

LightningChart Ultimate

v.8.3

NEW FEATURES



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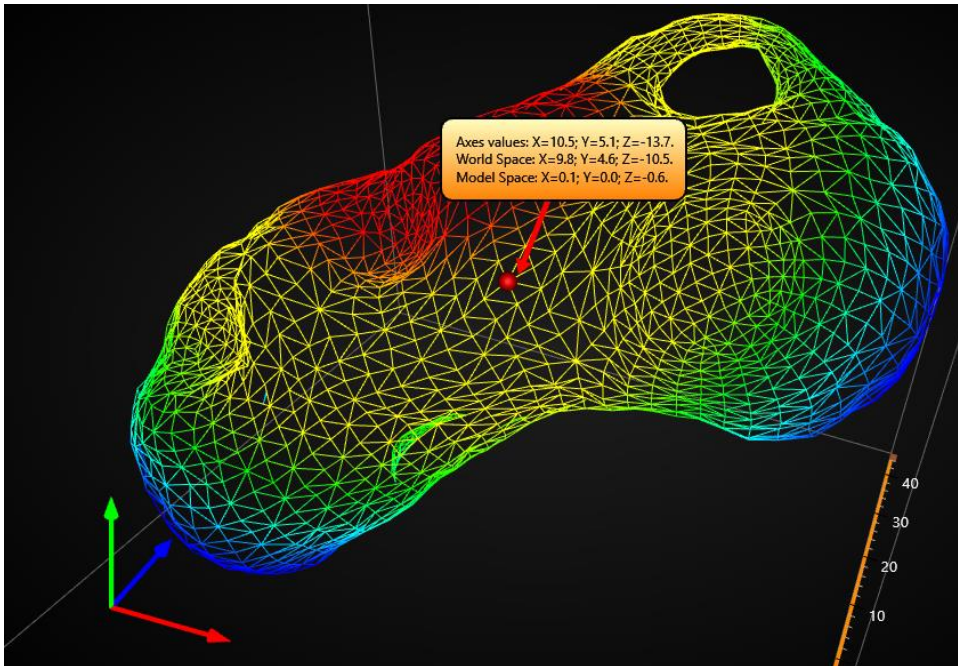
NEW FEATURES



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1. MeshModels – finding the triangle mouse is hitting



Tracing MeshModels with mouse. Traced result is shown in an Annotation.

MeshModel has triangle-based tracing for mouse position.

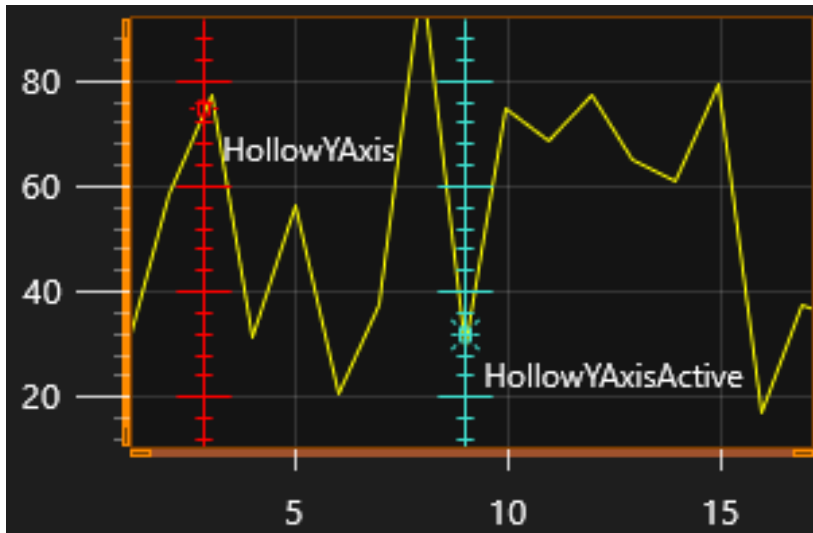
Use **MouseTriangleTraced** event. It will indicate the **nearest** triangle to the camera, where the mouse hits.

The event arguments have the following info:

- **IntersectionPointAxisValues**: intersection point of triangle face, in axes values
- **ModelSpaceTriangleCoordinates**: an array of 3 triangle corners (vertices) the mouse is hitting, in 3D model space coordinates
- **WorldSpaceTriangleCoordinates**: array of 3 triangle corners (vertices) the mouse is hitting, in 3D world space coordinates.
- **NearestCoordinateIndex**: Index of the nearest coordinate index of the traced triangle, value of 0...2. Use the index to extract the coordinate from **ModelSpaceTriangleCoordinates** or **WorldSpaceTriangleCoordinates** array.

2. New SeriesEventMarkers shapes, projection of Y axis

In addition to the normal set of shapes, **SeriesEventMarker** supports two special **Symbol.Shape** settings, which allow vertical line with Y axis ticks projection: **HollowYAxis** and **HollowYAxisActive**. They have 1-pixel wide vertical line, and it picks positions of **MajorTicks** and **MinorTicks** from the Y axis the series is attached to. To adjust the tick lengths, edit **YAxis.MajorDivTickStyle.LineLength** and **YAxis.MinorDivTickStyle.LineLength** properties.



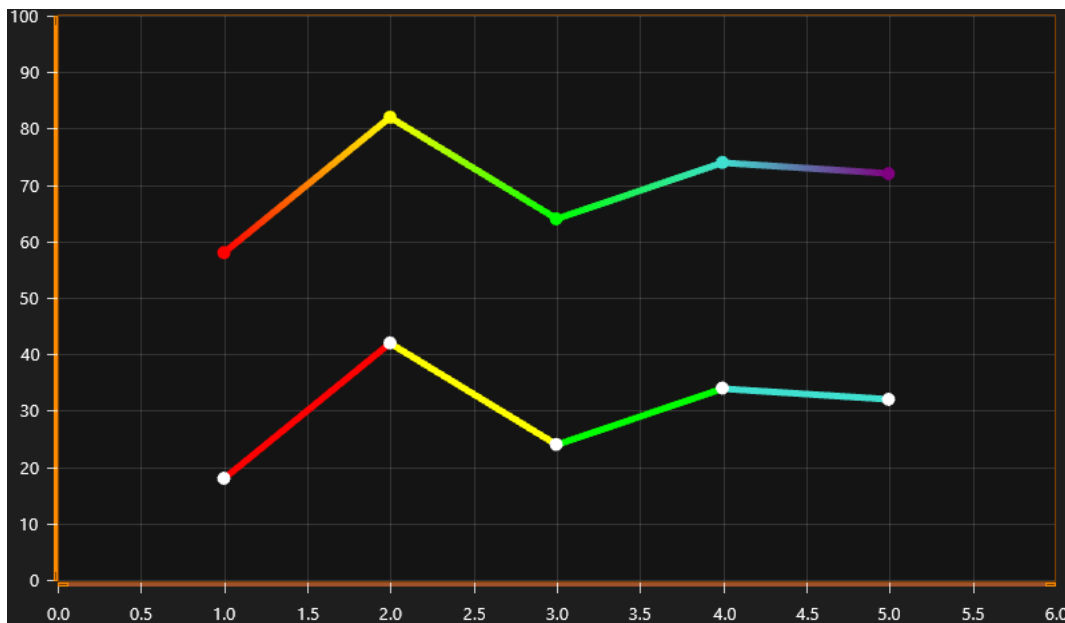
Two special SeriesEventMarkers shapes: HollowYAxis and HollowYAxisActive. Very handy when making per-series data cursors.

3. ViewXY's FreeformPointLineSeries

CustomLinePointColoringAndShaping event improvement

Added data point indices in event arguments:

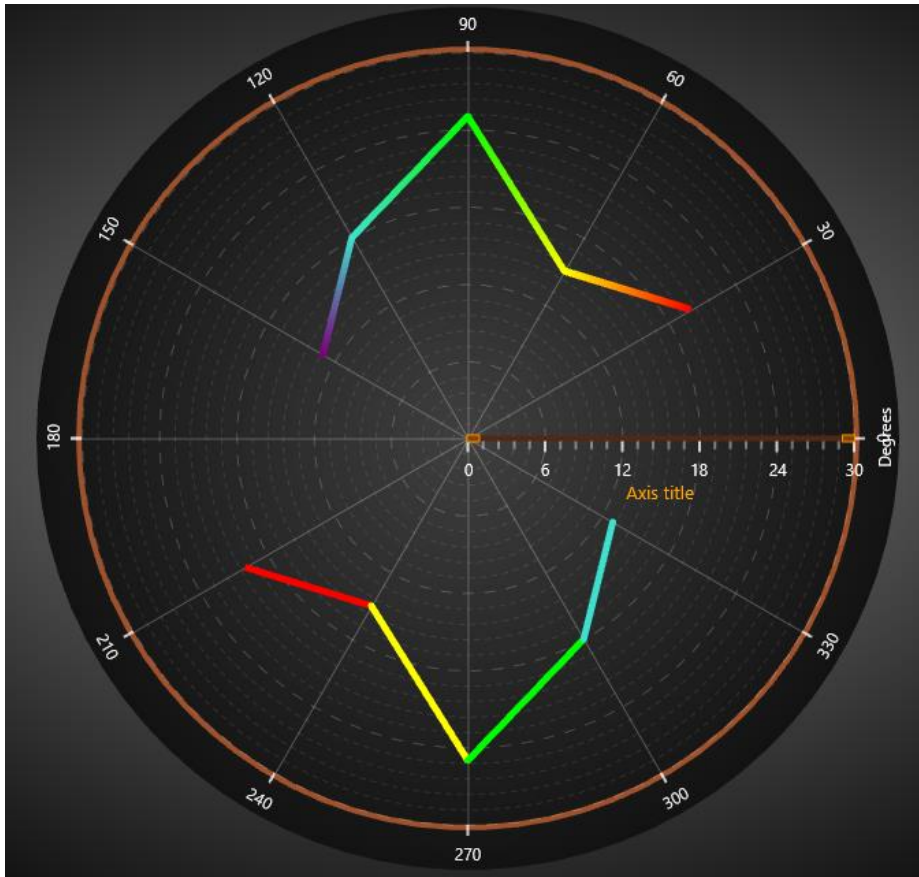
- **HasDataPointIndices:** Only applicable in *FreeformPointLineSeries*.
- **DataPointIndices:** Data point indices that were included in the coordinates and colors arrays. Note: chart will skip subsequent points in line construction, if their X and Y values or coordinates are equal. Using DataPointIndices info, you can e.g. pick a color for line point, from data point's **PointColor** field or external color array.



The new data point indices array is handy when picking a color by data point index (upper line), or duplicating coordinates to be make coloring with solid steps (lower line).

4. Line shaping and coloring event added in ViewPolar's PointLineSeries

Coordinates and colors manipulation event **CustomLinePointColoringAndShaping** is now available also in **PointLineSeriesPolar**. It contains the data point indices in a similar way as ViewXY's FreeFormPointLineSeries (see feature 3).

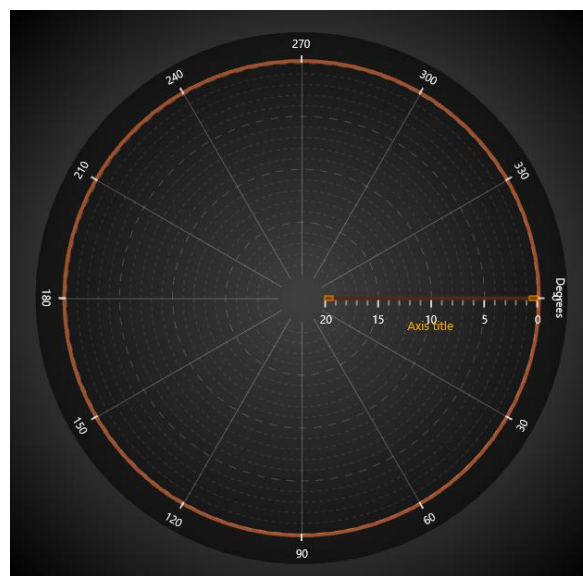
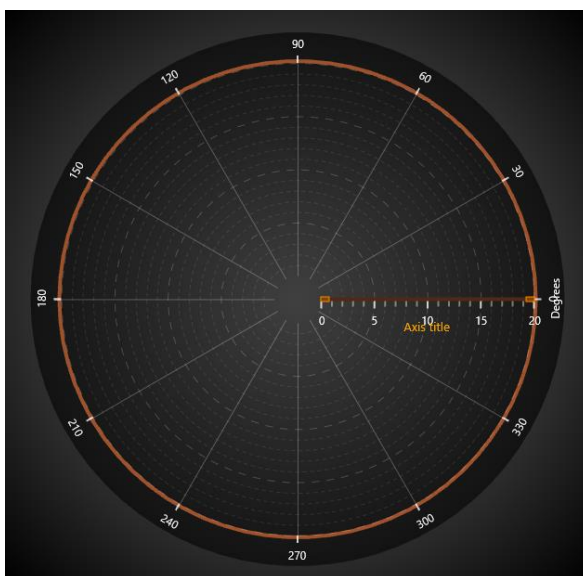


CustomLinePointColoringAndShaping event used to manipulate colors and coordinates of line.

5. Polar chart axis enhancements

- The axis can be reversed by amplitude, angle or both.

To reverse the angle scale, set **AngularReversed = True**. To reverse the amplitude scale, set **AmplitudeReversed = True**.



On the left, scales are not reversed. On the right, **AngularReversed = True** and **AmplitudeReversed = True**.

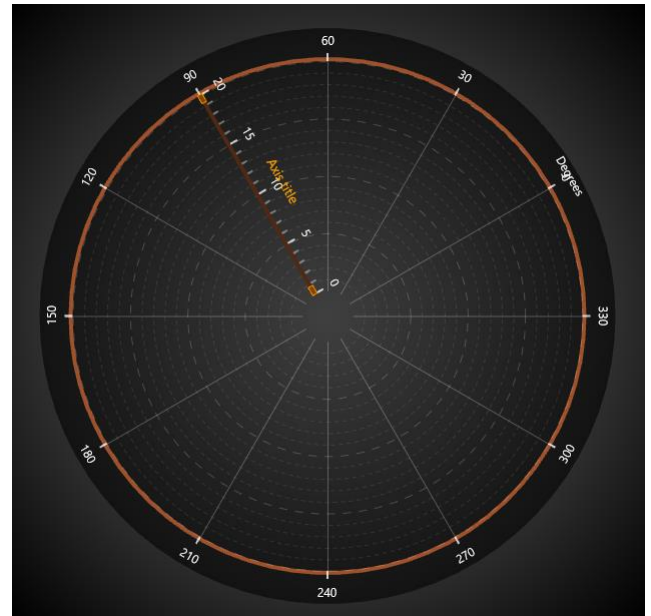
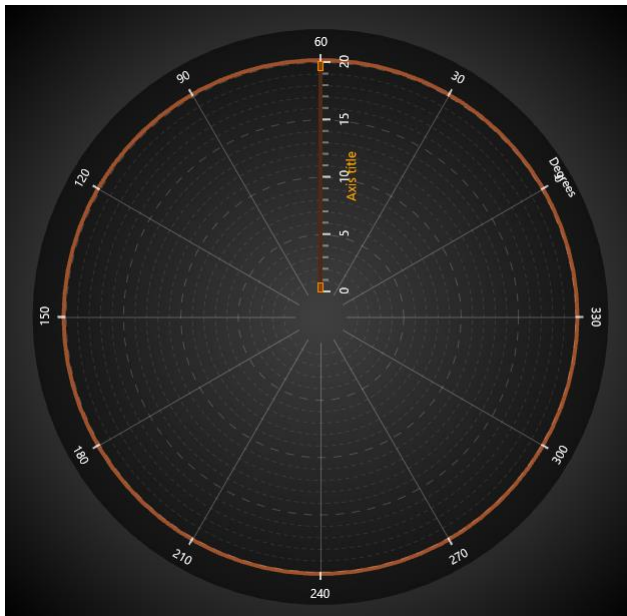
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- Added way to give amplitude scale a different angle than the normal orientation of polar chart.

Use **AmplitudeAxisAngle** to rotate amplitude axis position. Amplitude scale angle can be set as an absolute angle (**AmplitudeAxisAngleType = Absolute**), or relative to angle scale's angle. (**AmplitudeAxisAngleType = Relative**).



AngleOrigin = 30. AmplitudeAxisAngle = 90. On the left, AmplitudeAxisAngleType = Absolute. On the right, AmplitudeAxisAngleType = Relative: Overall the amplitude scale rotates 120 degrees in this case.

- Angular divisions setting

By default, the chart tries to include almost as many angular divisions as it can fit. To control the angular divisions, set **AngularAxisAutoDivSpacing** to False. Then the chart tries **AngularAxisMajorDivCount** count of divisions. If chart space is too small to render all the divisions and labels, it will use a lower division count that it can fit.

If you have any questions, please contact us at arction@arction.com

Thanks for being our customer, happy coding :-)