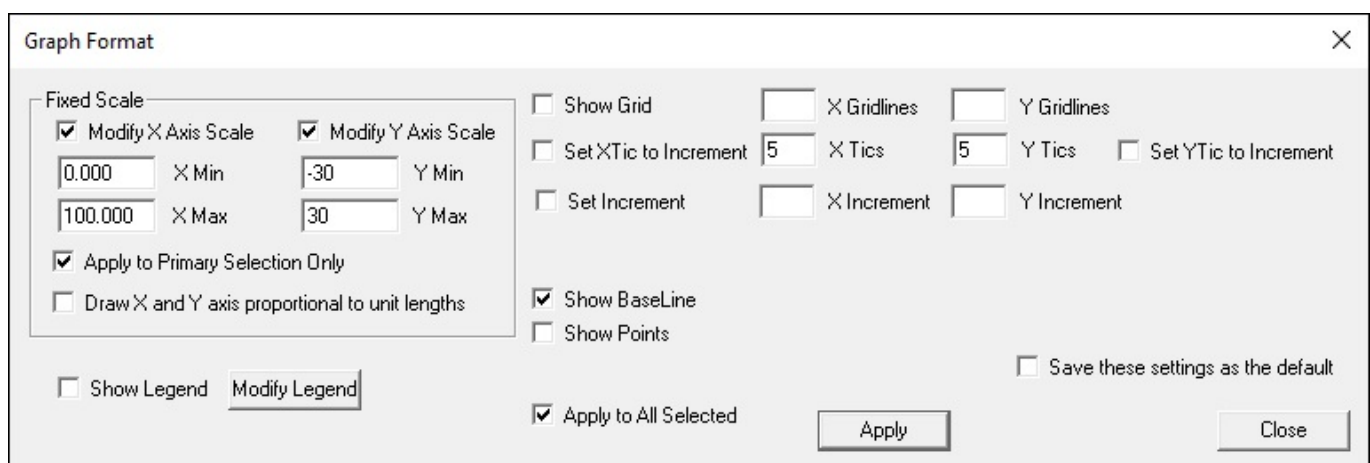
Select a graph in the report. If the graph is selected you will see “handles”



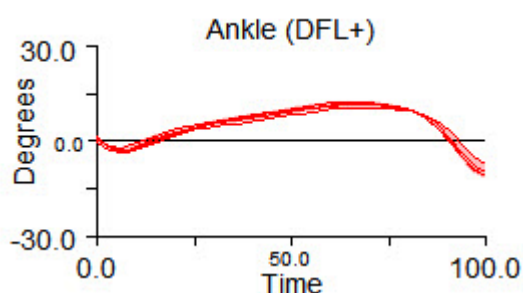
Move the cursor over the selected graph, and push the right mouse button. A menu will appear.



Select Format Graph and a dialog will appear



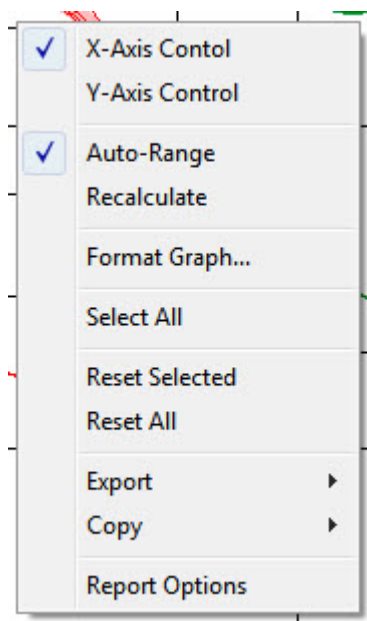
Select the Y Min and Y Max values and save these settings as the default. This means that these setting will be preserved in the Report Template.



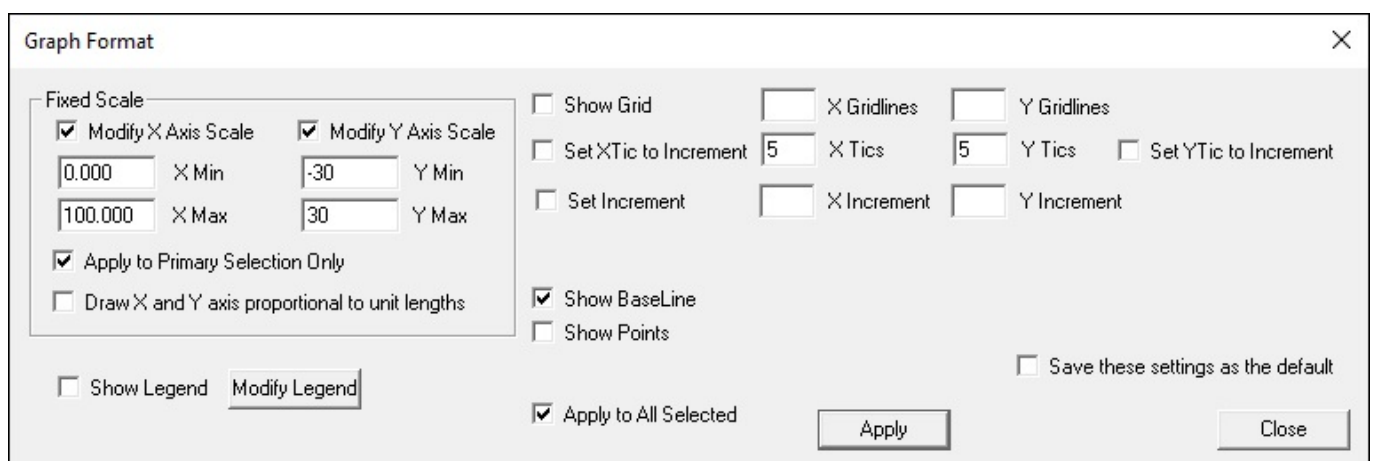
Section 5: Legend

Set the properties of the legend

Move the cursor over the selected graph, and push the right mouse button. A menu will appear.

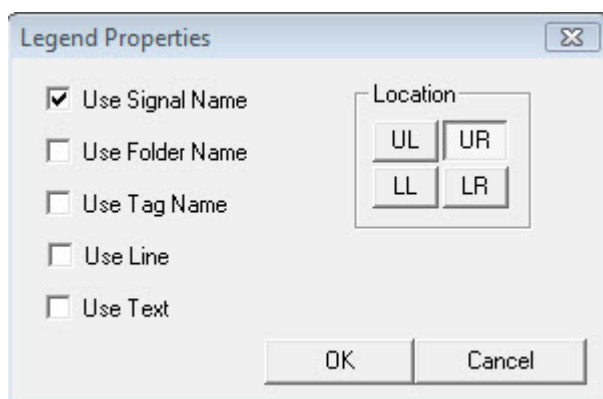


Select Format Graph and a dialog will appear



Select the option to display the legend.

Select the button to modify the legend

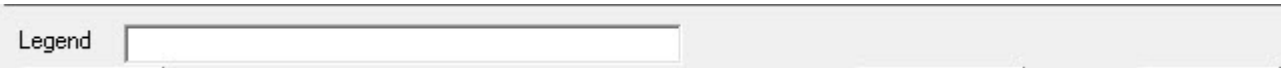


The legend can be placed at the Top Left, Top Right, Bottom Left, or Bottom Right.

1 or more of the selections of the legend text can be selected.

Adding Custom Legend Text

Adding the text for the Report Legend.



If you have populated this dialog, you will not see the legend in the graph by default.

If you have entered text in the graph format dialog, you need to select the option to display text in the “Legend Properties” dialog.

Adding more signals to the Report Graph

The report dialog acts on one report graph entity.

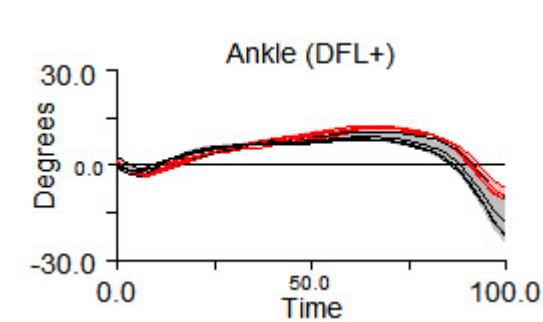
The graph that appears in the report, however, may contain many entities.

A second signal can be added to the graph in the report by adding another graph entity to the same location. Each graph entity may contain its own graph properties.



For example, this image shows two graphs RANKLE_ANGLE and LANKLE_ANGLE located on Page 2, Column 1, Row 1.

The resulting graph contains data from the 2 signals. RANGLE_ANGLE in Red and LANKLE_ANGLE in Black, each with its own mean and standard deviation.



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Last update: **2025/05/05 14:46**

